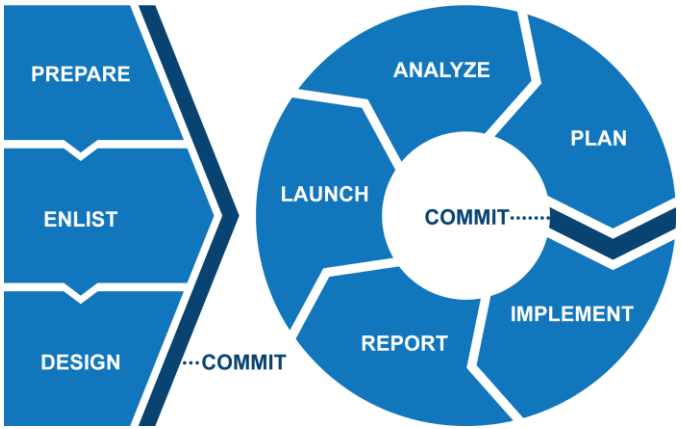
SUSTAINABLE PURCHASING LEADERSHIP COUNCIL

Guidance for Leadership in Sustainable Purchasing

Version 1.0



PILOT PHASE

Guidance for Leadership in Sustainable Purchasing Version 1.0 is available in Pilot Phase through July 31, 2015.

Note that the purpose of the Pilot Phase is to engage a broad set of stakeholders in using and providing feedback on this Guidance, with the purpose of evolving and improving the document.

Stakeholders are encouraged to use this *Guidance* and provide feedback, but should note that the content is intended to evolve as a result, and is not considered final in its current form.

Release History

Jan 09 2015	Member Preview of Version 1.0
Feb 05 2015	Pilot Phase launch of Version 1.0

About This Publication

The *Guidance for Leadership in Sustainable Purchasing Version 1.0* is intended to help organizations improve environmental, social, and economic performance within their supply chains—across the entirety of product and service life cycles—by implementing a strategic sustainable purchasing program. This Guidance is based on the Council's *Principles for Leadership in Sustainable Purchasing*, which define what it means to be a responsible—principled—actor, as an organization and within the marketplace.

Organizations in a wide variety of sectors and regions can use this *Guidance* to understand the environmental, social, and economic life cycle impacts of their purchased goods and services, identify actions that best address these priorities, and benchmark progress toward goals. This *Guidance* is a voluntary program that will serve as the basis for a future rating system that rewards organizations that demonstrate leadership in sustainable purchasing.

About the SPLC

The *Sustainable Purchasing Leadership Council (SPLC)* is a 501(c)(3) charitable organization whose mission is to support and recognize purchasing leadership that accelerates the transition to a prosperous, socially just, and sustainable future. The Council's programs and community of practice will help institutional purchasers to:

- *understand* the social, environmental, and economic life cycle impacts of their purchased goods and services,
- *prioritize* opportunities to improve the life cycle impacts of goods and services, and
- *benchmark* progress toward goals.

The Council provides a collaborative space for organizations and individuals to improve clarity and promote consistency in defining and measuring sustainable purchasing.

The Council oversees a number of activities, including:

- **Membership**: a leadership network and community of practice;
- **Development of program resources**: guidance, measurement, and benchmarking tools
- **Professional development opportunities**: online and classroom-based training and accreditation;
- **Events**: annual summit, expo, workshops, and expert gatherings;
- **Awards**: honoring individuals and organizations who advance the sustainable purchasing movement; and
- **Leadership recognition**: rating and rewarding leadership in sustainable purchasing.

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Development Process

This *Guidance* and other programmatic work of the Council are developed in accordance, as appropriate, with its governing documents. This Guidance was developed under the direction of the SPLC's Technical Advisory Committee and through the formation of eight Purchasing Category Technical Advisory Groups. More detail on the development process is provided on the SPLC website.

In developing this content, the Council recognizes that tremendous work has already been invested in the sustainable purchasing movement. The Council intends to provide a program through which the results of previous and current initiatives can become more widely adopted in the marketplace.

This *Guidance* reflects the Council's view of the best existing work available for promotion through Council's programs. If our community identifies areas where insufficient guidance exists, the Council seeks partners to help address the identified needs.

Disclaimer

None of the parties involved in the funding or creation of this *Guidance for Leadership in Sustainable Purchasing v1.0,* including the Sustainable Purchasing Leadership Council, its members, its contractors, or the United States government, assume any liability or responsibility to the user or any third parties for the accuracy, completeness, or use of or reliance on any information contained in the Guide, or for any injuries, losses, or damages (including, without limitation, equitable relief) arising from such use or reliance. Although the information contained in the Guide is believed to be reliable and accurate, all materials set forth within are provided without warranties of any kind, either expressed or implied, including but not limited to warranties of the accuracy or completeness of information contained or the suitability of the information for any particular purpose.

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Founders Circle

The following organizations came together in a Founders Circle to commit financial and technical resources to the launch of the SPLC. The Council—and this *Guidance*—would not exist without their early investment.

Aflac
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APEX Clean Energy
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Bloomberg
Caesars Entertainment
The Carbon Neutral Company
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social hotspots database
State of California
State of Michigan
State of Minnesota
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U.S. Department of Agriculture
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A Letter from the Board of Directors

Dear Stakeholder,

Every organization's journey has a few pivotal moments. For the Sustainable Purchasing Leadership Council (SPLC), this is one. With the release of our *Guidance for Leadership in Sustainable Purchasing v1.0*, we are delivering on a major commitment: to create a shared program for guiding leadership in sustainable purchasing.

Our hope is for this work to meaningfully contribute to improving the practice of institutional purchasing. We believe wide implementation of this guidance will unlock tremendous benefits to the institutions choosing to use it, to society, and to the world.

After all, institutional purchasing is often not only habitual—the same goods and services are purchased repeatedly—but also tremendously powerful. A broad set of institutional purchasers who prioritize improving the environmental, social, and economic performance of their purchasing will—we believe—usher in a new era of innovation that is critical to advance a more prosperous, socially just, and sustainable future.

Guidance v1.0 was developed with the same spirit of collaboration and openness to new ideas that we've had from the very start of this initiative. Our history goes back to 2008, when The Keystone Center convened the Green Products Roundtable (GPR), attempting to answer questions such as "What is a green product?" and "What makes a credible ecolabel?" Members soon recognized that the framing was too narrow, and so SPLC was created with a much larger remit: shifting from "green" to "sustainable," addressing economic and social factors as well as environmental; and from "product" to "purchasing," thereby focusing on a key leverage point in institutional decision making.

Guidance v1.0 is the result of remarkable and incredibly hard work by more than 100 individuals. The Technical Advisory Committee (TAC), chaired by Johanna Kertesz of the Minnesota Pollution Control Agency, followed by Rob Shimp of SCS Global Services, deserve special recognition for their incredible leadership that underpins this work. Eight Purchasing Category Technical Advisory Groups worked diligently, notwithstanding significant time and data limitations.

Collaboration of this kind doesn't work without a high degree of leadership, skill, and a driving force. The SPLC's small and mighty staff of Jason Pearson, Christina Macken, and Sam Hummel had the vision, passion, and can-do attitude to make it all happen. The Board thanks them, as well as Khadija Pounsel, who recently joined the team, for working so hard and with so much commitment to our new organization.

This guide is also built on the good work of many organizations, individuals, and partners who have paved the way for initiatives (such as the SPLC) to bring this work together. We thank them for their previous work, their partnership, and their collaborative spirit and commitment to the shared journey ahead.

SPLC is a startup, both in fact (it was formally incorporated in 2013) and in style. We take inspiration from entrepreneurs who trust the market to guide product development through an iterative process. We propose *Guidance v1.0* as the first iteration of a multi-sector and multi-region guidance program for sustainable purchasing. We will continue to welcome the involvement of additional organizations interested in helping to refine the program. The problems we are trying to solve are big and will require all of us.

On behalf of the entire Board of Directors, we invite your feedback on this *Guidance*. The experiences and reflections of *Guidance v1.0* users and reviewers will greatly improve this work. It takes a broad community to build a meaningful and transformative tool for the market. Finding the best solutions will require many dedicated participants working together to improve our collective future.

Thank you for your continued engagement in the nascent yet critically important and growing field of sustainable purchasing.

Yalmaz Siddiqui, *Founding Chair*

Dr. Anastasia O'Rourke, *Chair-Elect*

Foreword

This first version of the *Guidance for Leadership in Sustainable Purchasing* is an invitation—to you and your organization—to seize a leadership opportunity. Whatever your role—as purchaser, supplier, public interest advocate, or some combination of these—sustainable purchasing represents a strategic opportunity to create benefit. For your own organization. For your community. For society. For the planet. And for future generations. We intend this *Guidance* as a resource for you in navigating this opportunity and realizing these benefits.

Individually and collectively, institutional purchasers and their suppliers create and shape our modern industrial marketplace and, in so doing, determine its sustainability. Organizational purchasing decisions send powerful economic signals up and down the entire supply chain, with the potential to influence the environmental, social, and economic performance of the entire economic system. As a leadership community, we have an opportunity to shape those signals with meaning and intention, in order to drive investment and innovation toward a truly sustainable future.

But we face a fundamental challenge in exercising leadership through sustainable purchasing: *the lack of standardization in how sustainable purchasing is defined, guided, measured, and rewarded.* The Sustainable Purchasing Leadership Council offers a two-part solution to this challenge. First, we convene a diverse community of collaboration to identify the most useful existing guidance. Second, we coordinate this volunteer leadership community in developing a shared program that defines, guides, measures, and recognizes leadership in sustainable purchasing.

The Council's recently released *Principles for Leadership in Sustainable Purchasing* began that process by establishing a shared definition of leadership in sustainable purchasing, and this *Guidance*, which builds on those *Principles*, is intended to enable organizations from a wide variety of sectors to send *clear market signals* that simultaneously advance their own organizations and the sustainability of the global economy.

The many volunteers who came together to create this Guidance share this vision for a positive future. Together, we invite you to use this Guidance, to provide feedback about this Guidance, to participate in the conversations that we convene around this Guidance, to collaborate with others—within your organization and without—in implementing this Guidance, and to suggest other stakeholders who should be engaged in the conversation.

As the staff of the Council, we thank you for being part of this growing leadership community.

Jason Pearson
President & CEO

Sam Hummel
Director of Outreach

Christina Macken
Director of Programs

Khadija Pounsel
Administrative Coordinator

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Detailed guidance is in blue text and boxes.

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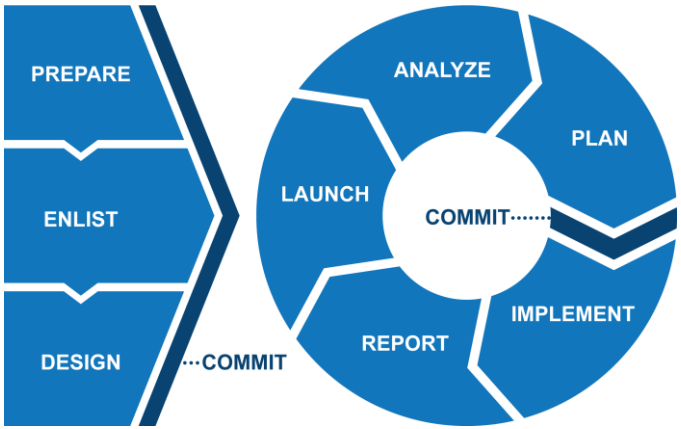
Examples and case studies are in orange text and boxes.

Notes and disclaimers to Members and Pilot participants are in red text.

Chapter 1

Preamble



Overview: The Case for Guidance

The Opportunity: Institutional purchasers send a powerful economic signal.

Sustainable purchasing enables institutional purchasers to advance a sustainable future by leveraging their market influence. Annual government purchasing in the United States represents $2.5 trillion (15% of total U.S. Gross Domestic Product) in demand for goods and services.[1] Institutional purchasing by business-to-consumer service providers (e.g., universities, schools, hospitals, hotels, airlines, financial institutions) represents an additional $7.5 trillion in demand for goods and services. Combined, those governmental and institutional sectors account for $10 trillion in demand. Overall, institutional purchasing represents an estimated two-thirds of U.S. economic demand. For these organizations, the environmental impacts associated with their purchasing are typically four to nine times greater than their direct, operational impacts.[2]

The Challenge: A lack of standardization inhibits leadership action.

Organizations face a fundamental challenge in pursuing sustainable purchasing: namely, *the lack of standardization in how sustainable purchasing is defined, guided, measured, and rewarded.* Individual organizations create and communicate different definitions and metrics for what constitutes "sustainable." As a result, suppliers receive mixed signals regarding how they can demonstrate a commitment to providing sustainable products and services.

The Solution: A shared program provides a framework for leadership action.

The Council proposes a two-part solution to the above challenges:

1. Create a **multi-stakeholder community of collaborators** to identify and evaluate best available guidance for organizations engaged in sustainable purchasing.
2. Develop an **integrated program** that guides, measures, and recognizes leadership in sustainable purchasing**,** enabling organizations in a wide variety of sectors and regions to send **clear, consistent market signals** defining and measuring sustainability.

These actions will help advance an organization's pursuit of sustainability and the long-term health and stability of our shared global economy. This guide is the first major component of the Council's integrated program of support for institutional leadership in sustainable purchasing.

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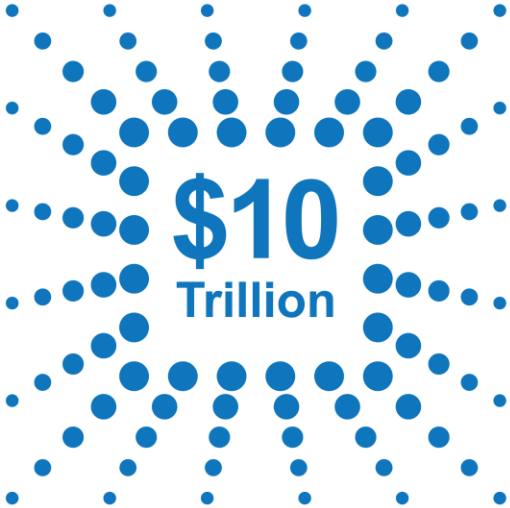
[1] Based on an analysis by TRUTHstudio of data from the US Department of Commerce and the OpenIO database hosted by the University of Arkansas. For more information, see *www.truthstudio.com*.

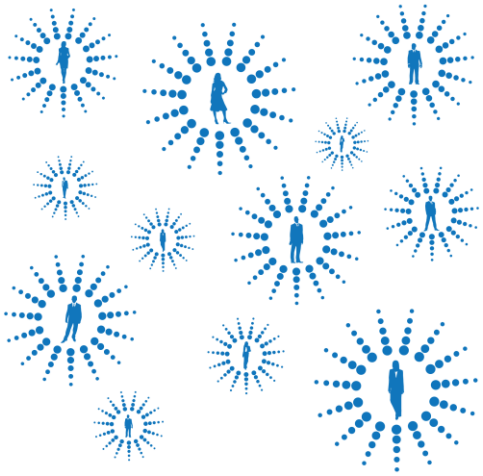
[2] Based on reports from SPLC members who have used economic input-output lifecycle assessment (EIOLCA) methods to estimate their supply chain environmental impacts. To the knowledge of the Council, a similar analysis of the degree of social and economic impacts has not been completed.

Opportunity

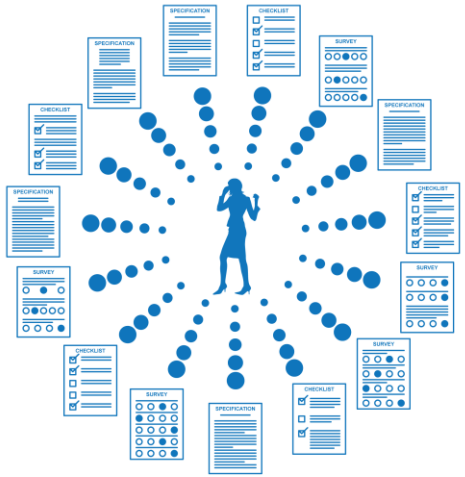


Institutional purchasers send a powerful economic signal that focuses the forces of market innovation.

Challenge

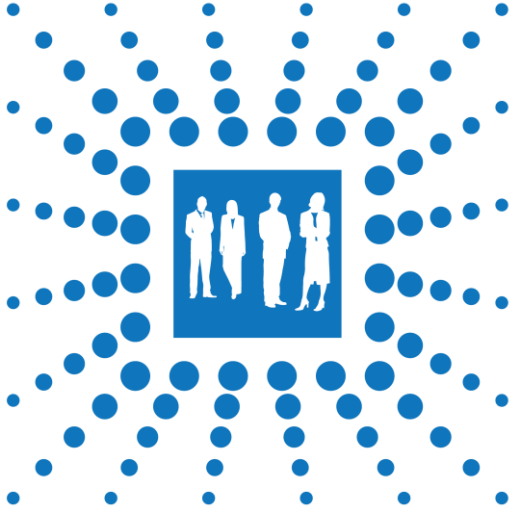


Purchasers lack shared resources to build a robust strategy and avoid duplication of effort.



Suppliers face multiple, "different but similar" market signals as they seek to differentiate their offerings.

Solution



A **shared program** provides a framework for leadership action and aligns market innovation for a positive future.

About This Guidance

Guiding Principles

This Guidance is based on the Council's *Principles for Leadership in Sustainable Purchasing*, which define what it means to be a responsible—principled—actor, as an organization and within the marketplace. By our definition, a leader in sustainable purchasing demonstrates:

- **Understanding**. Understanding the relevant environmental, social, and economic impacts of its purchasing.
- **Commitment**. Taking responsibility for the relevant environmental, social, and economic impacts of its purchasing by committing to an action plan.
- **Results**. Delivering on its commitment to improve the relevant environmental, social, and economic impacts of its purchasing.
- **Innovation**. Actively promoting internal and external innovation that advances a positive future.
- **Transparency**. Soliciting and disclosing information that supports a marketplace of innovation.

The Principles outline a framework for exploring and implementing a strategic sustainable purchasing process, which are operationalized within this Guidance. Each chapter explores organizational responsibility in the context of the particular topics addressed within that section. For example, Chapter 4 explores the ways that an organization can still send appropriate demand signals regarding significant environmental, social, and economic impacts, even when definitive solutions are lacking.

Embedded in these Principles is recognition of the **vital role of prioritization in leadership**. The Principles begin with **understanding**, because understanding is the basis for prioritization. Once an organization understands its most significant purchasing impacts, it can then prioritize solutions, make **commitments** to improve its impacts, take action and ultimately deliver **results**. This Guidance provides a practical framework for such prioritization.

Innovation—including change and challenge to the organizational and external status quo—is critical to advancing a prosperous, socially just, and sustainable future. Institutional purchasers therefore have an opportunity to exercise leadership: 1) externally, by using their market influence to promote and encourage marketplace innovation; and 2) organizationally, by supporting staff in the long-term process to continually improve an organization's ability to exercise leadership.

Transparency in the marketplace builds momentum for positive change by creating healthy competition, internally within organizations and externally along market supply chains. Transparency is also a building block for critical information sharing; where some organizations are able to identify and implement best practices in certain impact areas, others can quickly adopt these practices as appropriate. Transparency is a catalyst for innovation, not least because market actors can use shared information to improve their supply chains and demonstrate leadership in the development and delivery of their products and services. Finally, transparency is a building block of increasing trust from consumers, who are increasing demanding more information regarding the environmental, social, and economic impacts of their purchasing.

Principles for Leadership
in Sustainable Purchasing

An organization[1] demonstrates leadership through:

Understanding
Understanding the relevant environmental, social, and economic impacts of its purchasing.

Commitment
Taking responsibility for the relevant impacts of its purchasing by committing to an action plan.

Results
Delivering on its commitment to improve the relevant impacts of its purchasing.

Innovation
Actively promoting internal and external innovation that advances a positive future.

Transparency
Soliciting and disclosing information that supports a marketplace of innovation.

These criteria outline a framework for specific actions. Timelines for achievement will vary across criteria and market sectors.

For more information, see *http://www.sustainablepurchasing.org/principles/*.

Structure of the Document

This Guidance is intended as a comprehensive handbook for organizations seeking to exercise leadership in sustainable purchasing. Because not all organizations will be starting from the same place, *Guidance v1.0* supports iteratively growing sustainable purchasing efforts over time into a comprehensive sustainable purchasing program that ultimately enables an organization to take meaningful responsibility for *all significant environmental, social, and economic consequences* of its spending. Only by doing that, can an organization demonstrate genuine leadership.

The document is organized in four chapters, which together provide a framework for the cross-functional collaboration necessary to build a highly-effective Sustainable Purchasing Program.

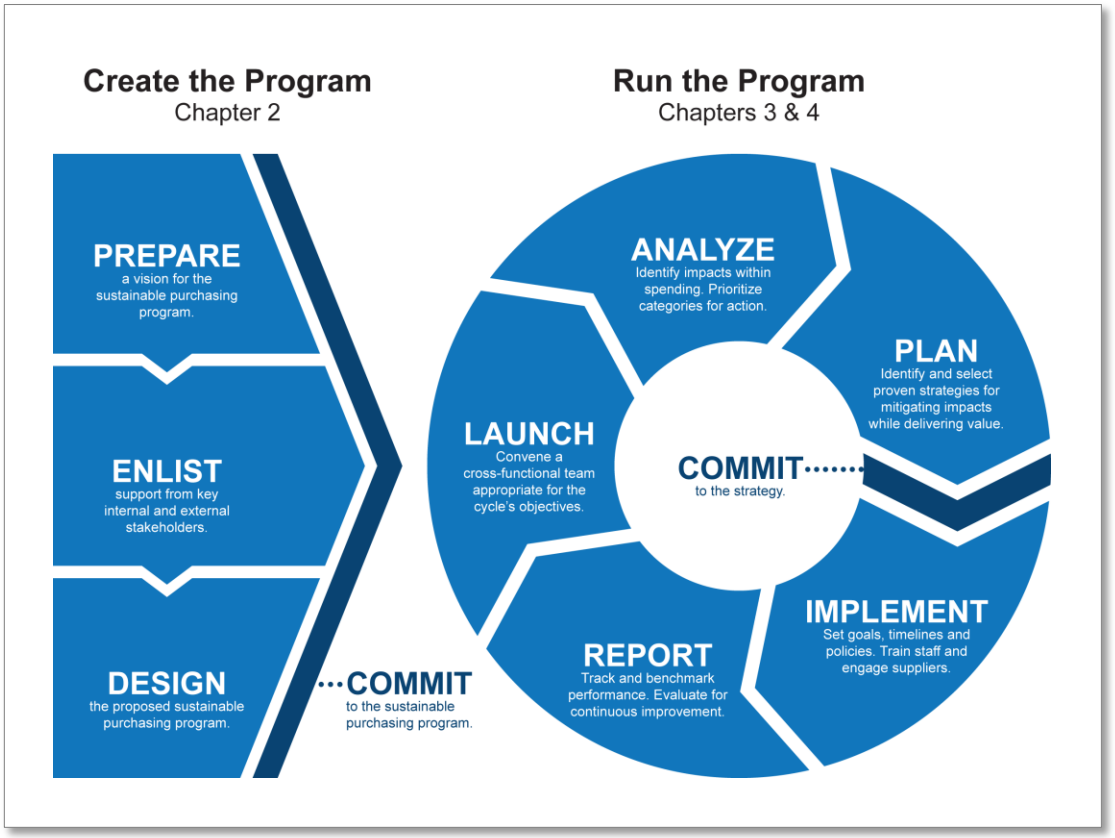
Chapter 1 provides an overview of sustainable purchasing and the strategic opportunity that it represents.

Chapter 2 helps "champions" to build support for and design a strategic sustainable purchasing program.

Chapter 3 describes a continuous improvement process that cross-functional teams can employ to develop strategies for achieving specific environmental, social, and economic performance goals.

Chapter 4 offers guidance on how to apply this strategic thinking for specific categories of purchasing that may be priorities for a wide variety of organizations.

Overall, these chapters are designed to give an organization the basic building blocks to pursue and achieve leadership in sustainable purchasing.



Benefits of Sustainable Purchasing

Implementing an effective, integrated plan for sustainable purchasing can assist purchasing organizations in accomplishing the following:

Improve the bottom line.

Sustainable purchasing provides vast opportunities for organizations to improve their bottom line. Within this Guidance, strategic actions are tied to internal benefits that will help to build the case for making a different purchasing decision, be it buying less, investing in a new technology, changing user behavior or choosing to lease a product. For example, making electronics purchasing decisions that mitigate environmental, social, and economic impacts can result in reduced operating, replacement, and disposal costs, improved security, and increased user satisfaction. The same possibilities exist within every purchasing category addressed within this guide.

Organizational Benefits of Sustainable Purchasing

+ Save money
+ Reduce disruption risk
+ Improve vendor relationships
+ Promote more resilient supply chains
+ Build better customer relationships
+ Increase employee satisfaction and retention

Be part of (and be recognized for) a collective leadership agenda.

This Guidance gives organizations the tools to become leaders within the procurement community. Organizational purchasing decisions send powerful economic signals up and down the entire supply chain, with the potential to influence the environmental, social, and/or economic performance of entire markets. Institutional purchasing is a strategic leadership opportunity at the global economic scale. Collectively, institutional purchasers have the opportunity to shape entire markets.

Use market influence to advance a positive future.

Including procurement as part of an organization's strategic sustainability initiative will greatly enhance its environmental, social, and/or economic performance. According to Dan Tangherlini, Administrator of the U.S. General Services Administration (GSA), the supply chain impacts of their goods and services purchasing creates a carbon footprint **nine times** that of the operational impacts of their buildings and fleet combined.[3] Incorporating goods and services purchasing impacts into an organization's sustainability considerations will typically shift—and broaden—its priority impact focus areas significantly.[4] The tables on the following page display a non-exhaustive list of potential impacts within product and service supply chains and the potential benefits associated with addressing them.

Empower staff to be part of a collective solution.

Procurement professionals have a strategic role in leveraging institutional purchasing to improve environmental, social, and economic impacts. They are uniquely positioned to demand transparency on the upstream and downstream impacts of goods and services, and incorporate that knowledge into purchasing decisions at a scale that can shift markets and ensure that "sustainable" products demonstrate quality and total cost benefits. Contributing their experiences and knowledge to both the supplier community and their organization's purchasing community is critical to the success of the sustainability movement and will define purchasing leadership for years to come.

[3] See "GSA Administrator Dan Tangherlini on Sustainable Purchasing." Published May 22, 2014. *http://youtu.be/UgqpzzgcW98*

[4] Certainly, this isn't to say that organizations should stop improving their own operations. Rather, it is to say that claims to sustainability leadership are dubious when an organization improves only its own operations, ignoring the likely much larger footprint in its supply chain.

A Broader Context for Sustainable Purchasing

Leadership in sustainable purchasing involves thinking expansively and holistically about the environmental, social, and economic performance of an organization's supply chain and optimizing that performance in order to advance a positive future. The lists below include key aspects of a supply chain's environmental, social, and economic performance that tend to contribute to (+) or detract from (-) such future. The lists are intended to spark ideas for discussion internally and with stakeholders, recognizing that the list is not exhaustive, nor is every item on the list necessarily relevant for every organization or purchasing category. For more information about how to think about aspects of environmental, social, and economic performance, please refer to the *Principles for Leadership in Sustainable Purchasing v1.0*, available on the SPLC website, and to the resources from which these lists are drawn, including: UN Global Compact, UN Guiding Principles on Business & Human Rights, International Bill of Human Rights, the Global Reporting Initiative, and lifecycle assessment standards. A related worksheet is available from the SPLC website.

Environmental

Environmental aspects affect the natural systems on which life depends, now and in the future.

+ biodiversity preservation
+ climate adaptation
+ resource optimization
+ soil health stewardship
- acidification
- desertification
- eutrophication
- freshwater pollution
- greenhouse gas emissions
- habitat depletion
- human health impacts
- land use change
- marine pollution
- ozone depletion
- radiation pollution
- resource depletion
- smog
- waste
- water consumption

Social

Social aspects affect the social systems on which communities depend, now and in the future.

+ anti-discrimination
+ community engagement
+ diversity/equal opportunity
+ employee engagement
+ equal remuneration
+ fair trade
+ freedom of association
+ grievance & remedy processes
+ human rights
+ indigenous rights
+ occupational health & safety
+ right to collective bargaining
+ sustainable compensation
+ training and education
+ worker rights
- child labor
- forced/compulsory labor
- human trafficking
- sourcing from conflict zones

Economic

Economic aspects affect the financial systems on which our markets depend, now and in the future.

+ fair dealings
+ innovation research / investment
+ open competition
+ transparency of information
+ use of diverse suppliers
+ use of HUB zones
+ use of local suppliers
- conflicts of interest
- corruption (bribery, extortion…)
- dividing territories
- dumping
- exclusive dealing
- misleading market claims
- monopoly (seller collusion)
- monopsony (buyer collusion)
- patent misuse
- price fixing
- product tying
- refusal to deal

Target Audiences and Uses

This *Guidance* is for purchasing organizations and other organizations and industries who affect—and are affected by—supply chains of purchased goods and services, such as: product and service suppliers, standards and certification developers, and public interest advocates.

Purchasing Organizations

This *Guidance* is for any organization that wants to improve the environmental, social, and economic impacts within its purchasing supply chain. It is not intended for any one professional within an organization. Rather, **the *Guidance* demonstrates the pertinent actions that an integrated, multi-stakeholder group within an organization must take in order to be most successful.**

As such, the Guidance often refers to the following roles within a purchasing organization:

- Purchasing organization
- Senior leadership (C-Suite)
- Sustainability staff
- Purchasing staff
- Procurement professional
- Product specifier
- Program and Business Unit staff
- Supplier

Market Sectors that will find this Guidance useful…

- National Governments
- State and Provincial Governments
- Local Governments
- Higher Education Institutions
- K-12 Education Institutions
- Healthcare
- Corporate
- Service Providers
- Retailers
- Manufacturers

Suppliers of Products and Services

A supplier of products and services could use this Guidance to support leadership in sustainable purchasing through the following actions:

- **Understand, engage, and invest in research and development** based upon the relevant environmental, social, and economic impacts of its products and services.
- **Provide products and services** that exceed industry standard performance along quantifiable environmental, social, and economic metrics (defined elsewhere in this document).
- **Meet or exceed credible standards**, **provide transparent and accurate claims**, and **seek third-party validation** of relevant environmental, social, and economic supply chain impacts and claims.
- **Demonstrate** how products and services may help purchasers achieve strategic objectives and environmental, social, and economic performance targets.
- **Track, evaluate, and report metrics and non-competitive insights** on product and service performance related to environmental, social, and economic impacts, using clear, transparent and easy-to-interpret methods.

Public Interest Advocates

Public interest advocates could use this Guidance and support leadership in sustainable purchasing through the following actions:

- **Raise awareness of relevant environmental, social, and economic impacts** of products, services, or specific aspects of the supply chain in which the organization is a recognized expert.
- **Invest in the research and development of quantitative metrics** for environmental, social, and economic impacts, where no such metrics exist.
- **Advocate for and promote suppliers** of products and services that invest in research and development and demonstrate progress on relevant environmental, social, and economic supply chain impacts.
- **Advocate for public and private incentives** for the research, development, and delivery of products and services that improve relevant environmental, social, and economic impacts and accelerate return on investment for purchasers.

Target Audiences and Uses, continued

Standards and Certification Developers

A standard or certification developer could use this *Guidance* to support leadership in sustainable purchasing through the following actions:

- **Harmonize, where appropriate, standards and certification programs** with identified environmental, social, and economic impacts.
- **Invest in the research and development of quantitative metrics** for environmental, social, and economic impacts, where no such metrics exist.
- **Evaluate and promote suppliers** of products and services that have been validated to meet or exceed industry standard performance on relevant environmental, social, and economic impacts.

Integrated Approach and Process

This *Guidance* promotes the use of an integrated approach for developing a comprehensive and strategic Sustainable Purchasing Program, including four key components:[5]

1. **Integration of a team** in the early stages of the process (Chapter 2);
2. **Challenging assumptions** and the status quo of current standard operating procedures related to procurement (Chapter 3);
3. **Continued collaboration** throughout various phases of creating and implementing an action plan (Chapter 3); and
4. **Iteration** of the process to improve on the environmental, social, and economic performance of purchasing (Chapter 3).

This *Guidance* details the implementation of these concepts through specific steps, such as:

- **building support** and setting goals for a strategic sustainable purchasing program
- structuring **stakeholder engagement**
- setting a reasonable scope to implement initial program
- quantifying entire spend within the defined scope
- selecting the most appropriate method for analyzing spend
- choosing decision-making criteria to evaluate, prioritize, and **select actions that can save money and add value**
- **identifying actions** to address significant impacts of spending
- setting **performance metrics**
- **implementing** the plan
- measuring and reporting results, and
- promoting **continuous improvement** of the sustainable purchasing program

[5] Boecker, John. Personal interview. 16 October 2014.

Additional Considerations

Product Performance

There is a common perception that sustainability improvements may result in performance losses or cost increases. This *Guidance* suggests that leadership organizations should seek to avoid unnecessary compromise and ask the marketplace to deliver innovations that offer functional performance, environmental stewardship, social responsibility, and cost parity.

Leaders in sustainable purchasing are those organizations that request, of their suppliers, that functional performance not come at the expense of environmental damage, community costs, or worker safety. Likewise, advances in environmental or social performance should not come at the expense of functional performance or total cost of ownership.

There may still be times, however, when no existing market solution meets both technical performance requirements and sustainability objectives. In such cases, an organization may have to choose an appropriate compromise based on its own priorities. In these circumstances, SPLC's *Principles for Leadership in Sustainable Purchasing* ask leadership organizations to call on the marketplace to innovate and adopt better solutions in the future. This could mean providing suppliers and buyers with an incentive to innovate, joining a collaborative effort to raise standards, or other strategies developed by the purchaser.

Various sections within Chapter 4 discuss product performance considerations in more detail.

Supplier Diversity

Ensuring that contracting opportunities are accessible to diverse suppliers is a key part of promoting the health and resilience of local and global economies. Collectively, these businesses drive significant job creation, and are hotbeds of product and service innovation.[6] By broadening the diversity of its supply base, an organization can help strengthen the economy while at the same time gaining access to new ideas, increasing competition, receiving greater value for money, and better serving and reflecting its customers and communities.[7]

DETAILED GUIDANCE
TYPES OF DIVERSE SUPPLIERS

- Small and medium sized
- Locally owned
- Women owned
- Minority owned
- Aboriginal owned
- Veteran owned
- LGBT owned
- Service-disabled veteran owned

Note: Naming conventions and definitions vary between regions and organizations

However, there are times when supplier diversity goals and broader environmental, social, and economic supply chain performance goals can appear to be in competition. For example, the financial impact of attaining a social or environmental certification may be greater for small or medium sized business than for their larger competitors.[8] Does that then mean that preferring products with better environmental, social, and economic performance deters the use of diverse suppliers?

The use of sustainability criteria, in and of itself does not present a unique challenge for supplier diversity. When given the chance, small and medium sized suppliers regularly demonstrate an ability to compete on whatever performance criteria is important to their customers. This includes earning necessary third-party certifications, whether for safety, quality control, sustainability, or any other criteria.

However, when purchasers send mixed signals to the marketplace about what qualifies as sustainability leadership within a purchasing category, small and medium sized enterprises in that category are disadvantaged because they cannot match a large organization's capacity "to be everything to everyone." The Purchasing Category Guidance found in Chapter 4 was developed by volunteer Technical Advisory Groups (made up of purchasers, suppliers and public interest advocates) in an effort to provide purchasers and suppliers alike with clarity and consistency on what represents environmental, social, and economic leadership in a given category. If purchaser demand coalesces around these shared definitions of leadership, then suppliers can focus their efforts and financial resources more effectively, which will help level the playing field for small and medium suppliers.

[6] US Small Business Administration FAQ, March 2014 (*http://tiny.cc/1cg5rx*)

[7] Supplier Diversity Europe website (*http://tiny.cc/e5jdsx*)

[8] Not all diverse businesses are small or medium in size, but the vast majority of all types of businesses are small and medium enterprises (*http://tiny.cc/1cg5rx*), so the majority of businesses with diverse ownership encounter the challenges addressed here.

Similarly, the burden of replying to numerous similar-but-different supplier sustainability surveys weighs heaviest on small and medium sized suppliers. Suppliers of all sizes are better able to focus on what matters when they can report their sustainability performance data to many purchasers at once via shared reporting frameworks and database platforms. There is guidance in Chapter 3 on how purchasers can find shared survey platforms that may meet their needs.

Programmatically, the Council recognizes that small and medium sized businesses often do not have ready *access* to specialized sustainability expertise and resources; this is different than lacking the *ability* and *willingness* to achieve high environmental, social, and economic performance. Of course, this problem is not unique to matters of sustainability. Organizations with supplier diversity programs have long recognized the need to provide small and medium sized suppliers with access to training and technical assistance on how to meet their organization's performance expectations.[9] As a result, suppliers regularly respond with exemplary ability and willingness. The Council is interested in exploring, as part of the Pilot Program, how it can most effectively partner with purchasers and supplier diversity councils to make sustainable purchasing training programs and resources based on SPLC's Guidance available to diverse suppliers.

The Council is committed to promoting supplier diversity in its guidance, events, community of practice, and via its planned rating system. The Council believes strongly that sustainability will increasingly be a competitive requirement in procurement, and that leadership means both finding ways to increase the use of diverse suppliers and improving environmental, social, and economic performance in a holistic fashion."

Certifications and Standards

Certifications and standards play an important role in supporting institutional leadership in sustainable purchasing. At their best, sustainability-oriented labels, standards, and certifications translate expert knowledge about the most significant impacts associated with a particular product category—and about best practices that meaningfully address those impacts—into a consistent, practical framework for decision making.

Within Chapter 4, this Guidance attempts to communicate the extent to which various certifications and product labels evaluate and measure the most significant environmental, social, and economic impacts of relevant products or services. This allows purchasers to align the certifications they specify with the most significant impacts in the product and service categories from which they buy.[10]

Packaging

While purchasing strategies focused on the environmental, social, and economic performance of packaging or packaging systems may deliver some benefits, the Council generally would not expect these benefits to be significant, when compared to strategies focused on the goods and services procured. Therefore, the Council does not include packaging reduction strategies within the purchasing category sections.

In cases where an organization does find that packaging represents a significant share of their purchasing impacts, they should work with their suppliers to reduce or redesign it, using the Sustainable Packaging Coalition's *Design Guidelines for Sustainable Packaging* as a guide.

☑TIP

Sustainable purchasing applies to all purchasing, not just consumable goods.

According to this *Guidance*, an organization exercises leadership in sustainable purchasing by taking responsibility for *all of the consequences of all* of its goods and services spending, not only its goods spending, and certainly not only its consumables spending.

Leaders in sustainable purchasing recognize that they have an opportunity to shape the entire economic signal that they send into the marketplace, which includes purchases for non-goods, such as electricity, fuel, professional services, and so on. By sending the right economic signals, they can focus market innovations toward a sustainable future in these important sectors.

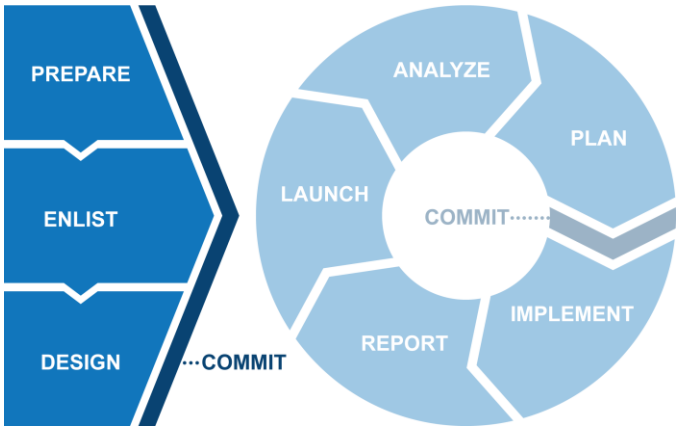
This *Guidance* helps organizations to understand the full extent of their opportunity to contribute to a positive future through their leadership attitude toward all spending, whether on goods or services, durables or consumables.

[9] The Council encourages organizations to expand their current supplier diversity technical assistance programs to include sustainability, if they have the capacity to do so. An example of this is PG&E's Diverse Suppliers Go Green Program. Their resources are freely available online: (*http://tiny.cc/d3b5rx*).

[10] Looking forward, the Council's Rating System will value any action based on its ability to address the most significant environmental, social, and economic impacts associated with a particular purchasing category. This includes, but is not limited to, the use of certifications or standards (e.g., the use of a particular certification or label for a certain percentage of overall spend within a category). Depending on the extent to which a particular action addresses the significant impacts of a product or service, the points attributed within the Council's rating system may vary. To this extent, development of the Rating System is expected to involve identifying those certifications, standards, or labels that are most likely to advance leadership in sustainable purchasing within a particular category.

Chapter 2

Create the Program



Chapter Overview

This chapter helps individuals within an organization build stakeholder and management[11] support for implementing a strategic Sustainable Purchasing Program at their organization.

Chapter Organization

This chapter guides a progression of activities that naturally build momentum towards an organizational commitment to the implementation of a Sustainable Purchasing Program:

1. The Champion **prepares a vision** for what the organization's Sustainable Purchasing Program could be and do for the organization and society.
2. The Champion shares that vision with key stakeholders[12] in order to **enlist their support** in refining the vision and promoting it to management.
3. Together, the key stakeholders **design a plan** for bringing the program into existence.
4. The key stakeholders work with management to win the organization's **commitment to the Program Plan**.

[11] Given the diversity of management roles and titles across sectors, this *Guidance* uses "management" to refer to an organization's senior decision-makers. Depending on the decision to be made and the size and type of organization, "management" could be a Chief Executive Officer, President, Mayor, Chief Procurement Officer, Chief Operating Officer, Vice President, Dean, Commander, Director, Manager, and so on. Readers should determine who at their organization would be the appropriate member of management to make the type of decision being discussed.

[12] In this chapter, "key stakeholders" are defined as those people with influence, skills, or roles relevant to designing and winning management support for a Program Plan. The term does not include everyone that could be affected by a Sustainable Purchasing Program.

What Is the Champion's Role?

In this Chapter, the capitalized word "Champion" is used to identify the person who volunteers or is tasked with building organizational support for creating and implementing a Sustainable Purchasing Program Plan. A generic term is needed because, in practice, sustainable purchasing advocates come from all types of roles within organizations: procurement professionals, sustainability staff, senior leaders, operations staff, budget holders, and so on.

The Champion's primary role is to build the necessary cross-functional and management support for implementing a Sustainable Purchasing Program successfully. Many sustainable purchasing efforts flounder without a Champion to do that legwork, because sustainable purchasing work requires cross-functional cooperation.

Preparing to Champion

As a first step, Champions are strongly encouraged to read Guidance Chapters 1, 2 and 3 all the way through, and familiarize themselves with the structure and contents of Chapter 4. Chapters 1-3 define the full *process* that the Council recommends organizations utilize to strategically address all significant environmental, social, and economic consequences of its spending. Having the whole picture will significantly ease implementing each step in the process. Chapter 4 provides guidance for specific purchasing categories that will be useful to reference during several of the process steps described in Chapters 1-3.

☑TIP

Use this Guidance to collaborate.

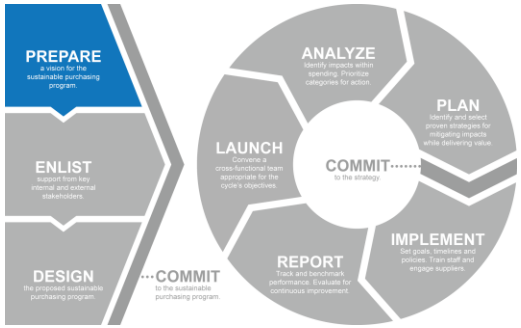
Given that you're reading this document, there's a good chance the Champion at your organization is you!

But what if you don't have the time to do the legwork described in this chapter? For example, you might be a very busy Chief Sustainability Officer who knows sustainable purchasing is important but cannot take on anything else.

The information in this chapter is intended to ease the process for Champions to share the load by recruiting—or even assigning—additional people to help build cross-functional and management support for implementing an outstanding Sustainable Purchasing Program.

This is a playbook that you can share and work from together as a team.

PREPARE the Vision



Purpose

This section guides Champions in developing a vision for their organization's Sustainable Purchasing Program, so they can share it with key stakeholders when enlisting their support.

Benefits

- Builds the case for why the organization needs and would benefit from a Sustainable Purchasing Program.
- Develops a "straw man" vision for how the Sustainable Purchasing Program could operate.
- Prepares initial answers to questions commonly encountered when advocating for a Sustainable Purchasing Program.

Process

Champions should expect to encounter the following question when advocating for a Sustainable Purchasing Program:

1. **Why** does the organization need a Sustainable Purchasing Program? What organizational needs, values, or priorities would it serve?
2. **How** would a Sustainable Purchasing Program meet those needs? How would it be organized? What would it do?

Once a Champion has developed a clear picture of how they would answer the questions, they should draft a summary to share and reference during the stakeholder engagement process in the "Enlist" phase.

DETAILED GUIDANCE

A LEADERSHIP VISION FOR "WHY?"

A leadership vision is big picture. As Champions for sustainable purchasing set out to define a vision for the organization's program, they should also consider the big picture.

Leadership organizations answer the question, "**Why** do sustainable purchasing?" in a context larger than their own organization: "Because we have a responsibility to future generations." "Because we care about hidden risks in our supply chains." Because we are part of a community that matters to us." "Because marketplace innovation benefits us all." The key is that leadership organizations answer the question, "Why?" by looking outside their four walls.

Similarly, SPLC defines leadership in sustainable purchasing in terms of an organization's ability to use its market influence to strengthen the environmental, social, and economic systems on which we all depend. That is what this Guidance means by the "environmental, social, and economic performance of purchasing."

Refer to the lists on page 7 of this *Guidance* for an overview of the types of environmental, social, and economic aspects that can inform an organization's Sustainable Purchasing Program vision.

DETAILED GUIDANCE

BENEFITS OF SUSTAINABLE PURCHASING

The following list of financial, management, environmental, and socio-economic benefits of sustainable purchasing is adapted from BuySmart Network's *Guide to the Business Case & Benefits of Sustainability Purchasing*, which contains many supporting case studies.

Financial

- Reduces costs
- Enhances image and brand
- Eases regulatory burden

Management

- Aligns purchasing with organizational goals and values
- Reduces business risks
- Improves supplier relationships
- Advances market and product innovation
- Improves human resources performance

Environmental

- Reduces and prevents waste
- Reduces resource use
- Reduces pollution and toxins
- Reduces greenhouse gas emissions
- Maintains biodiversity

Socio-economic

- Improves wage levels and working conditions
- Advances human rights
- Improves employee health and safety
- Develops markets for sustainable products
- Promotes a strong local economy
- Supports vulnerable groups
- Provides community services
- Reduces public expenditures
- Promotes economic opportunity and benefit-sharing
- Improves conditions in the developing world

Source: http://tiny.cc/9guesx

DETAILED GUIDANCE

THE NEED FOR A SUSTAINABLE PURCHASING PROGRAM

Simply enumerating the benefits of sustainable purchasing does not—by itself—make the case for creating a *program*. Some benefits of sustainable purchasing can be realized without a formal program, but it is nonetheless essential to leadership.

A well-designed sustainable purchasing program will increase the chances that an organization's sustainable purchasing efforts will achieve the benefits described and advance organizational goals, including sustainability goals. Following are typical outcomes for organizations that have proceeded on an *ad hoc* basis, compared those who have invested in a coordinated program.

Typical Outcomes with a Program	Typical Outcomes without a Program
Management understands and supports the work	Frustration over lack of management commitment
Strong cross-functional cooperation	Silos thwart substantial progress
Sustained communication with stakeholders	Transient communication with stakeholders
Resources are available for strategic planning	Limited capacity to plan strategy
Benefits are tracked, aggregated, and reported	Evidence of benefits is anecdotal
Proactive management of supply chain risks	Reactive management of supply chain risks
Ability to tackle big, challenging issues	Biggest issues are out of reach, unless easy
Efforts are prioritized on the greatest opportunities to achieve significant benefits or improvements	Effort expended on initiatives that don't achieve significant benefits or performance improvements
Understanding of biggest risks and opportunities	Blindness to biggest risks and opportunities

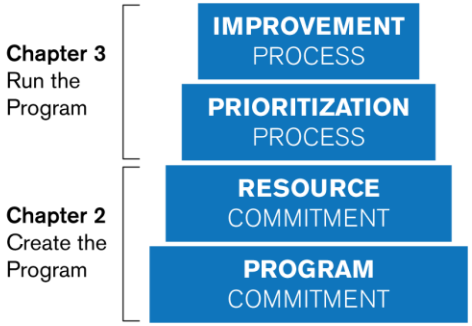
☑TIP

Focus on benefits that advance existing organizational priorities and needs.

The benefits that will be most compelling to stakeholders across the organization—and to management—will be those that help the organization achieve its existing goals. Sustainable purchasing may not be viewed as a priority if it isn't clear how it advances existing organizational priorities.

The Four Components of a Sustainable Purchasing Program

The Council considers four components to be required for a Sustainable Purchasing Program to be capable of achieving genuine leadership:



The Program's work is primarily accomplished through a **continuous improvement process**, which rests on the solid foundation of: a high-level organizational **program commitment**; the **resource commitment** to run the program; and a **prioritization process**, which ensures those resources are applied strategically within the continuous improvement process. This chapter focuses primarily on the commitments, and Chapter 3 focuses on the processes.

Commitment. The high-level program commitment provides political capital, which is necessary to achieve the level of sustained cross-functional cooperation and external stakeholder engagement required to address the biggest environmental, social, and economic performance challenges in an organization's supply chain.

Resources. Naturally, the commitment of resources is essential; little meaningful program planning and implementation can take place without it.

Prioritization. As described in Chapters 1 and Chapter 3, prioritization is essential for leadership, because leaders deliver substantial benefits for their organizations and the world by focusing their efforts on those areas with the greatest opportunity for improvement.

Improvement. And finally, directing the Program's energies into an iterative continuous improvement process recognizes the essential truth that sustainable purchasing is an iterative process that never finishes. Procurement professionals familiar with Strategic Sourcing will recognize this parallel between optimizing cost and optimizing environmental, social, and economic performance: there are always further and new opportunities to make improvements and realize benefits.

The Role of the Strategy Cycle

As described in detail in Chapter 3, this *Guidance* suggests a structured process—the Strategy Cycle—to guide the prioritization and continuous improvement processes. The Strategy Cycle involves convening appropriate stakeholders to analyze spending associated with a prioritized focus area, identifying projects that could meaningfully improve performance in that area, organizing the most promising of those projects into a cohesive Strategy Plan, implementing the plan, and tracking and reporting out the plan's financial, environmental, social, and economic performance. The Strategy Cycle structure reliably supports strategic decision-making, while remaining flexible and scalable to the specific needs and challenges of an organization.

☑TIP

Program complexity may vary.

While this *Guidance* suggests that Sustainable Purchasing Programs should have the above components, each organization's implementation of those components could be as elaborate or lean as appropriate for their organizational context. For a Fortune 500 company, the resources required to run the Program will almost certainly include dedicated sustainable purchasing staff. For a small business, significant strides could be made with a fraction of one or more staff members' time. In the "Design" phase, later in Chapter 2, the Champion and key stakeholders will determine the appropriate level of complexity and resource intensity for their organizational context.

EXAMPLE

MANY PATHWAYS TO A COMPLETE PROGRAM

Many organizations using this *Guidance* may already have in place one, two, or three of the four components of a leadership-oriented Sustainable Purchasing Program. And organizations just getting started may already have support for one or more of those components. There are many pathways by which an organization can grow their existing efforts into a complete Program. The "Design" section of this chapter focuses in detail on how to move from an existing set of activities to a strategic program.

Scenario #1: Build on Existing Efforts

An organization could already have an initiative addressing a specific area of purchasing (e.g., wood and paper products, IT, etc.) or an aspect of their whole supply chain's environmental, social, and economic performance (e.g., supplier diversity, GHGs, etc.). The organization could apply the Strategy Cycle to that initiative as a pilot project. As the organization gains familiarity with the Strategy Cycle and its benefits, it will become more comfortable committing resources to a Sustainable Purchasing Program that continuously prioritizes and supports the application of the Strategy Cycle to other areas of the supply chain.

Scenario #2: Respond to Management

An executive or political leader may have decided, "We should have a sustainable purchasing program," and directed staff to create one. In this case, management commitment exists, but it needs to be turned into a program commitment. This is a good problem to have! In such a case, this *Guidance* will provide a useful roadmap for designing an effective program.

Scenario #3: Start with Prioritization

An organization may have conducted a sustainability materiality assessment* to prepare their annual sustainability report. In the process, they discovered that specific areas of their supply chain present significant sustainability concerns. Thus, the assessment demonstrated the need for a Sustainable Purchasing Program to proactively manage these issues *and* provided a prioritization to guide the application of the Strategy Cycle. The organization could then establish and resource a Sustainable Purchasing Program to support continuous improvement of supply chain performance.

Scenario #4: Start with Resources

A university receives a charitable contribution to support their sustainability efforts. They may decide to invest resources in a Sustainable Purchasing Program right away; or, they may first run a prioritization process to better understand their supply chain's current environmental, social, and economic performance and demonstrate the need for an ongoing Program. Either path is valid.

Champions should think now about what pathway likely makes the most sense for their organization. It may be helpful to proactively include a preview of that pathway when talking with key stakeholders. Many stakeholders will support the big picture vision, but have doubts about how to get there.

* A materiality analysis identifies areas of an organization's activities that affect the organization's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large. Increasingly, sustainability reporting frameworks require organizations to conduct materiality assessments in order to determine what parts of their activities should be covered in their sustainability reports. (http://tiny.cc/vuuesx)

DETAILED GUIDANCE
VISIONING WITH SPLC'S PRINCIPLES

One of the most challenging aspects of winning a high-level commitment to a Sustainable Purchasing Program can be defining sustainable purchasing—and further—leadership in sustainable purchasing. To address this challenge, the Council developed a set of *Principles for Leadership in Sustainable Purchasing* that can be used to build common understanding, both internally and with the broader community.

Because the *Principles* represent the consensus of a leadership body, they can bolster the credibility of a Champion's vision when engaging stakeholders and seeking high-level support from management. Leaders can have confidence that a Program based on the *Principles* will be credible, rigorous, and leadership-oriented.

Organizations using the Council's *Principles for Leadership in Sustainable Purchasing* as the basis for their Sustainable Purchasing Program can be certain that all of the Council's guidance, trainings, community of practice, meetings, and other programs will be readily applicable to their Program. For more information, go to *http://www.sustainablepurchasing.org/principles/*

Principles for Leadership in Sustainable Purchasing

An organization[9] demonstrates leadership in sustainable purchasing through:[10]

Understanding. Understanding the relevant[11] environmental, social, and economic (ESE) impacts of its purchasing.

Commitment. Taking responsibility for the relevant environmental, social, and economic (ESE) impacts of its purchasing by committing to an action plan.

Results. Delivering on its commitment to improve the relevant environmental, social, and economic (ESE) impacts of its purchasing.

Innovation. Actively promoting internal and external innovation that advances a positive future.

Transparency. Soliciting and disclosing information that supports a marketplace of innovation.

These criteria outline a framework for specific actions. The SPLC recognizes that timelines for achievement will vary across criteria and market sectors based on the availability of: tools and resources to implement representative actions; products and services that effectively improve the relevant ESE impacts of an organization's purchasing; and practical tools and resources to measure that improvement.

SUSTAINABLE PURCHASING LEADERSHIP COUNCIL

Principles for Leadership in Sustainable Purchasing v1.0
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5

DETAILED GUIDANCE
QUESTIONS FOR VISIONING

Questions for Visioning

- What benefits of sustainable purchasing would be most compelling to different stakeholders across the organization and in management?
- How can a Sustainable Purchasing Program support specific organizational goals or priorities?
- Is the organization already working on addressing any of the aspects of environmental, social, and economic performance included in the Council's list above?
- If resources were not an issue, how would the Program operate and who would be involved? What's would be an ideal vision for the Program?
- Recognizing that resources are an issue, how could the Program grow into that ideal vision, starting with what's possible now?
- After reviewing the prioritization guidance in the Chapter 3 Overview, what seems like the most viable path for determining initial priorities for the Program?
- How can the Council's *Principles for Leadership in Sustainable Purchasing* be useful in visioning and communicating that vision to others?

☑TIP

Become familiar with this *Guidance*.

Reading Chapters 1-3 and getting familiar with Chapter 4 will give Champions a command of the overall approach recommended by this *Guidance*. There is no point in the process more strategic for investing time to understand the full approach than during this visioning step.

