



**Baseline Review Report:
Measuring and Communicating the
Benefits of Sustainable Public
Procurement (SPP)**

A REPORT FOR WORKING-GROUP 2B OF THE
UNEP 10YFP SPP PROGRAMME

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prepared for:

2B Working Group Members and Partners of the
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1. INTRODUCTION TO THE BASELINE REVIEW

Although governments have been developing and implementing sustainable procurement programs for some 20 years¹, a standardized and comprehensive methodology for measuring and communicating the benefits of these programs remains elusive. The link between sustainable public procurement (SPP) and environmental, economic, and social benefits seems plausible, however, documenting and articulating those benefits remains difficult.

SPP is often linked to policy goals such as: strengthening economies and resilience; encouraging more sustainable patterns of consumption and production; mitigating climate change; advancing sustainable development; and increasing economic competitiveness. Beyond this, SPP may also contribute to creating markets for appropriate technologies and innovative solutions².

A critical component in making the case for SPP is to measure its benefits and potential for contributing to these policy goals. Presenting achieved benefits of a program can help to garner support within an organization for continuing and even expanding work on that program. Presenting the benefits generated with a transparent method, supporting evidence, and clear communication can greatly improve the implementation of SPP. It can serve to motivate and inspire more work on the topic, address stakeholders' interests and concerns, and provide accountability for citizens in how their taxpayer funds are being spent and policy goals are being met. In addition, the benefits can provide valuable insight to SPP program staff, helping to inform the direction and scope for their programs as they evolve.

Conducting measurements and providing communications that meet the needs of various stakeholders to SPP is challenging. Various existing measurement methods and benefits calculators are available, but as a whole, the landscape remains fragmented and sometimes contradictory. Data on spending are hard to gather and difficult to input into the existing calculators. Progress toward effective implementation of SPP is slowed by the dearth of data, methods, and the lack of a shared framework for communicating SPP benefits. These challenges hamper the ability of SPP programs to monitor their progress, tell their story, and recruit internal and external stakeholders to support their work. A study of measuring SPP from the UK concluded that:

¹ An IISD Report found that one of the earliest adoptions of national policy on SPP was Norway in 1993. International Institute for Sustainable Development, "State of Play in Sustainable Public Procurement" (2007). Accessed online December 18, 2014. Available at: http://www.iisd.org/pdf/2007/state_procurement.pdf

² United Nations Environment Programme, "Background to Sustainable Procurement" (2014). Accessed online December 20, 2014. Available at: <http://www.unep.org/resourceefficiency/Society/CommunicationandEducation/tabid/55550/Default.aspx>

“Arguably the biggest challenge to the success of delivering sustainable policy aspirations through public procurement lies in knowing what impact, if any, these procurement practices will have.”³

There is a great interest in this topic, and need to better direct attention towards the many and various benefits of SPP programs, and the scale of the opportunity before us.

1A. OVERVIEW OF THE 2B PROJECT AND WORKING-GROUP

This baseline review is intended to inform an ongoing project sponsored by the United Nations Environment Programme (UNEP) in the framework of the 10YFP SPP Programme. As one of several activities under the 10YFP SPP programme, this project is supported by the “2B: Measurement and Communication of Sustainable Public Procurement Benefits” working group. The hypothesis driving the 2B working group is:

SPP practices will increase if there is a reliable way of measuring and communicating the sustainability benefits of SPP programmes.

The goal of the project is to lay a solid foundation for measuring SPP benefits by:

1. Investigating and comparing existing methodologies and benefit calculation techniques.
2. Further developing a benefits framework and methodology.
3. Receiving expert input and review on that framework and methodology.
4. Testing the approach with pilot organizations and real data.
5. Providing guidance to organizations implementing SPP.
6. Growing and diversifying the community of individuals and organizations actively working on SPP benefits measurement.

The Sustainable Purchasing Leadership Council (SPLC) and Industrial Economics, Inc. (IEc) are leading this project, with support from the UNEP 10YFP Programme Secretariat and the Korea Environmental Industry & Technology Institute (KEITI). Exhibit 1 lists the 2B working group members (as of December 31, 2014).

³ Wilkinson, A & Kirkup, B “Measurement of Sustainable Procurement” (2009) . Accessed online December 12, 2014. Available at <http://www.adamwilkinson.com/documents/measuring%20SP%20report%20release.pdf>

EXHIBIT 1. WORKING GROUP MEMBERS AND PARTNERS

ORGANIZATION	COUNTRY
Academy for Applied Development (IAAD)	India
Bank of Zambia	Zambia
CEGESTI	Costa Rica
Centre for Sustainable Consumption and Production (CSCP)	Germany
Centro Nacional de Producción Más Limpia y Tecnologías Ambientales (CNPMLTA)	Columbia
Columbian Government	Columbia
Collaborative Labeling and Appliance Standards Program (CLASP)	USA
U.S. Department of Energy	USA
Ecoinstitut	Spain
EcoMark Korea	Korea
ECPAR	Canada
U.S. Environmental Protection Agency	USA
Ghana Public Procurement Authority	Ghana
Gesellschaft für Internationale Zusammenarbeit (GIZ)	Germany
Indian National Railways	India
Korea Environmental Industry & Technology Institute (KEITI)	Korea
China Certification Center of the Ministry of Environmental Protection (MEP)	China
Ministerio de Hacienda	Costa Rica
Ministry of Environmental and Natural Resources	Mexico
Ministerio del Medio Ambiente (MMA)	Columbia
Organization for Economic Cooperation and Development (OECD)	France
Pacific Gas & Electric (PG&E)	USA
Peer Aspect	USA
Polytechnique Montréal	Canada
Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC)	Spain
Semarnat	Mexico
Secretariat of the Convention on Biodiversity, United Nations	Canada
State Secretariat for Economic Affairs	Switzerland
Survive	Hungary
Sustainable Purchasing Leadership Council (SPLC)	USA
United Nations Environment Programme (UNEP) Division of Technology Industry and Economics	France

The goal of the baseline review presented in this report is to:

1. Review the existing methodologies and literature on measuring SPP benefits that could be applied to the current project.
2. Identify the major gaps and inconsistencies in the existing approaches.
3. Enable a baseline understanding for the community of professionals working on SPP of the existing approaches for measuring SPP benefits and the gaps that need to be filled to advance the field.

2. RESEARCH METHODS, REPORT STRUCTURE, AND LIMITATIONS

2A. KEY DEFINITIONS

Key terms that guide the research are sustainable public procurement, benefits, and communications.

- **Sustainable public procurement (SPP)** is a management process “whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment. Sustainable Procurement seeks to achieve the appropriate balance between the three pillars of sustainable development (i.e. economic, social and environmental)”.⁴ Other common terms for sustainable procurement are green public procurement (GPP), environmentally preferable procurement (EPP), socially responsible procurement (SRP), and responsible procurement (RP).
- **Public procurement** is the act of buying goods and services for the government. Other common terms for procurement are “purchasing” and “acquisition”. In some organizations, these terms are interchangeable, while in others, they refer to different types of activities and systems⁵.
- **Benefits** refer to the outcomes or results achieved by a program in its entirety, or stemming from some of the specific activities. The term “benefits” in this review is as an umbrella term referring to both the positive improvement of economic, social, or environmental conditions, and the reduction of negative impacts on economic, social, and environmental conditions. In the 2B workgroup project, SPP program outcomes are broadly described as “benefits,” to capture the idea that positive benefits can also be created that actually improve the environment, social welfare and add to economic development. Of course, reducing negative impacts is also an important benefit.

⁴ United Nations Environment Programme, “Sustainable Public Procurement Implementation Guidelines: Introducing UNEP’s approach” (2012). Accessed online Accessed November 21, 2014). Available at: <http://www.unep.org/resourceefficiency/Portals/24147/scp/procurement/docsres/ProjectInfo/UNEPImplementationGuidelines.pdf>

⁵ For example, the US Department of Defense defines acquisition as a wider concept than procurement. Acquisition is an activity that includes the conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, supplies, or services (including construction) to satisfy needs of the Department of Defense as according to the Defense Acquisition University, “Glossary of Defense Acquisition Acronyms and Terms” (2009). Accessed online January 3, 2015. Available at: http://www.dau.mil/pubscats/PubsCats/13th_Edition_Glossary.pdf

While these terms sometimes have different meanings and refer to different activities, in this report, all of these concepts are included under the umbrella term “sustainable public procurement benefits,” or “SPP benefits”. When different terms provide for an important distinction in method, measurement, data, or communication, IEc brings this to attention.

2B. RESEARCH STEPS

To gather resources, the IEc research team took following three main steps.