EXAMPLE

PROGRAM NEED AND VISION SUMMARY

Our organization should establish a Sustainable Purchasing Program modeled on current best practices (as defined by the Sustainable Purchasing Leadership Council), because it would produce the following benefits:

(itemize benefits)

This would advance the following current or future organizational priorities established by management:

(list organizational priorities)

There are many ways such a Program could be organized. To seed the conversation, here is one possible vision for how it could work at our organization:

(describe vision)

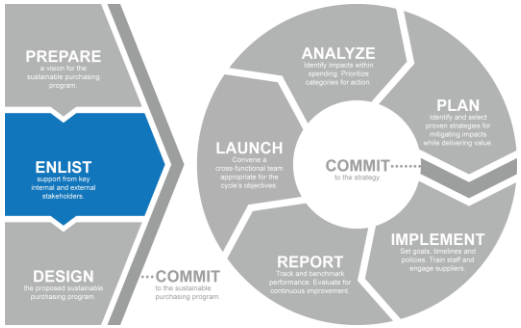
One possible pathway by which the organization could build up to that vision is as follows:

(describe pathway)

End of Section Checklist

- ☐ Benefits of and needs for a Sustainable Purchasing Program identified
- ☐ Vision developed for the Program and its development
- ☐ Summary prepared describing benefits, needs, vision, and program development pathway

ENLIST Stakeholders



Purpose

This section guides Champions in identifying key stakeholders whose support and input can help the Champion take their vision from an idea and transform it into a concrete Program Plan that is likely to win commitment from management.

Benefits

- Identifies who can help the Champion turn their vision into a Program Plan that can win management's commitment.
- Builds support for the Program by giving key stakeholders a sense of ownership.
- Develops tailored messages for effectively engaging key stakeholder groups.
- Confirms key stakeholders' willingness to participate in the Program Plan design process, allowing that process to begin!

Step 1 : Identify key stakeholders

The Champion identifies the key stakeholders whose support and input they need to transform their vision for a Sustainable Purchasing Program into a formal Program Plan that can win support.

DETAILED GUIDANCE
IDENTIFYING KEY STAKEHOLDERS

At this phase, the goal is to continue to refine the Champion's vision into a functional plan that can win the commitment of management. Who are the stakeholders who would be key for that?

People with influence. Their support or objections would meaningfully influence management's decision to commit to the Program Plan. Examples: *Major budget holders, managers of departments that would play a leading role, such as the Chief Procurement Officer, students and faculty at a university, etc.*

People already doing a piece of the work. They are natural allies and contributors, when not blindsided! Examples: *Staff in sustainability, procurement, supplier diversity, environmental health and safety, risk management, etc.*

People with specialized skills or wisdom. Their input will lead to a Program Plan design that is more likely to win management commitment and successfully change purchasing in meaningful ways. Examples: *Procurement data expert, energy manager, city planner, etc.*

The management decision-maker(s). They will ultimately decide if the organization commits to the Plan. Examples: *Chief Executive Officer, City Council, VP of Supply Chain, etc.*

Step 2 : Plan engagement process.

The Champion plans the stakeholder engagement process through which key stakeholders will be invited to participate. The stakeholders will help the Champion to think through the Program design considerations posed in the "Design" section of this chapter, below, in order to develop a formal Program Plan that is ready for management commitment.

Goals of the Process. The primary goals of stakeholder engagement at this point are to:

1. **Get input** that can refine the vision for the Sustainable Purchasing Program into a formal Program Plan; and
2. **Obtain support** of key stakeholders for the Program Plan.

EXAMPLE
POTENTIAL ENGAGEMENT PROCESSES

- **Piggyback** on an existing stakeholder processes (e.g. organization-wide sustainability committee or purchasing committee)
- Make **presentations** to key stakeholder groups
- Form a **committee** or ***ad hoc* team** to collaborate on the Program Plan design
- Organize a **workshop**
- One-on-one **meetings**

DETAILED GUIDANCE
COLLECTING INPUT

A 2-step process. Collecting input from key stakeholders is a two-step process: First, the Champion must plan an efficient engagement process through which stakeholders can provide input. Second, they must convince busy stakeholders to participate! (See Step 3)

Varies by context. The most efficient stakeholder engagement process will vary depending on organization size and type, and the Champion's role within it. In a small organization, a few one-on-one meetings may be all that's required. Or, if the Champion is the CEO, it could be as simple as making it an agenda item for one or more meetings of the executive team. In a large organization, something more elaborate may be required, such as convening the key stakeholders for a daylong workshop that features best practice presentations from sustainable purchasing experts and peers in the morning, followed by planning conversations in the afternoon.

A combination of strategies. In most cases, the stakeholder engagement process will involve a combination of strategies, such as one-on-one meetings that build momentum towards a planning workshop.

DETAILED GUIDANCE
OBTAINING SUPPORT

A sense of ownership. An effective stakeholder engagement process leaves the key stakeholders with a sense of ownership and investment in the Program Plan. Without that sense of investment, the key stakeholders may not rise to voice their support for the Plan when management is considering approving it.

Importance of group dialogue. While it is possible to receive key stakeholder input by simply sending out documents and asking for feedback, few people develop a feeling of investment that way. Dynamic dialogues—whether in person or by conference call—where participants have an opportunity to raise objections, hear others' perspectives, debate choices, and arrive at a shared vision are one of the most effective ways to build a sense of ownership and investment. Hosting a kick-off meeting--as described in the "Design" section—will provide the opportunity for dialogue.

Alternatives to group dialogue. If coordinating such dialogues with the full stakeholder group is not possible, then the Champion must create that sense of collective ownership. For example, conduct one-on-one or small group meetings, listening to and sharing back the perspectives of others. Stakeholders will understand that they are participating in a peer-to-peer dialogue, the purpose of which is to arrive at a Program Plan *that all the stakeholders will support*.

Step 3 : Invite stakeholders.

The Champion invites the key stakeholders to the engagement process they've planned, making the case to each that investing in designing a Sustainable Purchasing Program Plan and winning management's commitment to it will be good for the organization *and* for them.

☑TIP

Learn the language of other departments.

This will require time, research, and finding mentors within different departments. But, it will help Champions effectively make their case when it comes time for the (potentially very short) meeting(s) in which decisions about support will be made. It's particularly useful to look out for words other departments might use differently (e.g., value, cost, operations, purchasing, procurement, program).

☑TIP

Don't Go in with It "All Figured Out".

It's likely that every department you approach is just as overloaded as yours. The tone you use is important, and conversing with an exploratory tone (as opposed to one that you've "found the solution to all problems") will go a long way. Start the conversation by identifying and understanding others' challenges, acknowledging that you may not have an immediate solution. Don't assume that "sustainable purchasing" will necessarily be a solution. It will likely be just one tool in a larger toolkit.

DETAILED GUIDANCE

THE BUSINESS CASE AND THE PROFESSIONAL APPEAL

Champions must collaborate. No matter where the Champion sits in the organization's hierarchy, they must win the support of others in order for the Program to succeed, because leadership in sustainable purchasing requires significant cross-functional collaboration. Even a CEO has to convince the Board, Chief Financial Officer, Chief Operating Officer, and/or Chief Procurement Officer, that investment is worth it.

Business case is necessary. Key stakeholders will be more likely to participate in the planning process if they believe that the proposed Program is a wise use of organizational resources. The business case resources and guided reflections provided in the 'Vision' phase at the beginning of this Chapter should have prepared the Champion to clearly communicate **why** the organization needs a Sustainable Purchasing Program and **how** the Program could work.

Business case is insufficient. For various reasons, staff regularly decline invitations to participate in projects that are good for the organization. Therefore, it's important to go beyond the organizational business case and appeal to key stakeholder groups based on their own professional goals.

Professional case is also necessary. Stakeholders are more likely to participate in planning a program that could aid their own professional work, and if their participation in the design process helps ensure that it does just that. The following sections provide suggestions on how to make this case to key stakeholders in several professional roles.

DETAILED GUIDANCE

HOW TO MAKE THE INVITATION

Persuasive invitations can be delivered in person, with a phone call, with presentations to professional groups (e.g., at a meeting of Procurement Department staff), or via memos.

Invitations don't need to be elaborate, but they should contain the following key information:

1. **Why** the organization needs a Sustainable Purchasing Program, including the organizational benefits it can provide.
2. **Why** the Program would benefit the key stakeholder's professional work.
3. A summary or outline of **how** such a Program could work.
4. An **invitation** to and instructions for the stakeholder engagement process.

☑TIP

This Isn't Sustainable Purchasing the Way Consumers Think About It.

Everyone is familiar with how difficult it is to identify the "most sustainable" product in a store. When stakeholders first hear about the idea of a sustainable purchasing program they imagine it involves trying to identify the "most sustainable" product for every one of the many things the organization buys. *This misconception can be the source of **a lot** of resistance.*

It's important to stress that **this Program will not be doing sustainable purchasing the way consumers do it.** Instead, it will prioritize the purchases with the most impact and focus energy on addressing the performance concerns with those purchases. Many organizations that do this prioritization discover that the Pareto Principle applies: 80% of their impacts come from just 20% of their purchases.

DETAILED GUIDANCE
TAKING ORGANIZATIONAL CONTEXT INTO ACCOUNT

In preparation for reaching out to stakeholders to build support for a Sustainable Purchasing Program, it is critical to consider the organizational context that shapes the way staff and management typically initiate, review, and respond to new program proposals. This will help determine the best approach for building support.

The boxes to the right have some questions and suggestions to help anticipate opportunities and challenges that an organization's context may present when reaching out to stakeholders across the organization.

DETAILED GUIDANCE MANAGEMENT CONTEXT

Question: What are the organization's existing strategic initiatives?

Suggestion: Making the linkages between the benefits of a Sustainable Purchasing Program and existing strategic initiatives will be particularly influential when engaging stakeholders in management.

Q: Does the organization currently face a reputational issue that a Sustainable Purchasing Program could help address?

S: Show stakeholders how a Sustainable Purchasing Program could help the organization react to the current issue, and, enable it to proactively address such issues going forward.

Q: Does the organization have established protocols for proposing new initiatives? Or, it is a more informal process?

S: If management has established protocols, leverage them. Sometimes, however, protocol can be an impediment to progress. In such cases, continuing to build broad stakeholder support can help the proposal find advocates who can help move it through the process faster.

Q: Is the organization supportive of bottom-up initiatives? Is there an example of a successful bottom up initiative at the organization? Who led that initiative? What could you learn from them?

S: If management supports bottom up initiatives, consider spending more time building support with other departments prior to approaching management, in order to show bottom up buy-in. If management doesn't tend to support bottom up initiatives, use the stakeholder outreach process to identify one or more champions in management roles.

DETAILED GUIDANCE
OPERATIONAL CONTEXT

Question: Is the organization's operations organized into semi-autonomous units (e.g., franchises, hotels, or campuses)?

Suggestion: In this case, it may be strategic to look for willing leaders at one or more operational units to pilot the Program's approach, and then help advocate the Program idea "up and out" to the rest of the organization.

Q: Does the organization tend to "work in silos" (i.e. little cross-functional collaboration)?

S: Even in the most siloed organizations, there are usually a few successful cross-functional initiatives. Look for a successful cross-functional initiative that the Program could either plug into (e.g., an organization-wide sustainability committee) or be modeled after. Ask the originators of successful cross-functional initiatives how they built support.

Q: Are there recent or planned changes in organizational operations? (e.g. department expansions or consolidations, layoffs, new areas of focus, leadership changes, etc.)

S: Consider if these changes could present a challenge or an opportunity for building support for a Sustainable Purchasing Program. For example, new leaders will often give audience to more new ideas early in their tenure.

Q: Would the program require the support of any stakeholders that are notoriously difficult to work with?

S: Seek advice and mentorship from someone who has figured out how to work effectively with that stakeholder. If the stakeholder has a generally pessimistic or apathetic attitude, try to address those feelings proactively. For example, show them how sustainable purchasing gives them power to create real, positive change in the world.

DETAILED GUIDANCE
APPEALING TO MANAGEMENT

Consider ways to tie the Sustainable Purchasing Program into **existing leadership priorities**. Consult your organization's Strategic Plan or—other guiding documents and policies—for a current list of priorities.

Identify the ways the organization **already addresses sustainable purchasing**, and emphasize this as an opportunity to enhance the internal visibility, credibility, and perceived strategic value of existing efforts.

Request management commit to a **process that will result in a Sustainable Purchasing Plan**. This provides the support you need to lead a cross-functional team through the plan development process.

Share **brief and specific examples** of how a Sustainable Purchasing Program can deliver better results than a contract-by-contract approach. Examples should demonstrate the benefit of using cross-functional knowledge to implement high ROI opportunities.

Specify particular asks, decisions, and a timeline from management. Consider which decisions need their involvement, and limit additional information.

If necessary, consult a colleague you know—or can be connected to—management throughout the preparation of this briefing.

DETAILED GUIDANCE
APPEALING TO SUSTAINABILITY STAFF

It may seem easy to win the support of sustainability staff, but these teams can be understaffed and may have multiple competing priorities.

Therefore, the structure of the Sustainable Purchasing Program must **reduce the burdens of the sustainability staff** and highlight potential improvements to their work processes. It is important that the sustainability staff understand that they need not be the leaders, but their experience and involvement is critical to the Program's long-term success.

Consider ways to tie this Program into **existing sustainability priorities** (e.g. carbon emissions, zero-waste, green jobs, etc.).

Provide **data showing how large supply chain impacts can be and therefore how beneficial it can be** to incorporate purchasing as part of the organization's strategic sustainability initiatives.

Share brief and **specific examples** of how this Program will reduce their team's burdens. For example, this process will free sustainability staff from getting pulled into the one-off projects that occur when approaching sustainable purchasing in an ad hoc way.

Specify particular asks, decisions, and a timeline for involvement in the planning phase.

DETAILED GUIDANCE
APPEALING TO PURCHASING STAFF

Show how sustainable purchasing **saves money** by eliminating waste, using resources efficiently, etc. It is **consistent with their work** to responsibly steward the organization's dollars.

Show how it can **enhance the visibility and perceived strategic value** of things they are *already doing*. (e.g., supplier diversity, buying recycled, etc.)

Share how a Sustainable Purchasing Program will help them **proactively and strategically target** the areas of purchasing with the greatest environmental, social, and economic risks *and opportunities*. Allay any fears that it involves re-evaluating every product and contract.

Connect sustainable purchasing to the **organization's mission**. For example, in a municipal procurement context, it helps create a healthy community and vibrant economy for taxpayers.

Show how sustainable purchasing supports **management priorities or mandates**.

Demonstrate awareness, early and often, of their workload and the difficulty of satisfying their many customers. Bring them resources that **simplify and enhance their work**, such as excerpts of this *Guidance*, training opportunities, and access to knowledgeable peers.

Present it as a **career advancement opportunity**. Purchasing professionals that understand sustainability are increasingly in-demand.

"New" and "exciting" ideas often present risks for procurement professionals. Take those concerns seriously and address them fully. Make it clear that **sustainability doesn't mean compromising on quality**.

Let them know they are in **one of the most pivotal professions** for the realization of a sustainable economy. Sustainability can add significant meaning to their work.

EXAMPLE
CONNECTING SUSTAINABLE PURCHASING TO MISSION

Dan Tangherlini, Administrator, US General Services Administration,

Failure to incorporate sustainability into our business model would leave significant savings for the government and the taxpayer on the table at a time when neither can afford it.

See "GSA Administrator Dan Tangherlini on Sustainable Purchasing." Published May 22, 2014. *http://youtu.be/UgqpzzgcW98*

DETAILED GUIDANCE

APPEALING TO PROGRAM AND BUSINESS UNIT STAFF

Program and business staff members are typically those in charge of standard operating procedures. Because of their role within an organization, it can be challenging to propose changes within the operational context, *particularly if program and business unit staff members have not been engaged in the conversations*. Because this team often holds the budget, it is critical to enlist support from this team from the outset.

Consider ways to connect this Program to **existing priorities** (e.g. financial savings, improved data management) to reduce resistance.

Identify and emphasize the ways various program areas **already address sustainable purchasing**.

Provide **opportunities for their team** to share their standard operating procedures, as well as any recent attempts at improving their procedures.

Demonstrate how the strategic process will meet the needs of their team.

Share **specific examples** of how sustainable purchasing can address their priorities, including saving money, and help the team achieve success.

Specify particular asks, decisions, and a timeline for involvement in the planning process.

Reduce potential resistance by clarifying that **organizational performance is not going to be compromised in the name of sustainability**. The purpose is not to spend money on products marketed as sustainable that fail to meet performance needs.

DETAILED GUIDANCE

APPEALING TO GOVERNMENT OFFICIALS AND POLITICAL LEADERS

Promote the establishment of a Sustainable Purchasing Program as a potential accomplishment during their tenure.

Highlight the direct benefits for specific government officials (e.g. announcements, positive public relations opportunities).

Share **examples of peer governments** and agencies that are saving money and meeting citizens' needs through sustainable purchasing initiatives. (If examples do not exist, demonstrate the leadership opportunity within the peer group).

Specify particular asks, decisions, and a timeline for involvement.

Communicate in their language (e.g. return on investment, risk management, cost savings, earnings before interest & tax [EBIT], etc.).

DETAILED GUIDANCE

APPEALING TO EXTERNAL STAKEHOLDERS

In some situations, it can be helpful to have support from external stakeholders, such as investors, taxpayers, customers, or suppliers. External stakeholders can play a powerful role in obtaining internal support for establishing a Sustainable Purchasing Program. Your marketing department may have strategies or recommendations for an approach to engaging external stakeholders that is right for your organization.

Consider the external audiences most relevant to your organization, and whether having their early engagement would augment the effectiveness of the Program Plan development process.

EXAMPLE

GETTING STARTED AT LOCKHEED MARTIN

Dan Pleshko, Lockheed Martin, *CPO Keynote Conversation*, SPLC 2014 Summit in Washington, DC

Our sustainability team was very passionate, had a lot of great ideas, and was really trying to push back toward the supply chain team what they needed to do. But, it was just a push: "Here's what you need to do. Here's what we need. Here's the reporting structure." It was just a lot of extra work outside the business rhythm of what the [supply chain] organization did.

Christina [Simon, Supply Chain Sustainability Manager] went and really connected the dots for everybody. She said, "Wait a minute, a quarter of what we have to spend in our 25 billion dollars of spend has to go to small business and the whole supplier diversity portion. We already do that. We do that every year, and don't miss a beat. That is part of being socially responsible. That is part of sustainability."

She started connecting the dots on various areas: "We're very concerned about a supplier code of conduct. We don't really have one that's written for the supply base. We just sort of pass ours down. Shouldn't we have a supplier code of conduct?" "We're concerned about conflict minerals." "We're concerned about counterfeit parts."

*There are a lot of things we started pulling in and saying, "**What you already do and what's in your business rhythm really is a part of the solution.**"*

When [the supply chain organization] started seeing that, they were very supportive. And now it's much easier to talk about what's the next phase and what's the next plan that we develop.

Step 4 : Finalize stakeholders or continue process.

Confirm which of the invited key stakeholders plan to participate in the planned engagement process, and decide whether to proceed or postpone the 'Design' phase and continue building engagement.

DETAILED GUIDANCE

PROCEED OR POSTPONE?

Some invited key stakeholders may decline to participate in the Program Plan design process. They may not have time, are not convinced of the need for a Sustainable Purchasing Program, or dislike the way the engagement process had been structured.

Obtain feedback. The Champion should try to get clarity on the reason for declines because it may reveal concerns or objections the Program will face going forward. If a decline was purely logistical, then a substitute can be requested.

Evaluate options. Evaluate whether or not the stakeholder engagement process could credibly proceed without the participation of invitees who declined. In some cases, it can. However, if no one from Procurement were available on the date of the planning kick-off meeting, proceeding without their participation would be quite awkward. In such a case, it may be necessary to postpone the planned stakeholder engagement process while recruitment of an essential stakeholder continues.

Recognize opportunity. While it might feel like a defeat if an essential stakeholder causes the process to have to be postponed, it's actually an opportunity to show that stakeholder how seriously their input and support is valued. When they see that, and realize that everyone else knows they've caused the whole process to be put on hold, they might just come around! At least, they will be far more likely to come around than if the process proceeds without them, as though their input was not essential.

End of Section Checklist

- ☐ Key stakeholders identified
- ☐ Stakeholder engagement process planned
- ☐ Stakeholders invited
- ☐ Sufficient stakeholder buy-in achieved to begin the 'Design' phase

DESIGN the Program

Purpose

This section guides the Champion and the key stakeholders in evaluating the different pathways for starting up a Sustainable Purchasing Program at the organization, and designing a Program Plan that defines the pathway they think will be most successful.

Benefits

- Key stakeholders develop a shared vision for what the Sustainable Purchasing Program should be.
- Builds on the collective wisdom of key stakeholders to produce a Program Plan for realizing that vision.
- Increases the chances management will commit to the Plan, because it has the input and buy-in of key stakeholders.

☑TIP

It is generally a good idea to spread the steps in this section out over several meetings. The Champion and the key stakeholders will need time to digest the information shared and the Champion will need time to incorporate stakeholder feedback between steps.

Step 1: Kick-off the Planning Process

The Champion organizes a Kick-off Meeting to build camaraderie among the stakeholder group, share sustainable purchasing program planning resources, and get stakeholder feedback on the planning process ahead.

DETAILED GUIDANCE
KICK-OFF MEETING

Launch the planning process by focusing on developing a **shared foundation of knowledge**, so that all stakeholders are working with the same information. The Council believes a kick-off meeting, held in-person or virtually, is the best way to do this.

Note that the sample agenda includes presenting the Champion's case for why the organization needs a Sustainable Purchasing Program, and their vision for it. While that information may have already been shared with the stakeholders during the invitation process, re-visiting it during the kick-off meeting allows the Champion to present and explain any changes in response to conversations they had during the stakeholder outreach process.

This approach also allows stakeholders to ask questions and dialogue with one another.

EXAMPLE
SAMPLE KICK-OFF MEETING AGENDA

Introductions

Goals for the Meeting

Background Presentation and Q&A
Champion presents important background information, drawing on "Vision" section and stakeholder outreach process

- The case for **why** the organization needs a Sustainable Purchasing Program
- Introduction of Sustainable Purchasing Program planning **tools & resources**
  - *SPLC Guidance v1.0*
  - *SPLC Principles*
  - Four Essential Program Components
    - Program Commitment
    - Resources Commitment
    - Prioritization
    - Continuous Improvement Process
  - Strategy Cycle
  - Multiple Pathways to Build a Program
- Champion's vision for **how** the Program could work
- Explain the planning **process** next steps (see following steps in this section of the chapter)

Invite Stakeholder Feedback

(see box for sample questions)

Next Steps
(assign tasks, determine next or regular meeting time)

DETAILED GUIDANCE
SAMPLE FEEDBACK QUESTIONS

How would the group augment or challenge the case for why the organization needs a Sustainable Purchasing Program?

Does anyone in the group think that revising the Champion's vision is a good starting place for developing a shared vision? (Note: The vision is separate from the logistics of the pathway for getting there, which will be discussed in Step 3. Don't get bogged down in implementation discussion here.)

Do they think there are any key stakeholders missing from the group?

Are there any key questions missing from the planning process steps below?

Step 2: Develop a Shared Vision

Before the group can develop a Program Plan, they must have a shared vision for what the Sustainable Purchasing Program will *ultimately* be, say 10 years from now. The central question for the group to answer is: **What would an ideal, ongoing Sustainable Purchasing Program look like in the context of our organization?**

The Champion should lead the group through considering the following questions in order to develop a common vision for how the Program would *ideally* operate when full established:

- What would the Program's objectives be?
- How would success be measured?
- How would it fit into the organizational structure and culture?
  - Where would it reside within the organization? Procurement? Sustainability? Facilities?
  - How would it relate to pre-existing work?
  - Who would be the Program Leader?
  - Who else would need to be involved?
  - Would it have an advisory committee to help with prioritization and cross-functional coordination?
  - Would it make sense to franchise it, so that the headquarters supports each division, campus, or facility in running their own program?
- What resources would it need?
  - Would it need any dedicated staff?
  - Would it need consultants, tools, or training to support prioritization, spend analysis, and strategy planning?
- Does the envisioned program need an overarching Sustainable Purchasing Policy?[13]

[13] See this article for tips on how to avoid common pitfalls when implementing an overarching sustainable purchasing policy: *https://www.sustainablepurchasing.org/?p=3826*

☑TIP

Postpone concerns about difficulty.

At this point, the central question of the visioning exercise should be, "What would be an *ideal* Program?" Some members of the group may want to leap ahead and discuss the challenges of implementing the ideas people suggest for the vision. Champions should keep key stakeholders focused on envisioning the ideal Program by assuring them that feasibility considerations will be discussed, at length, in the next step of the process.

Mixing discussion of implementation challenges into a visioning process can make things very confusing for everyone and significantly slow movement towards a shared vision. It is best to get clarity on what the group agrees would be ideal before discussing implementation challenges because that allows the important discussion of challenges to answer both the question "What is feasible now?" and the question "How can the organization move from what is feasible now towards what would be ideal?" That second question is vitally important to developing a Program Plan that can move the organization from where it is today to a better place, and it cannot be answered without first agreeing on an ideal vision.

Note: It is appropriate to consider practical concerns about something being impossible, as opposed to just being difficult.

DETAILED GUIDANCE

WHAT MAKES A PROGRAM IDEAL?

An ideal program is one that achieves its stated objectives as efficiently and effectively as possible.

Setting Objectives

Part of the visioning process involves determining the Sustainable Purchasing Program's objectives. The Council advocates that every Program's overarching objective should be **to enable the organization to take meaningful responsibility for all significant environmental, social, and economic consequences of the organization's spending.** In short, it should enable the organization to exercise leadership where it will do the most good. The Council's *Principles for Leadership in Sustainable Purchasing*[14] define what that leadership looks like in action and can serve as a guide for developing the Program's ideal objectives.

Efficiency and Effectiveness

The Council believes that the four essential program components presented in the 'Vision' section earlier in this chapter, and which the totality of this *Guidance* is designed to support, present a reliably efficient and effective pathway to leadership that can be customized for a wide range of organizational contexts.

Hopefully, the availability of these two tools, the *Principles* and this *Guidance,* can significantly ease and accelerate the team's visioning process.

[14] *https://www.sustainablepurchasing.org/principles*

EXAMPLE
SAMPLE VISION

Program Objectives

To continuously monitor and proactively manage the environmental, social, and economic performance of the organization's purchasing in order to reduce costs, mitigate supply chain risks, protect brand reputation, and demonstrate leadership.

Metrics for Success

- The organization's supply chain environmental, social, and economic **performance is well understood and monitored**.
- The organization's performance in each of the top 10 areas of concern is **industry-leading**
- Strategies have **saved the organization** substantially more than the program has cost.
- The organization is engaged in collaborative efforts to **support marketplace innovation**.
- The organization is **reporting publicly** its supply chain performance and promoting transparency throughout its supply chain.

Program Commitment

The Program has the visible support of the organization's management thanks to a purchasing policy modeled on SPLC's *Principles*, which was adopted at the same time as the Program Plan.

Resource Commitment

- The Procurement department has a dedicated full-time employee to coordinate the Program.
- The coordinator has an annual Program budget to host meetings, hire expert consultants, buy tools and access training, etc.
- A Sustainable Purchasing Subcommittee of the organization-wide Sustainability Committee supports and advises the coordinator.

Prioritization

The organization has a process by which it regularly evaluates its spending data to identify the most promising opportunities for further performance improvement.

Continuous Improvement

The organization has developed proficiency in convening teams as-needed to implement Strategy Cycles and create new Strategy Plans for improving supply chain performance in priority areas.

Program Structure

The org-wide Sustainability Committee has a Sustainable Purchasing Subcommittee to oversee the Program. The subcommittee includes people doing pre-existing related work, such as supplier diversity, ethical sourcing, energy management, environmental health & safety, etc.

Step 3: Determine the Best Pathway for Starting the Program

Revisit the "Many Pathways to a Complete Program" information at the beginning of the chapter and discuss where would be the most strategic place to start building the Program the group envisioned in the previous step.

Once a starting point has been identified, chart a timeline for growing the organization from there all the way until it reaches the group's full Sustainable Purchasing Program vision, noting resources needed for each step along the way, as well as the resources the Program will need on an ongoing basis once it is fully established.

Step 4: Draft the Program Plan

Now, the Champion should draft a Program Plan document, capturing the group's ideas in a format that can be presented to management. See the Sample Program Plan Outline box.

DETAILED GUIDANCE
TWO PARTS OF THE PROGRAM PLAN

The Program Plan will need to:

1. **clearly describe** the vision for how the Program will work, once it is in place; and
2. **provide a detailed plan** for getting the Program up and running.

End of Section Checklist

- ☐ Key stakeholders share a common vision for the Program
- ☐ A Program Plan has been prepared for management to consider

DETAILED GUIDANCE
STARTING THE PROGRAM WITH A "TRIAL PHASE"

In an ideal world, the group could present their Program vision to management and immediately receive the commitment of all the resources necessary to run the full Program. But, of course, it rarely works that way. Managers and other stakeholders often want to see new ideas proven on a small scale first.

However, the group need not reduce its Program Plan vision to a stand-alone pilot project. Instead, it can write a Program Plan that has a Trial Phase containing one or more pilot projects. At the end of the Trial Phase, the outcomes of the pilot projects are presented to management along with any suggested revisions to the initial Program Plan. If management doesn't like what they see, they can postpone or cancel the full Program before the establishment of the more permanent program elements, such as hired staff. Here's an example of how that might look:

Program Commitment	*Apr 2015*	Management approves Program Plan.
Trial Phase	*May-Sep 2015*	*Pilot project:* Prove the value of the Strategy Cycle process by using it to develop a Strategy for addressing carbon emissions associated with the whole organization's purchasing.
	Aug-Dec 2015	*Pilot project:* Prove the value of a data-driven prioritization process by conducting an "all spend, all impacts" analysis of the spending associated with just one of the organization's many operational units.
	Jan 2015	Revise the Program Plan based on pilot project outcomes, if necessary.
	Feb 2015	*Review pilot project outcomes and Plan revisions with management before proceeding with next steps…*
Full Program	*Mar 2015*	Adopt organization-wide Sustainable Purchasing Policy. Hire sustainable purchasing coordinator.
	Apr 2015	Begin "all spend, all impacts" analysis of the spending associated with the entire organization's purchasing.
	…	*(Timeline continues)*

If stakeholders and management support it, this approach has several advantages over proceeding on a project-by-project basis. Here are a few key advantages:

- It makes the long-term vision clear, while only requiring an immediate commitment of the resources required for the Trial Phase.
- It allows management to make a long-term commitment *that is provisional upon their concerns being addressed*. Negotiations with management over the Trial Phase will clarify those concerns, and what it will take to alleviate them.
- The pilot projects will likely receive substantially more cooperation and buy-in because management is their customer and what is at stake will be clear.

See the box titled "The Need for a Sustainable Purchasing Program" at the beginning of this chapter for additional reasons why proceeding with a program approach can be more strategic than a project-by-project approach.

DETAILED GUIDANCE

SCOPING PILOT PROJECTS

Especially in large organizations, it can be helpful to limit a pilot project's scope to a manageable subunit of operation, such as one division, campus, hotel, branch, or building. Doing this also allows the Champion to select an operational unit whose leadership is more willing and interested than others.

In general, the scope should be narrowed to a *subunit of operation*, not a *subset of spend* (see note below). Analyzing only a subset of the spending associated with an operational unit can create blind spots concealing significant environmental, social, and economic performance concerns.

NOTE: Unmanaged and non-influenceable spending *on goods and services* should not be left out of the scope. While the organization may be limited in the actions it can take to optimize the environmental, social, and economic performance of that spend, it **is** nonetheless contributing to the organization's supply chain footprint. At the very least, the pilot project may identify ways to offset the risks/impacts associated with unmanaged or non-influenceable spend.

EXAMPLE

SAMPLE PROGRAM PLAN OUTLINE

Introduction

- Statement of the Plan's origins, objectives, and expected benefits.
- Explain "Trial Phase", if any.
- List of the resource commitments required for the Trial Phase and for the full Program.
- A list of any other requests of management (e.g., policy sing-off, communications about the Program, engagement in next steps, etc.)

Program Plan

- Overview: Program Goals and Objectives
- Program Structure: Program Leader, staff, advisory committee, etc.
- Implementation Plan
  - Trial Phase plan and associated resource requirements
  - Full Program plan and ongoing resource requirements
- Reporting Structure

Appendix: Process Overview

☑TIP

Prioritization enables appropriate scope.
A core value of the Council is prioritization – of impacts, target purchasing areas, and potential actions – as part of the organization's Sustainable Purchasing Program. By understanding where the most significant impacts reside within all of its spending in a subunit of operations, organizations are poised to take the most strategic actions – and achieve some of the biggest benefits – at the outset.

A single program may be impractical.
Many organizations are too big, geographically dispersed, or decentralized to make one Sustainable Purchasing Program for the entire organization practical. Furthermore, attempting this process for the first time at the organization-wide scale decreases the likelihood the team will achieve success.

The Program Team manages prioritization.
The job of the Program Team—once it is established—is to create a Program Plan that facilitates prioritization at a reasonable scale based on the unique needs of the organization.

DETAILED GUIDANCE
CONTEXTUAL CONSIDERATIONS

Are operations organized into semi-autonomous units (e.g., franchises, hotels, or campuses)?

In this case, it may be strategic to look for willing leaders at one or more operational units to pilot the Program's approach, and then help advocate the Program idea to the rest of the organization.

Does the organization currently face a reputational issue?

See if the Program Plan could address that reputational issue right away. Perhaps by making it a top priority for the Program's initial applications of the Strategy Cycle.

How heavily are the organization's operations governed by policies or regulations?

Sometimes policies or regulations do (or are perceived to) constrain certain aspects of what a Sustainable Purchasing Program can do. However, in most cases there will be many more things that can be done than cannot. For example, a number of hospitals, which are highly regulated, have managed to implement extensive sustainable purchasing programs – dramatically cutting their water, energy, building, and waste footprints – by focusing first on the things they can control, before moving on to tackle more challenging things like regulated medical devices and supplies. That approach will work for many highly regulated contexts.

What is the structure of procurement within the organization?
Is it centralized or decentralized? What are the mechanics of the procurement process?

Even in organizations with highly centralized purchasing, significant cross-functional collaboration is required to implement changes. But, in organizations with very decentralized purchasing, just getting the data to start planning can require significant cross-functional stakeholder engagement and coordination. Factor time allocation appropriately.

Do purchase tracking, monitoring and reporting systems exist within the organization?
Are there incentives for high performance in tracking, monitoring, or reporting?

The sophistication of the tracking, monitoring, or reporting systems (if any exist) will influence the time it takes to analyze spending and identify environmental, social, or economic performance issues. Keep this in mind when planning where to start and how long steps will take.

Commit to the Program

Purpose

The purpose of this phase is to win the management commitment required for the successful implementation of the Program Plan.

Benefits

Formal commitment increases the likelihood that sufficient political and financial resources will be allocated to execute the Program Plan.

Step 1 : Plan the request.

Make a plan for soliciting management's commitment to the Program Plan.

DETAILED GUIDANCE
GUIDING QUESTIONS

Every part of the process thus far has been designed to reduce the risk that the Program Plan will meet the fate of so many well-designed plans: management decides not to commit the necessary political and financial resources required for implementation. By building on established best practices, engaging key stakeholders throughout the planning process, and ensuring that the Program Plan proactively addresses management likely concerns, there shouldn't be too much mystery as to whether or not management will support the Program Plan. But, the way the ask for support is made and the way the commitment of support is expressed can improve the chances that sufficient political and staff resources are allocated to the implementation of the Plan.

Here are a few key questions to consider when deciding how to approach management:

What decision-maker or decision-making body in management has the necessary authority to approve the allocation of the financial, political, and staff resources necessary to implement the Program Plan? What is known about the most effective way to approach that person or body with a plan such as this?

Who should present the team's work and the Program Plan to the management decision-maker? (e.g., a joint presentation, a memo with a co-signed cover letter, a presentation by someone who is a direct-report to the decision-maker, etc.)

How would the team like to see management express its commitment to the Program Plan? Is a public commitment desirable, or an internal one? Whether internal or public, should it be announced with an event, a memo, or something else?

DETAILED GUIDANCE
TIPS FOR GAINING COMMITMENT

Lead with the business case. Even if the organization is committed to sustainability, showing that the Program Plan is good for the bottom line improves chances of implementation.

Be clear that the Plan is a process commitment. Emphasize that the Plan commits the organization to implementing a strategic management process, not to any specific purchasing preferences. The process will be used to develop strategic purchasing preference recommendations.

Target only the level of management required. For example, if the Program Plan could be implemented entirely within the authority of the City Manager, seeking City Council approval may be unnecessary.

Leverage stakeholder engagement. Involve stakeholders in pitching the Strategy Plan to management or have them demonstrate their support by co-signing a cover letter.

Include sign off on implementation steps. If the plan calls for management to take specific actions, such as approving a sustainable purchasing policy, include the policy for parallel approval.

Explain the benefits of the chosen implementation pathway. Show the manager that the group considered other ways of implementing the Program, and why they chose to recommend the path in the Plan.

Seek management ownership. Get management to issue a memo from their office to all stakeholders, indicating what is requested from each during implementation.

Step 2 : Make the request.

Make the request for management to commit the organization to implementing the Program Plan.

If management is not ready to commit, find out what their hesitations are so the Program Plan can be revised to address those concerns.

Step 3 : Announce the Commitment.

Hopefully, management agreed to announce the commitment via a memo from their office, but if not, coordinate an announcement of the Program Plan's adoption. At the very least, notify the key stakeholders as well as the broader group of people who may be affected by the Program's work.

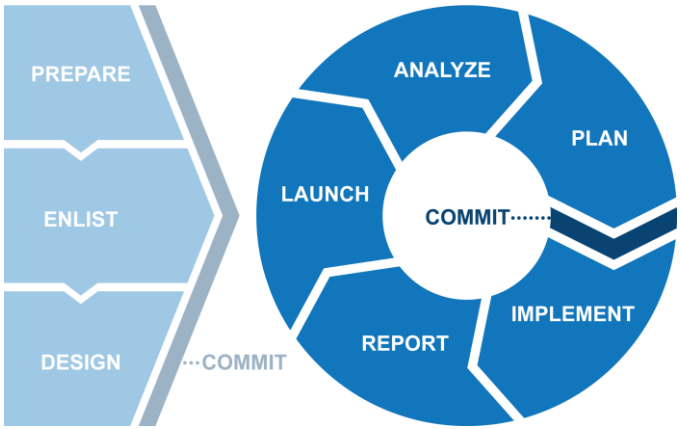
Consider if it would be constructive to share the news of the commitment to a general audience via a press release, newsletters, blogs, or posts on listserves and social media.

Celebrate the accomplishment with those who made it possible!

It may be useful to hold a meeting to celebrate the accomplishment and formally kick-off the Program.

Chapter 3

Run the Program



Chapter Overview

Chapter 3 provides guidance to help organizations ensure that their Sustainable Purchasing Program will be *strategic*, i.e. that actions taken will meaningfully improve the environmental, social, and economic performance of an organization's purchasing.

To this end, the Chapter introduces a structured process for prioritizing:

1) **overall strategies** —e.g., "Scope 3 GHG reduction strategy"; "supplier diversity strategy"— that advance the organization's goals; and
2) **specific projects and actions** that will advance those strategies.

The *Guidance* assumes that the Program Leader identified in Chapter 2 will this process *iteratively* to facilitate the collaborative planning and implementation of an appropriate set of larger strategies that, over time, cumulatively enable the organization to achieve a leadership level of sustainable purchasing performance.

Prioritize.

The Importance of Prioritization

Leadership requires prioritization. Organizations that demonstrate leadership in sustainable purchasing prioritize each incremental expansion of their program by focusing on strategies that offer the greatest opportunity to improve the overall environmental, social, and economic performance their supply chain, typically by following two parallel and related lines of strategic inquiry:

- **What** do we buy, and why does it matter? Which categories of spending offer the best opportunities for us to advance a positive environmental, social, and economic future?
- **From whom** do we buy, and why does it matter? Which suppliers present the greatest opportunities or risks for us to advance a positive environmental, social, and economic future?

A Sustainable Purchasing Program cannot be strategic *as a whole* if it doesn't answer—or at least grapple with—these two questions.

The Challenges of Prioritization

Prioritization is not easy. The two fundamental questions that leadership organizations ask—"What…?" and "From whom…?"—are deceptively simple, yet hard to answer, in practice. Internally, it can be difficult to collect, validate, and classify organization-wide spend data. Externally, supply chain information may be incomplete, inaccurate, or inaccessible. And even if data is available, methods for using this data to estimate the environmental, social, and economic performance of goods and services are often approximate, and sometimes controversial. Further, accurate assessments of alternatives to current practice may be equally lacking. This means that quantitative assessment may not be possible at all, and expert knowledge, if accessible, may be is required as a substitute.

While satisfactory answers may not always be available, however, leaders nevertheless strive to answer these questions because of their importance to ensuring that a Sustainable Purchasing Program actually delivers meaningful results. Otherwise, an organization could invest years in strategies that deliver minimal environmental, social, and economic benefits or—worse—could discover that its well-intentioned efforts had actually done more harm than good.

The Strategy Cycle: A Structured Process for Prioritization

This *Guidance* proposes the "Strategy Cycle" as a structured process for addressing the diversity of factors that may influence an organizations strategic prioritization process. **The *Guidance* assumes that, in most cases, an organization will use a Strategy Cycle to guide the process of prioritizing one or more high-level strategies for its sustainable purchasing program, and then use successive Strategy Cycles to further develop each of these strategies.** The following section provides an overview of Strategy Cycles, and the remainder of Chapter 3 provides a step-by-step guide for using Strategy Cycles to develop a highly effective Sustainable Purchasing Program.

DETAILED GUIDANCE

FACTORS AFFECTING PRIORITIZATION

An organization's approach to prioritization may depend on a wide variety of factors:

Internal Factors

- Availability, accuracy, and usability of (internal) spending data
- Organizational culture and structure
- Position of sustainable purchasing 'champion(s)' within organization
- Internal stakeholder interests and perspectives
- Staff and financial resources dedicated to sustainable purchasing activities
- Relationship of sustainable purchasing to existing initiatives

External Factors

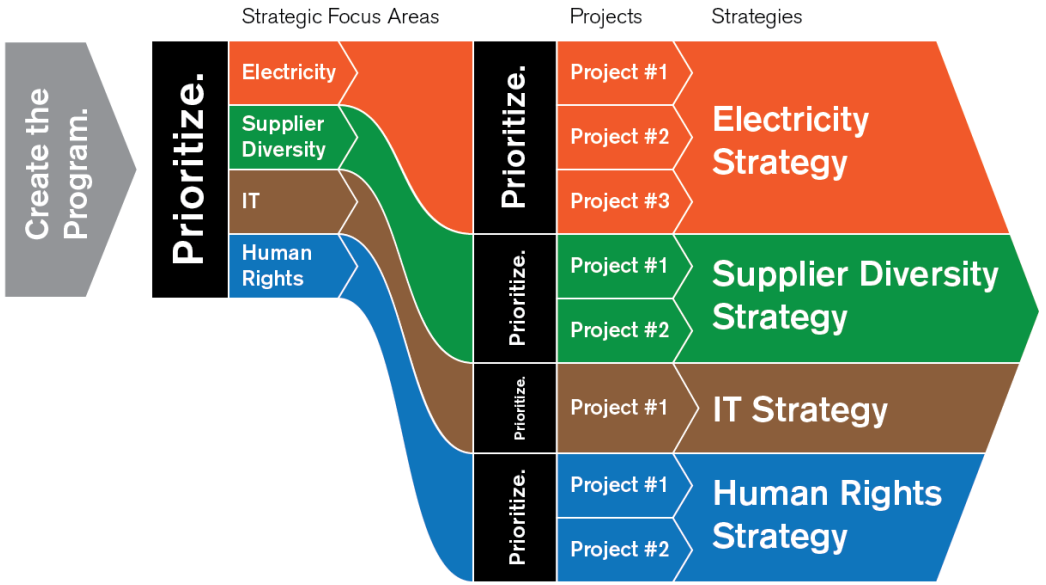
- Availability, accuracy, and usability of (external) supply chain data
- Availability and practicality of methods for assessing environmental, social, and economic performance
- Readiness of relevant suppliers to engage in conversation
- External stakeholder interests, perspectives

EXAMPLE

PRIORITIZING STRATEGIES AND PROJECTS

In this example, an organization has prioritized four strategic focus areas that they have identified as most likely to offer opportunities for improving the environmental, social, and economic performance of their purchasing: Electricity, Supplier Diversity, IT, and Human Rights. These are the areas that are "material" to them (see the "Materiality and Prioritization" box below). Then, for each of those areas, the organization has prioritized which projects are likely to most effectively deliver results that advance the goal of the respective strategy.

In this way, the organization can have some confidence that it is being *strategic*: that its actions will be reasonably likely to advance its goals.



DETAILED GUIDANCE

MATERIALITY AND PRIORITIZATION

Some organizations may conduct a "materiality assessment" to understand which aspects of environmental, social, and economic performance are most relevant to them and/or their stakeholders. (See *http://tiny.cc/l9xgsx*). The Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) have both developed methods for defining materiality, and these may be useful to organizations seeking to prioritize areas of strategic focus for sustainable purchasing.

GRI Definition of Materiality

Material topics for a reporting organization should include those topics that have a direct or indirect impact on an organization's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large.
See *http://tiny.cc/fnxgsx*

SASB Materiality Map™

SASB is establishing sustainability accounting standards for use by publicly-listed corporations in the U.S. in disclosing material sustainability issues for the benefit of investors and the public. SASB uses the U.S. Supreme Court definetion of materiality as information presenting "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the "total mix" of information made available." SASB has created a Material Map™ tool that identifies SASB disclosure topics on an industry-by-industry basis and compare the potential materiality of various sustainability issues across different industries and sectors.
See *http://tiny.cc/xqxgsx*

An Introduction to Strategy Cycles

The Strategy Cycle is a structured process for selecting and designing specific strategies to advance the goals of an organization's sustainable purchasing program. The Strategy Cycle provides a structure that reliably supports strategic decision-making, while remaining flexible and scalable to the specific needs and challenges of an organization. It provides process for a group of key stakeholders collaborate to:

- **understand** opportunities for improvement;
- **prioritize** strategies for addressing them;
- **commit** to specific strategic actions;
- **implement** those actions; and
- **measure** the results over time.

Structure of a Strategy Cycle

A Strategy Cycle involves the following phases:

Launch. Convene the cross-functional Strategy Team that will develop a Strategy Plan for improving performance in a specific focus area.

Analyze. Collect spend data and analyze associated impacts; prioritize areas for strategic action

Plan. Identify a complementary set of strategies for improving performance; create Project Plans for each strategy; and summarize the Project Plans into a comprehensive Strategy Plan.

Commit. Win management's support for implementing the Strategy Plan.

Implement. Execute the Strategy Plan and its constituent Project Plans; establish ongoing performance tracking.

Report. Report results to internal and external stakeholders; monitor performance for continuous improvement opportunities

While the Strategy Cycle is highly flexible and should be scaled to an organization's context, it is recommended that the steps in the Cycle always be performed in order. They are carefully designed to ensure that Strategy Teams can secure the answers, agreements, and commitments required to delivery on their goals in a timely fashion. Skipping steps or unnecessarily taking them out of order can result in confusion, frustration, false starts, unnecessary setbacks, and time wasted backtracking in order to fix issues that could have been more efficiently addressed earlier in the process.

Flexibility of Strategy Cycles

The focus of a Strategy Cycles may be very broad, looking for opportunities across all of the organization's purchased goods and services, or quite narrow, focusing on a specific aspect of the environmental, social, and economic performance of its supply chain. For example, an organization with a strong interest in improving its social performance might run a Strategy Cycle focused on understanding opportunities for increasing supplier diversity across all of its spending. Whereas an organization seeking to build upon achievements from its Climate Action Plan might run a Strategy Cycle focused on identifying opportunities to reduce the supply chain greenhouse gas emissions associated with the spending of its two largest divisions.

Each iteration of the cycle can be as complex or as simple as is appropriate for the size of the organization, the resources available, the purchasing categories involved, and the aspects of environmental, social, and economic performance that are being addressed. One iteration of the cycle might take 6 months while another only takes 6 weeks. One iteration might require a five person Strategy Team and minimal stakeholder engagement, while another may require a fifteen person Strategy Team and exhaustive stakeholder engagement. For every scenario, the Program Leader can easily tailor the process as needed.

Reporting and Continuous Improvement

In each cycle, the Strategy Team identifies metrics or indicators for monitoring the aspects of environmental, social, and economic performance that are being addressed as part of that Strategy Cycle. Once the strategy's projects have been implemented, the Strategy Team disbands, and the Program Leaders or their staff take responsibility for ongoing tracking and reporting, as appropriate.

The information gained from ongoing reporting of all active strategies enables the Program Leader to be strategic in focusing subsequent Strategy Cycles. For example, if an existing activity area appears to have more room for improvement, the Program Leader can propose to continue the improvement process by focusing another Strategy Cycle in that area.

EXAMPLE

SAMPLE STRATEGY CYCLE SEQUENCE

Cycle #1	Focus on overall spending in order to set priorities for future cycles.
Cycle #2	Focus on greenhouse gases
Cycle #3	Focus on supplier diversity
Cycle #4	Focus on food purchases.

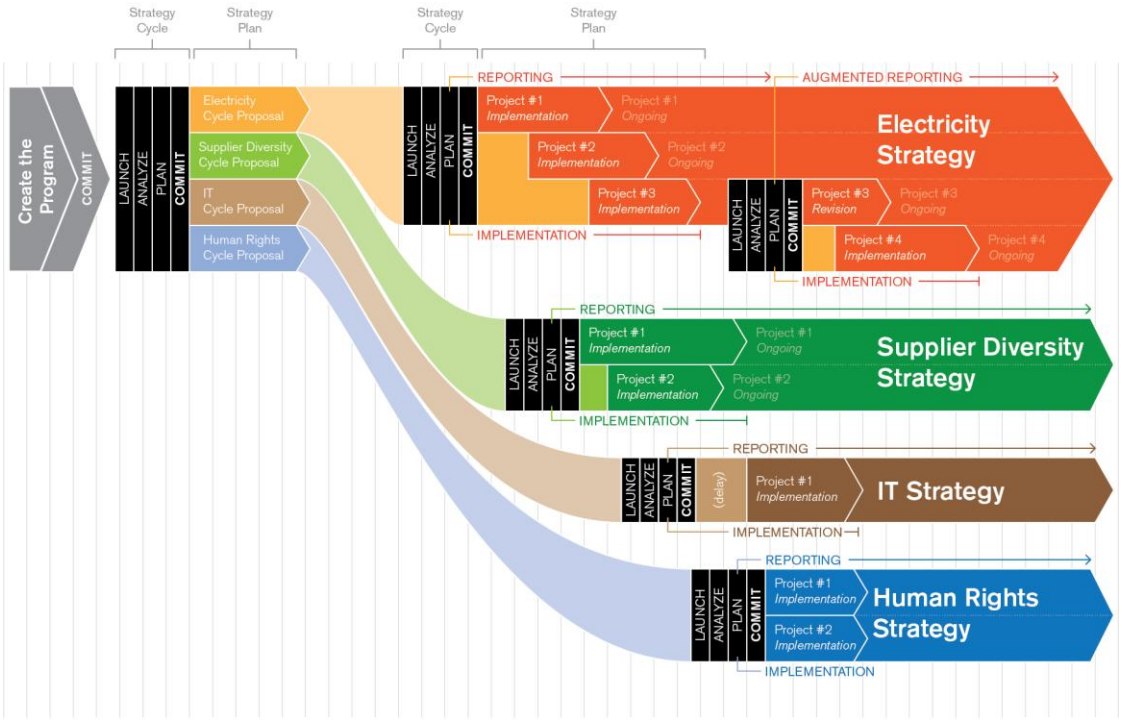
Running Multiple Strategy Cycles

A Program may have more than one Strategy Cycle running at the same time. A large company may have enough staff to have a cycle focused on growing supplier diversity at the same time that it has another cycle focused on identifying and addressing labor and human rights risks in the supply chain. Or, a hotel chain may decide to support two independently operated locations in running cycles focused on food sourcing.

Additionally, the project plans that result from a Strategy Cycle could require years to fully implement. For example, if the Strategy Team identifies a contract coming up for renewal in 18 months as a ripe opportunity to push for improvements, the project plan they develop for how the organization should approach that contract renewal will likely have a timeline that extends into the administration of the new contract. Or, if one of the plans is to raise the vehicle fleet's fuel economy by 5 mpg, that may take three years of fleet turnover to accomplish.

During the implementation phase, the Program Leader therefore primarily plays a facilitator role, checking in on progress and making sure that required training and resources are delivered. The project plans themselves are usually carried out by staff who are expert in specific areas of the organization's operations or contracting. Additional performance tracking is generally the only long-term responsibility the Program Leader or their staff pick up with each Cycle. For this reason, a single Program Leader can facilitate multiple Strategy Cycles one after another, or even simultaneously.

The diagram shows how the Strategy Cycle enables an organization to grow its Program iteratively and strategically. After the organization makes the commitment to launch a Sustainable



Purchasing Program in the middle of Year 1, it invests the next year conducting a Strategy Cycle that analyzes all of the organization's spending for a wide range of supply chain impacts, in order to identify the areas where the organization has the greatest opportunity to improve its supply chains environmental, social, and economic performance.

The resulting Strategy Plan contained project plans for four new Strategy Cycles that would dive deeper into each of four priority areas. The first implemented a Strategy Cycle to develop its Electricity Strategy, which included three projects to be implemented over the next year. The next Strategy Cycle developed a Supplier Diversity Strategy, which included two projects under the guidance of an Implementation Team. The IT Strategy developed next resulted in only one project, with a delay, because the organization's best opportunity came when its primary IT contract came up for renewal.

Finally, the while the Human Rights Strategy was being developed, the organization had the capacity to simultaneously run a second Electricity Strategy Cycle because there was so little overlap between the personnel required for the two Strategy Teams. The two projects resulting from the second Electricity cycle became part of the overall Electricity Strategy, augmenting the tracking and reporting of performance that was already happening for that Strategy.

DETAILED GUIDANCE

ALTERNATIVE METHODS FOR PRIORITIZATION

In some cases, an organization may not be able to complete an initial Strategy Cycle prior to setting program priorities. In such cases, organizations may consider using one of the following alternative methods to establish interim strategic priorities.

Prioritize by environmental, social, or economic opportunity or impact.
Prioritize strategies that are likely offer *the most significant improvement in the environmental, social, and economic performance of the organization's overall purchasing*, based on evidence from:

- A peer organization or sector association that has conducted a relevant spend analysis;
- Guidance from a consultant who has conducted many sustainable purchasing analyses;
- A spend analysis tool applied to the organization's spend (see *SPLC website* for a list);
- Supply chain focus areas of relevant sustainability benchmarking tools, such as the *Global Reporting Initiative*, the *Sustainability Tracking, Assessment & Rating System (STARS)*, *CDP*, etc.;
- Internal knowledge about where the organization's supply chain presents reputational or operational risks that are related to environmental, social, and economic performance;
- Information provided voluntarily by suppliers familiar with opportunities for improvement within their own industry and supply chain; or
- Category-specific information in Chapter 4 of this *Guidance*.

Prioritize by purchasing category.
Prioritize one or more purchasing categories that are likely offer opportunities for *the most significant improvement in the environmental, social, and economic performance of the organization's overall purchasing*, based on evidence from the same sources cited above.

Prioritize by supplier.
Prioritize one or more suppliers that likely offer opportunities for *the most significant improvement in the environmental, social, and economic performance of the organization's overall purchasing*, based on evidence from the same sources cited above. Additional considerations that could affect prioritization could include:

- Suppliers from which the organization has the highest spend;
- Groupings of multiple suppliers in a single purchasing category;
- Purchases made off contract; OR
- Level of supplier diversity.

Prioritize a momentum-building early win.
Identify areas of purchasing where working on the environmental, social, and economic performance would align well with organizational and management priorities.

- Identify existing strengths that can be built upon.
- Work on an area where there is leadership, willingness, resources, and/or expertise.
- Address an area that is under pressure from investors or customers.
- Capitalize on employee interest or passion.

When it becomes possible for the organization to complete a more comprehensive Strategy Cycle to establish overall program priorities, assessment of the long-term value of these interim strategies can be included as part of that process.

LAUNCH the Strategy Cycle

Purpose

Kick-off the Strategy Cycle by determining the scope of work to be undertaken in the cycle, identifying stakeholders for that scope, and recruiting a Strategy Team to do the work.

Benefits

Ensuring that all stakeholders understand the cycle's focus area and what is expected of them throughout the process can head off common sources of confusion and frustration, significantly improving the chances that the cycle will produce an excellent Strategy Plan.

DETAILED GUIDANCE

LAUNCH OUTCOMES

Completing the Launch section should fill in the blanks in this paragraph:

A Strategy Team comprised of _*(team)*_ agreed to investigate the purchasing associated with *(operational unit)*. With the input of _*(key stakeholders)*_, the Team will collect purchase history data, analyze the _(specific issues or risks of interest)_ associated with those purchases, prioritize areas of purchasing with the greatest room for improvement, identify projects for improving performance in those areas, and select the most strategic projects for inclusion in a detailed Strategy Plan. The Team will get as far as it can meeting _(frequency)_ for a period of _(duration)_. If it hasn't completed a Strategy Plan by then, it will make a recommendation on how to proceed.

Step 1: Define the Scope

The Program Leader[15] drafts a memo or proposal describing the scope of work to be undertaken in this iteration of the Strategy Cycle. The development of this proposal will help clarify who needs to be involved on the Strategy Team and what is expected of them. The proposal can then be shared as part of inviting members to join the Strategy Team.

The memo or proposal should answer the following scope questions:

- What purchasing category or aspects of environmental, social, and economic performance will be the focus of the cycle and why?
- What operational unit's purchasing will be the focus of this cycle?
- Who are the Strategy Stakeholders, and which of those should be on the Strategy Team? Who will be the Team Leader, if not the Program Leader?
- How long is the cycle expected to take? What's the time commitment for team members?
- What budgetary resources are required for tools or consultants, if any?

DETAILED GUIDANCE

PRIORITIZING FOCUS AREAS

Each pass through the Strategy Cycle presents an opportunity to dig deeper into the environmental, social, and economic performance of the organization's supply chain. This allows a Sustainable Purchasing Program to grow incrementally.

However, creating a strategic Program requires carefully prioritizing which areas of spending or areas of environmental, social, and economic performance will be focused upon in each successive iteration of the Strategy Cycle. Failing to prioritize could result in the Program's resources being exhausted addressing areas of spending that do not contribute meaningfully to the overall environmental, social, and economic performance of the organization's supply chain.

The Chapter Overview provides several recommendations for how an organization can efficiently prioritize multiple iterations of the Strategy Cycle. The Council strongly recommends that organizations use those prioritization approaches if they wish to demonstrate leadership in sustainable purchasing.

[15] The "Program Leader" is the person responsible for leading the organization's sustainable purchasing program. Who this person is will depend on the organizational context. It could be a Director of Supply Chain Sustainability, a Sustainable Purchasing Coordinator, the Chief Procurement Officer, the Chief Sustainability Officer, or any of several other titles.

DETAILED GUIDANCE
EDUCATING ABOUT FOCUS AREAS

When preparing the memo or proposal for this cycle, recognize that many stakeholders who receive it won't be as familiar with sustainability concepts.

State which area of purchasing or aspects of environmental, social, and/or economic performance will be the focus of the cycle. Explain why that area of focus is strategic and important. Include background information on the topic (e.g. human rights, deforestation, climate change, etc.).

Take organizational culture into account. For example, if climate change is a debated issue within the organization, focus on the opportunity to avoid wasting money and fuel or the opportunity to find better, local energy sources for the organization.

DETAILED GUIDANCE
SELECTING A TEAM LEADER

In many organizations, the Program Leader will serve as the Strategy Team's leader, facilitating the group's work on each step in the cycle. However, in large organizations, especially, the Sustainable Purchasing Program may have multiple staff that could lead the cycle, or, the Program staff may want to support other staff in taking ownership over the process. For example, a federal agency with multiple laboratories might want to support a staff member at each laboratory to lead the process.

DETAILED
OPERATIONAL UNIT AS FOCUS

In a large organization, it can sometimes be helpful to limit the Cycle's scope to a manageable subunit of operation, such as one division, campus, hotel, branch, or building. Especially in the Program's early stages, it can be helpful to start with an operational unit whose leadership has expressed interest and willingness.

In general, the scope should be narrowed to a *subunit of operation*, not a *subset of spend* (see note) Analyzing only a subset of the purchases required to run an operational unit can create blind spots that could lead to misguided Strategy Plan recommendations. In cases where it is not practical to analyze all the spend associated with an operational unit, seeking experts to validate the findings can help uncover blind spots.

NOTE: Unmanaged and non-influenceable spending *on goods and services* should not be left out of the analysis. While the organization may be limited in the actions it can take to optimize the environmental, social, and economic performance of that spend, it **is** nonetheless contributing to the organization's supply chain footprint. At the very least, the Strategy Team may be able to find ways to offset the risks/impacts associated with unmanaged or non-influenceable spend.

DETAILED GUIDANCE
ESTIMATING THE CYCLE DURATION

At this stage, the Program Leader only needs to estimate how long it will take to do the steps in the Launch, Analyze, and Plan phases. It would be impossible to estimate time commitments beyond that point because that would depend on what projects are selected for the Strategy Plan. An estimate such as, "monthly meetings for six months" or "bi-weekly meetings for four months" should be sufficient for potential team members to be able to gauge their ability to participate. With each cycle, the ability to estimate future cycle durations will improve.

DETAILED GUIDENCE
BUDGET NEEDS

Sometimes working on a specific focus area will require hiring expert assistance or buying a tool. When possible, the Program Leader should anticipate such needs so that the team's work doesn't become stalled while resources are lined up. The Cycle proposal does not necessarily need to include this information as it may not be relevant to stakeholders that wouldn't be supplying the resources. However, if resources have been lined up, letting prospective team members know they will have the support of an expert consultant or access to a powerful new tool can be a draw.

Step 2: Invite Stakeholders

Prepare letters inviting the Strategy Stakeholders to engage with the project, making clear in the invitation what level of involvement is requested from the recipient (e.g. their participation on the Strategy Team; attentiveness to progress reports and requests for input; etc.). The letter should briefly outline the goals, process and expected benefits of the cycle, and provide instructions for engaging with the process. In many cases, it will be strategic to invite the recipients to a kick-off meeting or a briefing. If a kick-off meeting is planned, ask for RSVPs so that any major gaps in stakeholder representation can be identified and addressed in advance of the kick-off meeting.

Decide who will send the invitations. Depending on the organization's size and culture, it may be helpful to have an executive leader or senior member of management issue the invitations. In other cases, it may be most expeditious for the Program Leader to send them.

DETAILED GUIDANCE
STRATEGY STAKEHOLDERS

Identify as stakeholders any staff, departments, and external parties who would be affected by efforts to examine and optimize the proposed aspects of environmental, social, or economic performance within the scope for the cycle.

Internal stakeholders could include:

- Business units;
- Procurement;
- Finance;
- Operations units; and
- the program's managerial sponsor.

External stakeholders could include:

- Customers;
- Suppliers;
- Investors;
- Public interest advocates

DETAILED GUIDANCE
TEAM MEMBER or STAKEHOLDER?

Not all stakeholders will have the same level of involvement in the cycle.

Strategy Team members are those stakeholders who need to be involved in the technical work throughout all phases of the cycle.

Strategy Stakeholders form a larger group who just need to be kept informed about the cycle's progress, so that they are prepared to give input at appropriate points. For example, current and prospective suppliers should know about the project so that they will be prepared to provide data during the "Analyze" phase and offer solutions during the "Plan" phase.

Tips for differentiating stakeholders:

- Decide which Strategy Stakeholders need to be involved throughout and should be invited to join the Team.
- Decide which Strategy Stakeholders simply need to be kept informed so they are not blindsided and are prepared to give input when desired.
- Determine if any further subdivisions within the Strategy Stakeholder group would enhance planning and communications. For example, the Strategy Team might communicate with external stakeholders, such as suppliers and public interest groups, separately from internal stakeholders.

DETAILED GUIDANCE
HOW IS THIS DIFFERENT FROM STAKEHOLDER ENGAGEMENT IN CHAPTER 2?

In Chapter 2, the Guidance provided tips for engaging stakeholders and enlisting their support for the *creation* of a Sustainable Purchasing Program. *Strategy cycles engage different stakeholders.*

In many cases, the members of management that were recruited to support creating the Sustainable Purchasing Program will not take part in the Strategy Teams. They may assign appropriate technical staff to the cross-functional Strategy Teams based on the focus area of the cycle, but many of these technical staff may not have previously been familiar with the initiative.

Furthermore, the broader group of stakeholders relevant to each cycle will be different depending on the cycle's scope.

DETAILED GUIDANCE
BENEFITS OF STAKEHOLDER ENGAGEMENT IN THE LAUNCH PHASE

Between inviting stakeholders to engage and starting the technical work of the project, it can be strategic to create space for Strategy Stakeholders to learn more about the process and give feedback on the proposed scope. This exploratory period can help:

- Develop a clearer idea of available capacity to do the cycle's work
- Identify additional resources and expertise
- Uncover confusion or resistance
- Achieve collective commitment

Step 3: Kick-off Meeting

The Kick-Off Meeting agenda should generally include the following items, but the agenda should be customized the needs and context of the organization:

- Agenda Overview
- Group Introductions
- Presentation: Program Overview
  - Program Goals (ref. Chapters 1, 2)
  - Program Benefits (ref. Chapters 1, 2)
  - Program Process (ref. Chapter 3)
    - Strategy Cycle
    - Environmental, social, and economic aspects of supply chain performance
    - Spend Analysis Methods & Tools
    - Strategy Plan Examples
- Q&A about the Process
- Presentation: Scope Proposal Overview
  - Operational Unit
  - Targeted Environmental, Social, and/or Economic Aspects
  - Strategy Stakeholders
  - Timeframe & Level of Commitment
- Discussion
  - Proposal details
  - Capacity of strategy team participants
- Decisions
  - Revise strategy scope based on feedback
  - Agree on scope
  - Agree on strategy team participants
- Next Steps
  - Schedule Regular Strategy Team Meetings
  - Assign Tasks to Prepare for First Strategy Team Meeting

DETAILED GUIDANCE

WHY HAVE A KICK-OFF MEETING?

The Kick-off Meeting (or a series of meetings with stakeholder groups and with members of the Strategy Team) creates a space for collaboration and shared commitment.

Strategy Stakeholders are able to meet each other, receive a briefing on the overall Sustainable Purchasing Program and this project, give feedback on the proposed scope, clarify their capacity and willingness to participate, and identify additional resources and capabilities.

Whether that all happens in one kick-off meeting or over a series of meetings, the goal of these conversations is to end up with a Strategy Team that is fully committed to executing a well-scoped project with the support of the larger body of Strategy Stakeholders.

The purpose is not to get into the weeds of project planning! Avoid getting bogged down at the beginning in detailed implementation questions that the Strategy Team will be investigating and addressing as part of their work. (See Tip).

The agenda outlined here assumes that stakeholders with little prior knowledge of the organization's Sustainable Purchasing Program and process are invited to attend the kick-off meeting. Organizations should certainly tailor it to meet their context and needs.

There are cases where it may make sense to have two kick-off meetings for the same project. For example, it may be strategic to brief and take feedback from internal stakeholders before presenting to external stakeholders.

☑TIP

Deepen stakeholder engagement throughout the process.

The Kick-off Meeting is the **beginning** of the stakeholder engagement process. Throughout the cycle the Strategy Team should report on its progress to the larger group of Strategy Stakeholders and invite input at appropriate times, such as when developing the Strategy Plan.

Step 4: Finalize the Scope

Draft a letter summarizing the cycle's goals, expected benefits, scope, timeline, and any other agreements made by the Strategy Team.

Before distributing the letter, ask the team members to confirm that the letter reflects their understanding of the team's agreements.

DETAILED GUIDANCE

BENEFITS OF FINALIZING THE SCOPE

It's important that Strategy Team members (and other stakeholders) all understand the cycle's scope, their role in the process, and agree to the timeline before the project moves from the "Launch" phase into the "Analyze" phase.

While a Program Leader can forge ahead without first achieving that kind of broad buy-in, later stages of the cycle will often be complicated by pushback or confusion, causing the team to have to backtrack to formalize these scope and process agreements. It is always better to find out early why someone is confused or otherwise is not in agreement with the proposal!

For that reason, SPLC recommends formalizing the agreement in a Launch letter that is issued *by the team* to all stakeholders, explaining the cycle scope and timeline the team has agreed to. While this is just one way to formalize those agreements, drafting and getting sign-off on such a letter provides several benefits:

- Team members who may have been keeping their concerns or objections to themselves will often decide to share those concerns when asked to sign onto a letter that will be sent to relevant managers and staff around the organization. This provides a valuable opportunity to address those concerns before getting into implementation.
- It gives team members a sense of ownership over the cycle.
- It informs stakeholders about the cycle in greater detail than before, giving them the opportunity to raise concerns and the comfort of knowing the team is committed to keeping them informed.

Step 5: Communicate Next Steps to Management & Stakeholders

Report the cycle's finalized scope and timeline to Strategy Stakeholders. Consider if it would be constructive to share the report-out to a general audience via newsletters, blogs, or posts on listserves.

☑TIP

If a Launch letter was drafted in the previous step, Step 5 (communicating next steps to management and stakeholders) can be as simple as distributing that letter.

End of Section Checklist

- ☐ Scope proposal drafted
- ☐ Strategy stakeholders identified
- ☐ Stakeholder engagement process launched
- ☐ Scope, responsibilities and timeline agreements formalized
- ☐ Launch report-out sent to stakeholders

ANALYZE Spending

Purpose

This section of the guidance supports organizations in conducting sustainability-related spend analysis.[16] Sustainability-related spend analysis involves collecting, cleansing, and classifying purchasing history data in order to pair it with additional information about the environmental, social, and economic performance of the products, services and suppliers that make up that purchase history.

Benefits

- Spend analysis allows an organization to determine the areas of their purchasing that offer the greatest opportunity to improve their supply chain's environmental, social, and economic performance.
- Spend analysis establishes a performance baseline against which future progress can be measured.

[16] "Sustainability-related spend analysis" is a catch-all phrase that SPLC uses to identify the numerous methods that organizations use to analyze different aspects of their supply chain's environmental, social, and economic performance. Because many aspects of environmental, social, and economic performance are fundamentally different in nature, there cannot be a single method that works for analyzing all of them. SPLC does not use the term "hotspot analysis" because that is a term of art in the Lifecycle Assessment (LCA) field and SPLC wishes to recognize that there is a broader set of methods in use than LCA, such as the supplier diversity spend analysis example given in this section of the Guidance.

Step 1: Create Shared Understanding of Spend Analysis Options

Before the Strategy Team dives into conversations about the details of spend analysis, make sure everyone on the team has a common understanding of the types of spend analysis that the organization can use to answer questions about the environmental, social, and economic performance of its supply chain. The range of analysis methods, tools, and data sets available can be overwhelming, even when team members are on the same page. If some team members have a different understanding of spend analysis than others, things can get confusing very quickly! One way to get everyone on the same page is by sharing the introduction in the "Understanding Sustainability-related Spend Analysis" box presented here.

DETAILED GUIDANCE

UNDERSTANDING SUSTAINABILITY-RELATED SPEND ANALYSIS

Conventional spend analysis uses purchase history data to answer key questions such as:

- *What* are we buying?
- *Who* is buying it?
- *From whom* are we buying it?

Organizations typically use the analysis to identify cost-saving opportunities, often through consolidation of suppliers for volume discounts.

Sustainability-related spend analysis pairs conventional spend analysis data with information about the related environmental, social, and economic performance of products and suppliers, such as …

… *suppliers' size and diversity* (to understand how much an organization is buying from small, medium, or minority-owned suppliers); or

… *estimated greenhouse gas emissions* associated with certain products (to identify the areas of purchasing contributing most significantly to an organization's 'carbon footprint'); or

… *products, suppliers and regions known to have a high risk of human rights abuses* (to reduce the likelihood that an organization's purchasing dollars support such abuses).

Sustainability-related spend analysis is strategically important because it allows an organization to understand the cumulative effect of its purchasing *and* to efficiently locate the purchases within its spending that present the greatest opportunity for improving its performance.

It provides both the baseline and the prioritization tool necessary for a Strategy Planning process.

DETAILED GUIDANCE

TWO PRIMARY TYPES OF SUSTAINABILITY-RELATED SPEND ANALYSIS

Type	**Purchasing Category Analysis**	**Supplier Analysis**
Focus	*What are we buying?*	*From whom are we buying?*
Purpose	Identify product and service categories within the organization's purchasing that present significant environmental, social, and economic performance risks.	Identify whether the overall make-up of the organization's supply base reflects its values, and whether individual suppliers present significant environmental, social, and economic performance risks.
Analytical Questions	• What are the most significant cumulative impacts across all of the organization's purchasing? • Which categories are contributing more to those cumulative impacts? • Where in the supply chain are the impacts originating?	• Do we have the right mix of small, medium, and diverse suppliers? • Are our biggest dollar suppliers sustainability leaders or laggards in their categories? • Do any of our suppliers present an outsized sustainability risk for us?
Benefit	Enables Strategy Planning to focus on the categories that present the greatest opportunity to improve the overall performance of the organization's purchasing.	Enables Strategy Planning to focus on aspects of the organization's supplier selection processes that present the greatest opportunity to improve the supply base's overall performance.
General Method	Pair purchase history data with information about the estimated environmental, social, and economic risks associated with the product and service categories in which the organization buys.	Pair purchase history data with information about supplier characteristics and supplier performance history from an environmental, social, and economic perspective.
When to Use	When the aspect of environmental, social, and economic performance being evaluated is associated with the quantity and characteristics of the products or services purchased.	When the aspect of environmental, social, and economic performance being evaluated is associated with characteristics of a supplier or the supply base, as a whole.
Data Source Examples	Input/Output Lifecycle Assessment databases; process lifecycle assessments; sector analyses; country of origin analyses; standards, labels and certifications; expert knowledge; information provided by the supplier	Data reported publicly or directly by suppliers; audit or third-party verified data; standards and certifications; regulatory compliance data

Other Considerations

Making Sense of the Many Subtypes

Many aspects of environmental, social, and economic performance are fundamentally different in nature, which means that nuanced methods, tools and data sets are required for each. Where harmonization is possible, concerted efforts are being made to align methods, such as through the UNEP / SETAC Hotspots Mapping Strategy, whose report *(http://tiny.cc/avm3rx)* lists many of the methods, tools and data sets available today.

The Rise of Open Data

Thanks to a combination of academic, industry, governmental, non-governmental, and entrepreneurial initiatives, suppliers are now reporting substantial environmental, social, and economic performance data, often into shared databases that allow purchasers to compare suppliers and that also provide recommendations to both the purchasers and suppliers on how they can improve their sustainability performance.

The more that purchasers rely on these common platforms *and request that their suppliers also report into them*, the better they will become as resources. **Before organizations set out to collect performance data from all their suppliers through a supplier survey, they should check to see if there is a shared database that they can direct their suppliers to report to instead.** Many of these database platforms can accommodate custom questions to meet unique needs. Making a point to use shared platforms for collecting data will reduce the significant sustainability survey fatigue felt by many suppliers, and will allow other purchasers to benefit from the data.

Acquiring Spend Analysis Tools and Skills

Taking raw purchasing history data and pairing it meaningfully with environmental, social, and economic performance data in order to make credible claims about an organization's overall supply chain performance requires a specialized set of skills. Organizations often use third-party tools to reduce complexity and/or hire service providers to provide training, help manage the process, clean purchasing data, conduct the analysis, and/or interpret the results.

The *SPLC website* provides information about tool providers and services providers that can support both category-based and supplier-based sustainability-related spend analysis.

Step 2: Choose Spend Analysis Methods, Tools and Responsible Parties

First, identify any existing spend analysis that the team can build on.

For example, if the organization is already collecting and tracking its purchasing from small and medium enterprises, it may be possible to expand that system to also track purchasing from woman and minority owned suppliers in a similarly ongoing fashion. Another example is building on existing analyses conducted by industry associations, professional societies, or peer organizations. If a peer organization's analysis of all their spending revealed that 80% of their impacts came from just five purchasing categories, the Strategy Team could make a fairly safe bet that they would find out the same thing if they conducted a similar analysis. Instead of replicating that analysis, the team could instead decide to do a deep-dive analysis on one or more of those five purchasing categories.

DETAILED GUIDANCE

SPEND ANALYSIS ON A SHOESTRING

No organization has the resources to do all the analysis it would like, so the Strategy Team should be willing to prioritize in ways that leave some questions to be answered in future Strategy Cycles.

Even with a limited budget, reaching out to spend analysis consultants can be valuable. First, they may prove affordable. Second, they can often help the Strategy Team to articulate the business case for doing the desired type of spend analysis, by supplying case studies and other data. Third, they may offer training. Finally, it can be a great opportunity to talk to an expert about the process!

Second, identify where spend analysis is needed and who will conduct it.

For each aspect of environmental, social, and economic performance where new analysis is required, the Strategy Team must answer the following questions:

1. What metrics will enable strategic prioritization and planning?
2. What method will be used to conduct the analysis?
3. How many years of purchase history does the analysis need to include in order to establish a sufficient baseline?
   (a) Who will do the data preparation and manipulation?
   (b) Will they need training?
   (c) What tools will they need?
4. What third-party data will they need?
   (a) Who will validate, interpret and present the results?
   (b) Will they need training?
5. Should there be a third-party review?

Answering the third and fourth questions, requires investigating the complexity of the method(s) selected. Some require greater technical skill and time commitments than others. Some require buying access to third-party data sets or tools. In many cases, hiring the assistance of a service provider who already has access to and mastery of the required data sets and tools can be more cost-effective than conducting the same analysis in-house. However, if conducting the analysis in-house is a priority, many of these same service providers also offer training.

Third, decide how to handle areas where there is not a suitable method.

Robust methods simply do not yet exist for connecting purchasing data to some of the environmental, social, and economic impacts known to exist in the world's globalized supply chains. In these cases, the Strategy Team must decide how to proceed. Here are just a few of the ways organizations have addressed these kinds of gaps:

- Use a proxy indicator (e.g., risk = industry + country of origin)
- Substitute expert knowledge (e.g., NGO, academic, or consultant expertise; category guidance from Chapter 4)
- Measure the ability/inability to evaluate the given aspect of environmental, social, or economic performance – with the goal of improving that ability through a project in the Strategy Plan.
- Collaborate with others to develop a novel method

The table title "Sample Spend Analysis Scenarios for Different Performance Aspects" shows a number of scenarios for how a team could organize their decisions about what metrics, methods, tools and other resources they will use.

DETAILED GUIDANCE

NAVIGATING THE MAZE OF SPEND ANALYSIS CHOICES

Step 1. Get clarity. The first step in navigating the maze of spend analysis methods, tools, data sets and service providers is to get clarity around what aspects of environmental, social, and economic performance are a priority for the organization and for this Strategy Cycle. Ideally, the scoping and stakeholder engagement process in the "Launch" phase should have provided that clarity.

Step 2. Narrow the options. Once the aspects of environmental, social, and economic performance are known, the range of analytical methods can be narrowed quickly because many are only suitable for, at most, a handful of aspects. Here are some ways to find the right method for your project:

- Consult the *Tool Provider tables* on SPLC's website
- Consult the UNEP/SETAC Hotspots Mapping Strategy report (http://tiny.cc/avm3rx)
- Ask peer organizations for recommendations based on their experience
- Contact suppliers, trade groups, and professional associations for advice
- Seek out collaborative efforts targeting the cycle's focus area
- Conduct interviews with subject experts and stakeholders
- Request information from spend analysis tool and service providers

Step 3. Review limitations of existing options. In some cases, it will be relatively easy to find well-developed methods to put to use, such as Economic Input/Output Lifecycle Assessment. However, in many other cases, the process for measuring a particular aspect of a supply chain's environmental, social, or economic performance will be much less standardized. The sustainable purchasing movement is relatively young and many of the methods, data sets, and tools necessary for managing a supply chain's environmental, social, and economic performance are still being developed.

Step 4. Expand the horizon. Where there are methodological or data gaps, SPLC encourages organizations to not give up. Instead, join or start a collaborative effort to address the gap, or, try something new and share the experience with others. The Council can be a forum for doing both of those things.

EXAMPLE

SPEND ANALYSIS PROCESS AT ALAMEDA COUNTY

There are a few options for organizations who want to analyze the supply chain impact of their spend. First, they can do the work in-house using freely available web-based analytic tools. Second, they can hire a consultant who may have more sophisticated analytic tools. Third, they can review the results from existing analyses from similar organizations to get a sense for which categories of spend are likely to be high impact. Which option an organization picks depends on the level of specificity they looking for, as well as the budget and staff time available. Alameda County took a hybrid approach when conducting its greenhouse gas supply chain inventory by hiring an intern who completed the analysis using the EIOLCA.net tool developed by the Green Design Institute at Carnegie Mellon University.

– Karen Cook, County of Alameda

EXAMPLE

SAMPLE SPEND ANALYSIS SCENARIOS FOR DIFFERENT PERFORMANCE ASPECTS

Performance Aspect	**Greenhouse Gas Emissions**	**Supplier Diversity**	**Human Rights**
Sample Metrics	• Total supply chain GHGs • % of Total supply chain GHGs by purchasing category	• Diversity spend ($ and % of total); • Diverse suppliers (# and % of total); • Transactions w/ diverse suppliers (# and % of total); • Diversity by type (# and % of totals);	• % of contracts in IT, agriculture, and soft apparel that employ best practices recognized by human rights advocates as credible; • % of IT, agriculture, and soft Apparel purchasing made off-contract.
Sample Method	Economic Input/Output Lifecycle Assessment (EIOLCA)	Ask Procure-to-Pay provider to turn on supplier diversity fields, and run their built-in supplier diversity reports.	The team will evaluate the best practices compatibility of the 20 contracts that make up 80% of the organization's on-contract spend in each sector and the best practices compatibility of largest off-contract suppliers.
Baseline Timeframe	2010 to Present	3 year trend data for all metrics	12 months of purchases in order to identify volume suppliers in each sector
Who will compile the data?	A consultant with EIOLCA expertise will lead the team through the data collection and compilation process.	Procure-to-Pay system contains most supplier transaction data. Procurement team will also look for diversity among top suppliers of P-card purchases	Procurement Dept inventories the contracts and suppliers in three high-risk categories, analyzing them for compatibility with best practices.
What tools do they need?	Consultant has the necessary software.	Incumbent Procure-to-Pay system	Spreadsheet to score contracts against best practices.
What training do they need?	Consultant will provide team with training for the parts they will do.	None needed.	Training on ICAR best practice recommendations.
What third-party data do they need?	GHG emissions factors from the OpenIO database.	Diversity characteristics of current suppliers. Their Procure-to-Pay system provider has it already for most of their suppliers.	Information from top suppliers about their capacity to monitor human rights compliance in their own supply chain. Will query account reps for it.
Who will validate and interpret the results?	Consultant helps interpret results. Formal validation not required. Informal validation by sharing with Strategy Stakeholders.	Procurement staff will spot-check the supplier classifications to ensure the totals are based on sound data, and provide results interpretation.	Invite a human rights procurement expert or NGO to review the results and help with interpretation.

* In this hypothetical example, the Strategy Team decided they lacked sufficient visibility into their own supply chain to be able to evaluate the presence of human rights abuses within it. Relying on expert knowledge from leading international human rights organizations participating in the International Corporate Accountability Roundtable (ICAR), they identified three high-risk sectors the organization buys from: IT, agriculture and soft apparel. The team then decided to evaluate whether or not the organization's contracts in the those high-risk sectors met ICAR's best practice recommendations for promoting human rights within procurement. Measuring their contracts' conformity with human rights best practices, gave them a proxy metric that they could work to improve as part of their Strategy Plan.

Step 3: Collect and Standardize Purchasing Data

Identify Data Sources

Finding all the expenditure data will require collaboration with multiple internal departments because the data sources may reside in multiple places, such as ERP systems, e-commerce platforms, purchasing card systems, and data warehouses. Sources of data to consider include:

- Accounts payable and general ledger data
- Purchase order data
- P-Card data
- Contract and invoice data
- Data from supplier's systems

For example, within a single operational unit purchases may be made on contracts, with the exception of travel expenses, which are paid using purchasing cards. It is important to collect both sets of data to avoid inadvertently collecting a subset of spend and distorting the analysis.

Prepare the Data Requests

Before reaching out to owners of expenditure data, decide exactly what data points are needed and in what formats. This will usually be dictated by the third party data that it will be matched with, or the tool that it will be entered into. Preparing a template describing those two things will improve the chances of getting correctly formatted data. But, even with a well-designed template, don't be surprised if a good deal of work is necessary to prepare the data for use.

Collect Data on Major Anticipated Spending

Accompany the data request with a brief survey that asks about major purchases *anticipated in the next 12-24 months,* such as vehicles, construction or renovation projects, IT, etc. Significant purchases on the horizon are something the Strategy Team may be able to leverage as part of the Strategy Planning process. The owners of purchase history data may not be the best person to answer forecast questions, so let them know they can pass the survey along to other staff and budget holders within the operational unit. The finance department can also be a good place to find information about major new expenditures.

Resolve Data Problems

As the data comes in, review its quality and make plans for how to address quality problems. See the box above for strategies to consider.

☑TIP

Keep a central repository of contact information for the data owners.

When teams divide up the work of reaching out to owners of expenditure data, the repository can be used to assign individual team members to data owners. This can be useful in follow-up inquiries and for keeping them informed of the project's progress.

A sample Data Owner Contact Collection Sheet is included in an appendix to this *Guidance*.

☑TIP

Make sure that all data providers feel invested in the process.

If, for some reason, members of a department whose spend data your team will be investigating were not included in the Strategy Stakeholder group or have not otherwise been involved in conversations to date, make time to meet and explain the project and its benefits.

This will help any internal political issues from arising and may identify any critical areas where scope needs to be revisited in the short-term due to unforeseen circumstances.

DETAILED GUIDANCE

CORALLING SPEND DATA

At this point, the team should know what purchasing history data it needs, how far back the data collection needs to go, and who is responsible for collecting it. But in many organizations, that data may be distributed across multiple systems which often don't talk to each other, or may vary in terms of their level of data accuracy, detail, and standardization. *This is completely normal!* Don't get discouraged. Many leadership organizations that don't have clean, centralized purchasing data are finding ways to do meaningful analysis. Here are some of the strategies they use:

Stay laser focused on the data that is *essential*. It can be tempting to ask for a lot of "nice to have" data points at this stage, but that increases data collection difficulty, resistance and turn-around time.

Ask suppliers to provide the data. In many cases, suppliers will have better transaction-level detail, including the ability to split out product costs from service charges, such as delivery and installation.

Don't chase the "long tail." Focus the analysis on purchasing categories and/or suppliers that are large enough to be consequential. Don't exhaust the team trying to analyze a huge number of small categories.

Create a product and service code cross-walk. Many organizations have legacy product and service codes, which do not match industry standard classification codes used by spend analysis tools. Creating a "cross-walk" between legacy and industry standard codes is a worthwhile investment, since it only needs to be done one time, and many industry standard codes maintain cross-walks to other code sets, such as the United Nations Standard Products and Services Code. *Cross-walks typically require giving up granularity, but that's okay.* Often granularity is not required until the analysis has identified priority categories worthy of further, in-depth investigation.

Use data cleaning experts. Experts familiar with cleaning and manipulating large datasets can use sophisticated techniques to quickly resolve problems with the vast majority of records, leaving a relatively small number to be sorted out manually. Many spend analysis tool providers offer these types of data cleaning services.

Hire interns to help. Figuring out how to wrangle real-world spend data can be a valuable learning experience for someone interested in learning the trade.

Re-scope. Sometimes data integrity problems can be so intractable that the only option is to revise the scope to remove the source of low integrity data. (And start a project to improve data collection to enable future analysis!)

Step 4: Implement the Analysis & Validate the Results

Implementation

At this point, it's time for the team members or consultants responsible for conducting the analysis to apply the chosen analytical method or methods to the data.

Note: The guidance for implementing the analysis will depend entirely on the analysis method chosen. Consult the documentation created by the method's authors for assistance on this step.

Validate the Results

Things can go wrong when crunching large data sets, even when great care is taken. Before showing the results to too many people or spending much time trying to interpret them, taking time to validate the results can save a lot of grief. Nothing undermines confidence in a Strategy Plan like late-in-the-game revisions of the analysis it's based on!

Validation can be a highly formal process involving an independent reviewer, but in most cases something less formal will be sufficient.

DETAILED GUIDANCE

INFORMAL WAYS TO VALIDATE RESULTS

Spot-check the results by performing the method manually on a small subset of the data, such as one category, and confirm the results match.

Review the results with an outsider to the process: someone who wasn't involved in "running the numbers". This could be one or more members of the Strategy Team. Investigate anything that is surprising to them.

Share the results with two experts: one who understands the purchasing data and one who understands the environmental, social, or economic aspect being analyzed. Each will have enough knowledge about one of the data sets that were paired together in the analysis to make predictions about what was in the other data set. Their counterpart expert should be able to confirm or contradict those predictions.

For example, an expert in greenhouse gas emissions could look at an organization's GHG inventory and quickly deduce, based on the type of organization, whether or not air travel was included. If it appears to them that air travel was not included but the purchasing data expert affirms that air travel data was supplied to the analysis, a mistake was made somewhere along the way.

☑TIP

An analysis that confirms assumptions can still be valuable in a number of ways:

- Organizational leaders usually are more likely to commit to projects based on sound evidence, rather than assumptions.
- The data establish a baseline against which future progress can be measured.
- Details often challenge assumptions, even if the high level results don't.

Step 5: Interpret the Results

In general, the purpose of a sustainability-related spend analysis is to find opportunities to optimize the supply chain's environmental, social, and economic performance. In that vein, questions that may be helpful to ask when interpreting the results include:

- Is the overall performance better or worse than expected? Better or worse than peers?
- Is the organization's overall performance improving or decreasing?
- Is there evidence that prior efforts have produced performance improvements that can be celebrated?
- What areas of purchasing are contributing the most, positively or negatively, to the observed performance?
- In the areas with the greatest performance challenges, are the current suppliers sustainability leaders or laggards in their sector?
- Are there any departments or business units that are contributing disproportionately to the performance challenges or successes?
- Does the analysis suggest that current efforts to improve performance could have a greater effect if re-applied somewhere/somehow else?
- Is there evidence of temporary influences that the team might want to normalize before doing Strategy Planning, such as a recent once-in-fifty-years construction of a new campus?
- Is there anything that the analytical method itself is getting wrong or not taking into account? Does the team trust the results?

Is there anything that needs to be investigated more deeply either as part of Strategy Planning or as part of a future Strategy Cycle?

Step 6: Invite Stakeholders to Give Feedback on the Results

Before reporting-out "final" conclusions from the spend analysis, it is a good idea to invite in the broader group of Strategy Stakeholders to review the results and the team's interpretation of those results, and to contribute their reactions and feedback. For example, showing the results to current suppliers will often prompt productive dialogue and the sharing of new information. Opening the results to the scrutiny of a larger group of stakeholders is another way to informally validate the results before moving into Strategy Planning.

Step 7: Prioritize Areas for Strategy Planning

The team should formally come to agreement on the priority areas that will be the focus of the Strategy Planning phase.

☑TIP

This is a good point to draft some recommendations for improving the spend analysis process for the future. Recommendations could include the following:

Improve future contracts. Require suppliers to submit regular reports on what the organization has purchased.

Improve coding. Harmonize the item classification codes being used in the organization. Improve checks to ensure they are being properly applied within day-to-day operations

DETAILED GUIDANCE

A PROCESS FOR PRIORITIZATION

Step 1. Narrow the focus. After integrating stakeholders' feedback on the results, the Strategy Team must now agree on what the results say about where their focus should be in the Strategy Planning phase. Typically, the focus should be on those purchasing categories or suppliers that offer the greatest opportunity to improve performance. To identify these, rank the areas analyzed from "greatest opportunity for improved overall performance" to "least opportunity for improved overall performance." Then, identify a manageable number of areas to tackle in the Strategy Planning phase (e.g., top 3, top 5, etc).

Step 2. Acknowledge challenges. While that's the most straightforward way to do it, it may cause anxiety because "non-influenceable", unmanaged, or difficult to influence areas of *goods and services* purchasing, such as capital projects, utilities, or employee travel, may rise to the top. That's a good thing! As noted earlier, the goal of spend analysis is to understand the current environmental, social, and economic performance of the organization's purchasing, and therefore *where action needs to be taken* in order to improve that performance. If it turns out that the biggest areas for improvement are difficult to influence areas of purchasing, that's something the organization needs to know *and needs to face, with the help of a talented cross-functional team.*[1]

Step 3. Commit to further inquiry, at a minimum. The Council strongly encourages an organization to focus its Strategy Planning effort on those areas of purchasing that present the greatest opportunity for performance improvement, regardless of perceived difficulty. While that may seem futile, the Strategy Planning process has the potential to produce remarkable breakthroughs that couldn't be foreseen at this point. The team and other stakeholders should keep in mind that *committing to research potential projects* as part of a Strategy Planning process is not the same as *committing to implement the projects*.

If the Strategy Planning process ultimately fails to turn up viable projects in a difficult-to-influence area of spend, that's okay because the organization will have learned more about the nature of the challenges in that area from having tried to address them. If, on the other hand, the Strategy Planning process does produce viable projects, the organization will not be committed to implementing those projects until management has given them their support as part of the Commit phase. So, there is no harm in trying.

Step 8: Communicate Outcomes and Next Steps to Management & Stakeholders

Draft a report summarizing:

- The analysis process undertaken
- The results and interpretation
- The focus areas for the Strategy Planning phase

Invite the Strategy Stakeholders to a presentation and report release. Consider if it would be constructive to share the report-out to a general audience via newsletters, blogs, or posts on listserves. Celebrate the milestone!

End of Section Checklist

- ☐ Spend analysis method selected
- ☐ Relevant data collected
- ☐ Repository created for data owner contact information
- ☐ Analysis completed
- ☐ Priority areas selected for strategy planning
- ☐ Results communicated to management and stakeholders

DETAILED GUIDANCE

PRIORITIZATION AND POLITICAL CONSIDERATIONS

Deciding where to focus Strategy Planning has political dimensions. Stakeholders could withhold cooperation—or management could withhold resources—if they are not convinced that investigating projects in the areas proposed by the Strategy Team serves organizational priorities. They may also be concerned that the analysis could create internal tensions within the organization.

When selecting and presenting Strategy Planning focus areas, it is wise to be attentive to organizational priorities and dynamics, as well the factors that influence them, such as executive priorities, customer expectations, investor pressure, public interest advocacy, internal reorganizations, and so on.

An Exercise to Address Political Considerations

The following exercise can help the Strategy Team make the case that focusing Strategy Planning on the areas they have selected will address organizational priorities:

1. Identify the organization's publicly or internally expressed high-level priorities.
2. Brainstorm all the factors that are driving those priorities. (e.g., customer expectations, depressed revenues, shareholder demands, etc.)
3. At a high-level, brainstorm how those priorities and pressures can be addressed in a positive way by taking action in the areas of purchasing the Strategy Team has chosen to focus on during the Strategy Planning phase.

In addition to helping the Strategy Team make a strong case to stakeholders and management as to why the Strategy Planning phase should focus on the purchasing areas they've selected, the above exercise can reveal if the proposed Strategy Planning scope fails to hit on one or more key organizational priorities. In such a case, it may be helpful to expand the Strategy Planning focus to include an area or two of purchasing that would do wonders for that key organizational priority, even if it wouldn't offer as much room for improving overall performance. It never hurts to ensure that sustainability initiatives clearly support the organization's success!

PLAN Strategies

Purpose

The purpose of the "Plan" phase is to create a Strategy Plan that includes one or more projects to meaningfully improve the environmental, social, and/or economic performance of the areas of purchasing prioritized in the previous "Analyze" phase. **The Strategy Plan describes, in detail, the unified business case for a set of projects that an organization will implement together to achieve a strategic objective.**

During this phase, the Strategy Team will accomplish the following:

- Identify a wide range of projects that could improve performance.
- Choose a set of those projects that collectively offer the most strategic path for improving performance.
- Develop project plans for each project, detailing the tasks, responsible parties, timelines, performance metrics and targets, and the benefits and costs of implementing the project.
- Draft a Strategy Plan document that draws on the individual project plans to show the cumulative costs and strategic benefits of implementing all the projects in a comprehensive fashion.

Benefits

A Strategy Plan enables management to commit the organization to a strategic and comprehensive plan of action, rather than respond to one-off projects that may or may not be strategic when taken together.

EXAMPLE

STRATEGY PLAN FOR ELECTRICITY

An organization seeks to reduce the emissions related with its electricity purchases 20% by 2020. The Strategy Team identifies several projects to achieve that strategic objective. One project would be to conserve energy by removing non-ENERGY STAR appliances from the organization's eProcurement catalog. Another would also conserve energy by bidding a complicated multi-million dollar energy services contract. A third project would involve buying clean, renewable energy from a wind farm in a multi-year deal. The Strategy Team determines that the three projects will allow the organization to meet its 20% emissions reduction strategic objective.

However, while each project is logistically independent, they are strategically interdependent because they all influence the same thing: electricity-related emissions. Estimating the emissions reductions of each project individually could have led to mistaken emissions reduction expectations, given that one project could offset or augment the effectiveness of the others. In this case, buying wind power does offset the emissions reductions of the energy conservation projects because those projects are now offsetting cleaner electricity. Fortunately, the Strategy Team was looking at all the projects as one unified Strategy Plan, so they took that into account when determining that all three projects were necessary to reach the 20% goal. They further discovered that the two energy conservation projects will save more money than the added-cost of the wind power, giving the whole Strategy Plan a positive return on investment.

This overall business case greatly increases the chances that management will commit to implementing all three projects.

DETAILED GUIDANCE

ADVANTAGES OF A STRATEGY PLAN

Integrating multiple projects for approval at the same time as part of a single Strategy Plan offers a number of advantages:

Focus on a strategic objective enables a portfolio approach. Activities that might not otherwise be approved as stand-alone projects may be approved as part of a Strategy Plan, because they offer opportunities to realize a strategic objective, with its costs offset other projects in the overall project portfolio.

Support from higher level management. Because Strategy Plans typically touch several areas of operation, they often require approval by a single decision-maker or body (e.g., City Council) that sits high in the organization. This is helpful for several reasons:

- **Strategy Alignment.** Because higher levels of management are responsible for organizational strategy, they are often likely to give higher priority in their decision-making to the achievement of overall strategic objectives.
- **Total Cost of Ownership.** Senior managers are able to readjust budgets to allocate savings from sustainable purchasing projects to appropriate budgets and cost centers.
- **More Political Willpower.** Staff throughout the organization may be more willing to help with implementation if high-level decision-makers are receiving progress updates.

Opportunities for synergy and alignment. As described in the above Strategy Plan Example, projects that support similar objectives can be aligned to support one another.

Management will appreciate it. Repeatedly asking approval for small, individual projects is inefficient and tiresome. Management typically prefers less frequent review of packages of projects that have larger aggregate cost/benefit implications.

Step 1: Adjust Strategy Team Composition

Given the areas of purchasing the Strategy Team prioritized for attention during this planning phase, consider whether the Strategy Team has sufficient representation from functional units that would need to be involved in making changes to those areas of purchasing, or, that would be affected by changes to those areas. If gaps are identified, recruit additional participants from those functional units to join the Strategy Team. Do the same thing for the larger group of Strategy Stakeholders.

In addition to adding new team members, permit any original team members to reduce their level of participation if they are not likely to be involved in or affected by work on the purchasing areas that will be the focus of the planning phase.

☑TIP

Throughout the Strategy Cycle, being careful to use only the human resources necessary to get the job done will earn the Program respect and trust from managers asked to contribute one of their staff's time to a Strategy Team.

DETAILED GUIDANCE
POTENTIAL DATA SOURCES

Evaluating decision criteria often first requires collecting some data, such as average cost or performance. Information sources may include internal staff, peer professionals, peer organizations, suppliers, Group Purchasing Organizations (GPOs), cooperative purchase agreements, government agencies, standards developers and certifiers, consultants, industry associations, professional associations, and SPLC's community of practice.

Step 2: Explore Potential Decision Criteria

Ask the Strategy Team and Strategy Stakeholders to identify criteria that they would like to see a project meet before it is included in the Strategy Plan. This brainstorm can be conducted as part of a group meeting, by survey, and/or in one-on-one meetings, such as with management.

DETAILED GUIDANCE
WHY DEFINE DECISION CRITERIA?

In major planning processes, stakeholders often fear that their concerns will not be factored into decisions. Planners can reduce such concerns and win buy-in by documenting and prioritizing criteria at the outset, to ensure that key stakeholder concerns are recorded and addressed.

Including Diverse Decision Criteria

Decision criteria can vary widely:

- Some will be quantitative (e.g., tons of greenhouse gas emissions avoided)
- Others will be qualitative (e.g., alignment with executive priorities)
- Some will be applicable across-the-board (e.g., return on investment)
- Some will only apply to a specific aspect of environmental, social, and economic performance (e.g., greenhouse gas emissions reduced per dollar invested)
- Some will be minimum performance criteria (e.g. 99.9% up-time)
- Others may be logistical in nature (e.g., feasibility within an existing long-term contract)

In this step, all decision criteria important to stakeholders should be included and treated seriously, even if their utility seems dubious. At a minimum, these criteria provide intelligence about how Strategy Stakeholders will ultimately evaluate the final Strategy Plan.

In the next step, the Strategy Team will prioritize and streamline the criteria.

Step 3: Select Decision Criteria

Organize the criteria

First, organize the stakeholder's decision criteria into three categories:

- Absolute performance criteria
- Efficiency performance criteria
- Other criteria

Prioritize the criteria

Within each grouping, review the proposed criteria to see if there is duplication that can be merged or if there is anything missing. There generally should be at least one absolute performance criterion and one efficiency criterion for each relevant aspect of environmental, social, and economic performance. Move criteria that are not strategic for decision-making to an "excluded" list.

Rename the absolute and efficiency criteria lists as "First pass criteria" and "Second pass criteria". For each criterion in the "Other criteria" list, ask if it is a prerequisite. If no project could be included in the Strategy Plan without meeting that criterion, then it should be moved to the "First Pass" list, otherwise, move it to the "Second Pass" list.

Agree on the criteria

If the Strategy Team wasn't involved in the above evaluation and prioritization exercises, it should review and modify the prioritization before moving to the next step.

Agree on standard coefficients

Evaluating some criteria will require calculations using assumed values, or coefficients. In order to compare all projects fairly, the same coefficients should be agreed in advance before starting to investigate potential projects. They team might decide, for example, to set a consistent fuel cost coefficient equal to the lowest price that fuel has cost the organization in the last year.

EXAMPLE
MAINTAINING FLEXIBILITY

For the previous example, a list of potential decision criteria might look like this:

Absolute performance criteria

- tons of GHGs avoided
- 99.9% up-time

Efficiency performance criteria

- Return on investment
- GHG emissions reduced per dollar

Other criteria

- Alignment with executive priorities
- Feasibility in existing long-term contracts

And The finalized list of criteria might be:

First Pass Criteria

- tons of GHGs avoided
- 99.9% up-time

Second Pass Criteria

- Return on investment
- GHG emissions reduced per dollar
- Alignment with executive priorities
- Feasibility in existing long-term contracts

Excluded

- (none)

In this case, the team may have decided that alignment and feasibility should be evaluated in the second pass, because they didn't want projects that offered absolute performance improvements to be excluded if they didn't initially meet those criteria. The second pass could then include investigating ways to make promising projects align with executive priorities or feasible within an existing contract. For example, opening a dialogue with the long-term contracted supplier about the organization's need to improve performance could lead to the discovery of a previously unconsidered implementation pathway.

DETAILED GUIDANCE
PRIORITIZING DECISION CRITERIA

After the previous step, the Strategy Team should have a long list of decision criteria that stakeholders said were important to them. It won't be possible to evaluate every potential project against every criteria in such a long list. Therefore, the Strategy Team should evaluate and prioritize the list, and then select from it the decision criteria they will use to evaluate proposed projects.

The Program Leader can accelerate this process by doing the evaluation and prioritization exercises on their own, and then bringing the result to the Strategy Team as a proposal. That way, the Strategy Team only has to spend time discussing points where they disagree with the way the Program Leader evaluated and prioritized the criteria.

☑TIP

Some criteria may be prerequisites.

For some criteria, the goal will be to identify projects that meet or exceed a *minimum performance threshold*. Such criteria should often be prerequisites, as might be the case with the "99.9% up-time" criterion in the example. That said, there is often a tendency on the part of budget holders to over-specify, and Program Leaders should push the team to only set performance thresholds as prerequisites when they are reasonable and truly essential.

DETAILED GUIDANCE
ABSOLUTE vs EFFICIENCY CRITERIA

Decision criteria should be differentiated based on whether they measures the **absolute** size of the performance gain achievable through the proposed project (e.g., tons of CO_2 avoided) or the **efficiency** with which that gain is achieved (e.g., tons of CO_2 avoided *per dollar*). Both types are important, but *it is generally more effective to evaluate absolute criteria as a first pass and efficiency criteria in a second pass*.

Evaluating proposed projects against efficiency criteria first (or even simultaneously with absolute criteria) can result in a lot of time wasted researching activities that may be efficient but don't offer meaningful absolute improvements.

For example, if the Strategy Team is trying to produce a Plan that would cut CO_2 emissions by 200 tons, then a proposed project that can save the organization $100 per ton of CO_2 avoided might be excellent from an efficiency perspective, but if the absolute CO_2 reduction potential of the project is only two tons, it is not a good use of the cross-functional Team's time. The small project may still be worth doing, but small projects with a good return on investment can generally be implemented without being included in a larger Strategy Plan being prepared for high-level management sign-off.

☑TIP

Early agreement on criteria keeps the process moving smoothly.

If everyone agrees that projects meeting the final decision criteria should be implemented, that can head off problems later. First, it helps keep the goal posts from moving on the team. Second, stakeholders are more likely to be supportive when they see that their interests and concerns are being taken into account.

Step 4: Explore Potential Projects (1st Pass)

For each area of purchasing chosen as a focus during the "Analyze" phase, brainstorm a wide range of potential projects the organization could implement to address the aspects of environmental, social, and economic performance that are the focus of this cycle. This can be done as a group exercise, in small groups, or as "homework."

For each potential project identified, assign a team member to collect the necessary data to evaluate the first pass decision criteria.

DETAILED GUIDANCE
BRAINSTORMING SUGGESTIONS

Stay high-level and outcome-oriented.

Focus on high level, outcome-oriented projects, such as "improve fleet economy by 5 mpg", as opposed to "replace fleet sedans with hybrids that get 40+ mpg." Focus only on whether the project will address a priority impact at scale.

Use brainstorming guidance and resources.

- Use SPLC guidance as prompts (guidance in Chapter 4, solutions worksheet, case studies database).
- Use guidance produced by others.
- Look for credible standards, certifications, or labels.
- Invite existing and competitor suppliers to suggest solutions.
- Identify and engage collaborative efforts that are tackling a particular challenge. (e.g. Healthy Building Network, Sweatfree Purchasing Consortium)
- Seek advice from NGOs, consultants and other experts that focus on that impact.
- Ask peers in professional and trade associations for ideas.
- Conduct in-house research on alternatives.

DETAILED GUIDANCE
SOLUTION STRATEGIES TO CONSIDER

Strategy	*Description*	*Example*
Efficiency	*Reduced impact through reduced use*	Implementing a procure-to-pay IT system reduces impacts associated with printing and transporting paper documents.
Process change	*Design the impact out of a process*	Air pollution from medical waste incineration is reduced by switching to reusable surgical tools that are steam sterilized.
Behavior change	*Implement programs to shift attitudes and practices*	Voluntary "green office" competitions reduce energy and material consumption, while increasing recycling.
Combining Projects	*Combine multiple projects into a single positive ROI project*	An energy efficiency project is combined with a solar project. Energy savings offset the solar costs for a good overall ROI.
Supplier engagement & accountability	*Engage suppliers and hold accountable for a specific impact*	Some universities require apparel manufacturers to permit independent audits of factory conditions and provide retribution-free grievance and remedy processes.
Product substitution	*Choose a different product with lower ESE impacts*	Chemical costs and workers compensation insurance premiums reduced by switching to green cleaning products.
Supplier substitution	*Choose a supplier with lower ESE impacts*	Making evidence of bribery or extortion automatic grounds for suspension of business with a supplier.
Servicizing	*Convert a product acquisition to a long-term service*	Instead of owning copiers, establish a pay-per-copy service relationship so that the price of each copy reflects the true cost.
In-source	*In-source a function to better reduce impacts*	Hiring LEED expertise in-house to optimize and streamline green building across all of org's construction and renovations.
Out-source	*Outsource when an external party can better reduce impacts*	Contract out utility bill management to firms that leverage energy market expertise to cut energy and carbon costs.
Offsetting	*Pay for an impact reduction to offset impacts elsewhere*	Buying carbon offsets; paying to put land in permanent conservation to offset development of other land.

The above Solutions table can be downloaded as a worksheet that can be used with the Strategy Team here: https://www.sustainablepurchasing.org/public/SPLC_Worksheet_2014002_Solutions.pdf

Step 5: Select Short List of Potential Projects (1st Pass)

Together, the cross-functional team reviews the projects identified and evaluates how they compare on the first pass decision criteria. It can be helpful if the team leader ranks the projects according to the first pass decision criteria in advance of the meeting.

Using the first pass decision criteria as a guide, the team selects the most promising projects. The selected projects will receive deeper analysis in the next step, using second pass decision criteria.

Before investigating potential projects more deeply in the second pass, the team should determine if any of them would influence each other, and thus shouldn't be investigated in isolation. For example, if fleet fuel economy is improved by 20% and at the same time logistics improvements resulted in 20% fewer miles needing to be driven, analyzing both of those projects independently would result in an overestimate of their impact reduction (40%) when the actual reduction of the combined projects would be lower (36%).

☑TIP

Share a progress report.

In order to ensure the team doesn't go too far off-course of what senior leaders are willing to support, it can be wise to share the results at this stage with them in a progress report.

DETAILED GUIDANCE

RANKING vs SELECTING

Selected projects will not necessarily be the highest-ranking projects. Lower-ranking projects could be selected because:

- they are complimentary or synergistic with higher-ranking projects;
- they are timely (e.g., a long-term contract is coming up for renewal);
- they have substantial co-benefits, such as cost savings or brand-building; or
- they align with key organizational priorities.

That said, if a high-ranking project is excluded due to conditions that could change in the future (e.g., the organization is contracting), plan revisit the idea when conditions change.

Step 6: Further Investigate Short List of Potential Projects (2nd Pass)

Identify team members (or consultants) who will lead deeper analysis of each of the projects selected in the previous step. Within each project, there will likely be choices for how implementation could proceed, so whoever is investigating the project ("the investigator") will be responsible for identifying those implementation pathways and collecting, for each of those pathways, the data necessary to evaluate them against the second pass decision criteria.

☑TIP

Create a common template.

Using the second pass decision criteria, a common template can be developed into which the relevant data points for each criterion can be input by the team members leading the investigation of each potential project. This can considerably ease the next step in the process.

EXAMPLE

GUIDANCE FOR SECOND PASS INVESTIGATION (IMPROVING FLEET EFFICIENCY BY 5 MPG)

Continuing the above example of a project to "improve fleet efficiency by 5 mpg", the second pass is the step is where an analysis of the best ways to bring fuel economy up by 5 mpg would begin.

1. **Brainstorm all the ways of implementing the project.** This could include purchasing hybrids or electrics, but it could also include replacing the worst performing vehicles with best-in-class vehicles, or, putting in place systems that ensure operators drive the vehicles in fuel-economizing ways. This brainstorm can happen in many ways. For example, teams may choose to brainstorm and prioritize the various implementation pathways together, or, assign each area to an expert who would be best qualified to brainstorm and prioritize potential implementation pathways in that area.
2. **Collect the data necessary to evaluate potential projects against the second pass decision criteria.** In this example, the necessary data might include finding out what fleet vehicles have the worst fuel economy, what is best-in-class fuel economy for that type of vehicle today, how soon the vehicles would normally be replaced, etc.
3. **Document any practical requirements for implementing each project.** While gathering information necessary to evaluate the second pass criteria, team members will run across a lot of practical implementation information, such as who would be the natural "responsible party" for implementing each project. Because the team will need to know those things if it decides to recommend the project as part of the Strategy Plan, it can save a lot of time to document practical requirements of each solution during this phase. Team members should engage parties who would likely be responsible for implementing a project, even if it might be possible to determine the project's feasibility without their input. Otherwise, the responsible party may feel blindsided or may point out a problem with the plan project after it has already been selected for inclusion in the Strategy Plan.

The Team Leader should check-in on team members regularly while they conduct their research in order to find out if they have any needs and to make sure that they are on schedule.

Market Engagement

Suppliers can be a great resource when turning a high-level project idea like "improve fuel economy by 5 mpg" into concrete project steps for a Strategy Plan. In fact, market engagement will often be a requirement at this phase because otherwise the Strategy Plan could end up including projects that the organization's local/regional market cannot support.

Time to Get Conservative

In the first pass, the focus was on asking, "What's the maximum performance improvement that can be achieved with each potential project?" That type of question lends itself to optimistic thinking, which is okay during that phase. One of the benefits of the second pass criteria is that they tend to focus more on asking, "What's it really going to take to do it? How much effort per unit of benefit?" The team should finish this phase with *appropriately conservative* estimates of the environmental, social, or economic performance gains the project offers, as well as its financial costs and benefits.

Step 7: Select Projects for Implementation Planning (2nd Pass)

In this step, the Strategy Team will evaluate the results from the second pass investigation and select a portfolio of projects for inclusion in the Strategy Plan. The selected projects will receive detailed implementation planning in the next step.

The Strategy Team comes to agreement on a set of projects that it believes present the organization's most strategic pathway for improving the aspect(s) of environmental, social, and/or economic performance that are the focus of this Strategy Cycle.

DETAILED GUIDANCE

BENEFITS OF A PORTFOLIO APPROACH

As was the case in the first pass, the projects that offer the highest performance improvement or that are the most efficient may not, in practice, be selected for inclusion in the final Strategy Plan. Other factors must be taken into account, such as feasibility, complementarity, timeliness, organizational priorities, internal willingness, resource availability, external stakeholders and risk tolerance.

This is one of the major differences between the Strategy Planning process and trying to improve environmental, social, and economic performance using a contract-by-contract or product-by-product approach. When working contract-by-contract or product-by-product, decisions that could significantly improve performance can often get overruled because of budget-holder prerogative, competing priorities, and many other reasons. When key stakeholders go through the Strategy Cycle together and come to fully understand the whole picture, many of the objections encountered when working contract-by-contract or product-by-product can be overcome.

DETAILED GUIDANCE

WHY A PORTFOLIO APPROACH WORKS

A portfolio approach enables teams to achieve objectives that simply would not be attainable in a contract-by-contract or product-by-product approach for the following reasons:

Aligned incentives. Stakeholders discover that the Strategy Plan is an avenue for getting things they want. (An updated fleet! A procure-to-pay automation system! A dedicated supplier diversity position!)

Shared costs. Budget-holders don't feel like they are being singled-out, because they see others being asked to make changes, too.

Team perspective. When stakeholders are asked to compromise, the Strategy Plan allows them to fully understand the rationale for that request and in the context of shared goals.

Transparency. The planning process requires objections to be made visible to the Strategy Team, so difficult personalities or territorialism can't hold up the process in the same way that they can in lower visibility negotiations around changing a single contract or product.

Collective voice. Management is much more likely to commit to the Strategy Plan's projects when they are recommended to them by a Strategy Team that is cross-functional and representative of key stakeholders.

DETAILED GUIDANCE

FUNDING AND RESOURCING PROJECTS

Projects that requires additional funding or resources should only be selected for the Strategy Plan if the Team has a recommendation for how it could be funded and resourced, because that will be the first question management will ask. Potential funding sources/mechanisms could include:

- Re-allocation of operating funds *within* a department or budget;
- Re-allocation of operating funds *between* departments or budgets;
- Allocation from the general fund;
- Self-financing performance contracts in which the supplier provides initial capital in return for a share of the savings;
- Borrowing (e.g., bonds, bank credit, etc);
- Grants;
- Incentives and tax credits offered by local, state, national governments or utilities;
- Investment of endowment funds on internal projects offering a reliable rate of return;
- Fundraising from alumni or partners; and
- Student fees.

☑TIP

Get endorsement from responsible parties.

Before a project is selected for the Strategy Plan, the Strategy Team should ensure that the parties who would be responsible for implementing the project are on-board. They should be asked to verify the Team's understanding of what would need to happen and on what timeline, who would lead the project, what the outcomes would be, and what the risks would be. Nobody wants the Strategy Plan to go to management for approval, only to have the parties responsible for implementation oppose one of the Plan's recommendations!

Step 8: Create Strategy Plan Timeline, Metrics, Targets & Milestones

In the previous step, the Strategy Team evaluated a number of individual projects against decision criteria in order to select a portfolio of projects the team will recommend to management. Now, all of those individual projects need to be organized into a cohesive Strategy Plan.

In this step, the Strategy Team organizes the selected projects into an implementation timeline, addressing any interdependencies between the projects and interactions with other planned organizational activities.

The team agrees on performance metrics and methods for tracking those metrics. The team identifies parties who will be responsible for establishing the processes by which data required for the metrics will be collected in an ongoing way.

For each metric, the Strategy Team agrees on a cumulative performance target for the whole Strategy Plan, as well as periodic milestone targets so that delays in progress toward the cumulative target can be discovered and addressed early.

DETAILED GUIDANCE

SUGGESTED METRICS AND INDICATORS*

Chapter 4 suggests metrics and indicators* to measure performance in specific purchasing categories.

In addition to metrics that track aspects of environmental, social, and economic performance, the Strategy Plan should also include metrics to track cumulative financial costs and benefits.

** **Indicator** is used by SPLC to mean qualitative or proxy measures that can be used when direct measurement is not possible.*

DETAILED GUIDANCE

WHO SHOULD TRACK AND REPORT ON METRICS?

Ideally, the tracking of the environmental, social, and economic performance of an organization's purchasing doesn't stop when a Strategy Plan's implementation phase ends. Most of the performance benefits will accumulate after implementation has completed. Most backsliding happens after the implementation wraps up, too. This means it's NOT a good idea, generally-speaking, to make performance-tracking and reporting part of the duties of the Implementation Team. The Implementation Team will usually disband after implementation completes.

Instead, it's best to focus Implementation Team members on setting up efficient data collection systems so that the Program Leader or another staffer can easily assimilate and report-out performance on the Strategy Plan's performance metrics *on an ongoing basis, alongside the results of previous and subsequent project plans*. A team member could achieve this, for example, by writing periodic reporting requirements into a supplier's contract, or, by adding a database field and data to an existing reporting system.

This means that whoever is responsible for doing the ongoing reporting needs to be part of these conversations about metrics. They will need to understand the data needed to calculate the metrics, the frequency with which they should be reported, and to whom they should be reported.

DETAILED GUIDANCE

THE IMPORTANCE OF STRATEGY PLAN TARGETS

Overall, how much of an environmental, social, economic and financial performance improvement does the team expect the Strategy Plan to deliver?

These targets are the headline claims that will go into the Strategy Plan's executive summary and will be used in internal and external communications about the Plan.

They are also what the Strategy Plan's success will ultimately be measured against.

DETAILED GUIDANCE
COMMON PITFALLS IN OVERESTIMATION

Some things that can lead to overly optimistic Strategy Plan targets are:

- Failing to take into account expected growth/contraction in the organization or other planned changes to operations;
- Failing to account for projects that offset each other (see the fleet fuel economy and fleet logistics example above); or
- Making macroeconomic assumptions that seem reasonable at the time (e.g., "gasoline prices are going to continue going up"), without leaving room for error.

☑TIP

Ask the Finance Department review the financial projections in the Plan.

Management may be skeptical of financial projections for novel projects because it is sometimes difficult to understand if assumptions are conservative or optimistic. If the Finance team agrees that the team's projections are sufficiently conservative, management may be more comfortable giving the green light to implementing the Strategy Plan. The Finance team can often offer additional insights that help improve the plan from a business perspective, such as identifying additional funding sources.

☑TIP

Letting Management Choose the Level of Risk or Leadership in the Strategy Plan

The Team may want to group the projects within the Strategy Plan into tiers or tranches and evaluate cumulative costs and benefits of those tranches. This could be allow management the opportunity to choose a group of projects that suits their appetite for risk or leadership. For example, one tranche might be labeled "Low Risk, Moderate Return, Moderate Social Responsibility Leadership" while the other might be labeled "Moderate Risk, High Return, High Social Responsibility Leadership".

EXAMPLE
MONETIZING BENEFITS IN FINANCIAL PROJECTIONS

Make sure to monetize the benefits of the projects, wherever that can be done responsibly.

Benefit	*Example*
Re-allocation of freed-up resources	Reducing fleet size by 10% frees up 15 parking spaces that can be rented for $150/mo.
Reduced maintenance costs	Buying LED lights that last ten times longer reduces the maintenance cost involved in replacing burned out lamps by 90%.
Reduction in regulatory compliance requirements	Reducing purchase of hazardous materials reduces costs associated with properly disposing of them.
Safety improvements	Switching to green cleaning products eliminates the risk of chemical burns, reducing injuries and workers compensation premiums.
Improvements in customer or employee satisfaction	Increasing fresh and healthy food in dining operations increases employee wellness.
PR or brand-building value	Studies show many prospective college students take into account a college's sustainability efforts when choosing their school.
New business opportunities	Because a hospitality company developed sustainable food buying expertise, they can compete to host "green" events.

DETAILED GUIDANCE
OUTCOMES OF THIS STEP

At the end of this step, the team should be in agreement on…

- ☐ projects to be included in the Plan;
- ☐ responsible parties for implementing them;
- ☐ implementation timelines;
- ☐ environmental, social, and/or economic benefits of **each project**,
- ☐ **cumulative** environmental, social and/or economic benefits of the whole Plan;
- ☐ per-project and cumulative financial costs and benefits of the Plan;
- ☐ resources/funding required; and
- ☐ data and metrics for tracking the Strategy Plan's success.

Step 9: Implementation Coordination & Communication Strategy

The Team decides how the Strategy Plan's implementation will be coordinated and communicated to stakeholders. This includes designating an Implementation Leader, an Implementation Team, frequency of meetings, modes of communicating periodic updates to management and various stakeholder groups, etc.

DETAILED GUIDANCE
IMPLEMENTATION TEAM / LEADER

If management commits to the Strategy Plan, who will oversee its implementation?

Every Strategy Plan should identify an Implementation Leader or Implementation Team that provides coordination between the parties responsible for implementing the individual projects within the Plan. This coordination ensures that responsible parties receive the resources and cooperation that management intended, and verifies that they are on schedule to meet targets.

Think carefully about who should be the leader of the implementation process. Sometimes, it is most strategic to have a high-ranking person as the Leader, even if they delegate most of the work. In other cases, having someone with strong project management skills and a passion for the project can be better. Often, the best scenario may be to have someone with high rank take responsibility as Leader, but delegate day-to-date coordination to someone with strong project management skills and/or passion for the project.

DETAILED GUIDANCE
COMMUNICATIONS STRATEGY

Proactive, ongoing communication with management and stakeholders is critical.

A regular communication schedule, such as monthly or quarterly meetings, can ensure that awareness of the Plan and its ongoing implementation doesn't fade.

The team should also think ahead about the different communication needs of various stakeholders, such as internal buyers or external suppliers, and create separate schedules or modes of communication for them. For example, internal buyers may need to receive training, while suppliers just need to be notified via a message on the website.

Step 10: Draft the Strategy Plan

Write a formal Strategy Plan document that can be presented to management, describing the projects selected and planned in the previous steps.

☑TIP

Write management support into the Plan.

Begin the Strategy Plan timeline with "CEO Commitment" or "Commissioners' Commitment" or whatever level of management support the Plan will require. This will clearly signal that everything else in the Plan depends on affirmative support from management.

If the projects in the Plan require any specific policies to be adopted by management (e.g. a policy that all computer purchases meet the EPEAT Gold standard), include that policy commitment at the start of the implementation timeline alongside the overall commitment to the Strategy Plan: "CEO Commitment to Strategy Plan; CEO Sign-off on EPEAT Gold Policy; CEO Sign-off on Fleet Fuel Economy Policy;…"

This way, the Implementation Team doesn't have to come back to make those requests from management at a later date.

EXAMPLE
SAMPLE STRATEGY PLAN OUTLINE

Introduction

- Statement of the Plan's origins, objectives and expected benefits
- A concise list of the management commitments the Plan requires

Strategy Plan

- Overall Plan
  - Projects and benefits list
  - Metrics and targets
  - Funding, financing and resource needs
  - Implementation coordination and communications plan
  - Master timeline for all projects
- Individual Project Plans (one per project)
  - Detailed explanation of planned project
  - Metrics for success
  - Task list with responsible parties
  - Timeline
  - Funding/resource needs

Appendix I: Summary of the Strategy Planning Process

- Stakeholder engagement
- Spend analysis process
- Strategy planning process

Appendix II: Future Plans

There may be promising projects the Strategy Team would like to have investigated with more time, or that may not have been possible within current circumstances.

Note any projects that would be good to investigate in future Strategy Plans.

COMMIT to the Strategy

Purpose

The purpose of this phase is to win and maintain the management commitment required for the successful implementation of the Strategy Plan.

Benefits

Formal commitment increases the likelihood that sufficient political and financial resources will be allocated to execute the Strategy Plan.

Step 1: Plan the request.

Make a plan for how the team will solicit management's commitment to the Strategy Plan.

DETAILED GUIDANCE
PLANNING THE REQUEST

Every part of the process thus far has been designed to improve the chances that management will commit the resources necessary to implement the Plan. By getting early buy-in on the Strategy Cycle Proposal, engaging key stakeholders, including management, throughout the planning process to ensure that the Strategy Plan's projects satisfy their decision criteria, there shouldn't be too much mystery as to whether or not management will support the Strategy Plan. But, the way the ask for support is made and the way the commitment of support is expressed can improve the chances that sufficient political and staff resources are allocated to the implementation of the Plan.

Here are a few key questions to consider when deciding how to approach management:

What decision-maker or decision-making body in management has the necessary authority to approve the allocation of the financial, political, and staff resources necessary to carry out the Strategy Plan? What is known about the most effective way to approach that person or body with a plan such as the one produced through this cycle?

Who should present the team's work and the Strategy Plan to the management decision-maker? (e.g., a joint presentation, a memo with a co-signed cover letter, a presentation by someone who is a direct-report to the decision-maker, etc.)

How would the team like to see management express its commitment to the Strategy Plan? Is a public commitment desirable, or an internal one? Whether internal or public, should it be announced with an event, a memo, or something else?

DETAILED GUIDANCE

TIPS FOR GAINING COMMITMENT

Lead with the business case. Even if the organization is committed to sustainability, showing that the Strategy Plan is good for the bottom line improves its chances of implementation.

Target only the level of management required. If the Strategy Plan could be implemented entirely within the authority of the Chief Operating Officer, seeking Chief Executive Officer approval is unnecessary.

Leverage stakeholder engagement. Involve stakeholders in pitching the Strategy Plan to management or have them demonstrate their support by co-signing a cover letter.

Show that implications of commitment are well understood. Emphasize the level of research conducted to identify blind spots and plan the implementation steps in detail.

Emphasize the plan's basis on conservative scenarios. Share how risks and cost uncertainties were handled. Share the Finance department's opinion of the Plan's projections.

Include sign off on implementation steps. If the plan calls for management to take specific actions, such as approving a new policy, include the policy for parallel approval.

Provide options. Some managers like to have options to choose from. Consider grouping items that should be implemented together to create a "menu" of choices.

Seek management ownership. Get management to issue a memo from their office to all stakeholders, indicating what is requested from each during implementation.

Step 2. Make the request.

Make the request for management to commit the organization to implementing the Strategy Plan.

If management is not ready to commit, find out what their hesitations are so the Strategy Plan can be revised to address those concerns.

Step 3. Announce the Commitment.

Hopefully, management agreed to announce the commitment via a memo from their office, but if not, coordinate an announcement of the Strategy Plan's adoption. At the very least, the Strategy Stakeholders and Implementation Team members need to be notified.

Consider if it would be constructive to share the news of the commitment to a general audience via a press release, newsletters, blogs, or posts on listserves and social media.

Celebrate the accomplishment with those who made it possible! It may be useful to hold a meeting to celebrate the accomplishment and formally pass the baton from the Strategy Team to the Implementation Leader and Team.

IMPLEMENT the Strategy

Purpose

The purpose of the implementation phase is implement the Strategy that the Strategy Plan describes.

Benefits

If the Strategy has been well designed, and the plan has been well crafted and implemented, then the organization should realize the full range environmental, social, and economic benefits that originally provided a rationale for creating the Strategy (and the Strategy Plan that defines it) to begin with.

Process

After management commits to the Strategy Plan, the Program Leader or Strategy Team announces the commitment, according to the communications plan developed earlier.

The Strategy Team then sunsets while a new Implementation Team is formed from the responsible parties named in the Strategy Plan.

The responsible parties implement the Strategy Plan's individual projects with oversight by the Implementation Leader.

The Implementation Team establishes systems for efficiently collecting, on an ongoing basis, the data necessary to calculate the performance metrics established in the Strategy Plan. This can done, for example, by writing periodic reporting requirements into a supplier's contract, adding a database field and data to an existing reporting system, etc.

DETAILED GUIDANCE

WHY IS THIS SECTION SO SHORT?

It is impossible to provide implementation guidance for the huge range of projects that Strategy Teams may include in a Strategy Plan.

As an alternative, the prior chapters of this Guidance have supported Strategy Teams in developing project plans that include key pieces of implementation planning, such as responsible parties, timelines, performance metrics, milestone targets, budgets for required financial and staff resources, etc. Therefore, the best generic implementation advice is to "let the Strategy Plan guide implementation."

☑TIP

"Plan" becomes "Strategy."

What is really getting implemented, in this phase, is the strategy itself, for which the plan is a kind of management handbook. In the IMPLEMENT phase, an organization will use its Strategy Plan to launch a strategy: a "GHG Strategy" or a "Supplier Diversity Strategy." Up to this point, the team will have been talking about a "Plan" for these activities, but now the plan becomes a reality, and the Team will start talking about a "Strategy" that is being implemented.

The Implementation Team implements the Plan, but the Strategy will remain a part of the organization's Sustainable Purchasing Program even after the Implementation Team has disbanded.

DETAILED GUIDANCE

MAINTAINING MOMENTUM

Momentum can wane if projects experience problems, delays, or missed targets. In such cases, it's essential to be transparent about them, reemphasize the Strategy's overall goals, and make any necessary adjustments. To keep up the necessary level of support and engagement over the course of implementation, the Implementation Team can…

Use comprehensive communications to ensure that key stakeholders are aware of the Plan, its intended benefits and its progress. Keep the goals of the Strategy front and center in all presentations and progress briefings.

- Use consistent communications channels for progress reports.
- Use the Strategy Plan's metrics and timelines to create a visual dashboard.

Conduct regular check in meetings with all responsible parties named in the Strategy Plan.

- Ensure they are getting the necessary training, support and resources.
- Discuss delays or new information in a timely fashion.
- Share reports from ongoing performance tracking.
- Revise the Strategy Plan, as necessary, with their input.

Keep management updated through regularly scheduled progress briefings for those that committed the organization to the Strategy. Frequency and format is up to management.

Celebrate successes. Don't wait until the end to tell stakeholders about the Plan's accomplishments. Celebrating milestones along the way helps keep up the momentum.

REPORT Results

Purpose

Demonstrate results (or lack of results)… to internal stakeholders, external stakeholders, third party reporters.

Benefits

- Have the data to know the results are real
- Have the data to tell the story of your program's success

Importance

Real results are the key to building a stronger program. Building a stronger movement. Building a better world.

Process

At least once a year, but preferably more frequently, the Program Leader or another staff member compiles the data being tracked for each metric that has been established as part of a Strategy Plan.

The results are shared with internal stakeholders. This can include convening current and/or past Strategy Team and Implementation Team members to discuss and respond to gaps between expected performance and actual results.

Results that can be shared with external stakeholders are made available to those stakeholders. Where practical, results are shared using public reporting tools, such as the Global Reporting Initiative, the CDP (formerly Carbon Disclosure Project) or SPLC's future benchmarking and rating system, so that others can access and learn from the organization's work.

Significant performance improvements or periods of high achievement should be celebrated!

DETAILED GUIDANCE

REPORTING PERFORMANCE WITHIN AN ONGOING PROCESS

Tracking and reporting on the environmental, social, and economic performance of the Strategy should be the responsibility of the Program Leader or Program staff.

Tracking and reporting should not be the responsibility of the Plan's Implementation Team, because the Implementation Team will usually disband after Plan implementation completes. Meanwhile, benefits from the Strategy itself will continue to accrue. (See earlier Tip on Plan becoming Strategy.)

This *Guidance* suggests focusing Implementation Team members on setting up efficient data collection systems so that the Program Leader or another staffer can easily assimilate and report-out performance on the Strategy *on an ongoing basis, alongside the results of the Program's other strategies*.

This Report section of the Guidance assumes that an organization has set up their tracking and reporting in this way. Therefore, the tracking and reporting referred to in this section includes both reporting on a single Strategy's performance and the overall performance of the Sustainable Purchasing Program, which may include other strategies, as well.

DETAILED GUIDANCE
A LARGER CONTEXT FOR REPORTING

The third of the SPLC's *Principles for Leadership in Sustainable Purchasing* requires *demonstrating* meaningful improvement and/or high achievement in the environmental, social, and economic performance of an organization's purchasing.

All too often, it isn't clear if an organization's sustainable purchasing initiatives are making a significant improvement in the organization's overall supply chain performance. Sometimes, despite the best of intentions, it may turn out that they are not.

All of the Council's programs are intended to help organizations define and achieve meaningful results with their Sustainable Purchasing Programs. This *Guidance*, for example, is designed to help organizations produce results by prioritizing areas of purchasing with significant room for improvement and identifying projects they can implement to improve performance in those areas.

To further help organizations measure and promote their Program's achievements, the Council plans to develop a sustainable purchasing rating system that provides benchmarking and leadership recognition based on an organization's ability to demonstrate leadership-level performance.

DETAILED GUIDANCE
WHAT TO REPORT?

What does an organization need to report in order to credibly demonstrate meaningful performance achievements?

In the "Analyze" and "Plan" sections of Chapter 3 and in the Purchasing Category Guides within Chapter 4, this *Guidance* suggests the types of metrics and indicators that an organization may want or need to track in order to evaluate the environmental, social, and economic performance of its purchasing.

As part of the Pilot and the development of the rating system, the Council is very interested in hearing members' perspectives on what aspects of the Guidance's metrics and indicators advice is most helpful for decision-making seeking to credibly measure and communicate meaningful performance achievements.

There are three types of results that the Council is particularly interested in documenting as part of the Pilot and a forthcoming Case Study Awards program:

1. *Credible evidence of substantial improvements in the environmental, social, and economic performance of an organization's purchasing.*
2. *Credible evidence of organizations maintaining a high level of environmental, social, and economic performance.*
3. *Credible evidence that substantial improvements in the overall environmental, social, and economic performance of an organization's purchasing can be achieved in ways that are financially advantageous and fiscally responsible.*

DETAILED GUIDANCE
REPORTING AND CONTINUOUS IMPROVEMENT

The ongoing reporting that is set up as part of each Strategy Cycle is something that the Program Leader can utilize when making decisions about where it will be most strategic to focus future Strategy Cycles. If they see a performance metric backsliding in an area that was addressed in a prior cycle, they can investigate to see if it is just a matter of lax vigilance or if the strategies adopted earlier are no longer enough. In the latter case, it may be time to focus another Strategy Cycle on that area.

Chapter 4

Category Guidance

☑IMPORTANT TIP… READ THIS FIRST…

Prioritize for leadership.

Chapter 4 of the *Guidance* is intended for organizations that have already conducted a **strategic analysis** that identifies procurement of a specific category of goods or services as a priority opportunity for improving the overall environmental, social, and/or economic performance of the organization's purchasing.

Use of the category-specific guidance in this chapter without conducting such an analysis is discouraged, since any performance gains achieved, while positive, could be statistically insignificant, relative to the overall improvement opportunities available.

In such cases, organizations risk the opportunity cost of dedicating resources to non-priority categories at the expense of higher priority categories of spending, missing an opportunity for leadership, and compromising the credibility of their sustainable purchasing program.

Chapter Overview

Purpose

The guidance within this chapter provides information relevant to a variety of purchasing categories, enabling teams to quickly identify the following:

- **clusters of significant environmental, social, and economic impacts** associated within purchasing categories that are likely to be some of their primary areas of spend,
- **best available actions** to address the identified impacts,
- **external and organizational benefits** associated with implementing specific actions,
- anticipated **challenges**
- **metrics and indicators** that teams can use to track progress toward achieving their objectives within individual purchasing categories,
- **policy and specification** language and resources to assist in implementing the proposed actions, and
- **undecided issues**, both within the broader industry and the Council's Technical Advisory Groups.

Benefits

- **Provides reliable information** based on the contributions from Technical Advisory Group members—representing a variety of perspectives within the industry—in a presentation consistent with how a cross-functional team operates within the context of this guide.
- **Can expedite the Strategy Planning** process outlined in Chapter 3 (depending on to what extent an organization's primary spending areas align with the categories discussed in this Chapter.

Functional Performance

There is a common perception that sustainability improvements may result in performance losses or cost increases. This *Guidance* suggests that leadership organizations should seek to avoid unnecessary compromise and ask the marketplace to deliver innovations that offer functional performance, environmental stewardship, social responsibility, and cost parity.

Leaders in sustainable purchasing are those organizations that request, of their suppliers, that functional performance not come at the expense of environmental damage, community costs, or worker safety. Likewise, advances in environmental or social performance should not come at the expense of functional performance or total cost of ownership.

There may still be times, however, when no existing market solution meets both technical performance requirements and sustainability objectives. In such cases, an organization may have to choose an appropriate compromise based on its own priorities. In these circumstances, SPLC's *Principles for Leadership in Sustainable Purchasing* ask leadership organizations to call on the marketplace to innovate and adopt better solutions in the future. This could mean providing suppliers and buyers with an incentive to innovate, joining a collaborative effort to raise standards, or other strategies developed by the purchaser.

Various sections within this Chapter discuss product performance considerations in more detail. It is recommended that for every purchase, organizations consider the performance attributes that are most important and ensure that those are communicated as part of an RFP.

Consider the following:

- What are the functional performance needs for individual products and services procured by an organization? How does this relate to the opportunities available to purchase products with improved environmental, social, or economic performance?
- Are there performance aspects of cleaning products important to an organization that are not available in products with improved environmental performance?
- Does an organization need a specific type of paper (e.g. thickness, brightness, etc.) that is not available with post-consumer recycled content?
- Is diet-specific (e.g. vegetarian, gluten-free, etc.) or culturally specific (e.g. Kosher, Halal) food available to meet the needs of the organization's target population that also have certifications verifying reduced environmental, social, or economic impacts?

Organizational Considerations

As your team considers the recommendations within this Chapter, consider the specific aspects of the organization that may influence which strategies may be most appropriate to recommend.

- *Existing organizational priorities* (e.g. strategic plan, guiding principles, regulations, policies, advancing brand leadership, existing reporting requirements,[1] existing rating/certification requirements,[2] improvements to business units, etc.)
- *Cost* (e.g. initial cost, return on investment, total cost of ownership, etc.),
- *Performance improvement potential* (e.g. tons of CO_{2e} reduced, gallons of water saved, improved indoor air quality, increased user satisfaction,[3] etc.),
- *Implementation logistics* (e.g. feasibility within an existing long-term contracts, opportunity to improve upon expiring contracts, scalability, transferability)
- *Organizational risk tolerance* (e.g. taking a temporarily conservative approach to new initiatives due to unforeseen market volatility, brand management, etc.)
- *Resource availability* (e.g. financial and human resources)

Recommended Actions

In most cases, several different types of solutions will be provided that go beyond the typical potential of a purchasing professional. This is possible because of the cross-functional approach to creating a Sustainable Purchasing Program recommended in this Guide.

Policy Recommendations

Many categories recommend exploration of existing policies and finding ways to improve them. Potential adjustments to existing policies can be explored and tested within the context of the subunit of the organization (e.g. one hotel within a chain, a single hospital within a hospital system, or a particular department or agency within a larger organization), providing the ability to make more confident policy recommendations that could apply in a broader context. The policies could incorporate the process recommendations related to exploring how to buy less in certain categories. For example, what considerations could be made prior to choosing to invest in constructing a new building that could result in not needing to invest in a new building. The same inquiry could be applied across nearly all the purchasing categories. Institutionalizing this inquiry process could result in significant cost savings for the organization as well as a more strategic use of funds that are spent.

Operational Recommendations

Sometimes the largest opportunities for mitigating the environmental, social, and economic impacts associated with purchasing require leveraging operational changes. Operational changes often provide benefits for seemingly unrelated purchasing categories. For example, making an investment in high quality teleconference infrastructure—such as enhanced video and audio capabilities, among other improvements—can set the organization up for significant cost savings by setting the foundation for a more flexible work environment. Consider the following benefits of investing in high quality teleconference infrastructure:

- There is more flexibility for remote working or working in a variety of organizational locations. This allows an organization to consider leasing existing spaces in a few locations rather than building an entire new building to accommodate a full staff.
- If the investment allows more staff to work from home, the organization needs less infrastructure to operate. This included minimizing workstations—or setting up some hoteling workstations—and the potential to purchase less furniture and furnishings over time.
- This infrastructure investment—coupled with procuring from service providers who have made similar investments—can significantly reduce the amount of consultant travel on behalf of the organization procuring the services. This means that either less money can be spent on specific contracts, or that a higher percentage of similar sums of money are going toward creating deliverables.

The cost savings across all of these benefits will allow for not only a faster return on the investment, but also the potential to improve employee (and contractor) satisfaction from the increased flexibility.

Purchasing Recommendations

As expected, purchasing recommendations are provided that help to answer the question, "When the organization has to buy a product or service, how can we buy it better?" For example, is there a third-party certification that can verify improved environmental, social, and/or economic performance? If so, to what extent do individual certifications successfully address the most significant impacts within a category? If no certifications exist, are there qualities of a supplier or actions that they take to help an organization determine if they are improving the environmental, social, and economic performance of their purchasing. Generally, solutions are recommended in the following hierarchy to reflect the potential for each strategy type to improve environmental, social, and economic performance of an organization's purchasing.

DETAILED GUIDANCE

SOLUTION STRATEGIES TO CONSIDER

Strategy	*Description*	*Example*
Efficiency	*Reduced impact through reduced use*	Implementing a procure-to-pay IT system reduces impacts associated with printing and transporting paper documents.
Process change	*Design the impact out of a process*	Air pollution from medical waste incineration is reduced by switching to reusable surgical tools that are steam sterilized.
Behavior change	*Implement programs to shift attitudes and practices*	Voluntary "green office" competitions reduce energy and material consumption, while increasing recycling.
Combining Projects	*Combine multiple projects into a single positive ROI project*	An energy efficiency project is combined with a solar project. Energy savings offset the solar costs for a good overall ROI.
Supplier engagement & accountability	*Engage suppliers and hold accountable for a specific impact*	Some universities require apparel manufacturers to permit independent audits of factory conditions and provide retribution-free grievance and remedy processes.
Product substitution	*Choose a different product with lower ESE impacts*	Chemical costs and workers compensation insurance premiums reduced by switching to green cleaning products.
Supplier substitution	*Choose a supplier with lower ESE impacts*	Making evidence of bribery or extortion automatic grounds for suspension of business with a supplier.
Servicizing	*Convert a product acquisition to a long-term service*	Instead of owning copiers, establish a pay-per-copy service relationship so that the price of each copy reflects the true cost.
In-source	*In-source a function to better reduce impacts*	Hiring LEED expertise in-house to optimize and streamline green building across all of org's construction and renovations.
Out-source	*Outsource when an external party can better reduce impacts*	Contract out utility bill management to firms that leverage energy market expertise to cut energy and carbon costs.
Offsetting	*Pay for an impact reduction to offset impacts elsewhere*	Buying carbon offsets; paying to put land in permanent conservation to offset development of other land.

The above Solutions table can be downloaded as a worksheet that can be used with the Strategy Team here: https://www.sustainablepurchasing.org/public/SPLC_Worksheet_2014002_Solutions.pdf

Purchasing Categories

Below is a list of the purchasing categories for which guidance is provided in Chapter 4. Future versions of the *Guidance* are expected to expand upon these initial categories.

Chemically Intensive Products
- Cleaning and Sanitizing Products for Facilities Care

Construction and Renovation Products
- Construction and Renovation Materials
- Furnishings

Electricity

Food and Beverages for Food Services
- Animal Protein
- Beverages (except Milk, Coffee, and Tea)
- Chocolate
- Coffee
- Dairy
- Grains, Rice, and Legumes
- Nuts and Seeds
- Oils
- Produce
- Spices
- Tea

IT Hardware and Services
- Data Centers
- End of Life Management
- Imaging Equipment and Televisions
- Mobile Phones
- Personal Computers

Professional Services

Transportation and Fuels
- Fuels
- Institutional Vehicle Fleets
- Local Delivery Service
- Long-Haul Transport
- Travel

Wood and Agrifiber Products
- Paper

Unresolved Issues and Future Items

Note that the guidance provided within Chapter is intended to evolve based on not only market feedback, but also subsequent work of the Technical Advisory Groups that expand upon the scope of their sections throughout 2015.

For example:

- The Chemically Intensive Products Category will soon include Paints and Coatings and Laundry and Warewashing content.
- The Electricity and the Fuels content will be better integrated to provide a single set of guidance that addresses an organization's Scope 1 and 2 emissions.
- The Food and Beverages for Food Services Category will expand in scope to address waste management beyond organic waste (e.g. impacts and actions related to single use packaging).
- The IT Hardware and Services Category will more specifically address Tablets and Monitors/Projectors, where the impacts and potential solutions diverge from the current areas visited.
- The Wood and Agrifiber Products Category will expand in scope to incorporate Apparel and products such as paper towels, tissues, toilet paper, etc.
- Generally, for all products having significant energy use, when—if ever—is it better to continue using energy-intensive an old but functioning product versus purchasing a new, more energy efficient product that will result in extraction, manufacturing, and production impacts (as well as potential waste impacts from discarding old but functional products)?

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Chemically Intensive Products

Subcategories

- Cleaning and Sanitizing Products for Facilities Care

Technical Advisory Group

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IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Cleaning and Sanitizing for Facilities Care

Scope

This guidance pertains to the procurement of products used for cleaning and sanitizing, floor and carpet maintenance in facilities, such as office buildings, schools, restaurants, and hotels, as well as personal cleaning products used by building occupants. This guidance focuses on the use-phase impacts related to human exposure, product delivery, and user training associated with the use and application of these products and systems.

This section includes guidance for cleaning products intended for the following uses:

Housekeeping

All Purpose Cleaner (including disinfectant all-purpose cleaner); Bathroom Cleaner; Glass Cleaner; Air Freshener/Odor Control; Furniture Polish; Metal Cleaner and Polish

Carpet

Carpet Spotter; Carpet Shampoo; Encapsulating Carpet Cleaner; Carpet Prespray; Carpet Extraction Cleaner

Floor

Floor Cleaner; Floor Finish; Floor Stripper

Hand Care

Hand Cleaner; Antimicrobial Hand Cleaner; Hand Sanitizer

Executive Summary

Understanding

Why do we care?

- **Worker Exposure to Hazardous Materials.** The process of cleaning and sanitizing a facility requires worker contact with products that may contain toxic chemicals or hazardous substances that could cause harm if used improperly.
- **Solid Waste Generation.** Cleaning and sanitizing products are stored in containers and often delivered by a device (e.g. spray bottle) that can significantly contribute to the solid waste.
- **Proper Use.** Proper training for delivery, application and disposal is critical for maximizing safety, ensuring product efficacy, and reducing waste.

Action

How can we exercise leadership?

- Purchase products with reduced exposure hazards.
- Purchase products with reduced solid waste impacts.
- User training

Results

What are the benefits?

External
- Improved occupant satisfaction
- Reduced environmental impacts
- Reduced solid waste impacts

Internal
- Improved user safety and satisfaction
- Reduced waste
- Increased efficiency

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

UNDERSTANDING, Part 1: Why do we care?

Purchases of cleaning and sanitizing chemicals are of particular interest, because the use of such products can be associated with the following:

Worker Exposure to Hazardous Materials

Exposure impacts are important because the process of cleaning and sanitizing, floor maintenance and carpet care in a facility requires worker contact with products that may contain toxic chemicals or hazardous substances. Facility maintenance workers bear the most direct, prolonged, and concentrated exposures to the chemical products used for cleaning and sanitizing. Chemical use in enclosed spaces with little or no ventilation (such as building alcoves, service closets, restrooms, etc.) can result in particularly high levels of exposure, as can unusual situations such as spills or improper dilution of concentrated cleaning products.

The Occupational Safety and Health Administration (OSHA) warns that exposure to some cleaning chemicals can cause acute health effects, including skin rashes, burns, coughing, and asthma attacks.[4] Long-term exposure to some chemical products may lead to chronic health effects. For example, solvents used in some spot removers and carpet cleaning products are carcinogens and can also lead to neurologic, reproductive and other health effects with chronic exposure.[5]

Solid Waste Generation

Cleaning and sanitizing, floor and carpet care products are stored in containers and often delivered by devices (e.g. RTU spray bottles) that can significantly contribute to the solid waste stream of the facility and adds to the costs for disposal. Whether maintenance chemicals arrive in 55-gallon drums, 20-liter carboys, or individual bottles, the empty product containers contribute to a facility's solid waste stream if they are not reusable or easily recyclable. The elimination of unnecessary packaging materials has positive upstream benefits associated with the manufacturing and transportation of the packaging materials themselves.

Impacts of Improper Use

Proper training for delivery, application, and disposal is critical for maximizing safety, ensuring efficacy, and reducing waste. Improper use of some cleaning chemicals can result in life-threatening situations. For example: a restaurant worker who mistook a degreasing chemical for liquid sweetener added it to iced tea, sending a customer to the hospital.[6] Mixing bleach with acid or ammonia containing cleaners can release toxic fumes. A concentrated caustic floor finish remover can cause severe and permanent damage to eyes and skin if contact occurs and is not immediately addressed. Workers' failure to properly use personal protective equipment, such as masks and gloves, can result in unnecessary and potentially harmful exposures. Spills and other accidents can put workers at risk, and also disrupt operations, if chemicals spread as liquids or through facility ventilation systems. Inadequate training can also lead to unnecessary costs and waste generation, e.g., due to using more cleaning product than needed, or using the correct amount too often. Also, failing to properly dilute a chemical concentrate could result in poor product performance.

UNDERSTANDING, Part 2: What else should we know?

The following issues are also relevant to the selection and use of cleaning and sanitizing products:

Secondary Exposures and Air Impacts

Building occupants are not generally exposed to the same levels of maintenance products as are the workers who directly use these materials. Nevertheless, product use can result in indoor air pollution, including unpleasant "chemical" odors or perfumed scents that not everyone finds agreeable. Some building occupants may have allergic responses to chemical products or develop sensitization to them over time.

Environmental Concerns

Cleaning chemicals are released into the indoor environment and into the graywater or sewage system of the facility. The releases occur as sprays, vapors, liquid discharges, or as solid powders typically mixed with liquids. These releases may have environmental impacts, including:

- Release of volatile organic compounds (VOCs), which contribute to smog formation
- High concentration (toxic level) discharges to sewage treatment plants that may disrupt treatment processes or may harm receiving waters (e.g., rivers). As a consequence of these issues, some products may be subject to environmental regulation at the federal, state, or local level. For these reasons, some products or partly empty containers of products may need to be handled as hazardous wastes.

Asset Damage

Improper use of cleaning chemicals can degrade facilities and equipment. For example, use of a corrosive cleaner on a delicate surface such as stone countertops—or an aqueous cleaner on sensitive electronics—can lead to unintended damage. Introduction of excess cleaning chemical fumes into a building's ventilation system can lead to additional costs and even the temporary shutdown of the facility.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

ACTION & RESULTS: What makes a difference?

Selection of Products with Reduced Exposure Risks

As described in Part 1, worker exposure is a key impact for facility cleaning and sanitizing products. The procurement team has the opportunity to make a difference by choose effective cleaning, sanitizing, floor and carpet care products with minimal human exposure impacts. Before choosing any product, ensure users have a clear understanding of the cleaning process or system and critical performance requirements. Make sure that the product is really necessary and that the soils of interest are effectively cleaned by the product or system. Ineffective products result in increased cleaning time, labor costs, and/or poor cleanliness. The need to use more of a product due to poor performance increases the risk of harmful human exposures in addition to increasing waste and environmental releases.

Transparency

With the recent US implementation of GHS (the Globally Harmonized System for Classification and Labeling) the user has standardized and easier to understand information around product hazards. A current product Safety Data Sheet (SDS) or product labels must be provided by the supplier and made available to all users of the product. Where feasible and practical, select products where—at use dilution—there are no GHS corrosive warnings, and no GHS acute toxicity or PPE (personal protective equipment) requirements to minimize human exposure impacts. Products without the corrosive or acute toxicity warnings, respectively, will NOT have the following GHS pictograms on their use dilution SDS.

Manufacturer Claims and Eco-certifications

Select products with relevant and valid manufacturer claims around key impacts and/or products with eco-certifications that prescribe reduced human exposure impacts. Eco-certification is the process by which a product is evaluated by a verifying organization that confirms that the product meets the criteria of a standard and can be audited. These certifications usually have a logo or symbol that can be associated with a product that has met the requirements of the certification. In North America there are several certification organizations that have standards relevant to facility cleaning. The table on the following page provides a general overview of these organizations.

Note that single attribute certifications are not listed here. The USDA BioPreferred certification, for example, focuses only on the use of ingredients derived from renewable resources, requiring no testing for human health or environmental impacts, thus it is not relevant to reduced use-phase exposure impacts.

- Green Seal products and services: Green Seal is a non-profit, third-party certifying body that applies sustainability criteria in assessing cleaning (and other types of) products. The Green Seal website lists hundreds of certified cleaning products in several broad categories, and also identifies certified professional cleaning services available in many areas of the US and Canada.
- UL Environment (EcoLogo® & Greenguard) certified products: UL is a for-profit, global independent safety science company with expertise innovating safety solutions, from the public adoption of electricity to new breakthroughs in sustainability, renewable energy, and nanotechnology. While these programs do not necessarily embrace the full spectrum of sustainability attributes for cleaning and sanitizing products, they can serve as an effective starting point for an institution wishing to quickly "go green" with its product purchasing for facility cleaning products.
- Design for the Environment (DfE) labeled cleaning products: The Design for the Environment (DfE) Safer Product Labeling Program helps businesses, consumers, and institutional buyers identify cleaning and other products that have met the DfE Standard for Safer Products. The DfE label on a product means that the DfE scientific review team has screened each ingredient for potential human health and environmental effects and that—based on the best currently available information, EPA predictive models, and expert judgment—the product contains only those ingredients that pose the least concern among chemicals in their class. A list of chemicals that have met DfE criteria is available on DfE's *Safer Chemical Ingredient List (http://www.epa.gov/dfe/saferingredients.htm)*.

CLEANING PRODUCT CERTIFICATIONS

Certification	*Organization*	*Type*	*Est'd*	*CLD**
Green Seal (includes GS 34, 37, 40, 41, 53)	Green Seal	*Non Profit*	1989	●
Eco-Logo (includes UL 2777, 2780, 2791, 2792, 2794, 2795, 2796, 2820)	UL Environment	*For Profit*	-	○
Design for The Environment	US EPA	*Government*	1997	●

* CLD = Recognizes Closed Loop Dispensing

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Certification bodies have recognized the benefits of concentrated liquid or solid products. However, concentrating liquid products increases their exposure hazards. For example, we consume diluted acetic acid as vinegar, but a concentrated solution of acetic acid requires significant warnings. Closed loop dispensing systems are designed to provide the benefits of concentration while mitigating the human exposure hazard.

- Liquids and closed loop dispensing: These dispensing systems are designed to make the concentrated liquid product essentially inaccessible to users. The liquid product container is designed with a fitting that will open when the container is placed onto the dispenser (docked), and closes rapidly when the container is removed. Product containers with these fitments minimize the potential for exposure and spillage.
- Solid products and closed loop dispensing: Chemical products purchased as solids minimize exposure by nature of their solid block form, which cannot be spilled. These solid products are positioned in a closed dispenser where they are dissolved to a use dilution and dispensed for cleaning. Products in solid form offer both the ultimate in concentration and compaction, in addition to minimized exposure hazards.

A product designed for and/or certified for a closed loop dispensing system should always be diluted and used as part of that system.

Although DfE, Green Seal and EcoLogo are three of the most widely-recognized certifications, there are others you can use to identify products that meet single-attribute (such as "No VOCs") or multi-attribute criteria; these are listed in the Resources section of this chapter.

Use and Disposal Costs

The choice of cleaning chemicals can impact the total cost to an organization. It is important to consider the use and disposal costs in addition to the purchase price. For example, direct and indirect costs that should be considered include personal protective equipment, waste disposal (solid waste versus hazardous waste), and impacts to assets from improper use, occupational exposure costs, training, and labor costs.

Contractor/Services Selection or Indirect Product Selection

Institutions may elect to procure cleaning supplies and services through a third-party contract, rather than through direct purchase. In these cases, contract and RFP language should be written to reflect the sustainability aims of the institution and to specify the types of products acceptable for use. Several examples of such contractual language are included in the **Contract/Policy Language** section and the **Resources** section, below. As mentioned above, Green Seal offers a certification for cleaning service providers as well as specific certifications for individual cleaning products. The *Cleaning Industry Management Standard Green Building certification (CIMS/GB)* is another source of certification criteria for service providers, and offers a list of certified companies.

External Benefits

- Improved building occupant satisfaction associated with facility cleanliness

Internal Benefits

- Improved user satisfaction and health where product selection includes effective cleaning products with low exposure hazards

Selection of Products with Reduced Solid Waste Impacts

Another key impact associated with facility cleaning and sanitizing products is solid waste. Ready-to-use products where the applicator cannot be reused (e.g. spray bottles) results in excess solid waste. Choose concentrated liquid or solid products, delivered in recyclable and/or reusable packaging. Products that are diluted on site using a closed loop dispensing system minimize human exposure, reduce packaging, and save storage and transportation space. Concentration allows delivery of more products per unit area (e.g. pallet space in delivery vehicle) reducing the greenhouse gases (GHGs) associated with product transportation and delivery.

External Benefits

- Reduced environmental impacts due to packaging disposal

Internal Benefits

- Reduced chemical storage space
- Reduced human exposure
- Reduced GHG emissions due to transportation and delivery

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

User Training

Another use-phase impact is associated with proper use and application of facility cleaning products. It is imperative that workers are well trained in the safe and proper use of cleaning and sanitizing products in order to maximize cleaning effectiveness and minimize costs and sustainability impacts. The institution may initiate the training; the supplier of cleaning and sanitizing products can also assist in training facility employees in areas related to:

- Maintaining compliance with recommended product list
- Matching the right product to the right cleaning challenge and appropriate surface
- Proper product application/dosage
- Appropriate safety precautions, such as proper ventilation and use of gloves, masks, etc.
- Availability of training materials in the language used by workers
- Training in compliance protocol regarding OSHA requirements for personal protective equipment (PPE), Globally Harmonized System (GHS) for product labels and safety data sheets, etc.
- Proper storage, handling, disposal, and recycling of products and associated packaging

External Benefits

- Improved building occupant satisfaction associated with facility cleanliness

Internal Benefits

- Safe and effective use of the appropriate cleaning and sanitizing products
- Reduce environmental impacts due to waste and unnecessary labor time due to reapplication of products.

Challenges

Greenwashing

It can be challenging to identify the product attributes that will positively impact the operation of a facility, but additionally it can be challenging to ensure that product claims are substantiated. With customers becoming more interested in purchasing sustainable products, claims, logos and symbols have flourished. Often, sustainability is only conveyed through color (usually green), pictures (water or green forests), and names ("green" added to a name or description), and without any clear substantiation. The Federal Trade Commission (FTC) prohibits deceptive acts and practices in or affecting commerce and has provided some clear guidance along with examples for evaluating claims. The FTC "Guides for the Use of Environmental Marketing Claims" are a resource both for manufactures making claims, and purchasers evaluating the substance of claims associated with products they are purchasing.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Metrics

These are metrics that can indicate progress on leadership in an organization's approach to the purchasing of facility cleaning, sanitizing, floor maintenance, and carpet care products.

Document and Compare Product Attributes—*Facility Care Data Collection Form*

Document and compare product attributes that minimize human health and environmental impacts of each product and system, as well as reduce the solid waste that will be associated with the use of each system. A spreadsheet template is provided as a starting point, but each facility can tailor these attributes to their individual needs. This detailed information can be used to clearly document and measure the top use-phase impacts associated with the purchase of cleaning and sanitizing systems. .

The list of attributes below can be applied to any chemical product system, for any application category. The information can be gathered by the facility, by the service provider, a consultant, or requested from each product supplier and aggregated by facility operations staff. Where eco-certifications are available or preferred, these can information is added in the designated column. A subset of these attributes is listed here, but a more detailed set of attributes is available in the spreadsheet template (link above).

- Description (Manufacturer, Product Code, Category, Unit of Measure (e.g., gal, lb), Case Quantity)
- Product form (liquid, solid, gel, aerosol, spray, powder, etc.)
- RTU or dilutable concentrate and Dilution Ratio (if applicable)
- Case Yield Use Quantity
- Proposed Price per Case
- Dispensing system (if applicable), Closed loop dispensing system?
- Intended application methods (trigger sprayer, pump-up sprayer, mop, saturated cloth, wipe, etc.)
- EPA Registered Disinfectant?
- If EPA Registered Disinfectant, write registration number and provide copies of product labels.
- SDS Section 2: GHS Classification "as sold"
- SDS Section 2: GHS Classification "as used"
- SDS Section 2: SDS Corrosive Pictogram (hand burn?) in "as sold" form
- SDS Section 2: SDS Corrosive Pictogram (hand burn?) in "as used" form
- SDS Section 2: SDS Acute Toxicity Pictogram (skull & crossbones) in "as sold" form
- SDS Section 2: SDS Acute Toxicity Pictogram (skull & crossbones) in "as used" form
- SDS Section 2: SDS Environmentally Damaging Pictogram (dead tree/fish) in "as sold" form
- SDS Section 2: SDS Environmentally Damaging Pictogram (dead tree/fish) in "as used" form
- SDS Section 2: SDS Health Hazard Pictogram (exploding chest) in "as sold" form
- SDS Section 2: SDS Health Hazard Pictogram (exploding chest) in "as used" form
- SDS Section 8: PPE Required "as sold"
- SDS Section 8: PPE Required "as used"
- CARB VOC Category/CARB VOC Compliant
- Recycled content of product primary packaging
- Recyclable content of product primary packaging
- Does the product enable water savings? If yes, please explain and include the baseline those savings are measured against.
- Does the product enable labor savings? If yes, please explain and include the baseline those savings are measured against.

Note that the water and energy savings attributes align with LEED for Existing Buildings: Operations and Maintenance guidance, which calls out products and systems that enable reduced water use and reduced energy consumption, such as cleaning with cold or cool water.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Indicators

Where quantitative metrics of progress are not available, the following indicators may be used as a proxy for measuring leadership in an organization's approach to purchasing of facilities cleaning and sanitizing products:

Cleaning Performance / Custodial Effectiveness Trials and Audits

User training and product performance must meet the needs of the users and the intended application and result in a clean and healthy facility. Indicators of effective training, as well as product and cleaning performance include the following:

- When considering product replacements, the facility can conduct a limited trial using the proposed new product or system to determine if it performs effectively in the application setting. Best practice is to benchmark and document the current system, initiate a limited but clean conversion, and document the results based on use of the new system. Here the term clean conversation refers to setting up the test in a manner that allows the facility to objectively evaluate the performance of the new product system. For example, products could be completely replaced in one part of the facility and partial containers of the previous system are moved to and used in another part of the facility during the trial.

Products are only a part of the overall custodial effectiveness. LEED v4 has adopted the American Physical Plant Administrators (APPA) Guidelines for auditing implementation of the Green Cleaning Policy and measuring custodial effectiveness. A facility can adopt and use these indicators internally or hire external auditing services.

Occupant Satisfaction Survey

Conducting a facility occupant satisfaction survey can help in assessing product and custodial effectiveness as well as the comfort of the occupants. Occupants can report indoor air quality issues, including unpleasant "chemical" odors, disagreeable perfumed scents, or allergic responses to chemical products. Additionally, they can report visual or odor problems due to poor cleanliness, such as soiled surfaces or musty, mildewy, smoky or rotting odors.

Contract / Policy Language

The following examples of "green cleaning" contract and policy language may be useful for organizations seeking to exercise leadership in their approach to purchasing of cleaning and sanitizing products and services:

State of Massachusetts Green Cleaning Products, Programs, Equipment and Supplies: policy, guidance documents, contract language, list of approved products, case studies and related materials are available at this site. ([Add URL, or shortened URL if necessary; remove the extra bullet point]

- *City of Seattle Green Janitorial RFP*
- City of Portland RFP 115009 – Janitorial Cleaning Supplies and Support Services (*http://www.portlandoregon.gov/bibs/article/449667)*
- Maryland Green Purchasing Committee Specifications for Janitorial Supplies. (*http://www.dgs.maryland.gov/GreenOperations/GreenPurchasing/Guidelines/specs/JanitorialSuppliesSpecification.pdf)*
- Maryland Green Purchasing Committee Specifications for Janitorial Services (*http://www.dgs.maryland.gov/GreenOperations/GreenPurchasing/Guidelines/janitorial-services.html*)

Case Studies

The following is a list of green cleaning programs that offer a comprehensive approach. These programs address product purchases including cleaning chemicals, sanitary paper, equipment, plastic liners, entry mats and more, as well as worker training, and other issues that may be helpful.

- *King County, Washington: Green Cleaning at Transit Facilities*
- *US Green Building Council's LEED for Existing Buildings: Operations & Maintenance*; Requirements for cleaning are found in the Indoor Environmental Quality subsection (
- *Healthy Schools Campaign's Quick & Easy Guide To Green Cleaning In Schools*
- Practice Green Health and healthcare specific case studies: *https://practicegreenhealth.org/topics/environmentally-preferable-purchasing/epp-case-studies-health-care*
- "Two-State Effort Reduces Public Exposure to Toxic Chemicals," Oregon Department of Administrative Services News Release, 7/31/13, *http://www.oregon.gov/DAS/docs/news_releases/GreenCleanRelease073013.pdf*
- Healthy Purchasing for Healthy Schools: Back to Schools Webcast (Coalition for Healthier Schools, 8/8/13) *http://www.cleaningforhealthyschools.org/docments/CHS_HealthyPurchasingwebcast_August2013.pdf*
- Sustainable Purchasing Video: Cleaning Products, San Mateo County Environmental Health, 2012 *https://www.youtube.com/watch?v=vTFbSWB0Rc8&feature=player_embedded*
- The Real Costs of Green Cleaning, San Francisco Department of the Environment, 2010: This market survey by SF Environment shows that the costs of most green cleaning products for institutional use are equivalent to their mainstream equivalents.[7]

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Chemically Intensive Products as a priority based on a strategic analysis of overall spending.

Outstanding Issues

Human Exposure and Health

Generally, the debate centers around two ways to approach heath hazards – a precautionary approach or a risk-based perspective.

Precautionary Approach. Since the early 1990s, a number of programs have emerged that have focused on the disclosure and reduction of potentially hazardous ingredients in all "chemically intensive" products, including cleaning products. There is also concern that product ingredients are sometimes not identified, and potential hazards of long-term exposures to some chemicals are not always well characterized. Much of the focus has been on ingredients that present long-term health hazards such as carcinogens, developmental/reproductive toxins, allergens/sensitizers, and most recently potential endocrine (hormone system) disruptors. To facilitate good purchasing decisions, some parties advocate policies that seek to require full disclosure of all ingredients in cleaning products, and to eliminate or ban any chemical that is classified as potentially hazardous.

Risk-based Perspective. Others contend that the mere presence of a potentially hazardous ingredient in a product does not mean that the product is unsafe, and that cleaning products can (and should) be properly formulated and used in ways that minimize the risk of unsafe exposures to any ingredient. Some manufacturers also have concerns that requiring the disclosure of all ingredients in a product can compromise the protection of Confidential Business Information (CBI), without providing an additional benefit from a safety standpoint.

From the standpoint of selecting more sustainable products, these debates pose a challenge to purchasers. Most of the existing eco-certification programs are based on a "hazards reduction" approach where a list of specific ingredients is prohibited from certified products. Fortunately, some manufacturers are starting to provide more information on ingredients and the safety of their products. Our recommendation is to find a middle ground between reducing hazards and exposure wherever possible, while meeting your organization's specific cleaning and sanitizing requirements.

Antimicrobial Cleaning and Sanitizing Products

For at least ten years, there has been rising concern about the efficacy and value of an increasing number of products making claims that they protect users and occupants from harmful bacteria and related disease/health risks.

Antimicrobial cleaning products have been on the market for many years, and are used to sanitize/disinfect surfaces in many institutional settings (e.g., hospitals, bathrooms, kitchens). The U.S. EPA regulates hard surface cleaning products that are claimed to be antimicrobial under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). The U.S. Food and Drug Administration regulates food contact or personal cleaning products (e.g., hand soaps)

While such products are carefully regulated with respect to whether they can safely kill bacteria and other microbes, concern has been raised regarding their ability to protect the health of building occupants. There has also been concern about whether long-term exposure to antibacterial actives is safe for people or the environment (e.g., when discharged to rivers from sewage treatment plants). Most experts have agreed that antimicrobial products are important in settings like hospitals, restaurants, and toilets. The controversy is most often focused on whether antimicrobial products are more beneficial than traditional cleaning products (e.g., soap or regular cleaners) for general use such as cleaning offices.

There is also concern that the routine use of antimicrobial products can lead to increased "bacterial resistance," although the scientific evidence for this is controversial.

From a sustainable products standpoint, we have not made specific recommendations regarding this issue. However, in the context of ensuring that products meet expected performance requirements, purchasers should assess whether or not antimicrobial properties are necessary for a specific cleaning task, and if not, then a non-antimicrobial product may be preferred.

Cleaning products with antimicrobial ingredients are largely regulated (as pesticides) in the United States. As such, they are subject to strict labeling rules that limit the type of "green" or "sustainability" claims that can accompany the product. For this reason, the U.S. EPA has not allowed ecolabeling of registered antimicrobial products, yet there is market demand for products that are third-party approved to have lower impact for human and environmental exposure. To address the emerging demand, a pilot project in EPA's Design for the Environment (DfE) program is evaluating and certifying some antimicrobial cleaners. Details on this *DfE effort are available online*. A *Green Cleaning, Sanitizing and Disinfecting Toolkit*, prepared by the School of Public Health at the University of California, Berkeley, is also a useful resource in this area.

Asthmagens

There is no question that exposure to substances that can trigger an asthma attack, known as *asthmagens*, has become an increasing concern in the workplace. However, there is scientific debate around how to effectively identify asthmagens and reduce exposure to them. There is no universally recognized list of asthmagens. The New York State Department of Health offers a list of *common occupational asthmagens*, though

there is no specific breakout of cleaning and sanitizing chemicals. The site also links to a more comprehensive list from the American Occupational Environmental Clinic (AOEC) that includes many additional substances that have been reported (sometimes anecdotally) to induce asthma, but that have not necessarily been fully evaluated. Cleaning products are often used to minimize the amount of known asthmagens (e.g.,cockroaches, dust mites, mold, pollen, etc.) and a purchaser should carefully balance both considerations.

Resources

The following programs offer additional standards or product selection tools covering cleaning products, floor care, laundry, hand soap, and more.

- Responsible Purchasing Network's Safer Disinfectants Webinar (May 2013): This covers environmental and health risks associated with conventional disinfectants; availability, benefits and efficacy of safer products; strategies for purchasing and using safer disinfectants; and case studies of childcare centers and schools that have successfully transitioned to safer disinfecting methods. *http://vimeo.com/95331786*
- Sustainable Purchasing Fact Sheet: Cleaning Products (San Mateo County Environmental Health, 2012). This fact sheet describes practices that protect the health of your building's users and cleaning staff. It also highlights reliable tools to help purchasers choose products that perform well without unwanted side effects. *http://www.flowstobay.org/files/purchasing/rpn_smc_cleaners_factsheet_final.pdf*
- *The UL Sustainable Product Guide for Cleaning Products and Systems* lists products that meet GreenGuard and EcoLogo criteria as well as multi-attribute and recycled-content criteria.
- Green Clean Schools Green Product Directory
- Cleaning products certified by the Healthy Schools Campaign for use in Green School programs. Certifications are based on review of multiple green labels, including DfE, Green Seal, and others.
- U.S. Government's Sustainable Facilities Tool: Cleaning Products (US General Services Administration). A database of green cleaning products that comply with various federal purchasing requirements and guidelines.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Building Construction and Renovation

Subcategories

- Construction and Renovation Materials
- Furnishings

Technical Advisory Group

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IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

Construction & Renovation Materials

Scope

This section pertains to the purchase of materials associated with ground-up new construction or building renovation. Activities associated with major renovations may include major HVAC improvements, significant building envelope modifications and interior rehabilitation.

Executive Summary

Understanding

Why do we care?

- Energy use during operations
- Water use during operations
- Local biodiversity, habitat, and land use impacts
- Labor practices during construction and operations

Action

How can we exercise leadership?

- Optimize current space use and make investments in operational performance
- Use standards/certifications that demonstrate reduced environmental and social impact from building design, construction, and operation.

Results

What are the benefits?

External

- Reduced greenhouse gas emissions
- Reduced water use
- Improved local ecosystem health

Internal

- Reduced operating costs
- Improved occupant satisfaction

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Energy use and greenhouse gas emissions during operations.

More than 45 percent of the energy consumed in the United States on an annual basis is attributed toward buildings (including commercial and residential). According to the U.S. Energy Information Administration (EIA), building sector energy consumption will grow faster than that of industry and transportation between now and 2030.[8]

Water use during building operations.

Commercial water (e.g., schools, hospitals, hotels, retail stores and office buildings) used within a building boundary, during construction, and throughout the use phase of the building life cycle accounts for 17 percent of the publicly supplied water in the United States.[9] This includes indoor potable water use, landscaping water, cooling tower makeup water.

Local biodiversity, habitat and land use impacts associated with building siting decisions.

A United Nations study indicates that of the ecosystem services that have been assessed worldwide, about 60% are currently in a state of degradation or used unsustainably.[10] Additionally, between 1982 and 2001, about 34 million acres of open space was lost to development within the United States alone.[11] Trends such as these result in deforestation, soil erosion, a drop in water table levels, and species extinction.

Labor practices during building construction and operation.

Working hours and health and safety conditions for those workers who support buildings (e.g. construction workers, services providers including cleaning, janitorial, groundskeepers, etc.) may vary significantly depending on the employment or contractual terms.

Construction waste.

The construction sector consumes 40% of all extracted materials and produces one-third of the total landfill waste stream.[12]

ACTION and RESULTS: What makes a difference?

Optimize current space use.

Due to the lengthy project timeline and significant resource investment of constructing a building, it is important to consider alternatives to new construction early and often.

- What are the current criteria for deciding to build new construction? How are decisions currently made?
- Consider how to make more efficient use of space in existing occupied buildings. For example, in the university setting, are departments using all the space that they have? Could improved file storage (or moving toward electronic filing) reduce or eliminate the need for space?
- Could investment in more structured and high quality telecommuting options (access to share drives, working in cloud, having high quality speakerphones, mobile phones, hoteling, allow for enough people to function outside the space while meeting the needs of the company?

If possible, implement measures that allow the organization to forego new construction (note, see next step for a discussion on operational improvements).

If existing space is leveraged (via whole building or leasing space), make investments in operational performance:

Minimizing the need for new building construction will no doubt reduce the environmental, social, and economic impacts associated with material and resource extraction and further sprawling development. However, it is critical that the existing space be improved upon to ensure that its operational performance is optimized.

Depending on the level of investment and upgrade that may be necessary, consider the following strategies. (See also other sections of Chapter 4 for additional strategies).

Whole building level upgrades:

- LEED for EBOM
- LEED for Major Renovations/ID+C
- ENERGY STAR certification: HVAC, skylights, roof products, water heaters, insulation.

Product and appliance upgrades:

- ENERGY STAR qualified products: lighting, windows, doors, refrigerators, dishwashers, televisions, projectors, etc.
- WaterSense qualified products
- Products benchmarked against industry-wide leadership LCA data

If new building construction is necessary, make investments in sustainable design and operational performance.

- LEED for Building Design/Interior Design and Construction
- Compliance with the IgCC or ASHRAE 189.1
- ENERGY STAR Certification

For all construction related trades, consider the use of Green Advantage Professional Certification.

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Challenges

Complex coordination.

Building construction is often a multi-year process that often does not involve a typical procurement staff, and quite often involves a large team of external participants making decisions (e.g., architects, engineers, interior designers, etc.). It can be difficult to propose changes to a process or new considerations (potentially perceived as hurdles) to existing operations.

Additionally, because of the time and resource investment necessary for a new building, having the appropriate lead-time to impact decisions (e.g., provide an alternative to new construction or pursue certification on a currently planned project), opportunities can be lost if the discussions are not had early in the process.

Metrics

- Building energy use (if possible, sub-metered by end use)
- Building water use (if possible, sub-metered by end use)
- Occupant satisfaction

Indicators

- Number of buildings conforming to a green code or certified under a green building program.
-

Case Studies

- Green Building Information Gateway (includes case studies on projects LEED, ENERGY STAR, BREEAM, DGNB, and Enterprise Green Communities): *http://www.gbig.org/*
- U.S. Green Building Council's Certified Project Directory: *http://www.usgbc.org/projects*
- Registry of ENERGY STAR Certified Buildings: *http://www.energystar.gov/index.cfm?fuseaction=labeled_buildings.locator*

Contract and Policy Language

- Federal Green Construction Guide for Specifiers *http://www.wbdg.org/design/greenspec.php*

Resources

- U.S. Green Building Council's LEED Rating System http://www.usgbc.org/credits/new-construction/v4
- SPHERE-E provides a system for ranking, benchmarking, visualizing, comparing, and reporting product LCA data: *http://www.sphere-e.com/*
- ASHRAE 189.1-2014: https://www.ashrae.org/resources--publications/bookstore/standard-189-1

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

Furnishings

Scope

This section pertains to the purchase of furnishings, which includes furniture, flooring, ceilings, walls and composite wood. Note, this section does not cover coatings.

Executive Summary

Understanding

Why do we care?

- Air quality and human health impacts during installation and use
- Environmental impacts from production and finishing process
- Waste impacts

Action

How can we exercise leadership?

- Optimize use of existing systems furniture and furnishings
- Purchase systems furniture and furnishings certified to have reduced impacts

Results

What are the benefits?

External

- Reduced greenhouse gas emissions
- Reduced water use
- Improved local ecosystem health

Internal

- Reduced operating costs
- Improved occupant satisfaction

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Air quality and human health impacts associated with the installation and use of furnishings.

According to the U.S. EPA, on average, Americans spend nearly 90 percent of their time indoors,[13] where the concentration of some pollutants is between 2 and 5 times the typical outside conditions.[14]

Furnishings emit volatile organic compounds, which, according to the U.S. EPA, can cause eye, nose, and throat irritation, headaches, loss of coordination, and damage to organs and the nervous system.[15] According to the U.S. Green Building Council, "prolonged exposure to high concentrations of some VOCs has been linked to a wide range of chronic health problems such as asthma, chronic obstructive pulmonary disease, and cancer."[16] These emissions pose risks to installers and building occupants alike.

Environmental impacts associated with the production and finishing process.

The impacts of the production and finishing processes vary significantly depending on the type of material. For example, production and finishing of metal components is energy intensive and releases heavy metals into wastewater. Textiles and leathers release volatile organic compounds while being treated with dyes, pigments, fungicides, etc. Wood-based component production includes the use of hazardous substances (e.g., formaldehyde resins, melamine, epoxy, polyurethane resins, ethylene vinyl acetate, etc.).

Waste impacts.

According to the U.S. EPA, durable goods—of which furniture and furnishings are included—accounted for nearly 20 percent of the municipal solid waste generation in 2012.[17]

In the European Union, furniture waste alone accounts annually for more than 4% of the total municipal solid waste (MSW), of which 80-90% is incinerated or dumped in landfills, whereas only 10% is recycled.[18]

ACTION & RESULTS: What makes a difference?

Optimize use of existing systems furniture and furnishings.

Consider the specific needs of the target users and to what extent current furnishings are meeting their health, safety, and production needs, and where they can be improved. Consider the following organizational-level strategies:

- Optimize space design. Space design can allow for a reduction in the amount of furniture and furnishings needed while still meeting the needs of the organization. For example, using hotel-style workstations or investing in a telework program[19] reduce the overall need for products and materials.
- Use standing offers and core lists to standardize model, make and colors of systems furniture and furnishings (e.g., products can be interoperable and purchased in surplus easily for use elsewhere in the organization).
- Spec for durability. There is a lot an organization can do to spec for increased durability of product and extend useful life. For example, when specifying systems furniture, consider the way components are joined, the way edges are finished, ensure units are "non-handed" so they can be installed and moved to a variety of locations. Attributes like multilevel adjustability allows furniture to be ergonomically fit a number of body types and sizes, increasing the likelihood that the furniture will meet the health and safety needs of a variety of different users.
- Reuse. Before an organization considers furniture reuse in particular, it must consider the health and safety impacts of the existing furniture. If an organization determines that reusing existing furniture is appropriate, then it should ensure that the furniture is certified under BIFMA Level (as described in the next section). Reused furniture can meet the requirements of the standard, which will help to ensure that advances in furniture performance and ergonomics—impacting the user's health, safety, and productivity—have been optimized.

External Benefits

- If demand for new products and materials is reduced, then less draw on raw materials and environmental impacts across the lifecycle.
- Reduced waste generation

Internal benefits

- May save money if overall demand for new products and materials is reduced.
- Improved employee satisfaction.

Purchase systems furniture and furnishings certified to have reduced impacts.

When purchasing furniture and furnishings, consider not only the standard or certification to which a product complies, but also the testing methodology used. According to the U.S. Green Building Council, "air concentration measurements from chamber testing are a much better predictor of emissions over time than VOC content limits."[20] The following table[21] is adopted from USGBC's LEED v4 requirements for furniture and furnishings.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

DETAILED GUIDANCE

RELEVANT CERTIFICATIONS BY PRODUCT TYPE

Product Type	*Standards or Certifications*	*Must be tested to the following:*
Flooring	• FloorScore (hard surface), or • NSF 332 (resilient), or • SCS Indoor Advantage Gold (2/1/10), or • UL Greenguard Gold (UL 2818; 3/14/2014 and UL 2821; 3/14/2014)	California Department of Public Health Standard Method v1.1
Composite Wood	• California Air Resources Board (CARB) Ultra Low-Emitting Formaldehyde (ULEF), or • CARB Exempt (See list of mills)	N/A
Ceilings, Walls, Thermal and Acoustic Insulation	• SCS Indoor Advantage Gold (2/1/10), or • UL Greenguard Gold (UL 2818; 3/14/2014 and UL 2821; 3/14/2014)	California Department of Public Health Standard Method v1.1
Furniture	• BIFMA Level (must achieve criteria 7.6.1 and/or 7.6.2 achieved), or • SCS Indoor Advantage Gold (11/17/11 Revision), or • UL Gold, or • NSF Standard	ANSI/BIFMA M7.1-2011

In addition, other standards (that may not yet have been considered as applicable the aforementioned approach) demonstrating reduced use phase impacts are available. The NSF has a variety of standards addressing many of the components of furniture and furnishings. For example:

- Carpet: NSF 140
- Resilient Flooring: NSF 332
- Commercial Fabric: NSF 336
- Roofing Membranes: 347

External benefits

- Less VOC exposure to installers and construction workers

Internal benefits

- Less VOC exposure for building occupants and users
- Improved user health, safety, and comfort.

Consider preference for manufacturers that use closed loop recycling or product take-back programs.

Manufacturers who take responsibility for the end of life of their products help to reduce the solid waste impacts of furnishings purchasing.

External benefits

- Less demand on waste infrastructure
- Less demand for virgin materials

Internal benefits

- Reduced disposal costs

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Building Construction and Renovation as a priority based on a strategic analysis of overall spending.

Challenges

Product complexity and comparability

Furniture, for example, can be made up of several components, including many different materials (e.g. plastics, hardware, metal, leather, coatings, textiles, veneer, wood, etc.). This makes it not only challenging to understand the upstream impacts associated with production, but also makes creating comparable data difficult to obtain. There is currently a limited base of products available having substantive information about their upstream environmental, social, or economic attributes.

Contracts and Policy Language

- District of Columbia Furniture Specification Guidance: *http://ocp.dc.gov/node/966082*
- State of California Environmental Specifications for Furniture Systems: *http://www.calrecycle.ca.gov/greenbuilding/specs/furniture/DGSSpecs.pdf*

Resources

- Medici, Andy. *No Desk, No Nameplate, Half the Workspace: Feds Adjust to 'Hoteling."* Federal Times. January 21, 2012. http://tinyurl.com/k5qc8on

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Electricity as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Electricity

Subcategories

- Electricity (onsite and purchased)

Technical Advisory Group

Amanda Stevens, *World Resources Institute*
Chris O'Brien, *American University*
Christiaan Vrolijk, *The CarbonNeutral Company*
David Rivkin, PhD, *Sustainable Methods Institute*
James Salo, *Trucost*
John Sottong, *U.S. Environmental Protection Agency*
Marty Spitzer, *World Wildlife Fund*
John Riley, *Arizona State University*
Michael Barry, *Bloomberg*
Susanne Fratzscher , *re:sustain*
Todd Jones, *Center for Resource Solutions*
Scott Weiss, *Apex Clean Energy*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Electricity as a priority based on a strategic analysis of overall spending.

Electricity

Scope

This guidance pertains to procurement of **electricity.**

Electricity is an important sustainable purchasing category because it is a product that nearly every business purchases, and it can represent a significant source of a company's environmental impact.

Executive Summary

Understanding

Why do we care?

- Greenhouse gas emissions
- Air pollution
- Land use change
- Water use and pollution

Action

How can we exercise leadership?

- Measure and benchmark electricity use
- Implement conservation measures
- Invest in green power
- Offset electricity use

Results

What are the benefits?

External
- Reduced carbon emissions
- Improved air quality
- Reduce land conversation for energy generation

Internal
- Reduce and stabilize costs for electricity

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Electricity as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Electricity procurement has significant environmental, social, and economic impacts. Electricity is commonly purchased and consumed on a shared distribution grid ("the grid"), through which electricity is delivered from generators to consumers in a region, and on which electricity from all different sources is mixed together to electrify the grid. As a result, strategies have been developed for differentiating and delivering different types of electricity produced on the grid, tracking or allocating specified generation (and associated impacts) to individual grid consumers.

Electricity markets, products and purchasing options may differ from region to region and may depend on the regulatory environment, whether the market is regulated (with one regulated monopoly utility) or deregulated (with many competitive electricity providers), and whether electricity and generation attributes (e.g. instruments like renewable energy certificates) are traded separately. Even within a single region or market, different electricity customers may have different fuel mix and purchasing options, depending on their size and circumstances.

Electric generating capacity in the United States is made up of the following fuel sources: [22]

- 39% Coal (92% of coal use is for electricity)
- 27% Natural Gas (31% of natural gas use is for electricity)
- 19% Nuclear Electric Power (100% of nuclear energy use is for electricity
- 13% Renewable Energy (54% of renewable energy is for electricity)
- 1% Petroleum (1% of petroleum use is for electricity)

Climate Change from Greenhouse Gas Emissions

Electricity use is the largest contributor to greenhouse gas emissions in the United States (see Figure 1). Coal combustion is generally more carbon intensive than burning natural gas or petroleum for electricity. Although coal accounts for about 75 percent of CO_2 emissions from the sector, it represents almost 40 percent of the electricity generated in the United States. About 27 percent of electricity generated in 2012 was generated using natural gas, and this percentage has grown in recent years. Petroleum accounts for less than 1% of electricity generation. The remaining generation—which have far fewer or negligible greenhouse gas emissions—comes from nuclear and renewable sources, which includes hydroelectricity, biomass, wind, and solar.[23]

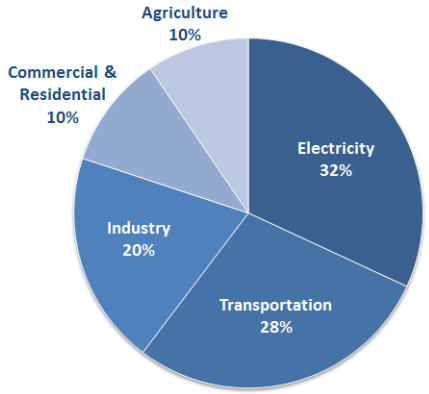

Figure 1: Total U.S. Greenhouse Gas Emissions by Economic Sector in 2012[24]

Air pollution.

When coal is burned, carbon dioxide, sulfur dioxide, nitrogen oxides, and mercury compounds are released. For that reason, coal-fired boilers are required to have control devices to reduce the amount of emissions that are released. The average emission rates in the United States from coal-fired generation are: 2,249 lbs/MWh of carbon dioxide, 13 lbs/MWh of sulfur dioxide, and 6 lbs/MWh of nitrogen oxides.[25] Mining, cleaning, and transporting coal to the power plant generate additional emissions. For example, methane, a potent greenhouse gas that is trapped in the coal, is often vented during these processes to increase safety.[26]

At the power plant, the burning of natural gas produces nitrogen oxides and carbon dioxide, but in lower quantities than burning coal or oil. Methane, a primary component of natural gas and a greenhouse gas, can also be emitted into the air when natural gas is not burned completely. Similarly, methane can be emitted as the result of leaks and losses during transportation. Emissions of sulfur dioxide and mercury compounds from burning natural gas are negligible.

The average emissions rates in the United States from natural gas-fired generation are: 1135 lbs/MWh of carbon dioxide, 0.1 lbs/MWh of sulfur dioxide, and 1.7 lbs/MWh of nitrogen oxides.1 Compared to the average air emissions from coal-fired generation, natural gas produces half as much carbon dioxide, less than a third as much nitrogen oxides, and one percent as much sulfur oxides at the power plant. In addition, the process of extraction, treatment, and transport of the natural gas to the power plant generates additional emissions.[27] Finally, studies suggest that emissions from natural gas leaks in the distribution infrastructure are so large that it makes natural gas equivalent to coal in terms of tCO_{2e}.[28]

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Land-use Change

Coal: Soil at coal-fired power plant sites can become contaminated with various pollutants from the coal and take a long time to recover, even after the power plant closes down. Coal mining and processing also have environmental impacts on land. Surface mining disturbs larger areas than underground mining. The extraction of natural gas and the construction of natural gas power plants can destroy natural habitat for animals and plants.

Nuclear: Every 18 to 24 months, nuclear power plants must shut down to remove and replace the "spent" uranium fuel.[2] This spent fuel has released most of its energy as a result of the fission process and has become radioactive waste, and will remain radioactive for thousands of years. Currently, the spent fuel is stored at the nuclear plants at which it is generated, either in steel-lined, concrete vaults filled with water or in above ground steel or steel-reinforced concrete containers with steel inner canisters. Recommending the timely development of one or more permanent deep geological facilities for the safe disposal of spent fuel. Enrichment of uranium ore into fuel and the operation of nuclear power plants generate wastes that contain low-levels of radioactivity. These wastes are shipped to a few specially designed and licensed disposal sites. When a nuclear power plant is closed, some equipment and structural materials become radioactive wastes. This type of radioactive waste is currently being stored at the closed plants until an appropriate disposal site is opened.[29]

Water Use and Pollution

Large quantities of water are frequently needed to remove impurities from coal at the mine. In addition, coal-fired power plants use large quantities of water for producing steam and for cooling. When coal-fired power plants remove water from a lake or river, fish and other aquatic life can be affected, as well as animals and people who depend on these aquatic resources. Mountaintop removal for coal extraction can result in stream and ponds being completely filled with solid waste and also leads to erosion, loss of soil productivity, and landslides.

Pollutants build up in the water used in the power plant boiler and cooling system. If the water used in the power plant is discharged to a lake or river, the pollutants in the water can harm fish and plants. Further, if rain falls on coal stored in piles outside the power plant, the water that runs off these piles can flush heavy metals from the coal, such as arsenic and lead, into nearby bodies of water. Coal mining can also contaminate bodies of water with heavy metals when the water used to clean the coal is discharged back into the environment. This discharge usually requires a permit and is monitored.[30]

Nuclear power plants use large quantities of water for steam production and for cooling. Some nuclear power plants remove large quantities of water from a lake or river, which could affect fish and other aquatic life. Heavy metals and salts build up in the water used in all power plant systems, including nuclear ones. These water pollutants, as well as the higher temperature of the water discharged from the power plant, can negatively affect water quality and aquatic life. Nuclear power plants sometimes discharge small amounts of tritium and other radioactive elements as allowed by their individual wastewater permits.

Waste generated from uranium mining operations and rainwater runoff can contaminate groundwater and surface water resources with heavy metals and traces of radioactive uranium.[31]

Economic Impacts

Competition

Regulated markets are state-sanctioned monopolies. Need reference that lists states that are de/regulated.[32]

Price Instability

Fossil fuel markets are notoriously unstable and therefore purchasers can have a hard time planning budgets for what is often a very large percentage of their operating budgets.

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ACTION & RESULTS: What makes a difference?

Though the guidance in this chapter is geared primarily toward addressing the electricity product that is purchased—what kind of electricity you are buying and what else you could buy to reduce your impact—reducing consumption through energy efficiency and managing where and when it is consumed is always a smart first choice. Where you consume electricity determines the mix of resources delivered as a part of the standard or default mix on that regional grid. That is, if you do not or cannot specify the type of electricity you want (for example, renewable energy), then the electricity you consume will depend to a large extent on where you are and what is being produced near you. Depending on the amount of information available to you and the support mechanisms in place to help consumers manage their electricity use and demand, consumers may also be able to change the timing of electricity consumption to lower their impacts.

Electricity consumers should develop an overarching energy strategy, which can include metering and benchmarking the sources and types of energy used; reducing those sources of consumption through conservation and efficiency efforts that can include both behavioral changes as well as technical improvements; and replacing fossil fuels with clean, renewable sources of electricity.

Create a comprehensive energy strategy, inclusive of electricity and fuel consumption and energy generation.

Consider developing an overarching energy strategy, which can include metering and benchmarking the sources and types of energy used; reducing consumption through conservation and efficiency that can include both behavioral changes as well as technical improvements; and replacing fossil fuels with clean, renewable sources of electricity. Additionally, consider the accounting and reporting of energy. The World Resources Institute has developed Scope 2 Guidance that "…standardizes how corporations measure emissions from purchased or acquired electricity, steam, heat, and cooling (called "Scope 2 emissions")." This Guidance is available at: *http://www.ghgprotocol.org/scope_2_guidance*.

Additionally, WRI's Greenhouse Gas Protocol provides various accounting tools for Scope 1-3 emissions. See *http://www.ghgprotocol.org/*, which will be valuable for the accounting and reporting components of a comprehensive energy strategy.

Measure current electricity usage

Understanding an organization's current electricity usage is critical to identifying the best ways to reduce its overall impact. Consider the following strategies to collect data on current electricity usage.

- Install whole building and sub-meters, as possible[33]
- Audit Energy Use (e.g. ASHRAE Level I or ASHRAE Level II Audit)

Benchmark performance

Use one of the following tools to track initial and benchmark future usage. These tools will allow organizations to track performance over time and provide a variety of metrics on which an organization can report.

- ENERGY STAR Portfolio Manager
- Labs 21 *http://tinyurl.com/nec6rdn*

Explore financing options

Various actions—requiring varying levels of funding—can provide organizations significant opportunities to reduce the impacts associated with their electricity purchasing. In order to determine which types of actions are most appropriate, financing must be considered. For example, self-financing efficiency retrofits and renewable energy sources may be the most attractive options, whereas third party financing might be more appropriate in capital-constrained circumstances. (See Chapter 3 for additional financing options)

- Operating Expenses
- Capital Investments
- Leasing
- Performance Contracting
- Power Purchase Agreements

☑TIP

Note for Property Tenants

These strategies apply to both property owners and to tenants. But some of the strategies may be difficult if they are not in the direct control of a property tenant. Conservation and efficiency measures may still be possible even if metering and supplier choice are excluded by lease terms. Moreover, tenants may be able to negotiate for electricity metering over their occupied space so that they can pay for actual electricity use, rather than having electricity included in rental payments. It may also be possible to negotiate for control over the choice of electricity suppliers. These strategies can help tenants enjoy the financial rewards of energy conservation and efficiency while providing the ability to select a green source of power.

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Implement Conservation Measures

Depending on the results of the energy usage audit, consider various conservation measures that can reduce the organization's overall electricity demand. Figures 2 and 3 common commercial and residential end uses for electricity. Additionally, reviewing other purchasing category areas within Chapter 4 may be useful to address electricity impacts. Conservation measures are likely to be found in some of the following places:

- Lighting
- HVAC (e.g. space heating and cooling, ventilation, water heating).
- Appliances and electronics
- Refrigeration

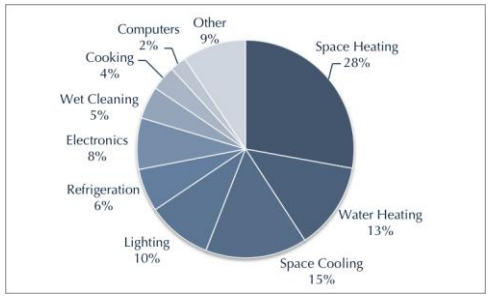

Figure 2: Residential Buildings Primary Energy End Use Splits (2010)[34]

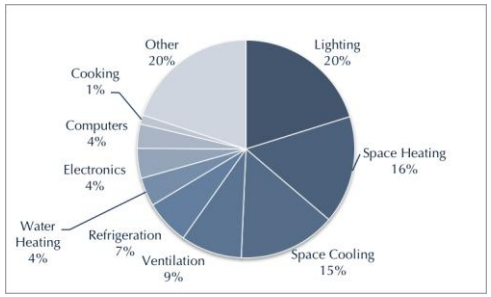

Figure 3: Commercial Buildings Primary Energy End Use Splits (2010)[35]

Procure Green Power

A number of electricity markets globally now offer cleaner ways of producing power, and afford many consumers the ability to choose how their power is generated. While no form of electric power generation is completely benign, electricity generated from renewable power resources have proved to be environmentally preferable to electricity generated from conventional sources such as coal, oil, natural gas, and nuclear.[36] In addition, by using renewable electricity, organizations can realize many benefits, including energy security, price stability, and improved stakeholder relations. There are a variety of renewable energy technologies, including the following:[37]

- Biomass
- Cogeneration[38]
- Geothermal
- Hydro
- Hydrothermal
- Solar (photovoltaic and thermal)
- Wave/Tidal
- Wind

In the U.S., Canada, and Europe purchasing and using renewable electricity has been made relatively straightforward through the development of a voluntary renewable electricity market. In these markets, certification (e.g. Green-e or equivalent) is recommended to ensure that purchases of green power embody environmental and consumer protection standards (e.g. no double counting or double selling). The Green-e Directory provides information on those products that meet consumer protection and environmental standards in the U.S. and Canada. See *http://www.green-e.org/gogreene.shtml.*

There are four broad green power purchasing options discussed within this Guidance.

- Onsite green power – obtain the electricity produced from an onsite or owned renewable energy system and retain attributes (i.e. RECs in the U.S. or GOs in Europe; the remainder of the document will refer to RECs to cover all various names and abbreviations used globally);
- Offsite green power via unbundled attributes – obtain generation attributes (RECs) separately from electricity;
- Offsite green power via bundled electricity – obtain both electricity and generation attributes (RECs) from an electricity supplier;
- Offsite green power via direct contracts – enter into a power purchase agreement with a specified renewable energy generator that includes the generation attributes (RECs).

Not all of these options may be available to all consumers, depending on the electricity market in which you are operating. These options also differ in terms of their cost. For example, options like onsite renewable energy development and direct power purchase agreements with renewable facilities allow a company to have a direct impact on the mix of resources on the local grid and to tell a more compelling story about the local impact of their individual purchase. All of these options affect demand-side change on the grid, and any of the options above can be pursued on a long-term basis in order to increase the impact of the purchase.

It is also important to note that in markets where renewable energy attributes are traded separately and required to make a renewable energy usage claim, such as the United States; the renewable energy certificate (REC) or equivalent instrument is required (i.e. must be owned by, delivered to, or retired on behalf of the purchaser) in all of the options above.

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Onsite Green Power

Companies may obtain the electricity produced from an onsite renewable energy system as the system owner or system host (in which case a third-party owns the generation equipment but sells the customer electricity).

There are a variety of factors that must be considered when investing in onsite renewable energy technologies, such as feasibility based on loca availability of the resource, scale, and technology. The consequences associated with each renewable energy technology that must be considered and balanced alongside an organization's current electricity sources.

Whatever the particular arrangement is for onsite generation, the critical criterion for the user to make a renewable electricity usage claim in the U.S. and Canada is ownership of the renewable electricity attributes (e.g. REC). If the title to the renewable electricity attributes or a claim to usage of generation from the system are retained by the system installer or lessor, sold to a third party, or are counted by a utility in its default electricity sales, the customer receiving electricity from the system may not claim to be using renewable electricity from the system. See Appendix II for a detailed introduction to Renewable Energy.

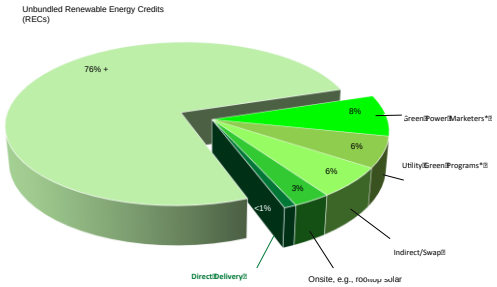

Figure 4:
How Large Electricity Users Access Renewables[39]

Offsite Green Power Purchasing Options

In many situations, onsite renewable energy is not practical, economically efficient, or technically feasible. As a result, an offsite renewable energy purchasing market has emerged and matured in many regions. Figure 4 demonstrates the various approaches used by large purchasers to access renewables.

The selection of green power options requires organizations to evaluate purchasing priorities, such as technology, scale, cost, grid impact and marketing claims. Across all options, in the U.S. and Canada, the instrument used to demonstrate ownership and use of renewable electricity is the renewable energy certificate (REC). The Green-e Directory provides information on those products that meet consumer protection and environmental standards. See *http://www.green-e.org/gogreene.shtml.*

In Europe, the functional equivalent of a REC is a Guarantee of Origin (GO). Other markets and countries may also use RECs or REC-like attribute instruments. Outside the U.S. and Europe, it may be more difficult to find credible energy attribute certificate instruments that meet quality criteria (see WRI Scope 2 Guidance for more information).

For all of the options listed below, it is important that the product or purchase be independently, certified to ensure accurate, exclusive delivery of renewable energy to prevent double selling and double claiming. Certification programs like Green-e in North America certify both onsite consumption and direct purchases as well as retail bundled renewable electricity and unbundled REC products. The key will be for purchasers to be transparent about their strategies and the portions of their electricity consumption from the various sources of power described above.

Any of the options above can be pursued on a long-term basis in order to increase the impact of the purchase.

DETAILED GUIDANCE

RENEWABLE ENERGY ATTRIBUTES (CERTIFICATES)

A renewable energy certificate (REC) represents the property rights to the environmental, social, and other nonpower qualities of one megawatt hour (MWh) of renewable electricity generation6. RECs are tradable instruments that can either be used to substantiate voluntary renewable electricity purchase and use, or meet compliance requirements for renewable electricity delivery. RECs represent the exclusive right to claim the environmental attributes associated with renewable electricity generation, such as direct emissions (e.g. a wind farm has zero emissions of CO2) and can be traded separately from the underlying electricity. RECs are required for renewable electricity usage claims in the U.S., including onsite claims7. RECs are essential to any renewable electricity usage claim in the U.S., regardless of whether renewable electricity is purchased from an electricity provider or directly from a generation facility. Selling a REC in the U.S., whether bundled or unbundled with underlying electricity, effectively transfers ownership rights over all of the attributes of the associated renewable electricity generation to the REC purchaser.

☑TIP

Project ownership and generation is also a viable option for offsite green power.

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DETAILED GUIDANCE

OFFSITE GREEN POWER OPTION: POWER PURCHASE AGREEMENTS (PPAs) / DIRECT CONTRACTS

Offsite green power purchase agreements are contracts entered into directly with a renewable energy generator. In the U.S., an organization usually has the option to purchase:

- only the power from the developer,
- only the RECs, or
- both the power output and renewable electricity attributes from the facility.

DETAILED GUIDANCE

OFFSITE GREEN POWER OPTION: BUNDLED ELECTRICITY

Offsite green power purchased through bundled electricity means the energy and the RECs are sold together (i.e., bundled). In this case, the offsite green power cannot be called green power unless the REC is also held. Throughout the U.S. and Europe there exist opportunities to purchase renewable electricity directly through electricity service providers. In these scenarios, companies often elect enrollment in a "green power program" and can receive the electricity service provider's specific renewable electricity offerings. In the U.S., Canada, and Europe, this means that the service provider procures and retires the certificates for the generation, such as RECs, on the customers' behalf.

DETAILED GUIDANCE

OFFSITE GREEN POWER OPTION: UNBUNDLED ATTRIBUTES

Purchasing green power via unbundled attributes means the energy and the RECs are sold separately (i.e., unbundled). An organization only has the "green" power from the source of the certificate. All other power is simply grid, grey, or brown mix. It is important to recognize, however, that at minimum this green power should be from sources within the functional electricity market for which the company operates (e.g. U.S. RECs for U.S. operations, GOs for European operations).

DETAILED GUIDANCE

APPROPRIATE USE OF CARBON OFFSETS

Where local electricity markets have no offsite green power options and onsite renewable energy is not practical, procurement of certified carbon offsets is recommended.

In the U.S., Canada, and Europe, there are established green power markets for which onsite and offsite green power products can be procured. In electricity markets where there are no viable green power products available, certified carbon offsets can be procured to mitigate the carbon emissions associated with Scope 2 emissions of electricity consumption. Some organizations may find it preferable to source offsets from renewable energy projects in order to offset emissions associated with electricity consumption to stimulate renewable energy development on the local grid.

It is important to note that in any setting, regardless of location, the carbon claim from offsets can come from any valid (i.e., certified) source of carbon offsets, which includes projects such as renewable energy but also many other types of projects that reduce or sequester GHGs For example, offsets can also be from non-energy projects, such as afforestation, reforestation, avoided deforestation, landfill methane capture, forestry, transportation, and others. Any non-renewable electricity reductions are less credible, although they still offset (compensate) the environmental impacts of the consumption.

Retail level certification (e.g. Green-e Climate or equivalent) of carbon offsets provides quality assurances covering the entire chain of custody of the emissions reduction, and requiring the use of robust GHG project standards (e.g. VCS, Gold Standard, CAR, ACR, CDM). The Green-e Directory provides information on those products that meet consumer protection and environmental standards.

See *https://www.green-e.org/offsets*.

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DETAILED GUIDANCE

RECs and GOs vs OFFSETS: WHAT'S THE DIFFERENCE?

Renewable Energy Certificates (RECs), Guarantees of Origin (GOs) and other electricity attribute certificates should not be confused with carbon offsets, as they are two distinct commodities used for distinct purposes.

RECs and GOs are described above as representing all of the environmental and social attributes of renewable energy generation for the purpose of enabling consumers to claim use or delivery of renewable electricity generation from new and existing renewable generation sources on the grid, serving as the currency for renewable energy claims in both compliance and voluntary markets.

Carbon offsets, on the other hand, represent a quantity of GHG emissions reductions, measured in metric tons of carbon dioxide–equivalent (CO_2e), that occur as a result of a project activity that has reduced emissions. The emissions reductions from that project can be sold to enable the purchaser/owner to claim those GHG reductions as their own. These reductions can then be used to reduce, or offset, any GHG emissions for which the purchaser is responsible, including electricity.

DETAILED GUIDANCE

INTRODUCTION TO THE EUROPEAN RENEWABLE ENERGY MARKET

Each European country has its own energy market rules, and renewable energy support system. However, with the agreement of the 2001 Renewable Directive, the Guarantee of Origin was created, a standardized proof of renewable energy generation was created.. The GO is the ultimate proof that a MWh has been produced from renewable sources, and must be used for fuel mix disclosure to end users. A similar GO system is also in place for highly efficient combined heat & power (CHP).

The Directive mandates that each Member State – and that extends to several non-EU countries too – needed to institute a national GO certificate system. 15 countries have established an efficient national GO certificate system that is linked through the European Energy Certificate System, run by the national issuing bodies, which allows for registry transfers, including across borders. Other countries have more or less advanced stand-alone registry systems in place. In total, GOs exist in more than 30 European countries.

GOs are the guarantee of where, how and when a MWh was generated, the ultimate proof that the generating source was renewable. However, this is not the same as a certification system, which implies a quality judgment. There are some quality certifications operating on a national or European-wide level, but it's mostly supplier-specific products that are being offered. Some specific products aim to support new installations, others specific technologies.

Challenges

Distinguishing the electricity purchased

While it may be hard to know exactly where the electricity that you draw off the grid came from and what impacts were associated with its generation, this is less important (both from the standpoint of assessing your impact as well as making change in terms of how electricity gets produced) than discovering what electricity product you are paying for and the impacts of that generation. The physical electricity that you use and the generation that you pay for may be different because all electricity is identical and indistinguishable once placed on the grid. Sustainable purchasing of electricity therefore depends largely on what generation you pay for or that gets delivered to you. Around the world, different electricity markets have enabled purchasing from specified sources of electricity and delivery of differentiated electricity products using contractual instruments that represent or convey the "attributes" of generation at a specific generator to grid consumers. Where available, these purchasing options identify the resources used and can be tracked from generator to consumer. The purchase decisions of individual electricity consumers can add up to have an aggregate, demand-side effect on supply of the product (given sufficient demand), in this case, what kind of electricity generation resources get developed and dispatched.

Varying impacts by source

There are several different types of fuel sources, technologies, or resources used for generating electricity, and different types of electricity generation have different impacts. For example, electricity sourced from coal has a very high carbon footprint, whereas nuclear does not. That being said, land use and hazardous waste issues associated with producing nuclear energy are significant. Therefore, it is important to determine—to

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Electricity as a priority based on a strategic analysis of overall spending.

the best extent possible—what type of electricity an organization purchases. This helps the organization ensure whether the intended impact is realized through different purchasing decisions.

Distribution

Electricity cannot yet be stored in large quantities cost-effectively. Until that changes, electricity generation from different sources must be scheduled to serve electricity load or demand in real time. Which resources get dispatched (and therefore which impacts get created) depends on the operating costs of the resource and grid constraints. For example, renewable resources like wind and solar have very low operating costs, but are intermittent (meaning they do not operate all the time, only when the wind is blowing and the sun is shining). Resources like natural gas can be "ramped" up and down relatively easily, while resources like coal and nuclear cannot cost-effectively be turned off or ramped down and must operate all the time. But which resources get dispatched also depends on contracts that are in place for delivery of electricity from certain generators (i.e. the market for electricity, who purchases what), as well as load—the amount of electricity demand that needs to be satisfied.

Long-term commitments to green power purchasing

A long-term commitment to purchasing green power and/or carbon offsets helps to promote the strength and stability of those markets. However, many companies are unwilling to engage in contracts over for more than 2-5 years, which leads to market volatility. On the other hand, the availability of long-term contracts is also seen as a benefit by many buyers since it is not available in the conventional power markets. Long-term green power contracts can reduce risk associated with price volatility by fixing rates for 15-25 years.

Metrics

In addition to the metrics listed below, it should be noted that using benchmarking tools such as ENERGY STAR Portfolio Manager provide the infrastructure to organize the data and will note additional reporting metrics. The World Resources Institute's Scope 2 Guidance will also provide additional, standardized metrics for tracking, reporting, and measuring progress in this purchasing area.

- Direct emissions from electricity usage
- Amount of electricity sources purchased (by percent and cost)
- Amount of electricity covered by REC/guarantee of origin/alternative proof of renewable energy generation
- Amount/percent of electricity usage covered by onsite or new sources, etc.

Indicators

- Number of years purchasing green power
- Number of long-term (greater than 5 years) agreements to purchase green power
- Number of projects directly financed

Case Studies

The following organizations have demonstrated leadership in their approach to purchasing of local delivery services:

- American University Power Purchase Agreement: http://www.american.edu/finance/sustainability/AU-To-Source-50-Percent-Power-From-Solar.cfm
- Harvard University Power Purchase Agreement: http://news.harvard.edu/gazette/story/2009/11/harvard-to-become-largest-institutional-buyer-of-wind-power-in-new-england/
- Mars Power Purchase Agreement: http://www.windpowermonthly.com/article/1292941/mars-moves-large-scale-wind
- Organizations using Green-e Certified Electricity and Offsets: http://www.green-e.org/getcert_bus_participants.shtml
- World Resources Institute Scope 2 Guidance Case Studies: http://ghgprotocol.org/files/ghgp/Scope%202%20Guidance%20case%20studies_0.pdf

Resources

- The Guide to Purchasing Green Power (WRI, EPA, CRS, DOE): http://www.epa.gov/greenpower/documents/purchasing_guide_for_web.pdf
- Center for Resource Solutions "The Legal Basis for Renewable Energy Certificates" http://www.resource-solutions.org/pub_pdfs/The%20Legal%20Basis%20for%20RECs.pdf
- World Resources Institute Scope 2 Guidance: *http://www.ghgprotocol.org/scope_2_guidance.*
- US Department of Energy Buying Green Power - http://apps3.eere.energy.gov/greenpower/buying/
- Local Gov't Green Power Procurement AFLEET Tool: *http://tinyurl.com/ndsqefv*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Food and Beverages for Food Services

Subcategories

- Animal Protein
- Beverages (except Milk, Coffee, and Tea)
- Chocolate
- Coffee
- Dairy
- Grains, Rice, and Legumes
- Nuts and Seeds
- Oils
- Produce
- Spices
- Tea

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Note: All sub-categories are combined in a single set of comprehensive guidance for "Food and Beverages for Food Services."

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

Food and Beverages for Food Services

Scope

This guidance pertains to procurement of **Food and Beverages for Food Services**. For purposes of the SPLC, food services pertains to direct and indirect spend on food by commercial and non-commercial purchasers (e.g. universities and colleges, hotels and resorts, government and military, corporate offices, health care facilities, etc.), presumably those who are procuring food for the purpose of providing on-site food services, whether self-operated or outsourced to a food service management company.

The scope of this Guidance does not include food manufacturers or retail, or a guide for selecting a specific food service provider.

Executive Summary

Understanding

Why do we care?

- **Food is a human right.** The right to food guarantees freedom from hunger and access to safe and nutritious food.
- **Carbon emissions** from agriculture, forestry and fisheries have nearly doubled globally over the past fifty years—and could increase an additional 30 percent by 2050—without greater efforts to reduce them.
- **Water system impacts.** Agriculture accounts for more than 70 percent of global freshwater use.
- **Human rights and labor impacts.** A variety of human rights abuses are evident throughout the different categories of food purchasing.

Action

How can we exercise leadership?

- Understand the food needs of the population being served.
- Measure spend specific to food categories.
- Explore opportunities to reduce demand—and associated waste generation—associated with existing food spend.
- Consider existing certifications and RFP language to attract suppliers that can mitigate identified impacts.

Results

What are the benefits?

External

- Expands transparency and traceability of food purchases.
- Reduces impacts associated with food purchases.

Internal

- Reduce costs and waste associated with food purchases.
- Potential for improved relationships with local community.
- Improved metrics and indicators to measure food purchasing performance.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Food is a human right.

Purchase of food with improved environmental, social, and economic performance is of particular interest, in part due to food's status as a human right. The right to food guarantees freedom from hunger and access to safe and nutritious food. Principles fundamental to guaranteeing the right to food include:

- *Availability:* Food should be available in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture.
- *Accessibility:* Food should be physically and economically accessible in ways that do not interfere with the enjoyment of other human rights.
- *Sustainability:*[40] Food should be secure, or accessible, for both present and future generations.
- *Non-Discrimination:* Any discrimination in access to food, as well as to means and entitlements for its procurement, on the grounds of race, color, sex, language, age, religion, political or other opinion, national or social origin, property, birth or other status constitutes a violation of the right to food.[41]

Today, sustainable farming practices commonly include:[42]

- crop rotations that mitigate weeds, disease, insect and other pest problems; provide alternative sources of soil nitrogen; reduce soil erosion; and reduce risk of water contamination by agricultural chemicals
- pest control strategies that are not harmful to natural systems, farmers, their neighbors, or consumers. This includes integrated pest management techniques that reduce the need for pesticides by practices such as scouting, use of resistant cultivars, timing of planting, and biological pest controls
- increased mechanical and biological weed control; more soil and water conservation practices; and strategic use of animal and green manures
- use of natural or synthetic inputs in a way that poses no significant hazard to man, animals, or the environment.

While these practices "encompasses the whole farm, relying on the expertise of farmers, interdisciplinary teams of scientists, and specialists from the public and private sectors,"[43] the practices—individually and collectively—do not mitigate all of the major environmental, social, and economic performance issues associated with food production.

Climate change impact.

Agriculture is a major contributor to climate change through the production of greenhouse gas emissions across the global food supply chain. The Food and Agriculture Organization of the United Nations estimates of greenhouse gas data show that emissions from agriculture, forestry and fisheries have nearly doubled globally over the past fifty years—and could increase an additional 30 percent by 2050—without greater efforts to reduce them.[44] (Note that other human activities have greenhouse gas emissions that are rising faster than agriculture;[45] these trends are visited, as relevant, in other purchasing category sections within this guide).

Agricultural greenhouse gas emissions impacts can vary significantly within the overall context of a country or region. For example, the U.S. Environmental Protection Agency's latest greenhouse gas emissions inventory estimates that agricultural production accounts for 8.1% of the emissions inventory, not including associated vehicle emissions, behind electricity, transportation, industry, and commercial and residential sectors.[46] Greenhouse gas studies conducted by the New South Wales Environmental Protection Agency[47] the food supply chain accounts for "approximately 23 percent of Australia's total greenhouse gas emissions – second only to coal fired power stations."

Additionally, depending on the management of individual food service operations, food waste has the potential to add significant impacts. Food—i.e. organic[48]—waste across all food categories not only unnecessarily exacerbates all of the above impacts, but also produces a separate set of impacts. Most food waste goes to landfill; as food degrades, methane—a potent greenhouse gas—is produced.[49]

Water system impact.

Agriculture is also a primary driver of impacts to water and land resources, accounting for more than 70 percent of global freshwater use.[50]

The water system impact within the United States is less severe than the impacts globally, though it is important to note that the United States relies upon the global food supply chain, where impacts may be exacerbated for a variety of reasons. According to the U.S. Geological Survey, livestock water withdrawals[51] (associated with livestock watering, feedlots, dairy operations, and other on-farm needs) have decreased 7 percent, while aquaculture water withdrawals[52] (associated with raising organisms that live in water for food, restoration, conservation, or sport) have increased by the same amount. Both withdrawals are relatively insignificant[53] compared to uses such as thermoelectric power, public supply, and irrigation (irrigation includes—among other uses—agriculture practices).[54] Additionally, current technological advances—such as water effi-

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cient irrigation—have helped to reduce the overall water system impact within the United States while increasing the number of acres irrigated.[55]

Deforestation impact. Agriculture is estimated to be the direct driver of more than 75 percent of global deforestation.[56]

Human rights and labor impact.

A variety of human rights abuses—including gender discrimination, forced labor, extremely low wages, capacity building for small shareholders, threats of violence and safe mechanisms to report abuse—are evident throughout the different categories of food purchasing.

Economic system impact.

Food production is the source of livelihood for the majority of the world's population: 60 percent of the world's population relies on agriculture for their livelihood.[57] Additionally, the FAO estimates that, overall, fisheries and aquaculture assure the livelihoods of 10–12 percent of the world's population.[58] The ability to produce food over the long-term, maintain a consistent food supply, and cover the costs of product all pose risks for systemic economic volatility.

Specific impacts by food category.

Due to the global scale and complexity of the food system, the most significant environmental, social, and economic impacts vary by food category and individual food product. Additionally, the potential solutions for mitigating impacts within specific food categories will vary significantly depending on whether the purchasing organization's focus is on environmental or social impacts. The table on the following pages presents leading impact areas by food category.

DETAILED GUIDANCE

KEY IMPACTS BY FOOD CATEGORY

Produce	• Chemical use[59] • Human and labor rights [60,61,62] • Water use • Energy
Animal Protein	• Energy use and greenhouse gas emissions[63] • Water use to support livestock • Water pollution[64] (e.g. fish and seafood;[65,66] beef, bison, and lamb; poultry, pork) • Animal welfare (e.g. fish and seafood;[67,68] beef, bison, and lamb; poultry, pork),[69,70,71] • Human health impacts associated with antibiotic use (e.g. fish and seafood;[72,73] beef, bison, and lamb; poultry, pork) [7475] • Human and labor rights • Discrimination (e.g., seafood)[76]
Dairy	• Impacts associated with antibiotic and other chemical use[77] • Animal welfare[78] • Energy use • Water use and quality • Waste
Grains, rice, legumes	• Chemical use • Energy use and greenhouse gas emissions[79] • Water use and quality[80] • Land and biodiversity degradation[81,82]

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

DETAILED GUIDANCE

KEY IMPACTS BY FOOD CATEGORY

Coffee	• Human and labor rights • Land use and deforestation • Biodiversity degradation[83] • Fair pricing to cover cost of production (particularly small farmers)[84,85]
Tea	• Human and labor rights (specifically wages on estates,[86,87] capacity building of smallholders[88], and temporary labor[89]), • Soil erosion • Land use and deforestation[90] • Biodiversity degradation
Chocolate	• Human and labor rights (specifically gender equality[91] and child labor[92]) • Chemical use
Spices	• Human and labor rights[93] • Biodiversity degradation[94] • Chemical use and threats to long-term supply[95]
Oils[96]	• Deforestation • Biodiversity degradation • Land, air, and water pollution • Human and labor rights[97] • Public health impacts of consumption[98]
Sugar	• Water use,[99] • Biodiversity degradation • Human and labor rights • Public health
Nuts, seeds	• Land use and water intensity[100,101,102] • Chemicals • Biodiversity degradation[103] • Worker health and safety[104,105]
Beverages (other than milk, coffee, tea)	• Water use and contamination,[106] • Public health[107,108]

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

ACTION & RESULTS: What makes a difference?

Understand the food needs—including portion sizing, nutritional value, and cultural considerations—of the population being served.

Understanding the food needs of the target population allows the organization to create a baseline of minimum "performance" criteria food purchases must meet. Questions to consider include the following:

- Who is the target population? Nutritional needs and portion sizing vary based on gender, age, and other factors.
- What are the dietary restrictions of the target population? Depending on the size organization or target population, this step could take a fair amount of research and surveying to adequately understand.
- What are the dietary restrictions (e.g. gluten-free, diabetic-friendly, vegetarian, vegan) and cultural restrictions (e.g. Kosher or Halal foods) of the target population?

This information will be helpful when considering solutions to the target food categories determined in the following steps. For example, if a substantial percentage of the target population is vegetarian—yet meat is one of the highest spend areas for the organization's food purchases—there may be an opportunity to reduce meat purchasing while still meeting the needs of the population. Providing food that is tailored to the target population also provides the potential to drive down food waste.

External Benefits

- Providing food tailored to the target population can contribute to healthier, more nutritionally satisfied individuals.

Internal Benefits

- Providing food tailored to the target population also provides the potential to drive down food waste, and the costs associated with unused resources.

Measurement: identify spend specific to food categories.

Determine what food is currently purchased, in what volume, at what cost, from where, from whom, how, and with what attributes. Fundamental to setting sustainable sourcing goals and ensuring improvements to environmental, social, and economic impacts of food purchasing is to understand the organization's current sourcing practices. Using purchasing data gathered from food service operations and suppliers (e.g., invoices), an institution can establish its purchasing history to include:

- Food product procured
- Whether the food product is received in whole (e.g., loose raw carrots) or is a manufactured[109] product (e.g., bread)
- Geographic origin (e.g., carrots from California or bread from local baker)
- Third-party certification
- Price
- Vendor

External Benefits

- Signals a preferential signal for sustainable food products to supply chain partners

Internal Benefits

- Baseline performance in sustainable sourcing can be identified specific to food category.

Identify primary impact areas associated with food purchasing based on food categories with highest spend.

Examine categories and individual products that represent large volumes and spend with key areas of potential impact. Once an institution has established what it buys, from where, in what quantity, it can compare purchasing patterns with potential solutions for improving sustainability performance. For example, if beef represents 50 percent of all protein spend for the institution, it might consider how to increase spend for the same amount of beef raised according to improved sustainability practices and/or reduce overall procurement of beef in favor of alternative proteins (e.g., pulses).

External Benefits

- Ability to impact most important and vulnerable areas of the food system

Internal Benefits

- Efficient focus of resources (e.g., time, funds, political capital, etc.)

Align primary impacts areas with institutional goals through the creation of a Food Purchasing Policy.

Institutions can utilize enclosed resources and market specific guidance, where available, to inform goals for food service procurement and waste reduction. Goals should be realistic, but aggressive, and target key areas of potential greatest impact and quick wins. Strategies for sourcing may be tiered to allow for incremental improvement, while maintaining longer-term stretch objectives. Goals should be dynamic and modified with relevant new information.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

Explore opportunities to reduce overall demand for food purchasing.

Food should be available in a quantity and quality sufficient to satisfy the dietary needs of individuals. Work with vendors to explore appropriate portion sizes for catering and food service. This will not only reduce the overall impact of purchasing food and beverages, but will reduce the impacts associated with organic waste from uneaten food.

Consider shifting to less environmentally, socially, and economically impactful food choices.

If a major are of spend is within food categories of high environmental, social or economic impact (e.g. meat as opposed to vegetables, from a carbon impact perspective), consider ways in which the organization can minimize their consumption of their highest impact food purchases while still meeting the needs of the organization's operations.

Consider procuring food with certifications that track and (ideally) verify improved environmental, social, and economic performance within food category supply chains.

Certifications can be an important risk management tool to improve traceability of food products. While certifications have many benefits, it is important to note that each the various certifications cover different impacts associated with a particular food category,. Additionally, no certification programs currently cover the cluster of significant environmental, social, and economic impacts associated with a particular food category. It is important to ensure that—if a certification is the anticipated strategy for addressing the impacts of a food category—that the program chosen aligns with the metrics or indicators selected by the organization. If not, the performance improvements expected by the Program Team will not align with the new food purchases.

External Benefits

- Potential to use food services to enhance positive impact
- Scale of impact as more institutions address a shared goal or objective

Internal Benefits

- Stakeholder engagement/buy-in assistance
- Industry benchmarking
- Efficiency in determining relative goals

In order to address social impacts at various levels of food production, consider actions that increase visibility into the supply chain.

During the bid solicitation stage:

- Expand notice of risk that human rights are violated in a sector or supply chain.[110] Rather than asking contractors to certify "no knowledge" of human rights violations within their supply chains, consider requiring them to certify that they know with whom they subcontract, they know the specific locations of production or supply, and that they have management systems to ensure compliance.[111] This enables a requirement during the award stage for the winning contractor to confirm its certification by disclosing the full supply chain and addresses of factories or sites of production.[112]

During the supplier evaluation stage:

- Incorporate weightings for human rights into the factors for awarding bids, and identify the extent to which this factor is weighted relative to others, particularly cost and price.[113][114] According to the report, …"if price competition were relatively close, then the scoring would promote competition based on safety and accountability."[115]
- Promote a robust approach for greater supply chain transparency. Consider allocating "…a greater number of points for a supplier's capacity to protect human rights, to the extent that a winning bidder would have to establish a "clean" supply chain with a high degree of ownership or control and remedies in place for any breakdown in compliance. This capacity could be rewarded by allowing "…bidders to qualify for pre-award clearance for capacity to protect the human rights involved."[116]

During the contract awarding and terms designation stage:

- Require contractors to disclose their supply chain including specific subcontractors and addresses of factories or sites of supply.[117]

External Benefit

- Expands the traceability and transparency of food purchases

Organizational Benefit

- Provides opportunities to mitigate risk once more information about the impacts of specific food purchases can be determined.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

DETAILED GUIDANCE

COMMON THIRD PARTY FOOD CERTIFICATIONS

Program	*Impact types addressed*	*Food Categories*	*Description*
USDA Organic	*Environmental*	• Meat • Poultry • Eggs • Dairy • Processed foods • Fresh vegetables	Organic meat, poultry, eggs, and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation.
Food Alliance Certified	*Environmental* *Social*[118]	• Crop • Livestock • Farmed shellfish • Nursery, greenhouse operations • Food handling operations	Certifies farms, ranches, and food processors and distributors for sustainable agricultural and facility management practice
Certified Humane Raised and Handled	*Animal welfare*	• Dairy • Lamb • Poultry • Beef	Certify that animals are treated in a humane manner. Traceability ensures that that products come from the farms that were inspected.
Animal Welfare Approved	*Environmental* *Animal welfare*	• Meat • Dairy • Eggs	A food label for meat and dairy products that come from farm animals raised to the highest animal welfare and environmental standards. Certified farms provides their animals with continual access to pasture or range, as well as the opportunity to perform natural and instinctive behaviors essential to their health and well-being. Requires audited, high-welfare slaughter practices, and is the only label that requires pasture access for all animals.
Salmon Safe	*Environmental*[119]	• Various	Certifies urban and agricultural operations based on the protection of water quality and native biodiversity, including riparian habitat protection, elimination of chemical pesticides harmful to fish, restoration of wetlands, reducing run-off into streams, and other conservation practices.
Marine Stewardship Council	*Environmental* *Operations*	• Wild-capture seafood	The MSC fisheries standard has 3 overarching principles that every fishery must prove that it meets: Principle 1: Sustainable fish stocks Principle 2: Minimizing environmental impact Principle 3: Effective management

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DETAILED GUIDANCE

COMMON THIRD PARTY FOOD CERTIFICATIONS

Program	*Impact types addressed*	*Food Categories*	*Description*
Aquaculture Stewardship Council	*Environmental*[120] *Social*[121]	• Seafood	Minimize potential negative impacts of aquaculture including protecting mangroves, reducing water pollution, eliminating inappropriate use of antibiotics, using responsibly sourced fishmeal in feed, adopting internationally acceptable social standards.
Rainforest Alliance	*Environmental* *Social*	• Coffee • Tea • Chocolate • Fruit • Ready to drink beverages, juices	Certification ensures that a product comes from a farm or forest operation that meets comprehensive standards that protect the environment and promote the rights and wellbeing of workers, their families and communities.
Fair Food Program	*Social*[122]	• Tomatoes	The Coalition of Immokalee Workers' (CIW) Fair Food Program is a unique partnership among farmers, farmworkers, and retail food companies that ensures humane wages and working conditions for the workers who pick fruits and vegetables on participating farms through a workplace monitoring program.
Protected Harvest	*Environmental*[123] *Social*[124]	• Produce (limited varieties)	The Protected Harvest parent company, SureHarvest, provides technical support and collaborates with qualified organizations to develop region– and crop– specific verifiable environmental performance standards, which are peer reviewed before being presented to the Protected Harvest Advisory Board for adoption.
Bird Friendly Coffee	*Environmental – biodiversity*	• Coffee	independent inspection and certification that coffee has been grown using shade management practices that provide good bird habitats
Fair Trade[125]	*Environmental*[126] *Social*[127] *Economic*[128]	• Beans • Grains • Cocoa • Coffee • Packaged foods • Fruits and vegetables • Honey • Herbs and spices • Nuts and oil seeds • Seafood • Spirits	Fair Trade is a market-based approach to alleviating poverty in ways that improve lives and protect the environment. It's also a mechanism for consumers to know that their products were grown with care, and that farmers and workers were paid better prices and wages, work in safe conditions, protect the environment, and earn community development premiums to empower and improve their communities.

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Challenges

These are some of the challenges that might be encountered when exercising leadership in food purchasing:

Cost of "sustainable" versus "conventional (e.g. status quo)" food products.

Cost is often a barrier—real[129] or perceived and varying significantly[130] by product—to increasing the purchasing of products with improved environmental, social, or economic performance (e.g., $0.79/lb conventional banana vs. $0.99/lb Organic banana). In this case, "conventional" is used to describe food for which improvements to the relevant environmental, social, or economic performance issues have NOT taken place. When an option with improved environmental, social, or economic performance does cost more, institutions must consider 1) taking on the additional cost, 2) negotiating the sharing of the additional cost burden with suppliers or partners, or 3) finding acceptable ways to offset increased price with savings generated or funding acquired elsewhere. For example, coupling investing in opportunities to right-size portions and purchase less food overall—and spend less money on waste hauling for unused food—creates the potential to allocate dollars saved to higher priced sustainable food choices.

Third-party certifications and consumer education

There are many third-party certifications for food products that aim to provide easily identifiable sustainable products to food purchasers. However, certifications do not apply to all foods or food categories and vary in degree of impact improvement, focus of impacts (e.g. environmental versus social impacts), and rigor of the claims (e.g. what is the verification structure? Does the label clearly articulate the "level" of certification, if more than one exists?). In certain instances, an institution or food service company may be able to purchase, but not promote, a third-party certified option without additional site-level certification that guarantees chain of custody (e.g., Marine Stewardship Council). These elements alone—or combined—pose challenges for purchasers to recognize and trust food choices and understand the real impacts of various third-party certifications.

Traceability and transparency

Food and Beverages for Food Services may be acquired by a variety means depending on the policies of an institution and whether or not its food services operations are outsourced or self-operated. Procurement methods include:

- Direct purchase from a producer/farmer
- Purchase through a local or regional distributor by the institution
- Purchase through a national distributor (e.g., Sysco/US Foods)

It is not always possible for the institutional purchaser or consumer to know the exact origin of a particular food item, nor how much each party was paid in its journey from production to plate. This is due to a widely varying number of tiers within a food product's supply chain and the need for supply chain stakeholder to preserve competitive advantage. Additionally, food labeling currently does not extend beyond nutrition except in instances where a producer has opted—often for competitive reason—to market or claim sustainable attributes (e.g., USDA Organic).

Healthy food versus more sustainable food purchases.

Healthy food and sustainable food are often both goals of an organization, but they are not interchangeable criteria and can be difficult to achieve in tandem. For example, if an elementary school with significant limitations on available funding has to choose between feeding their students Organic (with improved performance attributes such as no antibiotics or growth hormones, and without conventional pesticides, fertilizers or sewage sludge) potato chips or boxed cookies versus a banana or orange that has no improved—in this case—environmental attributes, how do they decide which is better? Institutions must achieve internal alignment over how to prioritize the purchase of healthy and/or sustainable food prior to developing food services RFP criteria or contract terms with suppliers and partners. The target population also plays a role, in terms of nutritional needs and dietary preferences that can vary by the individual or population group (e.g. children versus adults). Goals of a successful sourcing strategy should allow for sufficient diversity in product mix to meet personal preferences and offer comprehensive nutrition to the populations being served.

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Metrics

Percent of volume, net volume, and spend of product meeting one or more defined single attribute sustainability criteria without negatively impacting another, such as:

- Grown on a farm that operates as a cooperative, has a profit sharing policy for all employees, or has a social responsibility policy covering all workers
- Production that demonstrates reduced use of energy
- Production that demonstrates reduced use of water
- Production that demonstrates reduced use of synthetic fertilizers, pesticides and herbicides
- Production that demonstrates optimal use of land, including rehabilitation
- Production that demonstrates reduced waste or non-useful byproduct
- Production that reflects natural growing and consumption periods for a specific geography (seasonality)
- Production that respects habitat, biodiversity and food supply needs of other species
- Grown and processed within x miles of the institution (when tracking the spend for local food)

Indicators

- Percent of volume, net volume, and spend of product meeting third party certifications for one or more criteria of improved environmental, social, or economic performance compared those food purchases without such certifications.
- Number of contractors to disclose that cab disclose supply chain information including specific subcontractors and addresses of factories or sites of supply.

Contract / Policy Language

The following contract / policy language examples may be useful for organizations seeking to exercise leadership in their approach to purchasing of Food and Beverages for Food Services:

Sample Policies

- **County of Santa Clara** Nutrition Standards 2012 Implementation Guidance
  https://www.sustainablepurchasing.org/?p=4059
- **Emory University** Sustainability Guidelines For Food Service Purchasing
  https://www.sustainablepurchasing.org/?p=4061
- **Health Care Without Harm** Integrating Sustainability Requirements Into Health Care Food Service Contracting
  http://noharm.org/lib/downloads/food/Integrating_Sustainability_Food_Service.pdf
- **Michigan State University** Sustainable Food Procurement Guide. The Guide's mission is to optimize partnerships in order to build an increasingly expanding supply chain of safe, seasonal, nutritious, and fair market priced and responsibly sourced food for the MSU community and potentially beyond.[131]
  http://www.eatatstate.msu.edu/sites/default/files/pdf/procurement_guide_WEB.pdf
- **Overlake Hospital Medical Center** Comprehensive Food Policy to Promote Individual & Environmental Health
  https://www.sustainablepurchasing.org/?p=4064
- **Portland State University** Example Policies and Plans
  http://www.sustainablefoodpolicy.org/example-policies-and-plans/portlandstateuniversity
- **U.S. General Services Administration (GSA)** Health and Sustainability Guidelines for Federal Concessions and Vending Operations defines healthy and sustainable food service operations for two million civilian employees of the federal government.[132]

Sample Specifications

- California Department of General Services
  Kosher Meals
  https://www.sustainablepurchasing.org/?p=4060

EXAMPLE
FAIR TRADE (FT) CERTIFIED COFFEE

	2013 Actual	*2014 Actual*	*2015 Target*
FT (lbs; $/lb)	450; $10	700; $11	1000; -
Other (lbs; $/lb)	350; $5	250; $6	0
Total (lbs)	900	950	1000
Total spend ($)	$6,750	$9,200	-
FT sourced (%)	50%	74%	100%
FT spend (%)	$4,500	$7,700	-
FT spend (%)	67%	84%	100%

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

Case Studies

The following organizations have demonstrated leadership in their approach to purchasing of sustainable Food and Beverages for Food Services:

Emory University

A Sustainable Food Committee was named by the Emory University President James Wagner in the spring of 2007 to lead Emory's Sustainable Food Initiative. Emory's sustainability vision set an ambitious goal of 75 percent local or sustainably grown food in its hospitals and cafeterias by 2015. Sustainability Guidelines for Food Purchasing were adopted in fall 2007, and provide clear goals and implementation steps for 10 categories of food purchases.
http://tinyurl.com/p3kk9zn

Kaiser Permanente

Over the past 10 years, Kaiser Permanente has moved to promote sustainable food and agriculture and increase sourcing of healthy, local sustainably produced food in its hospitals, cafeterias and vending machines. According to the company's own website, the organization now spends approximately 15 percent of overall food spending on sustainable food across the organization, nearly two times as much sustainable food as most other hospital systems of its size. By the end of year 2015, that number is expected to grow to 20 percent. *http://tinyurl.com/p7uvw6j*

Outstanding Issues

Following are the current debates regarding undecided issues in this area:

Genetically modified organism (GMO) or genetically engineered (GE) within food production

The debate over GMOs relates to the use of genetic engineering for food production. The dispute involves many stakeholders in the supply chain including consumers, farmers, biotech companies, governmental regulators, non-governmental organizations, industry advocacy groups, and scientists. Key areas of discussion relate to GMO-labeling, the role of regulation, the objectivity of scientific research and publication, the effect of genetically modified crops on health and the environment, the effect on pesticide resistance, the impact of such crops for farmers, and the role of the crops in feeding the world population.[133]

Local vs. sustainable

Like "healthy," the criterion of "local" is often used to represent "sustainable" food, however even assumptions of positive impacts such as local community economic development and reduced emissions from shorter transit times must be examined. In developing a food sourcing strategy, institutions should articulate the intended impact of sourcing "locally" (e.g., reduced carbon, higher nutritional value, support of size specific farms, etc.), so as to be able to effectively measure progress against a stated goal.

Example of issue: Food product that meets a local definition (e.g., grown or raised within 250 miles of an institution) but ignores other key sustainable production practices

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Food and Beverages for Food Services as a priority based on a strategic analysis of overall spending.

Resources

Global Perspectives

The 2050 Criteria Guide to Responsible Investment in Agricultural, Forest, and Seafood Commodities
The *2050 Criteria*, produced by World Wildlife Fund (WWF), provides a framework to identify responsible practices in key soft commodity sectors around the globe, including: aquaculture; beef; bioenergy; cotton; dairy; palm oil; soy; sugar; timber, pulp & paper; wild-caught fish; and other important commodities grown on land.
http://tinyurl.com/q2hmg9q

IPCC 5th Assessment Synthesis Report (SYR)
The *SYR* synthesizes the work of International Panel on Climate Change (IPCC) committees working on the following topics: The Physical Science Basis; Impacts, Adaptation and Vulnerability; Mitigation of Climate Change, as well as two additional IPCC reports: Special Report on Renewable Energy; and Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.
http://ar5-syr.ipcc.ch

Market-based Initiatives

AASHE STARS
The Sustainability Tracking, Assessment & Rating System™ (STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.
https://stars.aashe.org

Health Care Without Harm / Healthier Hospitals Initiative (Food)
A joint initiative of three organizations and thirteen health networks designed to encourage leadership and accelerate adoption of sustainability best practices by health care institutions.
http://healthierhospitals.org/hhi-challenges/healthier-food

Real Food Challenge
A campaign targeting higher education institutions with the primary goal to shift $1 billion of existing university food budgets away from industrial farms and junk food towards local/community-based, fair, ecologically sound and humane food sources by 2020.
http://www.realfoodchallenge.org

Field to Market ®: The Alliance for Sustainable Agriculture
Field To Market® is a diverse alliance working to create opportunities across the agricultural supply chain for continuous improvements in productivity, environmental quality, and human well-being. The group provides collaborative leadership that is engaged in industry-wide dialogue, grounded in science, and open to the full range of technology choices.
https://www.fieldtomarket.org/

Food Program Certifications

- GreenSeal: GS-55 Restaurants and Food Services. Green Seal standards provide criteria and guidelines for manufacturers, service providers, and companies to work toward sustainability and Green Seal certification.
http://www.greenseal.org/GreenBusiness/Standards.aspx?vid=ViewStandardDetail&cid=0&sid=45
- Green Restaurant Association (GRA): Green Restaurant Certification 4.0 Standards. GRA is a non-profit that provides a method of rewarding existing restaurants & foodservice operations with points in each of the GRA's Seven Environmental Categories including food.
https://www.dinegreen.com/standards/Food.html

Additional Resources

- *Local and Sustainable Food Procurement: Best Practices of New England States*
Responsible Purchasing Network (RPN) Webinar, April 2014
http://tiny.cc/j5bhsx
- *Fair Trade Purchasing Guides and Webinar*
Prepared by Responsible Purchasing Network (RPN) for Fair Trade Towns USA
http://tiny.cc/r6bhsx

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

IT Hardware and Services

Subcategories

- Personal Computers
- Mobile Phones
- Imaging Equipment and Televisions
- IT End of Life Management
- Data Centers
-

Technical Advisory Group

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Cate Berard, *U.S. Department of Energy*
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Holly Elwood, *U.S.EPA*
Kristin Schroter, *The University of Texas at Austin*
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Michael Murphy, *Dell Inc.*
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Ted Smith, *Int'l Campaign for Responsible Technology*
Wassel Lewis, *Aflac*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Personal Computers

Scope

This section pertains to the purchase of personal computers, which includes typical desktop computers, laptops and tablets.

Executive Summary

Understanding

Why do we care?

- Energy use during the use phase.
- Energy and materials use during the manufacturing phase.
- Hazardous materials residing in the product.
- Labor issues in the supply chain.
- Worker health and safety within the supply chain.

Action

How can we exercise leadership?

- Engage with colleagues to understand their computer needs.
- Consider utilizing power management software.
- Explore the implementation of a thin client program.
- Consider actions that increase visibility into the supply chain.

Results

What are the benefits?

External

- Carbon emissions reductions.
- Less exposure to hazardous materials.
- Fewer virgin and rare materials used in production.

Internal

- Reduced cost from reduced power demand.
- Potential for reduced risk within the supply chain (if suppliers can demonstrate a "clean" supply chain).

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

The electronics sector is an enormous market. In 2012, the United States imported $124.8 billion in Electronic Data Processing (EDP) and office equipment ($77.6 billion of which came from China) and imported $141.9 billion in telecommunications equipment ($70.8 billion of which came from China).[134] That same year, the United States imported $38.6 billion in integrated circuits and electronic components ($4.9 billion of which came from China).[135]

Note: "Many of the environmental impacts associated with electronics are exacerbated by the increasingly short life cycles of products. For example, shorter lifecycles lead to larger quantities of e-waste as consumers update their systems for the latest technological innovations. The manufacturing stage, including GHG emissions from the energy used in manufacturing as well as increased use of chemicals and raw materials, makes up a substantial part of a product's impact on the environment. Shorter life cycles for electronics products increase these impacts; the energy impacts can only be partly offset by the greater energy efficiency of new devices during use. Coupled with shorter life cycles is the manufacturing of numerous devices which perform similar functions, such as power adapters for mobile phones, other small electronic devices and computers."136

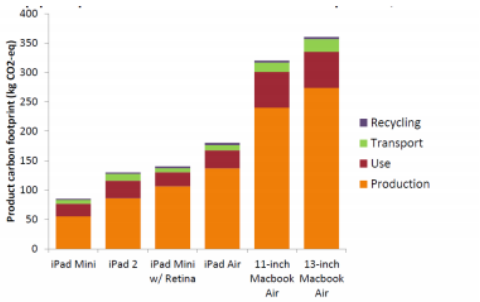
While personal computers can be easily upgraded, many commercial entities rely on a three-year lifespan associated with product warranties even though hardware is designed to last much longer. New products—such as ultrabooks—are more difficult to upgrade and have shorter longevity. Additionally, some computers are designed such that disassembly and recycling is difficult.

Energy use—and associated emissions—during the use phase.

Office equipment uses 8 percent of electricity in a typical office building.[137] Computers can frequently sit idle for large portions of the day, wasting much of the energy associated with them.

Resources and Energy used during the manufacturing phase.

Personal computers are complex machines containing both electronics hardware (e.g., circuit boards), plastics and metals. These materials require significant resources to manufacture. "…[the production phase of computers] by far accounted for the largest contribution of greenhouse gas emissions, with the environmental impact from production increasing in proportion to product size."[138]



Greenhouse Gas Emissions from Apple Products by Lifecycle Phase[139]

Additionally, substances of concern are used during semiconductor manufacturing, fluorinated greenhouse gases are used in flat panel display manufacturing, and indium tin oxide is used to coat displays.[140]

Hazardous Materials residing in the product.

Personal computers contain typical electronics components—like circuit boards and hard drives—which may have hazardous substances. "...the main hazardous substances found in computers…include lead, mercury, cadmium, zinc, yttrium, chromium, beryllium, nickel, brominated flame retardants, antimony trioxide, halogenated flame retardants, polyvinyl chloride (PVC), and phthalates"[141] These substances can leach or offgas of chemicals during use and can increase the difficulty of safely recycling electronic scrap. This then perpetuates the toxic cycle; substances are released during reprocessing of e-waste and lead to contamination of secondary materials used to make new products.[142] Additionally, (and related to the following section), workers along the supply chain may not be aware of the potential hazards associated with the substances they are handling or to which they are exposed, that are present in the workplace.

☑TIP

Hazardous waste in disposal

Disposal of personal computers includes the creation of both hazardous and non-hazardous waste. See the End of Life Management Section for strategies on mitigating this impact.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Labor issues along the supply chain.

The electronics sector is one of five "problematic" sectors in which "...human rights are routinely violated."[143] In many cases, the electronics supply chain would not be considered safe, healthy, environmentally sound, or just. Millions of workers are now involved in the lifecycle of electronics component production, final assembly, use and disposal. Most work in low wage, high demand jobs where the working hours are punishing—especially during times of peak production demands—and where most workers have little or no voice in determining working conditions. Most electronics companies have resisted union representation, Freedom of Association, Collective Bargaining, and other labor and human rights protected under the International Labor Organization conventions.[144]

Worker health and safety during manufacturing and mining for materials.[145][146]

Electronics manufacturing includes the use of more than 1000 materials, many of which are carcinogens, reproductive toxins, neurotoxins, and endocrine disruptors. Workers in the extraction phase (e.g., mining, oil production, etc.), chemical processing, and component manufacturing and assembly are exposed to many hazardous chemicals. Some of these impacts have been well documented, while others remain invisible due to lack of transparency, lack of exposure monitoring in the workplace, and lack of medical monitoring data to assess the human health impacts of exposures to hazardous materials.

ACTION & RESULTS: What makes a difference?

Engage with colleagues to understand their computer needs.

Smaller computers are typically more energy efficient in the use phase, require fewer materials to manufacture, and produce less waste at the end of life.

- Meet with different departments and discuss their computer needs, and whether the machines they have are more than necessary for their typical function.
- Explore various computer options, and consider the smallest computer options to meet the needs of employees at different levels of the organizations. Procure the smallest computer possible to meet the performance needs. Keep in mind organizational-cultural issues in which users may think they need a particular type of computer (e.g. laptop versus desktop .

External Benefits

- Reduces overall impact of the product.

Internal Benefits

- Early engagement with colleagues reduces the potential for resistance to changes in IT hardware and software provided to various employees.
- Reduced costs by "right-sizing" computer needs.

Consider utilizing power management software.

Power utilization software is a solution that puts personal computers in a low power standby mode when not actively being used. Users and network administrators can "wake machines" when needed. Power management software has the flexibility to be individually set on personal computers or set over the network for entire inventories, making this solution a good option to pilot within a smaller subset of users and roll out once its functionality and impact on the organization's capacity to do its work is understood. Note: network devices may be environmentally better over the life of the product, but may require a significant upfront cost compared to desktop devices. Determining payback or lifecycle benefits may be difficult.

External Benefits

- Less demand from energy sources, reducing carbon and air pollutant emissions associated with operating computers.

Internal Benefits

- Cost reduction related to lower electricity demand from computers.

Explore the implementation of a thin client program

A thin client is a computer or a computer program that depends heavily on another computer (its server) to fulfill its computational roles. This can allow for a dramatic reduction in the impacts associated with IT Hardware. Note, exploration of the data center powering the server should be conducted before a commitment to a thin client program is implemented. Depending on the type of energy fueling the data center, the impacts of switching to a thin client program could actually be exacerbated. See the IT Hardware and Services – Data Center Section for more information.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Consider actions that increase visibility into labor risks within the supply chain.

During the bid solicitation stage:

- Expand notice of risk that human rights are violated in a sector or supply chain.[147] Rather than asking contractors to certify "no knowledge" of human rights violations within their supply chains, consider requiring them to certify that they know with whom they subcontract, the specific locations of production or supply, and have management systems to ensure compliance.[148] This enables a requirement during the award stage for the winning contractor to confirm certification by disclosing the full supply chain and addresses of factories or sites of production.[149]

During the supplier evaluation stage:

- Incorporate weightings for human rights into the factors for awarding bids, and identify the extent to which this factor is weighted relative to others, particularly cost and price.[150][151]
- Promote a robust approach for greater supply chain transparency. Consider allocating a greater number of points for "a supplier's capacity to protect human rights, to the extent that a winning bidder would have to establish a "clean" supply chain with a high degree of ownership or control and remedies in place for any breakdown in compliance." This capacity could be rewarded by allowing "…bidders to qualify for pre-award clearance for capacity to protect the human rights involved."[152]

Ask the supplier to provide information on the following processes within their supply chain.

- Worker access to safe and healthy workplace.
- Whether full materials disclosure to workers, communities, and the general public—including what chemicals are being used and discharged and known hazards to the environment and humans—are provided.
- The presence of effective remedies when harms have occurred (e.g., compensation for workers made sick or injured).
- The ability of workers to organize without interference and bargain collectively.
- Indicators of upper tier suppliers taking responsibility for potential harms caused by materials used or disposed.
- Examples of comprehensive hazard monitoring for all workplaces and workers developed and implemented jointly with affected and other interested workers and their organizations. Core components of a comprehensive hazard and monitoring could include
  - training,
  - capacity building,
  - industrial monitoring
  - monitoring to measure exposures and health surveillance to identify and prevent diseases,
  - the ability for workers to negotiate over hazardous working conditions and refuse hazardous work without fear of retaliation.
- Examples of efforts of workers and communities to participate in the sound management of chemicals and wastes in their workplaces and communities (often accomplished through the development of effective worker health and safety committees and training programs).

During the contract awarding and terms designation stage:

- Require contractors to disclose their supply chain including specific subcontractors and addresses of factories or sites of supply.[153]

External Benefit

- Expands the traceability and transparency of IT purchases

Organizational Benefit

- Provides opportunities to mitigate risk once more information about the impacts of specific IT purchases can be determined.

Consider organization's software distribution process as a criterion for selection.

Ensure the organization uses the most energy efficient and low emission form of software distribution, which in most cases refers to Electronic Software Distribution (ESD) and involves using a network to update and install new and current software.[154] Require that software or software upgrades do not require new hardware (or result in significantly diminished hardware performance) in order to use.

Purchase products with certifications demonstrating improved environmental, social, or economic performance.

- Include energy use as part of total cost of ownership - using energy calculators – as a criterion for new hardware selection.
- Ensure one of the following certifications has been met (as available):
  - EPEAT Certified[155]
  - ENERGY STAR Certified[156]
- Demonstrate the energy efficiency of using new hardware and software implementations using tools such as the Windows Energy Calculator. Use of advanced tools can lead to accountable and demonstrable business cases being drawn up to show the payback on upgrading software and or hardware from energy and emissions savings.

External Benefits

- Reduced carbon emissions
- Reduced energy use during manufacturing and use phases
- Fewer virgin and rare materials used for new product manufacturing.

Organizational Benefits

- Reduced cost
- Reduced carbon emissions impact and resource demand.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Metrics

- Dollars saved on foregoing new computer purchases.
- Percentage of electronics procured each year that are EPEAT-registered and/or ENERGY STAR certified. Electronics Environmental Benefits Calculator (access via www.epa.gov/epeat) examines the impact of units purchased based on the EPEAT rating of the unit and power save options

Indicators

Indicators of improved labor conditions in the supply chain.

- Has the company adopted a "full materials disclosure" (FMD) policy to identify all the chemicals in their products?
- Has the company adopted a "full materials disclosure" policy to identify all the chemicals in the processes of their first tier suppliers? In their second tier suppliers?
- Has the company implemented the "full materials disclosure" (FMD) policy? Has the company included the disclosure requirement in contracts with their suppliers?
- What % of the top tier suppliers have complied with the FMD? Does the company have in place a system for accepting and managing the FMD from suppliers?
- Has the company established a policy to require regular industrial hygiene monitoring for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public?
- Has the company established a policy to require regular bio- monitoring (medical surveillance) for the workers for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public (without compromising privacy rights of the workers)?
- Does the company have a policy that requires suppliers to establish health and safety committees with full participation of the workers with representatives selected by the workers?

Contract / Policy Language

- Green to greenest proposal: provide computing for 1,000 employees in one building (See *https://www.sustainablepurchasing.org/wp-content/uploads/2015/01/Green-to-greenest-proposal-IT-Hardware-by-Mark-Sajbel.pdf*)
- Managed Print Services based on a USDA Blanket Purchase Agreement *http://tinyurl.com/nx56b9x*

Case Studies

- San Mateo County Office Electronics Fact Sheet: *http://tinyurl.com/pxpwwzz*
- City of San Jose: *http://www.epeat.net/city-of-san-jose/*
- Commonwealth of Massachusetts: *http://www.epeat.net/commonwealth-of-massachusetts/*
- Ford Motor Company: *http://www.epeat.net/ford-motor-company/*
- McKesson, Inc.: *http://www.epeat.net/mckesson-inc/*
- State of California: *http://www.epeat.net/state-of-california/*
- The Pennsylvania State University: *http://www.epeat.net/pennsylvania-state-university/*
- ASUS: *http://greenelectronicscouncil.org/asus-taiwans-environmental-pioneer-epeat/*

Resources

- Electronics Environmental Benefits Calculator: *www.epa.gov/epeat*
- ENERGY STAR Power Management Calculator estimates typical savings (dollars and carbon dioxide) from ENERGY STAR qualified computers and/or power management features. Considers impact based on number of units. Demonstrates impact of turning off units during nonworking hours. *http://tinyurl.com/p3rvpcr*
- Windows Energy Calculator *http://microsoft.greeneritchallenge.org/EnergySavings/Desktop*
- AASHE gives a score based on percent of spend of EPEAT-rated vs. total category spend. *http://tinyurl.com/qc3emjm*
- Sustainable Purchasing Fact Sheet: Office Electronics (San Mateo County Environmental Health, 2012) *http://tinyurl.com/pxpwwzz*
- Distributed Power Management And Control System For Sustainable Computing Environments
- Sustainable IT Services: Assessing the Impact of Green Computing Practices
- PICMET 2009 Proceedings, August 2-6, Portland, Oregon USA © 2009 PICMET
- Andreas Koehler And Claudia Som. Effects of Pervasive Computing on Sustainable Development. IEEE Technology and Social Magazine, Spring 2005.
- Timo Johann, Markus Dick, Stefan Naumann, Eva Kern. How to Measure Energy-Efficiency of Software: Metrics and Measurement Results. 978-1-4673-1832-7/12. Copyright 2012 IEEE
- Hewlett Packard Carbon Footprint Calculators *http://tinyurl.com/nlrza4f*
- Hewlett Packard Sustainable IT Purchasing Guidance *http://tinyurl.com/3h4ecdu*
- European Telecommunications Standards Institute *http://www.etsi.org/*
- GHG Protocol ICT Sector Guidance *http://tinyurl.com/7es535e*
- International Telecommunications Union Green ICT Standards *http://tinyurl.com/nr793vz*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Mobile Phones

Scope

The scope of this category is mobile phones, including smart phones.

Executive Summary

Understanding

Why do we care?

- Energy use during use phase
- Energy and materials required for manufacturing
- Labor issues within the supply chain

Action

How can we exercise leadership?

- Engage with colleagues to understand their computer needs.
- Consider utilizing power management software.
- Explore the implementation of a thin client program.
- Consider actions that increase visibility into the supply chain

Results

What are the benefits?

External

- Carbon emissions reduction
- Less exposure to hazardous materials
- Fewer virgin materials extracted

Internal

- Reduced cost from reduced energy use
- Potential for reduced risk within the supply chain

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

The electronics sector is an enormous market. In 2012, the United States imported $124.8 billion in Electronic Data Processing (EDP) and office equipment ($77.6 billion of which came from China) and imported $141.9 billion in telecommunications equipment ($70.8 billion of which came from China).[157] That same year, the United States imported $38.6 billion in integrated circuits and electronic components ($4.9 billion of which came from China).[158]

Note: "Many of the environmental impacts associated with electronics are exacerbated by the increasingly short life cycles of products. For example, shorter lifecycles lead to larger quantities of e-waste as consumers update their systems for the latest technological innovations. The manufacturing stage, including GHG emissions from the energy used in manufacturing as well as increased use of chemicals and raw materials, makes up a substantial part of a product's impact on the environment. Shorter life cycles for electronics products increase these impacts; the energy impacts can only be partly offset by the greater energy efficiency of new devices during use. Coupled with shorter life cycles is the manufacturing of numerous devices which perform similar functions, such as power adapters for mobile phones, other small electronic devices and computers."159

Energy use—and associated emissions—during the use phase.

Mobile devices rely on intermittent charging to operate. Mobile phones can use battery life and energy inefficiently (e.g., on running apps that are not in use, location tracking when not in use) and require additional energy use than necessary.

Resources and Energy used during the manufacturing phase.

Mobile devices are complex machines containing both electronics hardware (like circuit boards), batteries and a variety of other materials (plastics, metals, glass). These materials require significant resources to manufacture. The typical mobile phone life is 18 months, which exacerbates the demand of resources and energy to manufacture new products.

Most products are not designed for upgrade or repair. Of the repair issues, battery failure is the number one cause for replacement of mobile phones. Most mobile devices are not designed to allow the user to swap out the battery, requiring the purchase of a new device. This introduces disposal concerns and loss of significant embodied energy in producing the product.

Worker health and safety during manufacturing and mining for materials.[160][161]

Electronics manufacturing includes the use of more than 1000 materials, many of which are carcinogens, reproductive toxins, neurotoxins, and endocrine disruptors. Workers in the extraction phase (e.g., mining, oil production, etc.), chemical processing, and component manufacturing and assembly are exposed to many hazardous chemicals. Some of these impacts have been well documented, while others remain invisible due to lack of transparency, lack of exposure monitoring in the workplace, and lack of medical monitoring data to assess the human health impacts of exposures to hazardous materials.

Hazardous Materials residing in the product.

Mobile phones contain critical, rare, and precious metals. The limited life of mobile phones exacerbates the need for these materials, the substances can leach or off-gas of chemicals during use and can increase the difficulty of safely recycling electronic scrap. This then perpetuates the toxic cycle; substances are released during reprocessing of e-waste and lead to contamination of secondary materials used to make new products.[162] Additionally, (and related to the following section), workers along the supply chain may not be aware of the potential hazards associated with the substances they are handling or to which they are exposed, that are present in the workplace.

☑TIP

Hazardous waste in disposal

Disposal of personal computers includes the creation of both hazardous and non-hazardous waste. See the End of Life Management Section for strategies on mitigating this impact.

Labor issues along the supply chain.

The electronics sector is one of five "problematic" sectors in which "...human rights are routinely violated."[163] In many cases, the electronics supply chain would not be considered safe, healthy, environmentally sound, or just. Millions of workers are now involved in the lifecycle of electronics component production, final assembly, use and disposal. Most work in low wage, high demand jobs where theworking hours are punishing—especially during times of peak production demands—and where most workers have little or no voice in determining working conditions. Most electronics companies have resisted union representation, Freedom of Association, Collective Bargaining, and other labor and human rights protected under the International Labor Organization conventions.[164]

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

ACTION & RESULTS: What makes a difference?

Seek opportunities for demand reduction of new equipment purchases.

- Consider who within the organization needs a work-issued phone. What are the existing criteria for being given a phone?
- Is there are opportunity for the organization to cover a percentage of cost of an employees personal mobile phone as opposed to purchasing them a separate one?[165]
- What is the IT Department's current replacement rate for mobile phones? Is there an opportunity to extend this rate? Commonly upgraded every 18-24 months (this is a consumer specific stat).

Engage with colleagues to understand their mobile phone needs.

- Meet with different departments and discuss their mobile phone needs, and whether the machines they have are more than necessary (e.g., size, storage, etc.) for their typical function.

External Benefits

- Reduces overall impact of the product.

Internal Benefits

- Early engagement with colleagues reduces the potential for resistance to changes in IT hardware and software provided to various employees.
- Reduced costs by "right-sizing" product.

Consider actions that increase visibility into labor risks within the supply chain.

During the bid solicitation stage:

- Expand notice of risk that human rights are violated in a sector or supply chain.[166] Rather than asking contractors to certify "no knowledge" of human rights violations within their supply chains, consider requiring them to certify that they know with whom they subcontract, they know the specific locations of production or supply, and that they have management systems to ensure compliance.[167] This enables a requirement during the award stage for the winning contractor to confirm its certification by disclosing the full supply chain and addresses of factories or sites of production.[168]

During the supplier evaluation stage:

- Incorporate weightings for human rights into the factors for awarding bids, and identify the extent to which this factor is weighted relative to others, particularly cost and price.[169][170]
- Promote a robust approach for greater supply chain transparency. Consider allocating "…a greater number of points for a supplier's capacity to protect human rights, to the extent that a winning bidder would have to establish a "clean" supply chain with a high degree of ownership or control and remedies in place for any breakdown in compliance. This capacity could be rewarded by allowing "…bidders to qualify for pre-award clearance for capacity to protect the human rights involved."[171]

Ask the supplier to provide information on the following processes that exist within their supply chain.

- Worker access to safe and healthy workplace.
- Whether full materials disclosure to workers, communities, and the general public—including what chemicals are being used and discharged and known hazards to the environment and humans—are provided.
- The presence of effective remedies when harms have occurred (e.g., compensation for workers made sick or injured).
- The ability of workers to organize without interference and bargain collectively.
- Indicators of upper tier suppliers taking responsibility for potential harms caused by materials used or disposed.
- Examples of comprehensive hazard monitoring for all workplaces and workers developed and implemented jointly with affected and other interested workers and their organizations. Core components of a comprehensive hazard and monitoring could include
    - training,
    - capacity building,
    - industrial monitoring
    - monitoring to measure exposures and health surveillance to identify and prevent diseases, and
    - the ability for workers to negotiate over hazardous working conditions and refuse hazardous work without fear of retaliation.
- Examples of efforts of workers and communities to participate in the sound management of chemicals and wastes in their workplaces and communities (often accomplished through the development of effective worker health and safety committees and training programs).

During the contract awarding and terms designation stage:

- Require contractors to disclose their supply chain including specific subcontractors and addresses of factories or sites of supply.[172]

External Benefit

- Expands the traceability and transparency of IT purchases

Organizational Benefit

- Provides opportunities to mitigate risk once more information about the impacts of specific IT purchases can be determined.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Purchase products with certifications demonstrating improved environmental, social, or economic performance.

- Include energy use as part of total cost of ownership - using energy calculators – as a criterion for new hardware selection.
- Ensure that the mobile phones are UL 110 Certified, as available.

External Benefits

- Reduced carbon emissions
- Reduced energy use during manufacturing and use phases
- Fewer virgin and rare materials used for new product manufacturing.

Organizational Benefits

- Reduced cost
- Reduced carbon emissions impact and resource demand.

Metrics

- Dollars saved on foregoing new phone purchases.
- Number of phones given an extended life through repair (and the length of the extended life, as available over time).
- Percentage of phones procured each year that are UL 110 certified.

Indicators

Indicators of improved labor conditions within the supply chain:

- Has the supplier adopted a "full materials disclosure" (FMD) policy to identify all the chemicals in their products?
- Has the supplier adopted a "full materials disclosure" policy to identify all the chemicals in the processes of their first tier suppliers? In their second tier suppliers?
- Has the supplier implemented the "full materials disclosure" (FMD) policy? Has the company included the disclosure requirement in contracts with their suppliers?
- What % of the top tier suppliers have complied with the FMD? Does the company have in place a system for accepting and managing the FMD from suppliers?
- Has the supplier established a policy to require regular industrial hygiene monitoring for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public?
- Has the supplier established a policy to require regular bio- monitoring (medical surveillance) for the workers for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public (without compromising privacy rights of the workers)?
- Does the supplier have a policy that requires suppliers to establish health and safety committees with full participation of the workers with representatives selected by the workers?

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Imaging Equipment and Televisions

Scope

The scope of this section pertains to imaging equipment, including copiers, printers, scanners, fax machines, and multi-function devices, and televisions.

Executive Summary

Understanding

Why do we care?

- Energy use during the use phase
- Energy and materials use in manufacturing
- Labor issues along the supply chain

Action

How can we exercise leadership?

- Reduce the impact of current equipment
- Purchase new equipment with demonstrated improvement of environmental, social, or economic impacts.

Results

What are the benefits?

External

- Carbon emissions reduction
- Less exposure to hazardous materials
- Fewer virgin materials extracted

Internal

- Decreased costs
- Potential for risk reduction from labor impacts within the supply chain

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Energy use—and associated emissions—during the use phase.

Office equipment uses 8 percent of electricity in a typical office building.[173] Imaging equipment and—in some contexts, televisions—can frequently sit idle for large portions of the day, but continue to draw energy in standby or off modes, adding to plug loads. Imaging equipment using ink or toner requires regulating the machine temperature, further adding to energy use.

Resources and Energy used during the manufacturing phase.

Both imaging equipment and televisions are large and complex machines containing electronics hardware (e.g., circuit boards), plastics and metals. These materials require significant resources to manufacture; for example, television manufacturing requires 35 different minerals.[174]

☑TIP

Hazardous waste in disposal

Disposal of imaging equipment and televisions includes the creation of both hazardous and non-hazardous waste. See the End of Life Management Section for strategies on mitigating this impact.

Hazardous Materials residing in the product.

Imaging equipment and televisions contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ethers. These substances can leach or off-gas of chemicals during use and can increase the difficulty of safely recycling electronic scrap. This then perpetuates the toxic cycle; substances are released during reprocessing of e-waste and lead to contamination of secondary materials used to make new products.[175] Additionally, (and related to the following section), workers along the supply chain may not be aware of the potential hazards associated with the substances they are handling or to which they are exposed, that are present in the workplace.

Labor issues along the supply chain.

The electronics sector is one of five "problematic" sectors in which "...human rights are routinely violated."[176] In many cases, the electronics supply chain would not be considered safe, healthy, environmentally sound, or just. Millions of workers are now involved in the lifecycle of electronics component production, final assembly, use and disposal. Most work in low wage, high demand jobs where the working hours are punishing—especially during times of peak production demands—and where most workers have little or no voice in determining working conditions. Most electronics companies have resisted union representation, Freedom of Association, Collective Bargaining, and other labor and human rights protected under the International Labor Organization conventions.[177]

Worker health and safety during manufacturing and mining for materials.[178][179]

Electronics manufacturing includes the use of more than 1000 materials, many of which are carcinogens, reproductive toxins, neurotoxins, and endocrine disruptors. Workers in the extraction phase (e.g., mining, oil production, etc.), chemical processing, and component manufacturing and assembly are exposed to many hazardous chemicals. Some of these impacts have been well documented, while others remain invisible due to lack of transparency, lack of exposure monitoring in the workplace, and lack of medical monitoring data to assess the human health impacts of exposures to hazardous materials.

ACTION & RESULTS: What makes a difference?

Reduce the impact of current equipment

Consider changes to policies and operational practices that promote impact reduction for existing equipment and sets up a strategic approach for future purchasing.

Imaging equipment

- use power strips to reduce energy draw during standby mode or overnight
- phase out desk printers
- implement automatic duplex printing
- invest in print management software that monitors printing
- consider a transition to multifunctional devising, given "sleep time" of majority of devices on site

Televisions

- use power strips to reduce energy draw during standby mode or overnight
- lower brightness and backlight

For new equipment purchasing

Use the following certifications to demonstrate reduction of impacts:

- IEEE 1680.2 (imaging equipment) and 1680.3 (televisions Certified
- ENERGY STAR Certified

Consider actions that increase visibility into labor risks within the supply chain.

During the bid solicitation stage:

- Expand notice of risk that human rights are violated in a sector or supply chain.[180] Rather than asking contractors to certify "no knowledge" of human rights violations within their supply chains, consider requiring them to

certify that they know with whom they subcontract, they know the specific locations of production or supply, and that they have management systems to ensure compliance.[181] This enables a requirement during the award stage for the winning contractor to confirm its certification by disclosing the full supply chain and addresses of factories or sites of production.[182]

During the supplier evaluation stage:

- Incorporate weightings for human rights into the factors for awarding bids, and identify the extent to which this factor is weighted relative to others, particularly cost and price.[183][184]
- Promote a robust approach for greater supply chain transparency. Consider allocating "…a greater number of points for a supplier's capacity to protect human rights, to the extent that a winning bidder would have to establish a "clean" supply chain with a high degree of ownership or control and remedies in place for any breakdown in compliance. This capacity could be rewarded by allowing "…bidders to qualify for pre-award clearance for capacity to protect the human rights involved."[185]

Ask the supplier to provide information on the following processes that exist within their supply chain.

- Worker access to safe and healthy workplace.
- Whether full materials disclosure to workers, communities, and the general public—including what chemicals are being used and discharged and known hazards to the environment and humans—are provided.
- The presence of effective remedies when harms have occurred (e.g., compensation for workers made sick or injured).
- The ability of workers to organize without interference and bargain collectively.
- Indicators of upper tier suppliers taking responsibility for potential harms caused by materials used or disposed.
- Examples of comprehensive hazard monitoring for all workplaces and workers developed and implemented jointly with affected and other interested workers and their organizations. Core components of a comprehensive hazard and monitoring could include
    - training,
    - capacity building,
    - industrial monitoring
    - monitoring to measure exposures and health surveillance to identify and prevent diseases, and
    - the ability for workers to negotiate over hazardous working conditions and refuse hazardous work without fear of retaliation.
- Examples of efforts of workers and communities to participate in the sound management of chemicals and wastes in their workplaces and communities (often accomplished through the development of effective worker health and safety committees and training programs).

During the contract awarding and terms designation stage:

- Require contractors to disclose their supply chain including specific subcontractors and addresses of factories or sites of supply.[186]

External Benefit

- Expands the traceability and transparency of IT purchases

Organizational Benefit

- Provides opportunities to mitigate risk once more information about the impacts of specific IT purchases can be determined.

Metrics

- Dollars saved on foregoing new purchases.
- Percentage of electronics procured each year that are EPEAT-registered and/or ENERGY STAR certified. The Electronics Environmental Benefits Calculator (access via www.epa.gov/epeat) examines the impact of units purchased based on the EPEAT rating of the unit and power save options

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Indicators

Indicators of improved labor conditions within the supply chain:

- Has the supplier adopted a "full materials disclosure" (FMD) policy to identify all the chemicals in their products?
- Has the supplier adopted a "full materials disclosure" policy to identify all the chemicals in the processes of their first tier suppliers? In their second tier suppliers?
- Has the supplier implemented the "full materials disclosure" (FMD) policy? Has the company included the disclosure requirement in contracts with their suppliers?
- What percent of the top tier suppliers have complied with the FMD? Does the company have in place a system for accepting and managing the FMD from suppliers?
- Has the supplier established a policy to require regular industrial hygiene monitoring for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public?
- Has the supplier established a policy to require regular bio- monitoring (medical surveillance) for the workers for chemicals of concern at their top tier suppliers? If so, do they make the monitoring results public (without compromising privacy rights of the workers)?
- Does the supplier have a policy that requires suppliers to establish health and safety committees with full participation of the workers with representatives selected by the workers?

Contract and Policy Language

- Alameda County Multi-Function Device Lease bid: *http://tinyurl.com/nqwwfac*
- District of Columbia Office of Contracting and Procurement Environmental Specification Guidance for Imaging Equipment *http://tinyurl.com/qb7nf4x*
- Federal Print Management Template July 2014 *https://www.sustainablepurchasing.org/?p=4065*

Highlights of Managed Print Services Blanket Purchase Agreement:

- EPEAT-registered and Energy Star-certified Equipment: EPEAT-registered and ENERGY STAR-certified Multifunction Devices (MFD) are leased. MFDs diminish the need for centralized printers, scanners, and copiers; deskside printers are eliminated.
- Employee to MFD Ratio: Minimum of 10 employees for every one MFD is recommended. The contract encourages an even higher ratio, since the higher the printed page utilization per MFD, the lower the unit per-print cost.
- Print Job Retrieval: Jobs do not print out automatically; employees may retrieve print jobs from any MFD within their organization, using their PIN or smartcard. Privacy and security is thus insured. Employee has the option to delete the job at the MFD.
- Print Job Deletion: Print jobs not retrieved within 24 hours are automatically deleted.
- Double-sided and Monochrome Defaults: MFD defaults to double-sided and monochrome (b/w) printing. Employee must request single-sided and color printing.
- Print Job Accountability: A record of all print jobs, including job owner and number of pages printed, is continually compiled (smartcard/PIN identifies every job.) This management report gives individuals the incentive to control their print output and to print only job-related documents.
- Basis for Payment: Customer pays on a per-print basis (copying and printing); there is no rental fee, and no charge for scanning/faxing (unless printing a confirmation page.)
- Paper Supply: Customer is responsible for supplying paper.
- MFD Condition Monitoring: Company monitors the condition of the MFD remotely and repairs/replaces MFD as needed at no extra charge. (Incentive: company doesn't get paid unless the MFD is working.) Accordingly, the customer saves on maintenance and servicing costs.
- Toner Monitoring: Company monitors toner usage remotely and sends replacement cartridge to office prior to empty. Toner cartridges are included in per-print charge.
- Toner Environmental Attributes: Toner cartridges are high yield. Remanufactured cartridges and biobased inks are used when available and meeting performance criteria. Replacement toner cartridges come in returnable packaging.
- Responsible Recycling: Company is responsible for using a certified recycler/refurbisher at the end of useful life. By not owning equipment, customer saves on handling costs.

Resources

- Northeast Recycling Council and Responsible Purchasing Network Webinar Slides: *Green Purchasing Best Practices for Imaging Equipment.* August 2014. *http://tinyurl.com/lw8gh5j*
- Responsible Purchasing Network and NASPO. *Green Purchasing Best Practices: Imaging.* 2013. *http://tinyurl.com/ol9yrx4*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

IT End-of-Life Management

Scope

The scope of this section includes the procurement of services for recycling and refurbishment of IT products.

Executive Summary

Understanding

Why do we care?

- Hazardous waste
- Greenhouse gas emissions

Action

How can we exercise leadership?

- Promote repairability
- Use third-party certified refurbishers and recyclers

Results

What are the benefits?

External
- Reduced carbon emissions
- Less hazardous material in waste stream

Internal
- Reduced costs from disposal and purchasing new products

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why to we care?

Hazardous waste

IT equipment contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ethers. These substances can increase the difficulty of safely recycling electronic scrap. According to estimates by the U.S. EPA, in 2009, only 38 percent of computers, 17 percent of televisions, and 8 percent of mobile phones were recycled.[187] This results in leaching of hazardous substances and air pollution from incineration and the loss of valuable assets and rare and precious minerals.

Greenhouse gas emissions

Repairing and refurbishing electronics has tremendous potential to impact carbon emissions associated with the manufacturing phase of products. For example, expanded reuse and refurbishment could reduce the production of emissions of mobile phones by 3 million tons of CO_2.[188]

ACTION & RESULTS: What makes a difference?

Create and implement an extended life policy for all electronics.

Refurbish, recycle, or donate products at the end of useful life. Require data sanitization and safe disassembly recycling instructions to provide to the end-of-life asset management organization.

If the organization leases equipment, consider adding a contract clause that allows for the organization to purchase the product (typically at near no cost) at the end of the lease.

Promote repairability within the organization.

Provide IT staff with service and repair manuals, tools, diagrams and other resources to repair rather than replace whenever possible.

Use third-party certified electronics refurbishers and recyclers.

Consider choosing service providers meeting one of the following programs:

- Responsible Recycling Standard
- E-Stewards Standard
- R2/RIOS Standard
- WEEELabex Standard

Accredited certification programs advance best management practices and offer a way to assess the environmental, worker health, and security practices of entities managing used electronics, including handling of hazardous materials and recovery of reusable and valuable materials.

Recyclers should be able document method of final disposition

Challenges

Documenting disposal methods

Manufacturer take-back programs exist, but do not always sufficiently document disposal methods for materials at end of life. This makes assurance difficult.

End of life management infrastructure

While e-recycling programs are on the rise, the U.S. largely lacks the capacity (e.g., smelters) to adequately meet the need. As a result, products are shipped to other regions for processing and increasing the carbon impact. For example, UMiCORE in Belgium provides end of life management for the products beyond capacity for the U.S.

Labor methods

In the United States, UNICOR (U.S. Federal Prison Industries) operates as a correctional program. All facilities are R2-certified and contracts with sellers and refurbishers have "no landfill" and "take-back" clauses. UNICOR gets no appropriated Federal funding but pays prison inmates extremely low wages (though high wages relative to other prison work opportunities). The program teaches inmates useful skills and thus has very low recidivism rate compared to inmates not in the program. However, it can be difficult for end of life management service providers to compete given the ability for this program to run on such low worker wages.

Metrics

- Number of products reused, recycled, or donated
- Number of products repaired that would otherwise have been replaced

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Contract and Policy Language

The following requests address longevity and serviceability requirements:

- Link to publicly available service and repair manual.
- Is the service manual in an open format (oManual IEEE 1874 or XML)?
- Are rechargeable batteries able to be removed and replaced by the end-user using, at most, a philips or flat-head screwdriver?
- List all the different tools that are needed to allow for safe disassembly and reassembly of the product in a like-new working condition?
- Link to publicly available circuit diagrams.
- Does the product have a built-in self-diagnostic tool that indicates where failures in the product are occuring?
- Is embedded software (Firmware, Bootloaders etc) able to be modified by third-parties without voiding product warranties?
- The OEM must allow individual serialized assets to be under hardware maintenance contracts without any linkages to any software, services, or other contracts.
- External diagnostic software, hardware, or equipment shall be available to the owner in the same format and effectiveness as those provided to the OEM Badged-employee
- All licenses, including those with no charge, must be separately, specifically, and optionally contracted. Many OEMs have taken to adding "catch all" terms and conditions for code that is not specifically identified, such as IBM's "License for Machine Code". The terms of these licenses impact the future use of the hardware, but are neither separable from the hardware nor optional.

Resources

- StEP. *Solving the e-Waste Problem. http://tinyurl.com/nqg3eq8*
- Sustainable Purchasing Fact Sheet: Office Electronics (San Mateo County Environmental Health, 2012) *http://tinyurl.com/pxpwwzx*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Data Centers

Scope

The scope of this section includes small, medium, large and corporate data centers.

Executive Summary

Understanding

Why do we care?

- Greenhouse gas emissions
- Air pollution
- Water use

Action

How can we exercise leadership?

- Understand current data center service provide impacts
- Use data center services from a demonstrated environmentally high performing service provider.

Results

What are the benefits?

External

- Reduced greenhouse gas emissions
- Reduced air pollution
- Lower demand on water infrastructure

Internal

- Reduced costs and greater ability to implement innovative IT energy management programs (e.g., thin client programs)

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Energy use

According to the NRDC, data centers "are one of the largest and fastest growing consumers of electricity in the United States…on track to reach 140 billion kilowatt hours by 2020…with small, medium, and corporate data centers [being] responsible for the vast majority of data center energy consumption."[189]

Air pollution

In 2013, data centers in the United States accounted for 91 billion kilowatt hours of electricity, or approximately the same annual output of 34 coal-fired power plants.[190] Of this, the NRDC estimates that the equivalent of 7 coal-fired power plans is wasted by data centers annually.[191]

While some data centers are run ultra-efficiently and on clean energy (for example, one of Apple's data centers is powered entirely from solar, geothermal, and wind energy),[192] the scale and rapid growth increases demand for energy options heavy on air pollution impacts. See the Electricity section for more detail on the air pollution impacts of electricity use.

Water use

While most buildings are designed to meet the heating and cooling needs of occupants, data centers demand massive cooling needs for their servers. If a facility uses a cooling toward to meet this need, the use of water rises significantly.[193]

ACTION and RESULTS: What makes a difference?

Explore the impacts of the data center running the organization's services.

Select the data center with the lowest overall impact on energy use, air pollution and water use.

Consider the following strategies to mitigate the air pollution, energy use and water use impacts of the data center running organization's IT services.

Use data center services from a demonstrated environmentally high performance provider.

- Use a data center that is certified to LEED v4 for Data Centers, available for new or existing data centers *(*available at *http://www.usgbc.org/credits/data-centers---new-construction/v4* and *http://www.usgbc.org/credits/data-centers---existing-buildings/v4)*

If this is not possible…

Mitigate the air pollution and/or energy use impacts of the data center running the cloud services:

- Use ENERGY STAR Certified data centers
- Use DoE Better Building Challenge data centers
- If the data center is onsite, consider using green power by the vendor or the agency, as defined by EPA Green Power Program.

If this is not possible, consider providers that have implemented the following energy reducing strategies:

- are fueled by solar and biofuel power generation, and tri-generation technologies,[194] or have programs supported by offsets.
- use ambient building techniques where outside conditions maintain lower temperatures in the data center.

Mitigate the water use impacts of the data center running the cloud services:[195]

- Raise the server inlet temperatures[196]
- Use non-potable water for cooling[197]
- Employ air-side and water-side economization[198]

Actively measure the data center's operation.

Contract for the ongoing evaluation of existing data systems to identify opportunities for consolidation of systems and further improvements to performance.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified IT Hardware and Services as a priority based on a strategic analysis of overall spending.

Metrics

The Lawrence Berkeley National Laboratory recommends the following metrics for data center efficiency.[199]

- Power Usage Effectiveness (PUE), percent of total used energy to IT used energy
- Air Supply Temperature at IT intake (degF)
- Relative Humidity Range at IT Intake (percent)
- Return Temperature Index (RTI) (percent)
- Data Center Cooling System Efficiency (kW/ton)
- Airflow Efficiency (watts per cubic feet per minute, W/cfm)
- Data Center Power Distribution System Efficiency (percent)
- Data Center Lighting Power Density (watts per square foot, W/sf)
-

Case Studies

- Facebook's Prineville Data Center: *https://www.facebook.com/photo.php?v=10150385588936731*
- Lawrence Berkeley National Laboratory. *Opportunities to Improve Energy Efficiency in Three Federal Data Centers.* May 2014. *http://tinyurl.com/psbd4od*
- Lawrence Berkeley National Laboratory. *Innovative Energy Efficiency Approaches In NOAA's Environmental Security Computing Center In Fairmont, West Virginia.* May 2014. *http://tinyurl.com/kubtag2*

Resources

- Center of Expertise for Energy Efficiency in Data Centers: *http://datacenters.lbl.gov/*
- NRDC Issue Paper: *Small Server Rooms, Big Energy Savings: Opportunities and Barriers to Energy Efficiency on the Small Server Room Market.* February 2012. *http://www.nrdc.org/energy/files/Saving-Energy-Server-Rooms-IssuePaper.pdf*
- NRDC Issue Brief: *Is Cloud Computing Always Greener? Finding the Most Energy and Carbon Efficient Information Technology Solutions for Small and Medium Sized Organizations.* October 2012. *http://www.nrdc.org/energy/files/cloud-computing-efficiency-IB.pdf*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Professional Services as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Professional Services

Technical Advisory Group

Bicky Corman, *Venable LLP*
Brennan Conaway, *U.S. General Services Admin.*
Christopher Davis, *U.S. Green Building Council*
Derek Przybylo, *EY*
Harry Lewis, *U.S. Environmental Protection Agency*
John Edelman, *Edelman*
Karen Cook, *County of Alameda*
Michelle Albanese, *TD Bank Group*
Sajid Ghani, *CIPS Sustainability Index*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified as a priority based on a strategic analysis of overall spending.

Professional Services

Scope

This guidance pertains to procurement of **professional services**.

For purposes of the SPLC, professional services are defined as industries characterized by low capital intensity, high knowledge intensity and a professionalized workforce. Examples include legal, consulting, architectural, engineering, public relations, and financial firms. While organizations tend to find a low per dollar risk associated with professional services purchasing, high purchase volumes can make this one of the most important categories for organizations to address.

This guidance focuses on impacts or consequences associated with the use phase of professional services.

Executive Summary

Understanding

Why do we care?

- Environmental and social impacts associated with travel.
- Environmental impacts of service deliverables
- Professional Service firms build capacity of people and communities

Action

How can we exercise leadership?

- Make organizational investments that promote a mobile workforce
- Adopt a reduced-impact travel policy applicable to service providers
- Minimize impact of service deliverables.
- Determine consistent environmental, social, and economic attribute screening criteria for service providers and encourage proliferation of that information in the market.

Results

What are the benefits?

External

- Reduced carbon emissions from travel
- Increased reporting about environmental, social, and economic indicators from professional services firms into central data repositories.
- Assist professional service first become more sustainable suppliers

Internal

- Improved quality of life for individual contractors
- More dollars available for contract deliverables
- Streamline procurement from purchaser to supplier through integrating value chain

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified as a priority based on a strategic analysis of overall spending.

UNDERSTANDING, Part 1: Why do we care?

Purchases of professional services are of particular interest, because the use life cycle phase of professional services can be associated with the following:

Environmental and social impacts from travel.

Regular travel from the provision of professional services results in a variety of environmental impacts. The impacts vary by the mode of transportation itself (e.g. air, rail, or car travel), distance traveled, and the amount of food and lodging procured during the trip, and the travel provider's own efforts to reduce its impacts.

Additionally, social and economic impacts directly affecting individual employees can result from regular or excessive job-related travel. Health and quality of life--including fatigue, time away from family--may contribute to a professional's job satisfaction, general wellbeing, and ability to sustain their professional lifestyle long-term.

Environmental impacts from service deliverables development and transport.

Depending on the type of service deliverable, impacts from printing, packaging, and shipping can have negative environmental impacts. Additionally, if the service deliverable is a building or structure designed by an architect/engineering firm, this deliverable has the potential to create significant environmental, social, and economic consequences if it is not designed to optimize imapcts.

UNDERSTANDING, Part 2: What else should we know?

The following issues may also be relevant to the use phase of professional services, many of which are attributes of the potential provider more appropriately used as screening and scoring criteria as opposed to contractual requirements for tracking and reporting:

Social and economic benefits associated with the procurement of diverse suppliers.

An organization's investment in small, minority-owned, veteran-owned, women-owned, service-disabled, and/or HUBZone suppliers and social enterprises can contribute to income equality and provide additional entrepreneurial opportunities within this sector.

Environmental impacts associated with the service provider's facility.

- GHG emissions from **electricity use**.
- Resource depletion and GHG emissions from **water consumption**
- Chemical exposure, GHG emissions, resource depletion, embedded supply chain and life-cycle issues from **building services**
- Landfill issues (methane and other GHG emissions), resource depletion, embedded supply chain and life-cycle issues from **waste management.**

Social impacts of the service provider's workforce and organizational practices

- Health, safety and well-being of employees.
- Workforce diversity.
- Employee training and development
- Employee engagement and satisfaction
- Ethical behavior and compliance (e.g. independent directors, board training, code of business ethics)

Service provider's local community and economic investment.

- Sponsoring employee volunteering.
- Pro bono or in-kind service
- Philanthropic donations
- Community (including families, children, and other small enterprises), which may be directly or indirectly affected by the activity of a professional service provider and how it chooses to conduct its business.

Service provider's supply chain impacts of ongoing purchasing.

- Embedded electricity.
- Purchase of products (e.g., furniture, IT products, office supplies, microwaves, etc.).

Note: The impacts presented above represent a common cluster of impacts related to the procurement of services. Because of the variation in impacts associated with service providers (e.g. legal, public relations, or human resources provider impacts; local versus distant providers), the impacts appear in an order associated with the amount of control the purchasing organization holds in influencing the service provider's environmental, social, and economic performance improvement.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified as a priority based on a strategic analysis of overall spending.

ACTION & RESULTS: What makes a difference?

Make organizational investments allowing for potential reduction in service provider travel.

For example, investing in high quality video and teleconferencing services will greatly enhance the ability to reduce the need for contractor travel. Work with potential and current service providers to invest in similar and compatible equipment to ensure this investment will improve the environmental, social, and economic impacts associated with contractor travel.

External benefits

- Reduced emissions of carbon and other air pollutants.

Internal benefits

- Reduced contractor time and productivity loss due to travel (e.g., delays, vehicle travel time, etc.).
- Cost savings from travel that has been avoided.
- Potential for improved health, well-being and job satisfaction from reduced travel.
- Quicker return on investment from organizational investments such as video and teleconferencing services or other strategies that enable remote participation in meetings and events.
- Greater availability of funds within contracts to use toward deliverable development.

Design contract to incorporate a travel policy preferring the lowest environmental impact possible.

Local Travel: use alternative modes of transportation.

- Walking, biking
- Public transportation (metro, bus, bike share)
- Ride sharing

Long-distance Travel: When travel is necessary, employ the following strategies:

- Use rail or bus if traveling within the region (note, some travel agent services include discounts on rail options);
- Fly non-stop to avoid emissions through take-off and landing
- Fly turbo-prop aircraft rather than jet when available
- Use public transportation when on the ground
- Rent alternative fuel or hybrid-electric vehicles whenever possible.

For overnight trips:

- Rent hotel rooms as close to the meeting premises as possible to reduce the need for driving or cabs
- Prefer hotels that have made efforts to improve their environmental performance through programs such as LEED Certification, Green Seal 33, ENERGY STAR Portfolio Manager award certification or program participant, or other self-initiated programs by the hotel provider.
- Develop methods to measure emissions during travel and requirements for service providers to report the emissions associated with trips for the purchasing organization. Quantify the carbon emissions saved from contractor travel that was foregone due to use of operational infrastructure, management and behavioral modification.

External benefits

- Reduced emissions of carbon and other air pollutants from travel.
- Public health benefits associated with travel changes.

Internal benefits

- Reduced employee time and productivity loss due to travel (e.g., delays, vehicle travel time, etc.).
- Cost savings from travel that has been avoided.
- Potential for improved health, well-being and job satisfaction from reduced travel.
- Improved health from more walking, cycling, and close proximity between hotel rooms and meeting premises.
- Developing a policy for and investing in remote operations infrastructure could benefit employees in addition to service providers. Benefits include increased employee job satisfaction from greater workplace flexibility.

Minimize impacts of service deliverables.

- When possible, shift from hardcopy to electronic deliverables.
- For deliverables relying upon imaging equipment, and toner, see the IT Hardware and Services – Imaging Equipment Section
- For deliverables relying upon copy paper usage, see the Wood and Agrifiber Products – Copy Paper Section

Determine consistent screening criteria for service providers and encourage proliferation of that information in the market.

- Seek out existing supplier analysis tools that address the organization's preferred screening criteria and encourage potential service providers to report data into those data repositories. (See the *SPLC website* for a summary of supplier analysis tool providers).

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified as a priority based on a strategic analysis of overall spending.

Challenges

Variations in significant impacts of service providers.

Due to the variations in impact among professional services providers, it is difficult to provide one set of actions service providers can implement that would definitively target the provider's most significant impacts associated with the procurement of their services.

The typical impact of professional services providers can vary widely depending on the type of service they provide, and the proximity of the provider to the organization, among other factors. For example, legal services are likely to some in person meetings and appearances (e.g. courts require lawyers to appear in person; thus, law firms do not have the discretion to do business remotely) while other services have greater flexibility in minimizing travel. Because of these variations, it is difficult to provide one set of actions *service providers* can implement that would definitively target the most significant impacts associated with the procurement of their services. Moreover, the impact of the procurement of professional services may vary significantly from client to client (e.g. travel related impacts may be significantly greater for one client as opposed to another, that is either located within close proximity or has the infrastructure available to require less travel).

Therefore, a set of straightforward, effective actions applicable to all professional service providers to implement does not exist (as opposed to suppliers of goods, that will most likely experience similar environmental, social, and economic performance issues along their supply chain). The default approach has been to analyze potential providers individually, either through surveys tailored specifically to the purchasing organization or requiring reporting through an existing data repository (e.g. Global Reporting Initiative). Unless the data repository provides verification of the information provided, it is difficult at best to verify provider claims regarding their practices. As a result, service providers can become overwhelmed with surveys from every potential client and those procuring the services ultimately do not receive the information necessary to identify the best available actions to address environmental, social, and economic performance issues.

Potential Responses

Whenever possible, the organization procuring professional services should focus on implementing actions which consider a professional service provider's environmental, social, and economic impact within the specific context of the provider/client relationship. Additionally, rather than prioritizing a focus on *contractually requiring* specific environmental, social, or economic performance and investments from service providers within the operations of their company, these attributes should largely remain as screening criteria for selecting a particular provider.

Lack of consistent screening criteria for suppliers.

There is current no consistent, comprehensive measure of how to screen suppliers for the environmental, social, and economic performance. Because of this, suppliers are burdened with many similar questions, surveys, and requests for information. Additionally, potential purchasers do not have one common set of criteria to rely upon, creating mixed signals. For example, a supplier may invest in offsetting their carbon footprint as a means to mitigate their overall carbon impact. However, this is not necessarily a leadership action and is also unlikely to be the most strategic action an organization can take. Without a clearer delineation of what actions are most valuable from an environmental, social, and economic impact perspective, suppliers may continue to invest in actions that may not otherwise be considered leadership.

Metrics

- Greenhouse gas emissions reduced, in $MTCO_{2e}$, from decreasing service provider travel.
- Percent of overall spend on diverse service providers.
- Proportion of service deliverables sent and received electronically (that historically would not have been)
- See IT Hardware and Services – Imaging Equipment for metrics related to reduced impacts from the creation of service deliverables.
- See Wood and Agrifiber Products – Copy Paper for metrics related to reduced impacts from the creation of service deliverables.
- Percent of solid waste diverted from landfills.

Indicators

- Cost savings of reducing service provider travel and including adoption of videoconferencing technology.
- Contractor satisfaction with the purchasing organization, relative to support of their individual health, wellbeing and quality of life.
- Percent of savings, by cost, of transitioning to electronic service deliverables.
- See Construction and Renovation - Furnishings for metrics related to indoor air quality and occupant satisfaction.
-

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Contract / Policy Language

- Nova Scotia Vendor Sustainability Template. https://www.sustainablepurchasing.org/?p=4058
- Portland, Oregon Bid Language: http://www.portlandoregon.gov/bibs/article/447654
- Multnomah, Oregon Bid Language: https://multco.us/file/36850/download

Outstanding Issues

Understanding the current bar for leadership in the service provider industry.

Incorporation of emerging standards.

A variety of standards are in development and/or about to be released that address the performance of service providers. For example, a new standard, NSF P391: Sustainability Assessment for Service and Service Providers, is in development. A second rating system, the American Legal Industry Sustainability Standard is being developed by a lawyers' collective known as the Law Firm Sustainability Network. Developed by and for lawyers, it will be piloted this spring. As this and other relevant standards are in development, it is necessary to set up the infrastructure for the Council to consider how to best leverage the work of current initiatives to limit confusion and inconsistency in the marketplace.

Determining appropriate and consistent leadership criteria for service providers across sectors.

Sustainability criteria applicable to service providers should be "above and beyond" what is already required, either as a matter of professional ethics or under various legal requirements. Otherwise, there is no 'value added' to what would be a required standard operating procedure. However, there are large variances in what are leadership criteria across the professional services community (e.g. legal services, public relations, architecture, etc.). For example, some parts of the industry may have required practices (e.g. pro bono work) that others have not. Is it more appropriate to set a baseline that some parts of the industry will automatically comply with given their current practices, or is it more appropriate to set the bar higher than any part of the industry currently achieves?

Service provider's ability to claim the benefits of employee actions.

There are many instances where the common attributes used to evaluate a service provider is "uncontrolled." For example, if volunteering in the community or in any capacity, if not "on the clock" (e.g., going toward billable hours) then the activity does not really apply to the service provider organization. That kind of volunteer activity exists as the personal (and discretionary) acts of the employee. Moreover, if the employee is "expected to" undertake these volunteer activities, or there is a reasonable understanding that it is expected of them such that they would risk some negative consequence (passed over for promotion, less holiday bonus, etc.), if they did not undertake the activities, then this is something for which they must be compensated if they otherwise were a non-exempt (under FLSA) type of employee, or the time must be included toward the employee's billable hours.

Resources

- The **California Green Business Program** works with small to medium sized businesses to grow a vibrant and healthy green economy by incorporating green practices (e.g. CO2 emissions reduction, energy use reduction, solid waste diversion, water efficiency, etc.) into their operations. The Program also serves as a clearinghouse where organizations can seek out business incorporating green practices. http://greenbusinessca.org/
- **B Corps** are certified by the nonprofit B Lab to meet rigorous standards of social and environmental performance, accountability, and transparency. *http://www.bcorporation.net/what-are-b-corps*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Transportation and Fuels

Subcategories

- Fuels
- Institutional Vehicle Fleets
- Local Delivery Service
- Long-Haul Transport
- Travel

Technical Advisory Group

Denise Kearns, *U.S. Env. Protection Agency*
John Glann, *Alameda County, California*
Karen Hamilton, *King County PCS*
Mark LaCroix, *The CarbonNeutral Company*
Mark Stansbury, *Lockheed Martin*
Matt Rudolf, *Roundtable for Sustainable Biofuels*
Michele Grossman, *Waste Management*
Nate Springer, *Business for Social Responsibility*
Pat Hopper, *FedEx*
Shab Fardanesh, *U.S. Department of Energy*
Stacey Foreman, *City of Portland, Oregon*
Warren Lavey, *American Clean Skies Foundation*

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Fuels

Scope

This category provides guidance for the direct and indirect purchase of fuel. Direct fuel purchasing includes fuel used by an organization's institutional fleet vehicles; indirect fuel purchasing includes fuel used by contractors. Fuel includes gasoline (from petroleum), as well as alternative fuels.[200] This guidance focuses on impacts or consequences associated with the extraction, manufacture and use of fuel. This section will help procurement professionals develop procurement specifications and evaluative criteria related to fuel supply contracts (e.g. gasoline, diesel, natural gas, electric charging stations, etc.) and contractor fuel use (e.g. what to require/prefer contractors use for the vehicles/equipment used in performing the scope of work).

Executive Summary

Understanding

Why do we care?

- **Greenhouse gas emissions.** Transportation-related activities contribute 28% percent of emissions in the United States
- **Air pollution.** Fossil fuel combustion produces emissions—including criteria pollutants—that impact the health of people.
- **Workers are exposed** to carcinogenic substances. Production projects can cause mass relocations, and infringement of indigenous lands.
- **National security** are exacerbated by the import of petroleum, 75 % of which is used of transportation.

Action

How can we exercise leadership?

- Reduce the need for fuels through fuel optimization.
- Use low carbon fuels.
- Use sustainable biofuels.

Results

What are the benefits?

External

- Increased national security.
- Lower greenhouse gas emissions and criteria pollutants.

Internal

- Cost savings.
- If less fuel use is coupled with alternative forms of transportation, benefits could include improved health from physical activity of employees.
- Lower carbon footprint.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Greenhouse gas emissions

Nearly all fossil fuel energy consumption in the transportation sector is from petroleum-based fuels (92 percent), with a small amount from renewable sources (5 percent) and natural gas (3 percent),[201] making **transportation-related activities the second highest contributor (28%) to greenhouse gas emissions in the United States**, second only to electricity product (32%).[202] Petroleum for vehicle use typically accounts for 35.5 percent of an organization's Scope 1 GHG emissions.

Air Pollution

Human health can be significantly compromised by air pollution. This is especially true for vulnerable populations such as children, the elderly, asthmatics, and those with chronic
es. Fossil fuel combustion produces emissions that impact the health of people. These emissions include criterion pollutants (e.g., NO_x, SO_x, volatile organic compounds, particulate matter, and carbon monoxide) monitored and regulated by the U.S. Environmental Protection Agency because of the hazards they present to human health. Air pollution kills more Americans than breast and prostate cancers combined.[203] This exposure occurs through exhaust fumes when during idling time. Those working in the goods delivery industry are exposed to these pollutants in larger quantities can experience headaches, irritability, poorer quality of life, increased medical costs and may experience long-term health risks, such as asthma.

Health impacts

Fuels significantly contribute to health impacts. In 2012, the World Health Organization's International Agency for Research on Cancer classified diesel exhaust as a carcinogen.[204] In particular, diesel engines are the largest source of black carbon. The range of health impacts[205] from black carbon exposures includes respiratory and cardiovascular effects.

Worker health and human rights

Workers along the diesel production and refining processes are exposed to carcinogenic substances. Large-scale fossil production projects associated with mass relocations, infringement of indigenous peoples' traditional lands and customary rights. Likewise, biofuels brings the risk of forced and child labor in the field.[206] In general, oil production and refining jobs will tend to pay better and create more training opportunities than similar jobs in biofuel production, even where there is lax regulation and oversight. On the other hand, biofuel jobs appear more plentiful and likely to filter down to the very poorest, per unit of fuel produced. Traceability and standard measurements currently lack within this industry; making tracking and understanding the scale of this impact to be meaningful for an organization.

Land use and biodiversity

Biofuel production tends to have a large land use requirement due to relatively low yields of production (i.e. gallons produced per acre of land). Of the World Wildlife Fund's vital eco-regions, 127 are found in the countries of significance for fuel production and 33 have been identified as directly threatened by activities related to energy production, particularly petroleum and palm.

National security

National security and other costs are exacerbated by the import of petroleum. Transportation accounts for over 75 percent of all fuel consumed in the United States.

ACTION & RESULTS: What makes a difference?

Reduce the need for fuels

Fuel purchasers who set ambitious goals related to low carbon fuel send a signal to the rest of the supply chain to provide solutions that help them meet those commitments

Best technical solution (esp. when paired with a fuel reduction goal) is fleet optimization software; growing number of providers.

External Benefits

- Reduced greenhouse gas emissions
- Reduction of air pollution

Internal Benefits

- Less use of fuels saves money—depending on the context—may provide healthier opportunities (e.g. biking, walking) for employees who would use fuel for short-distance travel.

Use low carbon fuels

Using fuels of all types (e.g., fossil, alternative and biofuels) with a lower carbon intensity value than the average fuel mix in their region. Natural gas is the first economically available alternative for medium- and heavy-duty vehicles. Biofuels is expected to be equally competitive by around 2020. Battery-powered and electric vehicles are a viable option for light duty and regional transportation. Hydrogen fuel is available for materials-handling vehicles and transit buses.

External Benefits

- Reduced greenhouse gas emissions
- Reduction of air pollution
- Strong demand signal for the availability of fuels with improvement environmental, social, and economic performance.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Internal Benefits

- Reduced carbon footprint.

Use certified sustainable biofuels

The exclusive use of biofuels has been demonstrated to have positive social and environmental impacts across its supply chain.

Addresses the concern about unintended negative impacts through the use of biofuels and their respective environmental and social impacts (e.g. GHG, water, biodiversity and land use, etc

External Benefits

- Improved energy security
- Increase demand for sustainable biofuels

Internal Benefits

- Reduced contribution to environmental and social impacts within the fuels supply chain.
- Potential for cost savings.

Challenges

Available alternatives

The cost, supply, and reliability of current alternatives are not fully attractive. Electric and hybrid vehicles are currently attractive for light duty, and natural gas is lower than cost of diesel for all fleet types. Biofuels and hydrogen are largely more costly to organizations—and will likely remain so—in the near-term. Fueling distribution and refueling infrastructure is not as prevalent for low-carbon alternative fuels as it is for diesel and natural gas. A mature existing diesel and gasoline network drives up the opportunity cost of building new infrastructure. A few states, such as California, Texas, and New York (City) have built sufficient electric recharging infrastructure to overcome this barrier. Infrastructure investments include maintenance of systems as well as training for fleet workers and drivers. Despite this, the cost of biofuels and hydrogen is going down.

Impact of fuel mix for electric and hybrid vehicles

Greenhouse gas emissions from electricity—which fuels electric and hybrid electric vehicles—varies significantly by the local grid; switching to electric or hybrid electric vehicles may increase an organization's greenhouse gas emissions. For example, if an organization's fleet is located in Georgia or West Virginia—where electricity is largely produced by coal—then switching your fleet from diesel to EV will increase total GHG emissions (as well as NO_x, SO_x, and other criteria pollutants). Organizations exploring the use of alternative fuel vehicles must first consider the local fuel mix and its implications.

Regulations

Unknown future regulations and technology advances dampen alternative fuel investment in the short term. The "portfolio" of favorable policies necessary to support a strong investment in alternative fuel vehicles and low-carbon fleets only exist in places like California, New York City, and to some extent in the District of Columbia and Maryland, and Texas.

Metrics

- Gallons of fuel consumed, specifying type (e.g. diesel, natural gas, electricity gal equivalent, biofuels, hydrogen)
- GHG emissions produced, in absolute, GHG/MJ or GHG/gal
- Embedded water in fuel (gal/MJ)

Indicators

- Fuel supplier implementation of an Environmental Health and Safety Policy and training.
- Fuel supplier implementation of Human Rights Policy and training.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Unresolved Issues

The environmental risks and benefits of fracking for natural gas are contested.

In the last ten years, the boom in fracking of natural gas has resulted in natural gas displacing other fossil fuels as an energy source in the electricity and transportation sectors. Because combustion of natural gas typically produces less greenhouse gas (GHG) emissions than the fuels that it displaces (e.g. coal, petroleum, diesel), some see it as an appropriate "transitional" fuel, meaning that it can smooth the transition to rapidly renewable fuels.

Because fracking technology is relatively new, however, the local and regional environmental and human health impacts are not well understood or documented. Concerns include the following:

Methane leakage.

Some have suggested that, if rates of leakage from natural gas pipelines exceed 1%, then the lifecycle GHG emissions of natural gas are higher than diesel fuel.

"Lock-in" effects.

Capital investment in natural gas infrastructure will create disincentives for switching away from a fossil fuel-based economy.

Biofuels and indirect land use change (biofuels).

The indirect land use change impacts of biofuels, (ILUC), relate to the unintended consequence of releasing more carbon emissions due to land-use changes around the world induced by the expansion of croplands for ethanol or biodiesel production, in response to the increased global demand for biofuels. Indirect land use change impacts may include land displacement and conversion, as well as commodity price effects, from increases in biofuels production.

This raises the possibility that use of biofuels, although apparently preferable as a renewable fuel, could result in an overall increase in deforestation, greenhouse gas (GHG) emissions, and other related indirect environmental damage. Use of sustainably sourced biofuels may address this problem, but debate is ongoing in the scientific community.

Resources

Roundtable for Sustainable Biofuels participating operators: *http://rsb.org/certification/participating-operators/*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Institutional Vehicle Fleets

Scope

This section pertains to the direct purchases of light-duty fleet vehicles by the organization as well as the types of fleet vehicles used by contractors to perform contracted work.

Executive Summary

Understanding

Why do we care?

- Light- and medium-duty vehicles, often institutional vehicle fleets, account for **80 percent of the energy use** associated with transportation.
- **Air pollution.** Fossil fuel combustion produces emissions—including criteria pollutants—that impact the health of people.
- **National security** issues are exacerbated by the import of petroleum, 75 percent of which is used of transportation.

Action

How can we exercise leadership?

- Explore ways to reduce the need for new vehicles.
- Procure alternative fuel vehicles and invest in supporting infrastructure.
- Procure hybrid electric vehicles.

Results

What are the benefits?

External

- Increased national security.
- Lower greenhouse gas emissions and criteria pollutants.

Internal

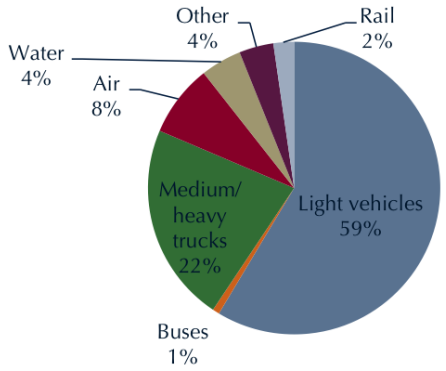
- Cost savings.
- Lower carbon footprint.
- Lower operating costs if fleet size is reduced.
- Potential for lower investment costs associated with right-sizing fleets.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Greenhouse gas emissions

Institutional vehicle fleets contribute toward one of the largest sources of carbon dioxide and other greenhouse gas emissions in the supply chain, including emissions from the use of light- and medium-duty vehicles.



Transportation Energy Use by Mode: 2012[207]

Air pollutants

Human health can be significantly compromised by air pollution. This is especially true for vulnerable populations such as children, the elderly, asthmatics, and those with chronic
es. Fossil fuel combustion produces emissions that impact the health of people. These emissions include criterion pollutants (e.g., NO_x, SO_x, volatile organic compounds, particulate matter, and carbon monoxide) monitored and regulated by the U.S. Environmental Protection Agency because of the hazards they present to human health. Air pollution kills more Americans than breast and prostate cancers combined.[208] This exposure occurs through exhaust fumes during idling time.

National security

National security and other costs are exacerbated by the import of petroleum. Transportation accounts for over 75 percent of all fuel consumed in the U.S., and a significant portion of that fuel goes toward light- and medium-duty vehicles often used for local service delivery.

ACTION & RESULTS: What makes a difference?

Explore whether purchasing new vehicles can be avoided.

Consider the following opportunities to reduce the need for new vehicle purchases:

- Reallocate existing fleet vehicles (this requires collaboration with other departments and potentially revising the organization's vehicle fleet purchasing policies).
- Set up a car-share program (this requires collaboration with other departments and potentially revising the organization's vehicle fleet purchasing policies).
- Explore rightsizing best practices and whether you can downsize your vehicle (see: *http://www.afdc.energy.gov/conserve/rightsizing.html*)
- Invest in alternative fuel conversation kits.

External Benefits

- Reduce carbon emissions
- Reduce environmental impacts associated with vehicle manufacture
- Organizational Benefits
- Reduce costs without compromising fleet activities

Seek alternative fuel vehicles (AFVs), including exploring options for investing in alternative fuel infrastructure.

Depending on local markets, alternative fuels may also cost less and perform better than gasoline or diesel. Online tools such as the Alternative Fuels Data Center's Vehicle Cost Calculator (see http://www.afdc.energy.gov/calc) are available to compare the ownership costs and emissions of different types of vehicles.

EXAMPLE

TRANSITIONING TO SMALLER VEHICLES

A fleet dominated by SUVs may find that mid-size sedans suffice with a significant reduction in fuel costs. Transitioning to smaller, more efficient engines can reduce fuel use and emissions while still meeting operational needs. Lighter vehicles can improve fuel economy by up to 2% for every 100 pounds of weight reduced.

☑TIP

Ensure compliance of fuel conversion kits.

If you plan on using alternative fuel conversion kits to modify your existing vehicles, ensure the kits are U.S. EPA and/or California Air Resources Board (CARB) approved for emissions. The conversion kits must also be in compliance with the National Highway Traffic Safety Administration's (NHTSA) federal safety standards.

☑TIP

Purchase vehicles with good reparability, reliability, and durability records.

This extends the life of all vehicle purchases.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

☑TIP

Train maintenance staff on new vehicle technologies.

Maintenance technicians may need to receive new training specifically on the alternative fuel technologies. Prior to purchasing alternative fuel vehicles that are new to the organization, make sure the maintenance crew receives the necessary training. Additionally, ensure there are maintenance facilities in your area with qualified technicians to repair alternative fuel vehicles. Discuss this with the maintenance technicians before making a commitment to purchase alternative-fuel vehicles, as the maintenance facility may need to be upgraded in order to service certain kinds of alternative fuel vehicles. This could add significant costs to the investment in this technology.

- Collaborate with department end-users to fully understand their operational needs and introduce them on AFV technologies. Identify any specific needs that need to be addressed before purchasing the AFV. You may also need to collaborate with your property manager if new fueling infrastructure is needed. This approach can increase buy-in from department end-users. Communication and advanced planning reduces the risk of non-acceptance or a logistical road-block late in the process.
- Consider the source of the alternative fuel and prioritize renewable fuel sources. This reduces economic risk associated with volatile fuel markets and reduced emissions associated with fuel production. If you can generate renewable fuel sources in excess of your operational needs, you may also generate income from the selling of the renewable fuel to others.
- Research whether there are any tax credits or other incentives available for your alternative fuel vehicle purchase or for corresponding fueling infrastructure – check fueleconomy.gov, *www.afdc.energy.gov/laws*, and state and local resources.
- Use the following resources to identify the alternative fuel vehicle that will work for your application. These tools provide the information necessary to make both the economic and environmental case for switching to AFVs, helping the organization to avoid costly mistakes.
  - *www.afdc.energy.gov/fuels/* – learn about alternative fuel technologies, review case studies, calculate and compare the total cost of ownership and associated emissions of different vehicles, locate fueling stations, etc.
  - *fueleconomy.gov* – info on the most fuel efficient vehicles, compare vehicles, calculate potential fuel savings, find EPA SmartWay certified vehicles, etc.
  - Choose the right type of AFV based on available refueling in your area. To see which alternative fuel stations are new you, go to *www.afdc.energy.gov/locator/stations*.
- Ensure the organization's fleet maintenance department or provider are capable of servicing the type of alternative fuel vehicle you are going to purchase.

Purchase full hybrid electric vehicles (full HEVs).

Depending on local fuel mix within the electricity grid, a very fuel-efficient car may be a better purchase than a full HEV. While the full HEV may result in a pollution emissions reduction compared to the fuel-efficient car, it may not result in a carbon emissions decrease. The organization will need to complete this analysis to understand which strategy is better, based on its location.

- Collaborate with department end-users to fully understand their operational needs and introduce them to full HEV technologies. Identify any specific needs that need to be addressed before purchasing the HEV. You may also need to collaborate with your property manager if new fueling infrastructure is needed. This approach can increase buy-in from department end-users. Communication and advanced planning reduces the risk of non-acceptance or a logistical road-block late in the process.
- Research whether there are any tax credits or other incentives available for your alternative fuel vehicle purchase or for corresponding fueling infrastructure – check fueleconomy.gov, *www.afdc.energy.gov/laws*, and state and local resources.
- Use the following resources to identify the alternative fuel vehicle that will work for your application. These tools provide the information necessary to make both the economic and environmental case for switching to HEVs, helping the organization to avoid costly mistakes.
  - *www.afdc.energy.gov/fuels/* - learn about alternative fuel technologies, review case studies, calculate and compare the total cost of ownership and associated emissions of different vehicles, locate fueling stations, etc.
  - *fueleconomy.gov* – info on the most fuel efficient vehicles, compare vehicles, calculate potential fuel savings, find EPA SmartWay certified vehicles, etc.
  - Choose the right type of HEV based on available refueling in your area. To see which alternative fuel stations are new you, go to *www.afdc.energy.gov/locator/stations*.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

If neither alternative fuel nor full HEVs are not available for your application, then use the following resources to identify the most fuel efficient and reliable vehicle for the application:

- *fueleconomy.gov*
- *http://www.afdc.energy.gov/calc/*
- *Consumer Reports*

External Benefits

- Investing in alternative fuel vehicles that use renewable fuel sources can mitigate short-term economic risks associated with the volatile oil market and the long term economic risks associated with relying on non-renewable fuel sources.
- Reducing fleet sizes through car-sharing programs, you can reduce the need for new vehicles, thus reducing the consumption of natural resources associated with vehicle manufacture.

Internal Benefits

- High-efficient and alternative fuel vehicles can save money. A high-efficient vehicle will provide significant savings in gas costs over the life of the vehicle, which can offset or even exceed any added upfront cost of the high-efficient vehicle.[209]
- Purchasing vehicles with good reparability, reliability, and durability records can also extend the life of a vehicle, thus reducing resource consumption associated with vehicle manufacturing.

Challenges

Unintended consequences.

If reducing vehicle fleets results in more reliance on vehicles belonging to employees, then the impact reduction potential decreases. Employees' vehicles may not meet the environmental performance criteria to contribute toward impact reduction associated with the fleet. It is not appropriate for the organization to claim an impact reduction simply by passing the impact along to an employee's vehicle. If this situation does happen, ensure that miles driven for the organization are carefully tracked and reported so the impacts associated with its use can be included in measurement.

Fuel availability and cost of installing alternative fuel refueling infrastructure.

A major barrier to organizational investment in alternative fuel vehicles is the—oftentimes-lacking—infrastructure to operate them. To address this:

- Locate existing refueling infrastructure in your area by using the station locator: http://www.afdc.energy.gov/locator/stations
- Invest in alternative fuel infrastructure - either your own or in partnership with other interested organizations. For installing your own refueling stations, use grants, tax credits, or other incentives to help offset any higher costs. http://www.afdc.energy.gov/laws
- Work with code officials early in the process to ensure you have the necessary permits to install new infrastructure
- Use the Petroleum Reduction Planning tool to see whether operational savings (e.g. fuel savings) can offset the refueling infrastructure costs http://www.afdc.energy.gov/prep/

Competing technologies.

There are currently a number of impact reducing fuel types and vehicles in which an organization could invest, leaving several different directions in which to send their demand signal. The fuel type and vehicle technology depends on the car manufacturer and the standards they chose to adopt. Similar technologies—such as electric chargers—follow either the U.S. or the EU or Asian standards; therefore, not all chargers will work with all electric vehicles. To address this, research technologies ahead of time and commit to a standard solution across the organization.

Supplier investment.

Fleet vehicles are a fairly long-term investment in that it may be unrealistic for a vendor to invest in fuel-efficient and/or alternative fuel vehicles just for one contract. Additionally, small businesses may not be able to afford newer vehicles, thus requiring this of your contractors may limit competition (and competing with your small or diverse supplier purchasing requirements. . For long-term contracts, allow for improvements over time or allow for delayed compliance. Depending on your agency (public vs. private), provide incentives for your suppliers to make these investments.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Metrics

- Fleet fuel use: gallons/per year. (Source of data: fuel purchase receipts or data from fuel tracking devices/systems, telematics systems)
- Fleet fuel economy: Miles per gallon. (Source of data: data from fuel tracking devices/systems, telematics systems)
- Fuel costs: Fuel dollars per mile driven. (Source of data: data from fuel tracking devices/systems, telematics systems)
- Fleet GHG emissions. Source of data: data from fuel tracking devices/systems, plus calculator tools such as:
- Make-up of fleet by type of fueling system: % electric, %hybrid, %plug-in electric, % natural gas, etc. (Source of data: fleet inventory system)
- Number of contracts with contractor "green fleet" requirements. (Source of data: contract database or manual collection of data)

Indicators

- Increase in the number of alternative fueling stations within the organization's county or state. As organizations demands more AFVs for its fleet and that of its contractors, the AFV infrastructure will expand.
- Increase in the number of AFV registrations in the state. As organizations demands more AFVs for its fleet and that of its contractors, both AFV fueling infrastructure will expand and availability of AFVs will increase; AFVs prices may come down, making AFVs a more accessible option for individual ownership.

Contract / Policy Language

Contractor Vehicle Requirements

As it relates to the contracted scope of work, require, or provide preference for, contractors to:

- use the most fuel efficient vehicles, and/or
- use alternative fuel vehicles, and/or
- source their alternative fuel from renewable resources, and/or
- track and report fuel efficiency metrics and alternative fuel use metrics
- demonstrate continuous improvements in fuel efficiency and sustainably-sourced alternative fuel use over the life of the contract

Case Studies

- City of Fort Collins, CO: *http://www.afdc.energy.gov/case/1566*
- City of Portland, OR Electric Vehicles case study: *http://tinyurl.com/pmp2w75*
- Washington DC's use of AFVs: *http://tinyurl.com/p3a5kz5*
- Richmond Virginia's Use of CNG refuse trucks *http://tinyurl.com/ofdglch*
- Ashville NC use of CNG pick-up trucks and refuse trucks *http://tinyurl.com/pqeqzgt*

Resources

- Petroleum Reduction Planning Tool: This tool helps organizations create a comprehensive plan for its fleet to reduce petroleum consumption and greenhouse gas (GHG) emissions. *http://www.afdc.energy.gov/prep*.
- U.S. Department of Energy Vehicle Fuel Economy: *www.fueleconomy.gov*
- Alternative Fuel Data Center - case studies, fuel conservation tips, tools, resources, laws and incentives for both Federal and state agencies: *http://www.afdc.energy.gov/*
- Vehicle Cost Calculator: This tool uses basic information about your driving habits to calculate total cost of ownership and emissions for makes and models of most vehicles, including alternative fuel and advanced technology vehicles: *http://www.afdc.energy.gov/calc/*
- GREET 2014 Model: performs life cycle analysis simulations of alternative transportation fuels and vehicle technologies: *https://greet.es.anl.gov/greet/index.htm*
- EPA Green Vehicle Guide: find SmartWay certified vehicles. *http://www.epa.gov/greenvehicle/find/index.htm*
- *CleanCitiesTV*: Clean Cities TV is the educational media channel of the U.S. Department of Energy's Clean Cities program, which advances the nation's economic, environmental, and energy security by supporting local actions to reduce petroleum consumption in transportation. Finding the Right Vendors. A broad spectrum of private companies, fuel suppliers, local governments, vehicle manufacturers, national laboratories, state and federal government agencies, and other organizations join together under Clean Cities to implement alternative-transportation projects in their communities. *http://www1.eere.energy.gov/cleancities*.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Local Delivery Service

Scope

This guidance pertains to procurement of local courier services and delivery services for the "last mile" goods and services distribution (hereafter "delivery services"). For purposes of the SPLC, these transport services are defined as short-range delivery utilizing light-duty trucks or delivery vans, bike or cargo tricycles, or walking and public transit.

This category is considered important because emissions from the combustion of fossil fuels are one of the most significant drivers of global and regional environmental and human health impacts, and because traffic congestion is a significant safety and quality of life issue for many communities.

This guidance focuses on impacts or consequences associated with the use-phase of a delivery service's life cycle.

Executive Summary

Understanding

Why do we care?

- Light- and medium-duty vehicles, often local delivery service vehicles, account for **80 percent of energy use** associated with transportation.
- **Air pollution.** Fossil fuel combustion produces emissions—including criteria pollutants—that impact the health of people.
- **National security** issues are exacerbated by the import of petroleum, 75 percent of which is used of transportation.

Action

How can we exercise leadership?

- Optimize delivery service utilization and logistics.
- Procure zero-emission, low-emission, or alternative fuel delivery services.
- Promote safety.

Results

What are the benefits?

External

- Increased national security.
- Lower carbon emissions, criteria air pollution, risk of collision, traffic congestion, consumption of fuel resources, and loading and unloading zones and parking spaces.

Internal

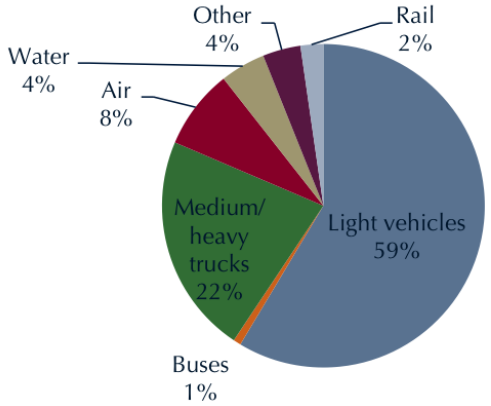
- Reduced costs from optimizing deliver service utilization (delivery fees, mailers and handling).
- Reduced congestion at curbside loading docks.
- Lower operating costs if fleet size is reduced.
- Potential for lower investment costs associated with right-sizing fleets.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Greenhouse gas emissions.

Local delivery services are one of the largest sources of carbon dioxide and other greenhouse gas emissions in the supply chain, including emissions from light- and medium-duty vehicles.



Transportation Energy Use by Mode: 2012[210]

Nearly all fossil fuel energy consumption in the transportation sector is from petroleum-based fuels (92 percent), with a small amount from renewable sources (5 percent) and natural gas (3 percent),[211] making transportation-related activities the second highest contributor to greenhouse gas emissions in the United States.[212]

Health and wellbeing.

Air Pollutants

Human health can be significantly compromised by air pollution. This is especially true for vulnerable populations such as children, the elderly, asthmatics, and those with chronic
es. Fossil fuel combustion produces emissions that impact the health of people. These emissions include criterion pollutants (e.g., NO_x, SO_x, volatile organic compounds, particulate matter, and carbon monoxide) monitored and regulated by the U.S. Environmental Protection Agency because of the hazards they present to human health. Air pollution kills more Americans than breast and prostate cancers combined.[213] This exposure occurs through exhaust fumes when during idling time. Those working in the goods delivery industry are exposed to these pollutants in larger quantities can experience headaches, irritability, poorer quality of life, increased medical costs and may experience long-term health risks, such as asthma.

Safety

Local service deliverers have the potential to be injured during their work from traffic accidents. Accidents also pose a risk to pedestrians, cyclists, and other drivers.

National security

National security and other costs are exacerbated by the import of petroleum. Transportation accounts for over 75 percent of all fuel consumed in the U.S., and a significant portion of that fuel goes toward light- and medium-duty vehicles often used for local service delivery.

ACTION & RESULTS: What makes a difference?

Optimize Delivery Service Utilization & Logistics.

Examine what items are currently being transported via delivery services to determine if items could be (1) transmitted by other means (e.g., electronically, mail carrier), (2) consolidated into fewer deliveries, (3) rescheduled to improve efficiency (e.g. route optimization, take advantage of shorter travel times during low congestion periods), or (4) delivered using more "right-sized" methods (e.g., trikes instead of vans, vans instead of box trucks).

Internal Benefits

- Reduce costs (delivery charges, mailers, handling)
- Reduce congestion at curbside and loading docks

External Benefits

- Lower carbon emissions, criteria air pollution, risk of collision, traffic congestion, consumption of fuel resources, and demand for land to be used as traffic lanes, and loading and unloading zones and parking spaces.

Procure Zero-emission, Low-emission or Alternative Fuel Delivery Services.

Seek delivery services with zero or low emissions, and reduced carbon intensity.

Can be trike/bike, electric (where the electricity source has low carbon intensity), other alternative fuels, or a delivery service that has been certified as carbon-neutral? Give preference or require delivery service providers to facilitate accurate measurement of Scope 3 emissions by either:

- reporting their greenhouse gas emissions using acceptable data/metrics (CO2 emissions/ton mile), or
- participating in the U.S. Environmental Protection Agency's SmartWay Transport Partnership and providing CO2 emission reports based on that participation

Internal Benefits

- Reduces air pollution around buildings and for loading dock employees
- Low/zero emission vehicles are often quieter.
- Aids greenhouse gas inventory data collection and climate action planning.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

External Benefits

- Reduces greenhouse gas emissions that contribute to climate change.
- Reduces particulate emissions that affect the health of delivery operators and community members.
- Helps grow demand for low/zero emission and alternative fuel vehicles.

Promote Safety

Evaluate suppliers for their safety training, measures and performance history. Require suppliers to have an idle-reduction policy.

Internal Benefits

- Reduce risk of accidents and liability

External Benefits

- Promotes worker and community welfare.
- Reduces fuel use and worker exposure to air pollution.

Challenges

Infrastructure challenges.

In some locations, alternatives to vehicle travel may not be available. For example, areas that do not have bikable or walkable routes reduce the ability for suppliers to implement these delivery options into their business model. Additionally, last-mile delivery by way of bike or walking could pose a greater safety risk to the employee.

Materials being hauled may limit options.

Material size and weight could limit the options used for last-mile delivery (e.g. cannot be transported by bike or on foot). Some materials require dedicated containers, and prohibit from mandating no empty hauls (no deadheading).

Investment by local delivery service provider.

Service providers—depending on their existing service options—may resist these requests due to the potential added investment cost. For example, despite offering delivery by bike or on foot, service providers may have to consider adjusting their insurance and liability policies, which could add to resistance. Investing in alternative fuel vehicles can also pose a challenge to providers. Consider engaging with suppliers directly to understand the best options they can provide given the specific logistical challenges associated with deliveries to your organization.

Metrics

- Gallons of fuel saved
- Renewable fuels used (name, quantity)
- Criteria air pollutant emissions reduced
- Greenhouse gas emissions reduced

Indicators

- Best value (a combination of vehicles, behavior and logistics of vendor along with price)
- Number of hauling or delivery contracts meeting one or more model criteria (e.g. SmartWay participants, AFV use, introduction of zero tailpipe emissions options, etc.)

Case Studies

- City of Portland Trike Office Supply Delivery: *http://tinyurl.com/muszp2p*
- State of Illinois Small Package Delivery RFP: *http://tinyurl.com/kk5v334*
- General Service Administration: *http://tinyurl.com/mj3dhtf*

Resources

- U.S Environmental Protection Agency's SmartWay: *http://www.epa.gov/smartway/*
- Canada's SmartWay Transport Partnership: *http://tinyurl.com/mopdnvc*
- Government of Canada's FleetSmart: *http://tinyurl.com/n82el8a*
- Department of Energy's IdleBox Toolkit *https://greet.es.anl.gov/afleet_tool*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Long Haul Transport

Scope

This guidance pertains to procurement of long-haul transportation of specific goods involving long-distances and likely utilizes semi-trucks, rail, ocean, or air transport.

Examples:

- Contract for specific hauling services (e.g., hauling biosolids from a wastewater treatment plant to remote land-application site)
- Transporting computer goods manufactured in China to distribution centers located throughout North America
- Long distance transport of office supplies from a contractor's regional warehouse to their local distribution center
- How your contractor moves the products you manufacture long distances
- Long distance general package delivery (e.g., contract for long-distance package delivery services provided by FedEx, UPS, DHL, etc.)

Executive Summary

Understanding

Why do we care?

- **Carbon emissions.** Depending on the sector, long-haul transport can account for between 5 and 15 percent of an organization's total carbon footprint.
- **Air pollution.** Fossil fuel combustion produces emissions—including criteria pollutants—that impact the health of people.
- **National security** issues are exacerbated by the import of petroleum, 75 percent of which is used of transportation.

Action

How can we exercise leadership?

- Optimize transport utilization and logistics
- Prefer vendors who can provide the least impactful transport methods possible.
- Become a SmartWay "shipper partner"
- Compensate for long-haul transport services using third-party certified carbon offsets.

Results

What are the benefits?

External

- Increased national security
- Drives market for carbon offsets
- Decreased carbon emissions and criteria pollutants

Internal

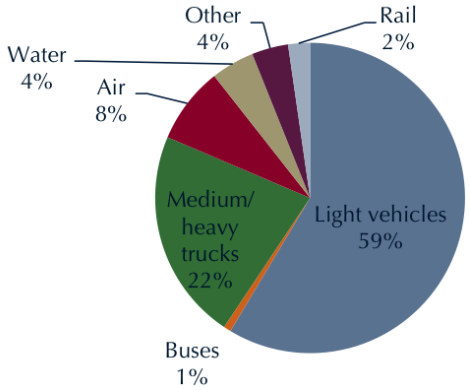
- Reduce congestion at curbside and loading docks
- Substituting transportation modes can reduce costs for shipping
- Reduced carbon footprint.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

UNDERSTANDING, : Why do we care?

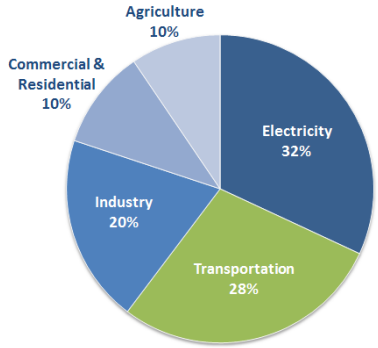
Greenhouse gas emissions.

Long-haul transport services are one of the largest sources of carbon dioxide, black carbon and other greenhouse gas emissions in the supply chain, including emissions from medium- and heavy-duty trucks, water, rail, and air modes. Depending on the sector, long-haul transport can account for between 5 and 15 percent of an organization's total carbon footprint.



Transportation Energy Use by Mode: 2012[214]

Nearly all fossil fuel energy consumption in the transportation sector is from petroleum-based fuels (92 percent), with a small amount from renewable sources (5 percent) and natural gas (3 percent),[215] making transportation-related activities the second highest contributor to greenhouse gas emissions in the United States.[216]



Total U.S. Greenhouse Gas Emissions by Economic Sector in 2012[217]

Air Pollution.

Human health can be significantly compromised by air pollution. This is especially true for vulnerable populations such as children, the elderly, asthmatics, and those with chronic
es. Fossil fuel combustion produces emissions that impact the health of people. These emissions include criterion pollutants (e.g., NO_x, SO_x, volatile organic compounds, particulate matter, and carbon monoxide) monitored and regulated by the U.S. Environmental Protection Agency because of the hazards they present to human health. Air pollution kills more Americans than breast and prostate cancers combined.[218] This exposure occurs through exhaust fumes when during idling time. Those working in the goods delivery industry are exposed to these pollutants in larger quantities can experience headaches, irritability, poorer quality of life, increased medical costs and may experience long-term health risks, such as asthma.

National security.

National security and other costs are exacerbated by the import of petroleum. Transportation accounts for over 75 percent of all fuel consumed in the U.S., and nearly 40 percent of that fuel goes toward modes of transportation used for long-haul transport.

ACTION & RESULTS: What makes a difference?

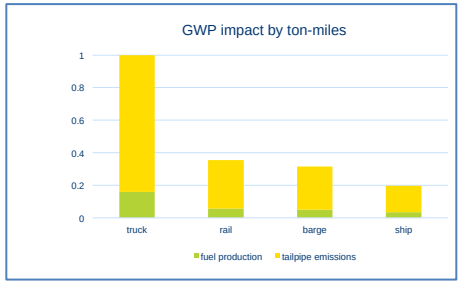
Optimize Transport Utilization & Logistics.

Examine what items are currently being transported via the various long-haul strategies, collecting information on distance, the frequency and length of contracts, volume and availability of fueling infrastructure.

Determine if items could be

- sent by less impactful modes,
- consolidated into fewer shipments (likely requires internal operational changes to consolidate the timing and ordering of shipments from the same vendor),
- rescheduled to improve efficiency (e.g. route optimization, take advantage of shorter travel times during low congestion periods), or
- delivered using more "right-sized" methods (e.g., trikes instead of vans, vans instead of box trucks).

Manage demand for transporting freight and packages, timing and routes to utilize more energy-efficient long-haul transport modes.



Impacts of Transport Modes on Global Warming Potential[219]

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Internal Benefits

- Reduce congestion at curbside and loading docks
- Substituting transportation modes can reduce costs for shipping

External Benefits

- Lower carbon emissions, criteria air pollution, risk of collision, traffic congestion, consumption of fuel resources, and demand for land to be used as traffic lanes, loading/unloading zones and parking spaces.

Prefer vendors who can provide the least impactful transport methods possible.

Consider the following strategies:

Prefer vendors that participate in the U.S. Environmental Protection's SmartWay Program or Natural Resources Canada's SmartWay Transport Parnership (see *http://www.nrcan.gc.ca/energy/efficiency/transportation/commercial-vehicles/smartway/7615*)

Prefer vendors that use non-petroleum based fuels (See Fuels section for more information) and for newer, more efficient trucks or trucks retrofitted with diesel particulate filters.

Join EPA's SmartWay as a 'shipper partner'.

SmartWay shipper partners are provided tools that:

- make it simple to quantify the carbon, NOX and particulate matter emissions from the transport of goods
- help facilitate opportunities to communicate with both contracted transportation service providers and 3rd party logistics providers
- help identify high performing, 'green' transportation service providers and/or 3rd party logistics providers
- help identify operational and logistics strategies that can help reduce freight emissions
- provide carbon, NO_X and particulate emission metrics that can readily be used to report freight emissions and performance to CDP, Global Reporting Initiative, and Greenhouse Gas Protocol (Scope 3)

Internal Benefits

- Substituting transportation modes can reduce costs for shipping

External Benefits

- Lower carbon emissions, criteria air pollution, risk of collision, traffic congestion, consumption of fuel resources, and demand for land to be used as traffic lanes, loading/unloading zones and parking spaces.

Compensate for long-haul transport services using third-party certified carbon offsets.

See the Electricity section of this guide for more information on purchasing carbon offsets.

External benefits

- Drives market for carbon offsets.

Internal benefits

- Lower carbon footprint

Challenges

- Vendors may require a multi-year contract to recover their investment in non-petroleum vehicles and fueling infrastructure.
- Purchaser may need to devote additional time for working on details of services, collaborating with carriers and fueling infrastructure suppliers, as well as other operational units internal to the organization, in order to drive meaningful change in their long-haul transportation services.

Metrics

Greenhouse gas emissions from long-haul transport, reported as follows:

- total grams and or tons
- grams or tons per mile, total or average

Emissions of particulate matter from long-haul transport

- total grams and or tons
- grams or tons per mile, total or average

Use of petroleum and non-petroleum fuels by suppliers of long-haul transport of freight and package

Indicators

- Use SmartWay metrics on annual basis to assess transportation service provider or 3rd party logistics service provider performance
- Use SmartWay performance rankings to benchmark carrier performance

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Case Studies

- Proctor and Gamble: *http://tinyurl.com/n57gf9b*
- General Services Administration Domestic Delivery Service Blanket Purchase Agreement: *http://tinyurl.com/lx6e8nq*

Resources

- U.S Environmental Protection Agency's SmartWay: *http://www.epa.gov/smartway/*
- Canada's SmartWay Transport Partnership: *http://tinyurl.com/mopdnvc*
- Government of Canada's FleetSmart: *http://tinyurl.com/n82el8a*
- Department of Energy's IdleBox Toolkit *https://greet.es.anl.gov/afleet_tool*
- Illinois Transportation Sustainability Procurement Program Act: *http://tinyurl.com/k9zwubu*
-

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

Travel (Employee and Other)

Scope

This guidance pertains to procurement of employee and contractor (contract-related) local and long-distance business travel.

Executive Summary

Understanding

Why do we care?

- Long- and short- distance employee travel contributes to a number of the common modes of transportation (e.g. light vehicles, air, and rail), most of which rely on **petroleum-based fuels**.
- **Air pollution.** Fossil fuel combustion produces emissions—including criteria pollutants—that impact the health of people.
- **National security issues** are exacerbated by the import of petroleum, 75 percent of which is used of transportation.
- Travel may exacerbate other **health impacts**, such as fatigue and dehydration. **Quality of life** issues—e.g.,, time away from family—may contribute to a professional's job satisfaction, general wellbeing, and ability to sustain their professional lifestyle long-term

Action

How can we exercise leadership?

- Develop an employee travel policy focused on environmental, social, and economic impact reduction.
- Invest in operational improvements that allow for a reduction in travel whenever possible.
- Develop methods to measure and compensate for employee- and contractor-related impacts from travel.

Results

What are the benefits?

External

- Fewer carbon and air pollutant emissions
- Less demand on travel infrastructure

Internal

- Reduced employee time and productivity loss due to travel (e.g., delays, vehicle travel time, etc.).
- Cost savings from travel that has been avoided.
- Potential for improved health, well-being and job satisfaction from reduced travel.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

UNDERSTANDING: Why do we care?

Greenhouse gas emissions

Long- and short- distance employee travel contributes to a number of the common modes of transportation (e.g. light vehicles, air, and rail).

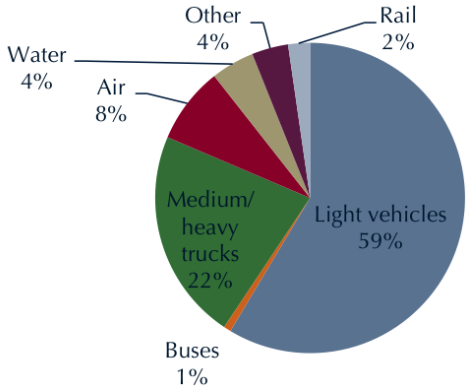


Figure 5: Transportation Energy Use by Mode: 2012[220]

Nearly all fossil fuel energy consumption in the transportation sector is from petroleum-based fuels (92 percent), with a small amount from renewable sources (5 percent) and natural gas (3 percent),[221] making transportation-related activities the second highest contributor to greenhouse gas emissions in the United States.[222]

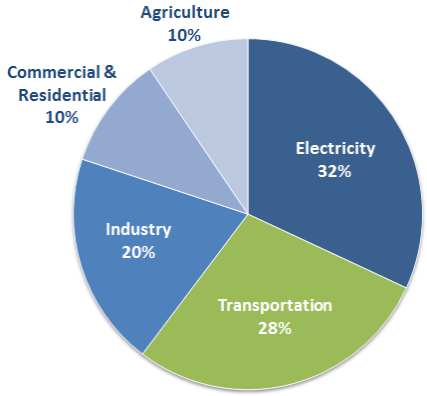


Figure 6: Total U.S. Greenhouse Gas Emissions by Economic Sector in 2012[223]

As noted in Figure 2, commercial and residential facilities—which include hotels and other lodging facilities—contribute 10 percent of the greenhouse gas emissions in the U.S. annually. The hotel's lighting, HVAC systems, and appliances largely drive this impact.

Air Pollution

Human health can be significantly compromised by air pollution. This is especially true for vulnerable populations such as children, the elderly, asthmatics, and those with chronic
es. Fossil fuel combustion produces emissions that impact the health of people. These emissions include criterion pollutants (e.g., NO_x, SO_x, volatile organic compounds, particulate matter, and carbon monoxide) monitored and regulated by the U.S. Environmental Protection Agency because of the hazards they present to human health. Air pollution kills more Americans than breast and prostate cancers combined.[224] This exposure occurs through exhaust fumes when during idling time. Those working in the goods delivery industry are exposed to these pollutants in larger quantities can experience headaches, irritability, poorer quality of life, increased medical costs and may experience long-term health risks, such as asthma.

Health and wellbeing impacts.

Travel may exacerbate other health impacts, such as fatigue and dehydration. Quality of life issues—for example, time away from family—may contribute to a professional's job satisfaction, general wellbeing, and ability to sustain their professional lifestyle long-term.

National security.

National security and other costs are exacerbated by the import of petroleum. Transportation accounts for over 75 percent of all fuel consumed in the U.S., and nearly 40 percent of that fuel goes toward modes of transportation used for long-haul transport.

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

ACTION & RESULTS: What makes a difference?

Develop an employee travel policy focused on environmental, social, and economic impact reduction.

A travel policy and carbon emissions reduction and other goals—and clear actions to reach goals—is essential to successfully improving the impacts associated with travel within your company. Consider the following policies:

Local Travel: use alternative modes of transportation.

- Walking, biking
- Public transportation (metro, bus, bike share)
- Ride sharing

Long-distance Travel: When travel is necessary, employ the following strategies:

- Use rail or bus if traveling within the region (note, some travel agent services include discounts on rail options);
- Fly non-stop to avoid emissions through take-off and landing
- Use public transportation when on the ground
- Rent alternative fuel or hybrid-electric vehicles whenever possible.

For overnight trips:

- Rent hotel rooms as close to the meeting premises as possible to reduce the need for driving or cabs
- Prefer hotels that have made efforts to improve their environmental performance through programs such as LEED Certification, Green Seal 33, ENERGY STAR certification, or other self-initiated programs by the hotel provider.

External benefits

- Reduced emissions of carbon and other air pollutants from travel.

Internal Benefits

- Reduced employee time and productivity loss due to travel (e.g., delays, vehicle travel time, etc.).
- Cost savings from travel that has been avoided.
- Potential for improved health, well-being and job satisfaction from reduced travel.
- Improved health from more walking, cycling, and close proximity between hotel rooms and meeting premises.
- Quicker return on investment from organizational investments such as video and teleconferencing services or other strategies that enable remote participation in meetings and events.

Invest in operational improvements that allow for a reduction in travel whenever possible.

For example, investing in high quality video and teleconferencing services will greatly enhance the ability to reduce the need for travel.

External benefits

- Reduced emissions of carbon and other air pollutants.

Internal benefits

- Reduced employee time and productivity loss due to travel (e.g., delays, vehicle travel time, etc.).
- Cost savings from travel that has been avoided.
- Potential for improved health, well-being and job satisfaction from reduced travel.
- Quicker return on investment from organizational investments such as video and teleconferencing services or other strategies that enable remote participation in meetings and events.

Develop methods to measure and compensate for employee- and contractor-related impacts from travel.

Consider the following opportunities to

- Ask departments to keep track of meetings or events where remote participation for employees or contactors is chosen over in person participation will provide an opportunity to measure carbon emissions reductions, as well as use and benefit of operational investments such as video and teleconferencing infrastructure.
- Prefer travel agents that are able to provide accurate data/metrics associated with employee travel. Data including at least the following should be given preference. (Note, when travel agent services are not used, provide a mechanism for staff to report this information).
  - Air, rail, or other mode miles traveling from home location to destination.
  - Hotel night stays by city
  - Rental car days and estimated mileage
  - Other pre-booked ground transportation

Internal Benefits

- Provides infrastructure of setting travel baselines against which future performance can be benchmarked.
- Lower carbon footprint from use of offsets (though not a lower use of carbon intensive resources).

Challenges

Lack of centralized travel management infrastructure.

Many organizations do not have centralized travel management infrastructure, causing system-

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Transportation and Fuels as a priority based on a strategic analysis of overall spending.

wide implementation of policies and programs to be difficult. Even when this infrastructure does exist, user compliance often varies greatly across the organization. Organizations that grow through merger and acquisition are particularly challenged with this issue.

Use of carbon offsets as a meaningful impact reduction strategy.

Many organizations—including public agencies—may not consider carbon offsets an acceptable method to reduce emissions from travel because it requires an extra strain on taxpayer dollars (e.g. it is viewed as too abstract, or value is not obvious). Additionally, carbon offsets on their own do not encourage behavior or organizational investments that can more meaningfully address the impacts—including the social and economic impacts—associated with travel. Finally, using carbon offsets without coupling them with travel demand reduction strategies will add cost to the organization.

Metrics

These are the metrics to indicate progress in travel related purchasing:

- Reduction in vehicle, rail, and air miles traveled. (Note, to accurately measure reduction in miles traveled the organization would need to establish a baseline. Miles traveled by mode is a key data point for GHG measurement. This baseline could be extracted from the organization's existing GHG assessment report).
- Reduction in travel-related greenhouse gas emissions. (Note, this baseline and metric are best documented in the organization's GHG assessment report).
- Increase in number of remote meetings and decrease in number of in person meetings (Note, this metric is heavily dependent on individual departments tracking data within their own operations).

Case Studies

- UBS: *http://tinyurl.com/nymm9qf*
- Macmillan: *http://tinyurl.com/kv3ej6p*
- Microsoft: *http://tinyurl.com/cgjpc4f*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Wood and Agrifiber Products as a priority based on a strategic analysis of overall spending.

Purchasing Category Guidance for

Wood and Agrifiber Products

Subcategories

- Paper

Technical Advisory Group

Amy Smith, *World Wildlife Fund*
Corey Brinkema, *Forest Stewardship Council*
Dan Persica, *Domtar*
Daniel Pedersen, *Green Seal*
Jason Metnick, *Sustainable Forestry Initiative, Inc.*
Jonathan Rifkin, *Gov't of the District of Columbia*
Karl Bruskotter, *City of Santa Monica*
Nancy Gillis, *EY*
Nathan Loftice, *FedEx*
Sarah Buffaloe, *U.S. Green Building Council*
Steve Bolton, *Trucost*
Yalmaz Siddiqui, *Office Depot*

IMPORTANT NOTE: This section of the Guidance is intended for organizations that have already identified Wood and Agrifiber Products as a priority based on a strategic analysis of overall spending.

Paper

Scope

The scope of this section includes the following:

- Copy, print, and multi-purpose paper
- Roll stock paper
- Envelopes, file folders, notepads and other office related paper products

Executive Summary

Understanding

Why do we care?

- Forest degradation and fragmentation
- Biomaterial depletion
- Economic impacts of illegal logging
- Land use and ecosystem change
- Community and indigenous rights

Action

How can we exercise leadership?

- Reduce demand for paper products
- Purchase paper with demonstrated and verified reduction in environmental, social, and economic impacts over the life cycle
- Provide recycling infrastructure

Results

What are the benefits?

External
- Less demand for virgin materials
- Promote high quality forest management

Internal
- Reduce costs
- Reduced supply chain risk

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UNDERSTANDING, Part 1: Why do we care?

Forest degradation and fragmentation

While some timber does come from well-managed forests and plantations, that sourced from illegal logging and old growth and high conservation value forests[225] exacerbates and accelerates all of the impacts discussed below.

Biomaterial depletion

Wood is engineered and synthesized by nature, biodegradable and, if forests are managed well, renewable. Paper is made from renewable resources, and responsibly produced and used paper has many advantages over other, non-renewable alternative materials. According to the World Resources Fund, the pulp and paper industry accounts for 40 percent of the industrial wood traded globally.

Economic Impacts of Illegal Logging

According to the World Wildlife Fund, illegal logging is "the harvesting, transporting, processing, buying or selling of timber in violation of national laws." This also includes "harvesting wood from protected areas, exporting threatened plant or tree species, and falsifying official documents."[226]

Illegal logging often involves actions such as breaking license agreements, tax evasion, corrupting government officials and interfering with access and rights to forest areas. In 2004, the American Forest & Paper Association estimated that illegal logging depresses world timber prices by between 7% and 16% (depending on product), attributable to over $460 million (USD) in losses annually.[227]

Land use & ecosystem change

Forests cover 30 percent of the world's land area[228] and are home to 70 million species. Around 80 percent of species live in tropical rainforests alone, which puts the vast majority of Earth's biodiversity at risk when disruption to forests occurs. For example, disruption results in changes to food, shelter, and migration routes for some species; those unable to adapt must either find a new habitat or fail to survive. For humans, forests provide a critical ecosystem services, including filtering our air and water.

Forest conversion

In order to accommodate demand for various wood-based products, forests may be transitioned to a plantation setting or from one forest cover type to another forest cover type. As a result, the ecosystem services provided by the natural setting are disrupted. For example, forests provide carbon sequestration,[229] which serves as an offset to carbon emissions. Converting forests is not only energy intensive, but also results in the release of sequestered carbon throughout the process.

Additionally, while 10 percent of the world's population (including the United States) demands 50 percent of the paper,[230] most forest conversion happens in tropical areas; this disproportionately impacts specific human populations residing in tropical areas who do not see the benefits.

Global warming potential over lifecycle

Deforestation and forest destruction is the second leading cause of carbon pollution, causing 20% of total greenhouse gas emissions[231] and removing natural carbon sinks. Additionally, processing and manufacturing of paper products is energy intensive.

Local community impacts

According to the World Wildlife Fund, forests "contribute toward the livelihoods to 90 percent of the over one billion people living in extreme poverty."[232] These communities depend on forests for services of survival, including food and shelter, medicine and fuel. Impoverished communities have limited capacity to adapt to disruption.

UNDERSTANDING, Part 2: What else should we know?

Soil health, compaction

Poor forest management accelerates soil erosion, resulting in increased runoff. Thinning tree cover allows for soils to heat up and dry out, further diminishing the forest's ability to function,.

Agrochemical use

The harvesting and manufacture of wood requires a variety of intense chemicals including preservatives, biocides and pesticides, and chlorine. These chemicals pollute water suppliers and also impact those who are exposed to the chemicals throughout the production process.

Freshwater toxicity potential

The combination of soil runoff and chemical use throughout the production process depletes water quality, including limited sources of global freshwater. This negatively affects both human health and ecosystem health.

Loss of indigenous culture, identity, rights

Many indigenous populations use forests and adjacent areas for subsistence hunting and fishing as well as cultural sites. While indigenous peoples hold collectively rights to these resources, their displacement results in loss of access and use of and rights to the land.

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Conflict timber

Conflict timber refers to "timber that has been traded at some point in the chain of custody by armed groups…either to perpetuate conflict or take advantage of conflict situations for personal gain... conflict timber is not necessarily illegal."[233]

This can be perpetuated in a number of ways including:

- Timber revenues funding the purchase of weapons.
- Timber exploitation causing further conflict because of disputes over issues such as resource ownership, access to benefits, social or worker conflicts, or displacement of forest-dwelling communities.[234]

Workers' health, safety, and rights

Timber harvesting and manufacturing requires dangerous work, including large-scale cutting and drilling, and exposure to chemicals, noise, and dust. Wood dust is highly flammable and—alongside chemicals use in processing—poses further risk for workers.

Depending on the quality of the operation, there may or may not be procedures for dealing with injuries, insurance for staff, or medical facilities available to adequately treat those who are injured.

ACTION and RESULTS: What makes a difference?

Consider the paper needs for the organization, including product performance aspects.

Before effective and impactful policies can be put into place for paper purchasing, it is important to understand the types of paper products needed and the extent to which alternatives can be obtained. For example, there may be specific needs regarding weight, grain, brightness, or shade for various organizational uses. Depending on the organization's printing infrastructure, there may be limits to the type of paper that can be used in machines. Be sure to do this research as part of developing a strategy.

Seek opportunities for overall demand reduction of paper.

Consider some of the following operational strategies that can reduce the amount of paper needed to perform organizational functions.

- Implement automatic duplexing (e.g. set capable equipment to automatically print double-sided and require user action to opt out for individual print jobs).
- Implement print monitoring strategies, such as print management software that optimizes printing across an organization, discourages unneeded or excessive printing, and provides organizational reporting on who has printed and how much.
- Use computer tablets for staff who frequently travel or typically receive reports/memos for meetings, allowing them to access content without having to print it out.
- Refer to the IT Hardware and Services - Imaging Equipment section of Chapter 4 for additional information on best practices to reduce the impact associated with toner, inks and printers.

Purchase paper products with reduced environmental, social, and economic impacts.

For paper purchases, consider the following strategies (note, there is no hierarchy implied as presented):

- Any virgin fiber within the paper should be certified that it comes from responsibly managed forests. If the paper is from 100% virgin fiber, seek out paper that is Total Chlorine Free (TCF). Otherwise, seek out paper that is Elemental Chlorine Free (ECF). Information on related certifications is available on SPLC's *Guidance v1.0* Wood Resources Page *https://www.sustainablepurchasing.org/wood-resources/*
- Any remaining percentage of the paper that is not virgin fiber certified to come from responsibly managed forests should be from post-consumer recycled content. If the paper contains recycled content, seek out a variety that is Elemental Chlorine Free.

Provide infrastructure for paper recycling.

The U.S. EPA provides a variety of resources for successfully implementing a paper-recycling program in the school, university, and office settings. Access here: *http://tinyurl.com/ozgjqtz*

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Metrics

- Amount of paper products purchased, by cost, type, and by number, within a specified timeframe
- Amount of paper printed by individuals or departments (if using software programs that track printing and use in this way)
- Amount of paper, by weight or volume, recycled

Indicators

- Amount of paper purchased, by cost and percent of total, which contains virgin fiber certified to come from responsibly managed forests.
- Amount of paper purchased, by cost and percent of total, that contains post-consumer recycled content

Unresolved Issues

When is it optimal to use virgin material from sustainably managed forest and recycled content?

In recent years, there has a debate about whether products from virgin material from sustainably managed forests or recycled content are better from an environmental, social, and economic impact perspective. There appears to be a growing consensus that neither is necessarily "better" and both can be viable options in the right context.

Sustainably sourced virgin fiber is essential for the long-term functioning of the paper industry. As fibers are recycled, the fibers are shortened; after a number of recycling iterations, they become too short and are washed out in the papermaking process. This supports sustainability managed forests and recycled fiber markets.

However, in order for this process to take place, the paper containing virgin fibers must actually be recycled and not disposed of. For organizational purchasers, this means ensuring the infrastructure for collecting recyclable paper is available, maintained, and monitored. There is a well-developed market and collection system for high quality paper, newsprint, paperboard, and cardboard. This suggests that virgin fiber is more appropriate for use in these product categories because of the potential to extend the number of lives of the virgin fibers.

For other uses, such as sanitary paper products (e.g., toilet paper, toilet seat covers, tissues, and diapers), using sustainably managed virgin material is beneficial, but perhaps suboptimal because sanitary paper cannot be recycled. Thus, the virgin wood fibers were giving one life before going to landfill. Similarly for products like paper towels, napkins, and placemats; these products are rarely collected for recycling. When they are, these products are often contaminated with grease and oils, interfering with the recycling process.

The World Wildlife Fund suggests a hierarchy[235] for use of wood fiber that can be recycled through a succession of different types of products of varying necessary quality (e.g. an egg carton versus writing paper) that could create seven possible "lives" for and initial set of virgin wood fibers. This again suggests that virgin fiber should be reserved for only those paper products that will be recovered or recycled.

At this time, purchasing copy and office papers containing both sustainably managed virgin material alongside post-consumer recycled content may be the best way to reduce the life cycle—particularly in the extraction phase—of these purchases.

How do tree-free paper products differ from an impact perspective?

Tree-free paper products are developed from agricultural residues, fiber crops, and textile waste. There are claims that these products are better than tree-based paper when considering the entire lifecycle of the products, though this is not definitive.

Similar to the discussion of how to best use recycled content and sustainably managed virgin material, it is likely that there are contexts within which use of tree-free paper is optimal. The Council's Wood TAG will explore this issue beginning in 2015.

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Contract and Policy Language

- Alameda County Print Services bid: *http://tinyurl.com/oqqsh4p*
- District of Columbia Office of Contracting and Procurement Specification Solicitation Documents for Office Products: *http://ocp.dc.gov/node/966102*
- District of Columbia Office of Contracting and Procurement Specification Solicitation Documents for Paper: *http://ocp.dc.gov/node/966112*
- Northeast Recycling Council Model Specifications for Copy and Multipurpose Paper: *http://tinyurl.com/qgskvtw*
- Northeast Recycling Council Model Specifications for Office Supplies: *http://tinyurl.com/oses37e*
- Office Depot Green Purchasing Policies for Paper Products *http://tinyurl.com/ngjcth2*

Resources

- SPLC's Guidance v1.0 Wood Resources Page *https://www.sustainablepurchasing.org/wood-resources/*
- Conservatree's Master Paper List: *http://www.conservatree.org/paper/PaperMasterList.shtml*
- World Wildlife Fund. *Living Forests Report. http://tinyurl.com/c72br6f*
- World Wildlife Fund. *The Guide to Buying Green Paper. http://tinyurl.com/py6tmv4*
- Food and Agriculture Organization of the United Nations. *State of the World's Forests: Enhancing the socioeconomic benefits through forests.* Rome: 2014. *http://www.fao.org/3/a-i3710e.pdf*
- Environmental Paper Industry. *The State of the Paper Industry: Monitoring the Indicators of Environmental Performance.* 2007. *http://www.greenpressinitiative.org/documents/StateOfPaperInd.pdf*
- Responsible Purchasing Network Webinar: *Best Practices for Tracking Recycled Paper Purchases.* November 2013. *http://tinyurl.com/mfvkl45*
- Xerox: *Helpful Facts about Paper: http://tinyurl.com/ojj4dkj*

Appendix: Methodology

Overview

The *Guidance for Leadership in Sustainable Purchasing Version 1.0* was developed through a multi-stakeholder committee process throughout 2014. In July 2014, a Technical Advisory Committee was established to oversee the development of Guidance v1.0 and all of the programmatic work of the Council. In August 2014, eight Technical Advisory Groups were established to address each of the purchasing categories. Both the TAC and TAGs are made up of volunteers from SPLC Member organizations in the Purchaser, Supplier, and Public Interest Advocate Roles.

Purchasing Category TAG's

The Technical Advisory Groups are as follows:

- Chemically Intensive Products TAG
- Construction and Renovation TAG
- Electricity TAG
- Food TAG
- IT Hardware and Services TAG
- Professional Services TAG
- Transportation and Fuels TAG
- Wood and Agrifiber Products TAG

Throughout their tenure, the TAGs researched and discussed products and services within their categories to come to consensus on the following questions:

- For each purchasing category, what are the most relevant environmental, social, and economic impacts associated with purchasing.
- What are the best available actions a purchasing organization can take to mitigate the most relevant environmental, social, and economic impacts of this product category?
- What are the typical challenges purchasing organizations face when trying to take action to improve the relevant environmental, social, and economic impacts of its purchasing?
- What are the best available metrics and indicators to track progress toward improving these impacts?
- What are the best available case studies, resources, contract and specification language, and other guidance that purchasing organizations can refer to?
- What are the unresolved issues within this field? How can purchasers help to bring clarity to areas of disagreement?

Pilot Phase

In January 2015, Guidance v1.0 entered into a Pilot Phase where SPLC Members and non-members alike are invited to review, attempt to use, and provide feedback on the guidance, through July 2015. Technical Advisory Groups and the Technical Advisory Committee will consider all feedback presented and deliberate on how to best evolve toward Guidance v2.0.

Endnotes

[1] e.g., Global Reporting Initiative, CDP, Dow Jones Sustainability Index, Federal Acquisition Regulations

[2] e.g., AASHE STARS, USGBC LEED, etc.

[3] in absolute terms or per dollar investment

[4] OSHA: Protecting Workers Who Use Cleaning Chemicals, retrieved from: *https://www.osha.gov/Publications/OSHA3512.pdf*

[5] ATSDR: Environmental Exposure and Health Effects: TCE and PCE, 2011 source: http://www.newjersey.gov/health/eoh/cehsweb/documents/watters_ho_eehe_cepce.pdf]

[6] Associated Press, 8/14/2014: Chemical-filled tea burns woman at Utah restaurant, from: http://bigstory.ap.org/article/lye-utah-restaurants-tea-severely-burns-woman

[7] Tyler Espinoza, Chris Geiger, Ph.D, and Iryna Everson. *The Real Costs of Institutional "Green" Cleaning. http://www.sfenvironment.org/sites/default/files/fliers/files/sfe_th_the_real_costs_of_green_cleaning_v6.pdf*

[8] Architecture 2030. *Energy.* http://architecture2030.org/the_problem/problem_energy

[9] U.S. Environmental Protection Agency. *WaterSense.* http://www.epa.gov/watersense/commercial/

[10] UN Environment Programme, State and Trends of the Environment 1987–2001, Section B, Chapter 5, www.unep.org/geo/geo4/report/05_Biodiversity.pdf

[11] U.S. Forest Service, Quick Facts, fs.fed.us/projects/four-threats/facts/open-space.shtml (accessed September 11, 2012)

[12] Kibert, C.J. & Sendzimir, J & Guy, B (2002) *Construction Ecology: Nature as a basis for green buildings.* London and New York: Spon Press

[13] U.S. Environmental Protection Agency. 1989. Report to Congress on indoor air quality: Volume 2. EPA/400/1-89/001C. Washington, DC.

[14] U.S. Environmental Protection Agency. 1987. The total exposure assessment methodology (TEAM) study: summary and analysis. EPA/600/6-87/002a. Washington, DC.

[15] U.S. Environmental Protection Agency. *An Introduction to Indoor Air Quality: Volatile Organic Compounds.* http://www.epa.gov/iaq/voc.html#Health_Effects

[16] U.S. Green Building Council. *LEED v4: Low-Emitting Materials Credit.* http://www.usgbc.org/node/2614095?view=guide

[17] U.S. Environmental Protection Agency. *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012.* http://www.epa.gov/solidwaste/nonhaz/municipal/pubs/2012_msw_fs.pdf

[18] European Commission. *Eco-label Furniture. Extension of the Scope.* Final report. August 2004. *http://ec.europa.eu/environment/ecolabel/documents/furnitureext_finalreport_1004.pdf*

[19] U.S. Environmental Protection Agency Office of Air and Radiation. *Telework Programs: Implementing Commuter Benefits as One of the Nation's Best Workplaces for Commuters.* January 2005. http://www.bestworkplaces.org/pdf/telework_07.pdf

[20] U.S. Green Building Council. *LEED v4: Low-Emitting Materials Credit.* http://www.usgbc.org/node/2614095?view=guide

[21] LEED v4 for Building Design and Construction, Low-Emitting Materials Compliant Third-Party Certifications and Labels. U.S. Green Building Council. Accessed December 15, 2014.

[22] U.S. Energy Information Administration. *Annual Energy Review.* September 2012. *http://www.eia.gov/totalenergy/data/annual/pecss_diagram.cfm*

[23] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions - Electricity. http://www.epa.gov/climatechange/ghgemissions/sources/electricity.html*

[24] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions – Overview. http://www.epa.gov/climatechange/ghgemissions/sources.html*

[25] U.S. Environmental Protection Agency. *Air Emissions. www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html*

[26] U.S. Environmental Protection Agency. *Coal. http://www.epa.gov/cleanenergy/energy-and-you/affect/coal.html*

[27] U.S. Environmental Protection Agency. *Natural Gas. http://www.epa.gov/cleanenergy/energy-and-you/affect/natural-gas.html*

[28] Howarth, Robert; Santoro, Renee; Ingraffea, Anthony. *Methane and the greenhouse-gas footprint of natural gas from shale formations.* Climate Change. November 2010. http://www.acsf.cornell.edu/Assets/ACSF/docs/attachments/Howarth-EtAl-2011.pdf

[29] U.S. Environmental Protection Agency. *Nuclear Energy. http://www.epa.gov/cleanenergy/energy-and-you/affect/nuclear.html*

[30] U.S. Environmental Protection Agency. *Coal. http://www.epa.gov/cleanenergy/energy-and-you/affect/coal.html*

[31] U.S. Environmental Protection Agency. *Nuclear Energy http://www.epa.gov/cleanenergy/energy-and-you/affect/nuclear.html*

[32] U.S. Energy Information Administration. *Status of Electricity Restructuring by State. http://www.eia.gov/electricity/policies/restructuring/restructure_elect.html*

[33] U.S. Department of Energy. Best Practices for Metering 2.0. http://www1.eere.energy.gov/femp/pdfs/mbpg.pdf

[34] U.S. Department of Energy *2011*Buildings Energy Data Book.Section 2.1.5, March 2012. http://buildingsdatabook.eren.doe.gov/ .

[35] U.S. Department of Energy *2011* Buildings Energy Data Book, Section 3.1.4, March 2012. http://buildingsdatabook.eren.doe.gov/

[36] U.S. Environmental Protection Agency. *Guide to Purchasing Green Power: Renewable Electricity, Renewable Energy Certificates and On-Site Renewable Energy Generation.* March 2010. *http://www.epa.gov/greenpower/documents/purchasing_guide_for_web.pdf*

[37] The Green-e National Standard provides definitions of renewable energy technologies, available at *http://www.green-e.org/docs/energy/Appendix%20D_Green-e%20Energy%20National%20Standard.pdf*

[38] See *http://www.epa.gov/chp/basic/* for more information about cogeneration.

[39] Provided by Capital Partners Solar

[40] According to the *USDA Natural Resource Conservation Service (NRCS) General Manual,* Sustainable agriculture is "a way of practicing agriculture which seeks to optimize skills and technology to achieve long-term stability of the agricultural enterprise, environmental protection, and consumer safety. It is achieved through management strategies, which help the producer select hybrids and varieties, soil conserving cultural practices, soil fertility programs, and pest management programs. The goal of sustainable agriculture is to minimize adverse impacts to the immediate and off-farm environments while providing a sustained level of production and profit. Sound resource conservation is an integral part of the means to achieve sustainable agriculture." *USDA Natural Resource Conservation Service (NRCS) General Manual* (180-GM, Part 407). http://www.info.usda.gov/default.aspx?l=176 Select Title 180; Part 407 - Sustainable Agriculture; Subpart A - General. (10/20/09)

[41] National Economic and Social Rights Initiative. *What is the Human Right to Food?* http://www.nesri.org/programs/what-is-the-human-right-to-food

[42] Paul F. O'Connell, "Sustainable Agriculture, a Valid Alternative," *Outlook on Agriculture* (1992) 21(1): p.6. NAL Call # 10 Ou8

[43] Paul F. O'Connell, "Sustainable Agriculture, a Valid Alternative," *Outlook on Agriculture* (1992) 21(1): p.6. NAL Call # 10 Ou8

[44] Food and Agriculture Organization of the United Nations. *Agriculture's greenhouse gas emissions on the rise.* April 2014. http://www.fao.org/news/story/en/item/216137/icode/

[45] Food and Agriculture Organization of the United Nations. *Greenhouse Gas Emissions from Agriculture, Forestry, and Other Land Use. http://www.fao.org/resources/infographics/infographics-details/en/c/218650/*

[46] U.S. Environmental Protection Agency. *National Greenhouse Gas Emissions Data. http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html*

[47] New South Wales Environmental Protection Agency. *Environmental and social impacts of food waste.* http://www.lovefoodhatewaste.nsw.gov.au/business/love-food/impacts-of-food-waste.aspx

[48] the claims cited do not account for the impacts of packaging or serviceware such as disposable plates, cups, utensils, etc.

[49] New South Wales Environmental Protection Agency. *Environmental and social impacts of food waste* http://www.lovefoodhatewaste.nsw.gov.au/business/love-food/impacts-of-food-waste.aspx

[50] World Wildlife Fund. *Farming: Wasteful Water Use. http://wwf.panda.org/what_we_do/footprint/agriculture/impacts/water_use/*

[51] U.S. Geological Survey. *Livestock Water Use. http://water.usgs.gov/watuse/wulv.html*

[52] U.S. Geological Survey. *Aquaculture Water Use.* http://water.usgs.gov/watuse/wuaq.html

[53] U.S. Geological Survey. *Total Water Use.* http://water.usgs.gov/watuse/wuto.html

[54] U.S. Geological Survey. *Irrigation Water Use.* http://water.usgs.gov/watuse/wuir.html

[55] U.S. Geological Survey. *Irrigation Water Use. http://water.usgs.gov/watuse/wuir.html*

[56] Science Daily. *Agriculture is the direct driver of deforestation. http://www.sciencedaily.com/releases/2012/09/120925091608.htm*

[57] Food and Agriculture Organization of the United Nations. *FAO Statistical Yearbook 2013: World Food and Agriculture.* http://www.fao.org/docrep/018/i3107e/i3107e.PDF

[58] Food and Agriculture Organization of the United Nations. *The State of the World Fisheries and Aquaculture.* 2014. http://www.fao.org/3/a-i3720e.pdf

[59] Including Agrochemical applications to reduce pest damage, increase yields, and comply with the quality standards of importing countries.

[60] Human rights abuses (e.g. forced labor, child labor, sexual assault of women, threat of violence, safe mechanism to report abuses) *www.pbs.org/wgbh/pages/frontline/rape-in-the-fields*

[61] Pay equity (e.g. payment for all hours, infrastructure to track hours worked, minimum wage, payment for all their production) *www.ciw-online.org/blog/2013/06/pbs-frontline-fair-food-program/*

[62] Worker health (e.g. worker input into their conditions, right to take breaks, ability to protect themselves from environmental hazards (i.e. lightening, intense heat)) *www.splcenter.org/get-informed/publications/injustice-on-our-plates*

[63] A study of tens of thousands of British people's daily eating habits shows that meat lovers' diets cause double the climate-warming emissions of vegetarian diets.http://link.springer.com/article/10.1007%2Fs10584-014-1169-1

[64] U.S. EPA's 1998 National Water Quality Inventory indicates that agricultural operations, including animal feeding operations (AFOs), are a significant source of water pollution in the U.S. States estimate that agriculture contributes in part to the impairment of at least 170,750 river miles, 2,417,801 lake acres, and 1,827 estuary square miles. Agriculture was reported to be the most common pollutant of rivers and streams. *http://www.epa.gov/agriculture/ag101/printbeef.html*

[65] Tacon, Albert and Metian, Marc. *Global overview on the use of fish meal and fish oil in industrially compounded aquafeeds: Trends and future prospects.* Aquaculture. 285 (2008). P.146-158. *http://www.nmfs.noaa.gov/aquaculture/docs/feeds/tacon_etal_global_fishmealoil_overview_2008.pdf*

[66] World Wildlife Fund. *Seafood. http://www.worldwildlife.org/industries/farmed-seafood*

[67] Tacon, Albert and Metian, Marc. *Global overview on the use of fish meal and fish oil in industrially compounded aquafeeds: Trends and future prospects.* Aquaculture. 285 (2008). P.146-158. http://www.nmfs.noaa.gov/aquaculture/docs/feeds/tacon_etal_global_fishmealoil_overview_2008.pdf

[68] World Wildlife Fund. *Seafood. http://www.worldwildlife.org/industries/farmed-seafood*

[69] U.S. Department of Agriculture. *Animal Welfare http://awic.nal.usda.gov/farm-animals/animal-welfare-audits-and-certification-programs/animal-welfare-audits-and-1*

[70] Healthcare without Harm. *Suggested Environmental Considerations for Meat. https://noharm-uscanada.org/documents/suggested-environmental-considerations-meat*

[71] Global Animal Partnership *http://www.globalanimalpartnership.org*

[72] Tacon, Albert and Metian, Marc. *Global overview on the use of fish meal and fish oil in industrially compounded aquafeeds: Trends and future prospects.* Aquaculture. 285 (2008). P.146-158. http://www.nmfs.noaa.gov/aquaculture/docs/feeds/tacon_etal_global_fishmealoil_overview_2008.pdf

[73] World Wildlife Fund. *Seafood. http://www.worldwildlife.org/industries/farmed-seafood*

[74] U.S. Food and Drug Administration. *Judicious use of Antimicrobials.* http://www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance/JudiciousUseofAntimicrobials/

[75] Per Charitable Trusts. *Campaign on Human Health and Industrial Farming.* http://www.pewtrusts.org/en/projects/campaign-on-human-health-and-industrial-farming/research-and-analysis

[76] Wages and working conditions, as well as gender discrimination, often arise in seafood processing plants. Forced labor and child labor in processing and on large, international, fishing vessels is also a key concern. See the following for more information:
http://www.theguardian.com/global-development/2014/jun/10/-sp-migrant-workers-new-life-enslaved-thai-fishing
http://ejfoundation.org/node/663
http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_222568.pdf

[77] http://www.pewtrusts.org/en/projects/campaign-on-human-health-and-industrial-farming/research-and-analysis

[78] *https://noharm-uscanada.org/documents/suggested-environmental-considerations-dairy-products*

[79] Field to Market. *https://www.fieldtomarket.org/*

[80] *ibid.*

[81] *http://www.theguardian.com/global-development/2014/oct/20/brazil-smallholders-curb-rising-deforestation*

[82] Field to Market. *https://www.fieldtomarket.org/*

[83] Healthcare without Harm. *Purchasers' Guide to Sourcing Sustainable Coffee and Tea. https://noharm-uscanada.org/documents/purchaser%E2%80%99s-guide-sourcing-sustainable-coffee-and-tea*

[84] A 2007 study showed that >55%, >50%, and >85% of coffee growing households suffered from food insecurity in Guatemala, Mexico, and Nicaragua respectively. A 2010 study across Mexico, Nicaragua, El Salvador, and Guatemala found that 63% of households suffered food insecurity (note that these regions are typically considered to be more food secure than coffee growing regions in Africa or Asia so situation there is likely worse). *http://scaa.org/PDF/SCAA-whitepaper-blueprint-end-hunger-coffeelands.pdf*

[85] Coffee producers currently face a range of challenges to sustainable production. Producers face high price volatility and a growing epidemic of coffee rust, which is expanding due to climate change. Studies estimate that the majority of smallholder coffee farmers are food insecure and do not receive a price for their product that enables a sustainable livelihood. Workers on coffee estates face poor working and living conditions and low wages. Coffee production is also water intensive and processing can both use and pollute scarce freshwater resources. (*http://scaa.org/PDF/SCAA-whitepaper-blueprint-end-hunger-coffeelands.pdf*, http://coffeelands.crs.org/2012/08/293-coffee-and-water-resources-at-origin/)

[86] Oxfam and the Ethical Tea Partnership. *Understanding Wage Issues in the Tea Industry.* http://www.ethicalteapartnership.org/download/6290/

[87] `The Sustainable Trade Initiative. *Tea Trade Flow.* http://www.idhsustainabletrade.com/thee-tea-trade-flow

[88] Columbia Law School Human Rights Institute. *"The More Things Change…" The World Bank, Tata, and Enduring Abuses in India's Tea Plantations.* January 2014. *https://web.law.columbia.edu/sites/default/files/microsites/human-rights-institute/files/tea_report_final_draft-smallpdf.pdf*

[89] Chibnik, Michael. *Can a Plantation Be Fair? Paradoxes and Possibilities in the Fair Trade Darjeeling Tea Certification.* Society for the Anthropology of Work. v29:1. Spring 2008. *http://www.academia.edu/200884/Can_a_Plantation_Be_Fair_Paradoxes_and_Possibilities_in_Fair_Trade_Darjeeling_Tea_Certification*

[90] Forum for the Future. *The Future of Tea: A Hero Crop for 2030. http://www.forumforthefuture.org/sites/default/files/project/downloads/future-tea-report.pdf*

[91] Oxfam. *Oxfam analysis and recommendations to Mars, Mondelez, and Nestle on gender equality in the cocoa sector.* October 2014.
http://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/women-and-cocoa-analysis-oct-2014.pdf

[92] In 2009, Salvation Army International Development (SAID) UK noted that 12,000 children have been trafficked on cocoa farms in the Ivory Coast of Africa, where half of the world's chocolate is made (wikipedia). *http://www.salvationarmy.org.uk/uki/humantrafficking* Hawksley, Humphrey (4 May 2001). "Ivory Coast accuses chocolate companies". BBC News. Retrieved 4 August 2010.

[93] Holman, Jeff. Spices: the true cost of a kitchen staple. May 2011. *http://www.theecologist.org/green_green_living/food_and_drink/903798/spices_the_true_cost_of_a_kitchen_staple.html*

[94] The Dutch Sustainable Trade Initiative lists loss of biodiversity as a key issue associated with spice production. *http://www.idhsustainabletrade.com/spices*

[95] The Sustainable Spices Initiative. *http://www.sustainablespicesinitiative.com/en/home*

[96] Palm oil is the world's most consumed vegetable oil and is used in the manufacture of food products, detergents, cosmetics, and, increasingly, biofuels. *http://awsassets.panda.org/downloads/the_2050_critera_report.pdf*

[97] Roundtable on Sustainable Palm Oil. *IMPACTS 2014 Report. http://www.rspo.org/news-and-events/news/rspo-releases-impacts-2014-report*

[98] Mayo Clinic. *Trans Fat is Double Trouble for Your Heart Health.* http://www.mayoclinic.org/diseases-conditions/high-blood-cholesterol/in-depth/trans-fat/art-20046114

[99] Sugar cane is a deep-rooted, water intensive crop that remains in the soil all year round using some 7,000-45,000 litres of water per hectare of crop grown. *http://wwf.panda.org/what_we_do/how_we_work/businesses/transforming_markets/solutions/bettermarkets/farming/sugarcane2/*

[100] Mekonnen, MM; Hoekstra, AY. *The Green, Blue, and Grey Water Footprint of Crops and Derived Crop Products. Volume 1: Main Report.* December 2010. *http://www.waterfootprint.org/Reports/Report47-WaterFootprintCrops-Vol1.pdf*

[101] Fairtrade International. *Fairtrade Standards for Nuts for Small Producer Organizations.* January 2011. *http://www.fairtrade.net/fileadmin/user_upload/content/2009/standards/documents/2013-01-15_EN_SPO_Nuts.pdf*

[102] The global average water footprint per ton of crop is extremely high for nuts (~9000 m3/ton), but varies considerably by species from low (chestnuts) to high (cashews, shelled almonds, kola nuts). *http://www.waterfootprint.org/Reports/Report47-WaterFootprintCrops-Vol1.pdf*

[103] Almond production requires 60 percent of the managed honeybees in the U.S. According to the Pollinator Stewardship Council, in 2014 somewhere between 15 percent and 25 percent of the beehives in almond groves suffered "severe" damage during the bloom, ranging from complete hive collapse to dead and deformed brood (the next generation of bees incubating in the hive). http://www.motherjones.com/tom-philpott/2014/04/california-almond-farms-blamed-honeybee-die

[104] The Guardian. *Cashew Nut Workers Supper Appalling Conditions as Global Slump Dents Profits. http://www.theguardian.com/global-development/2013/nov/02/cashew-nut-workers-pay-conditions-profits*

[105] According to a 2007 ActionAid report, some of the approximately 1 million people in India engaged directly in the processing of cashews (primarily women) were earning the equivalent of 30p a day and suffering permanent damage to their hands from corrosive liquid during handling the nuts. *http://www.theguardian.com/global-development/2013/nov/02/cashew-nut-workers-pay-conditions-profits*

[106] The use of nitrogen fertilizers increased from 58 pounds per acre of corn in 1964 to 140 pounds per acre in 2010. This contributes nitrate contamination of surface and groundwater. United States Department of Agriculture (USDA); Economic Research Service.

[107] Aged-based consumption recommendations *http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf404852*

[108] Diet sweeteners raise health concerns, ties to obesity and palate preference for sweetness. Spangler R, Wittkowski KM, Goddard NL, Avena NM, Hoebel BG, Leibowitz SF. Opiate-like effects of sugar on gene expression in reward areas of the rat brain. Mol Brain Res. 2004; 124: 134–142.; Kelley AE, Bakshi VP, Haber SN, Steininger TL, Will MJ, Zhang M. Opioid modulation of taste hedonics within the ventral striatum. Physiol Behav. 2002; 76: 365–377.

[109] In this context, "manufactured" is meant to discern between products raised or grown and processed (e.g., an egg or whole fresh carrot) rather than those composed of multiple ingredients (e.g., bread). From an impact perspective, identifying the difference between the two as spend is quantified along food products allows the team to understand more about the probably impacts. In this case, the key difference between the two is the granularity of information and traceability of the product (e.g., the bread may be from a local baker, but all of the ingredients have been sourced from various locations).

[110] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 29.

[111] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 33.

[112] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 33.

[113] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 34.

[114] FAR 15.304(d) and (e) (Evaluation factors and significant subfactors) (10 U.S.C. 2305(a)(3)(A)(iii) and 41 U.S.C. 253a(c)(1)(C))

[115] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013: page 35.

[116] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 35.

[117] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:„ page 38.

[118] safe and fair working conditions; addressed in Certification for Food Handlers

[119] water and biodiversity

[120] biodiversity, water, species preservation

[121] labor and human rights

[122] human wages and working conditions

[123] Soil and water management, air quality management, wildlife protection

[124] Work and community impacts

[125] Includes Fairtrade International, Fair Trade USA, IMO Fair for Life

[126] Greenhouse gas reduction, water, biodiversity, responsible waste management, safe use of chemicals, GMO-free

[127] Labor and human rights, capacity building

[128] Stable business partnerships, pre-determined premiums, fair pricing and wages

[129] U.S. Department of Agriculture Economic Research Service. *Organic Prices – Overview.* http://www.ers.usda.gov/data-products/organic-prices.aspx#44268

[130] Pillsbury, Melissa. *Price Differences: Organic versus Non-Organic, Store versus Farmers Market.* Maine Organic Farmers and Gardeners Association. http://www.mofga.org/Publications/MaineOrganicFarmerGardener/Fall2011/PriceDifferences/tabid/1966/Default.aspx

[131] Michigan State University. *Sustainable Food Procurement Guide.* http://www.eatatstate.msu.edu/sites/default/files/pdf/procurement_guide_WEB.pdf

[132] U.S. General Services Administration. *Concessions and Cafeterias: Healthy Food in the Federal Workplace.* http://www.gsa.gov/portal/content/104429

[133] Wikipedia. *Genetically Modified Food Controversies. http://en.wikipedia.org/wiki/Genetically_modified_food_controversies*; GMO Answers. *http://gmoanswers.com/*

[134] World Trade Organization, International Trade Statistics 2013, Tables II.40, II.41 and II.49 (2013). *http://www.wto.org/english/res_e/statis_e/its2013_e/its13_toc_e.htm.*

[135] Ibid, Table II.53 (2013), available at *http://www.wto.org/english/res_e/statis_e/its2013_e/its13_toc_e.htm.*

[136] Greenpeace. *Guide to Greener Electronics: Ranking Criteria Explained.* Aug 2014 v18. *http://www.greenpeace.org/international/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/Ranking-criteria-PDF/*

[137] U.S. Department of Energy. *2010 Buildings Energy Data Book. http://buildingsdatabook.eren.doe.gov/TableView.aspx?table=3.1.4*

[138] Green Electronics Council and the U.S. Department of Energy. An Introduction to Slate and Tablet Computers: Technology, Markets and Environmental Considerations. April 2014, page 9. *http://greenelectronicscouncil.org/wp-content/uploads/2014/04/Slates_Tablets_Report_Final_April_2014.pdf*

[139] Teehan, "LCA Studies of Tablets; Embodied CO_2 of Tablets; Comparison with Similar Products", Slates/Tablets Workshop – Meeting Summary, December 11-12, 2013. *http://greenelectronicscouncil.org/wp-*, as cited by Green Electronics Council in *http://greenelectronicscouncil.org/wp-content/uploads/2014/04/Slates_Tablets_Report_Final_April_2014.pdf*

[140] ibid, page 13.

[141] ibid, page 13.

[142] Greenpeace. *Guide to Greener Electronics: Ranking Criteria Explained.* Aug 2014 v18. *http://www.greenpeace.org/international/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/Ranking-criteria-PDF/*

[143] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:

[144] The main trade association representing the Electronics brands and suppliers in this area is the Electronics Industry Citizenship Coalition (EICC), and they have to date declined to adopt the ILO protections for their workers.

[145] See the Resolution from the American Public Health Association documenting these concerns: *http://icrt.co/index.php?option=com_content&view=article&id=155:resolution-from-global-coalition-adopted-unanimously&catid=81:current-news-and-info&Itemid=534*

[146] Report of the International workshop on hazardous substances within the life-cycle of electrical and electronic products, held in Vienna, from 29 to 31 March 2011. *http://www.basel.int/Portals/4/Basel%20Convention/docs/eWaste/HsInternationalWorkshopEwasteLifeCycle-Vienna-20110329.pdf*

[147] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 29.

[148] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 33.

[149] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 33.

[150] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 34.

[151] FAR 15.304(d) and (e) (Evaluation factors and significant subfactors) (10 U.S.C. 2305(a)(3)(A)(iii) and 41 U.S.C. 253a(c)(1)(C))

[152] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 35.

[153] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013:, page 38.

[154] Compared to physical software distribution, ESD can reduce energy and emissions drastically.

[155] Registry of environmentally preferable computers in conformance with the IEEE 1680.1-2009 Standard for the Environmental Assessment of Personal Computer Products

[156] Labeling program for energy efficient products and technical service provider for reducing GHG emissions during use phase

[157] World Trade Organization, International Trade Statistics 2013, Tables II.40, II.41 and II.49 (2013), *http://www.wto.org/english/res_e/statis_e/its2013_e/its13_toc_e.htm*

[158] Ibid, Table II.53 (2013), available at *http://www.wto.org/english/res_e/statis_e/its2013_e/its13_toc_e.htm*

[159] Greenpeace. *Guide to Greener Electronics: Ranking Criteria Explained.* Aug 2014 v18. *http://www.greenpeace.org/international/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/Ranking-criteria-PDF/*

[160] See the Resolution from the American Public Health Association documenting these concerns: http://icrt.co/index.php?option=com_content&view=article&id=155:resolution-from-global-coalition-adopted-unanimously&catid=81:current-news-and-info&Itemid=534

[161] Report of the International workshop on hazardous substances within the life-cycle of electrical and electronic products, held in Vienna, from 29 to 31 March 2011. *http://www.basel.int/Portals/4/Basel%20Convention/docs/eWaste/HsInternationalWorkshopEwasteLifeCycle-Vienna-20110329.pdf*

[162] Greenpeace. Guide to Greener Electronics: Ranking Criteria Explained. Aug 2014 v18. http://www.greenpeace.org/international/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/Ranking-criteria-PDF/

[163] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013

[164] The main trade association representing the Electronics brands and suppliers in this area is the Electronics Industry Citizenship Coalition (EICC), and they have to date declined to adopt the ILO protections for their workers.

[165] (This may be impossible in some instances, due to security risks of information).

[166] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 29.

[167] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 33.

[168] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 33.

[169] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 34.

[170] FAR 15.304(d) and (e) (Evaluation factors and significant subfactors) (10 U.S.C. 2305(a)(3)(A)(iii) and 41 U.S.C. 253a(c)(1)(C))

[171] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 35.

[172] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 38.

[173] http://buildingsdatabook.eren.doe.gov/TableView.aspx?table=3.1.4

[174] http://www.epa.gov/osw/education/quest/pdfs/unit1/chap1/u1_natresources.pdf

[175] http://www.greenpeace.org/international/campaigns/climate-change/cool-it/Campaign-analysis/Guide-to-Greener-Electronics/Ranking-criteria-PDF/

[176] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013

[177] The main trade association representing the Electronics brands and suppliers in this area is the Electronics Industry Citizenship Coalition (EICC), and they have to date declined to adopt the ILO protections for their workers.

[178] See the Resolution from the American Public Health Association documenting these concerns: http://icrt.co/index.php?option=com_content&view=article&id=155:resolution-from-global-coalition-adopted-unanimously&catid=81:current-news-and-info&Itemid=534

[179] Report of the International workshop on hazardous substances within the life-cycle of electrical and electronic products, held in Vienna, from 29 to 31 March 2011. http://www.basel.int/Portals/4/Basel%20Convention/docs/eWaste/HsInternationalWorkshopEwasteLifeCycle-Vienna-20110329.pdf

[180] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 29.

[181] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 33.

[182] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 33.

[183] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 34.

[184] FAR 15.304(d) and (e) (Evaluation factors and significant subfactors) (10 U.S.C. 2305(a)(3)(A)(iii) and 41 U.S.C. 253a(c)(1)(C))

[185] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 35.

[186] International Corporate Accountability Roundtable. *"Turning a Blind Eye: Respecting Human Rights in Government Purchasing."* 2013, page 38.

[187] U.S. Environmental Protection Agency. *E-cycling.* http://www.epa.gov/epawaste/conserve/materials/ecycling/manage.htm

[188] McKinsey & Company. "Towards the Circular Economy: Economic and business rationale for an accelerated transition" Vol. 1. *http://www.ellenmacarthurfoundation.org/business/reports/ce2012*

[189] NRDC. *America's Data Centers Consuming and Wasting Growing Amounts of Energy.* http://www.nrdc.org/energy/data-center-efficiency-assessment.asp

[190] NRDC. *America's Data Centers Consuming and Wasting Growing Amounts of Energy.* http://www.nrdc.org/energy/data-center-efficiency-assessment.asp

[191] NRDC. *Saving Energy in Server Rooms and Closets.* http://www.nrdc.org/energy/saving-energy-in-server-rooms.asp

[192] Apple website. https://www.apple.com/environment/our-progress/

[193] Enck, Corey. *Hungry for Data: LEED v4 Targets Data Centers.* U.S. Green Building Council. 2012. http://www.usgbc.org/articles/hungry-data-leed-targets-data-centers-0

[194] …whereby energy produced by other operational processes – such as the heat from servers – is used to power chillers that cool the water used to reduce the temperatures around racks of equipment, and have renewable energy goals

[195] Note, mitigating water impacts may increase energy impacts, and vice versa.

[196] Historically, data center operators typically have kept "cold aisle" temperatures at roughly 65oF/18oC. According to recent a publication by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), however, certain classes of data centers can safely operate at temperatures as high as 104oF/40oC. While few companies are pushing these extremes, it is not uncommon to see operating targets approaching 80oF/26oC. Raising data center temperatures even a few degrees can dramatically reduce the amount of water consumed by cooling systems."

[197] Data center operators are beginning to use recycled water sources, such as rain water and waste water, in place of fresh water. Google Inc., for example, has switched to using recycled water at its Douglas County, Ga., data center rather than continue to tap drinking water as it had when the facility opened in 2007.

[198] Most data centers collect hot exhaust air and return water, chill it and then re-circulate it. Facilities that utilize "air-side economization," however, simply pump hot internal air out of the building and pipe cool external air in. "Water-side economization" is a similar process in which return water is pumped through an external radiator or cooling tower rather than a chiller. Both techniques can significantly lower cooling-related water requirements. Moreover, studies have shown them to be viable options for at least part of the day even in mild or warm climates.

[199] Lawrence Berkeley National Laboratory. *Data Center Energy Efficiency Measurement Assessment Kit Guide and Specification.* October 2012. http://energy.gov/sites/prod/files/2013/10/f3/dc_assessmentkit.pdf

[200] Biodiesel (B100), Natural gas and liquid fuels domestically produced from natural gas, Propane (liquefied petroleum gas), electricity, hydrogen, blends of 85% of more of methanol, denatured ethanol, and other alcohols with gasoline or other fuels, coal derived, domestically produced liquid fuels, fuels (other than alcohol) derived from biological materials, p-series fuels.

[201] Energy Information Administration, *Annual Energy Review 2012*, Table 2.1e, 2014. *http://www.eia.gov/totalenergy/data/annual/index.cfm#consumption*

[202] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions – Transportation.* http://www.epa.gov/climatechange/ghgemissions/sources/transportation.html

[203] Environment & Human Health Inc . "The Harmful Effects of Vehicle Exhaust." 2006. *www.ehhi.org*;

[204] International Agency for Research on Cancer. *IARC: Diesel Engine Exhaust Carcinogenic.* June 2012. http://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

[205] U.S. Environmental Protection Agency. *Report to Congress on Black Carbon* http://www.epa.gov/blackcarbon/

[206] World Health Organization. *Ambient (outdoor) Air Quality and Health. March 2014.* http://www.who.int/mediacentre/factsheets/fs313/en/

[207] U.S. Department of Energy. *Transportation Energy Data Book*, Table 2.5, 2014. *http://cta.ornl.gov/data/chapter2.shtml*

[208] Environment & Human Health Inc . "The Harmful Effects of Vehicle Exhaust." 2006. *www.ehhi.org*;

[209] Union of Concerned Scientists website, accessed Oct. 21, 2014 *www.ucsusa.org*

[210] U.S. Department of Energy. *Transportation Energy Data Book*, Table 2.5, 2014. *http://cta.ornl.gov/data/chapter2.shtml*

[211] Energy Information Administration. *Annual Energy Review 2012*, Table 2.1e, 2014. *http://www.eia.gov/totalenergy/data/annual/index.cfm#consumption*

[212] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions – Transportation.* http://www.epa.gov/climatechange/ghgemissions/sources/transportation.html

[213] Environment & Human Health Inc . "The Harmful Effects of Vehicle Exhaust." 2006. *www.ehhi.org*;

[214] U.S. Department of Energy. *Transportation Energy Data Book*, Table 2.5, 2014. *http://cta.ornl.gov/data/chapter2.shtml*

[215] EIA, *Annual Energy Review 2012*, Table 2.1e, 2014. *http://www.eia.gov/totalenergy/data/annual/index.cfm#consumption*

[216] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions – Transportation.* http://www.epa.gov/climatechange/ghgemissions/sources/transportation.html

[217] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012. *http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf*

[218] Environment & Human Health Inc . "The Harmful Effects of Vehicle Exhaust." 2006. *www.ehhi.org*;

[219] Developed by PE International, December 2014

[220] U.S. Department of Energy. *Transportation Energy Data Book*, Table 2.5, 2014. *http://cta.ornl.gov/data/chapter2.shtml*

[221] Energy Information Administration, *Annual Energy Review 2012*, Table 2.1e, 2014. *http://www.eia.gov/totalenergy/data/annual/index.cfm#consumption*

[222] U.S. Environmental Protection Agency. *Sources of Greenhouse Gas Emissions – Transportation.* http://www.epa.gov/climatechange/ghgemissions/sources/transportation.html

[223] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2012. *http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf*

[224] Environment & Human Health Inc . "The Harmful Effects of Vehicle Exhaust." 2006. *www.ehhi.org*;

[225] World Wildlife Fund. *The WWF Guide to Buying Paper.* page 2. *http://wwf.panda.org/how_you_can_help/live_green/fsc/save_paper/paper_toolbox/the_wwf_guide_to_buying_paper/*

[226] World Wildlife Fund. *Illegal Logging.* http://wwf.panda.org/about_our_earth/about_forests/deforestation/forest_illegal_logging/

[227] The Economist. *Down in the Woods.* March 2006. http://www.economist.com/node/5654971

[228] Forest and Agriculture Organization of the United Nations. *Forestry.* http://www.fao.org/docrep/014/am859e/am859e08.pdf

[229] http://www.epa.gov/climatechange/ghgemissions/sources/lulucf.html

[230] Forest and Agriculture Organization of the United Nations. *State of the World's Forests 2011.* 2011. (table 1 and table 5)

[231] Forest Stewardship Council website. FSC.org Accessed January 17, 2015.

[232] World Wildlife Fund. *Responsible Forestry. http://www.worldwildlife.org/industries/responsible-forestry*

[233] Global Witness 2002 cited in Le Billon 2003

[234] United Nations Environment Programme. *Environmental and Socioeconomic Impacts of Armed Conflict. http://www.unep.org/dewa/Africa/publications/AEO-2/content/205.htm*

[235] World Wildlife Fund. *Living Forests Report. Chapter 4: Forests and Wood Products.* 2012. page 7