LITERATURE REVIEW

IEc initially gathered and reviewed a sizable set of literature on SPP reports and benefits measurement from around the world. An annotated bibliography can be found in Annex 1, presented in four major categories:

1. **Method/guidance:** Reports that describe or summarize a particular method of measurement, such as life cycle assessment (LCA) or life cycle cost analysis (LCC), as well as reports that provide general guidance on how to measure the benefits of SPP.
2. **Benefit example:** Reports that provide or describe benefits of an SPP program or of specific initiatives and contracts.
3. **Calculators:** Tools that assist in quantifying the benefits of sustainable products or services into which users enter their own data.
4. **Other:** Resources that contain useful material on SPP even if they are not focused specifically on measuring benefits.

STAKEHOLDER AND EXPERT INTERVIEWS

Working with project partners, the IEc research team interviewed sustainability measurement and procurement experts from around the world. The purpose of the interviews was to:

- Ensure that the baseline review covered the key concepts of measuring and communicating SPP benefits.
- Expand the existing set of methods and calculators currently applied to measure and communicate SPP benefits.
- Identify methods and calculators with possible application for measuring and communicating SPP benefits (which are not already used).
- Deepen understanding of the challenges associated with applying these methods and calculators in practice.

Interviews were semi-structured, with an interview guide sent in advance (Annex 2). To protect confidentiality and encourage candor, the interviews were not recorded, and this report does not attribute comments to specific individuals.

IEc interviewed a total of 20 experts by telephone in November 2014 and January 2015, representing a mix of stakeholder categories and regions as shown in Exhibit 2.

EXHIBIT 2. TYPES OF INTERVIEWEES FOR THE BASELINE STUDY

TYPE OF STAKEHOLDER	AREA OF SPECIALTY	COUNTRY
Communications	SPP, product communications	USA
Corporate supply chain	Supplier assessments	USA
Government	SPP program design	UK
Government	Streamlined LCA, SPP	USA
Government	SPP measurement	Korea
NGO	Outcomes measurement	Germany
NGO	Green building	USA
NGO	SPP, measurement	USA
NGO	SPP, health	USA
Policy	SPP programs	France
Policy	Outcomes measurement	Thailand
Policy	SPP, ecolabels	Thailand
Policy	SPP measurement	Belgium
Private sector company	Supply chain management	USA
Purchaser	SPP, impact measurement	USA
Purchaser	Calculators	USA
Retailer	Green products, suppliers	USA
Standards Organization	Impacts measurement	Canada
University	LCA, spend analysis	USA
University	LCA, Economic Input-Output LCA	USA

SHORT POLL OF 2B WORKING-GROUP AND EXPERT WORKSHOP PARTICIPANTS

To identify the challenges most pressing for SPP experts, and to identify calculators and other tools that they are aware of, IEc conducted a short poll via email with working group members and registered participants in the expert workshop to be held on January 14th, 2015. The two questions posed were:

- **Question 1:** What is one topic that you are challenged by in measuring and communicating the benefits of SPP?
- **Question 2:** What is one calculator (related to measuring SPP benefits) that you wish for everyone in the workshop to know about?

As of January 12, 2015, IEc received 12 responses from the poll. Responses from the poll helped to inform the workshop design, and will be synthesized in the final report for this project.

2C. STRUCTURE OF THE BASELINE REPORT

Section 3 presents the key findings from the baseline review and analysis in four sub-sections:

- 3a. **Reports on measuring SPP:** This section provides a synthesis of the expert knowledge (in reports reviewed) on measuring SPP. IEC distinguishes between reports that mainly focus on process measures versus those that focus on benefit measures, discuss general considerations for measuring SPP benefits, and list some commonly-cited benefits of SPP.
- 3b. **Landscape of methods and calculators available to measure SPP benefits:** With the synthesized list of benefits generated in section 3a, this section maps out the different methods and calculators currently available to measure these benefits, providing a landscape overview of what is available, and where there are gaps.
- 3c. **Examples of SPP benefits communications:** This section presents some examples of communications of SPP benefits.
- 3d. **Challenges and insights into applying methods and calculators:** Gained largely from the interviews, reports, and IEC observations, this section presents insights into the application of SPP measurement and communication, and articulates some key challenges.

Section 4 presents a concept map that structures IEC's thinking around measurement and communication of SPP benefits based on research findings, laying out the key concepts for measuring and communicating SPP in practice. It is intended to organize the measurement and communication of SPP benefits in terms of economic, social, and environmental issues; the policy response to those issues; SPP program activities; evaluation methods; and different audiences for communications.

The concept map will be further revised based on input from the expert workshop and working group meeting to be held January 14, 2015 in Washington, D.C., hosted at the U.S. EPA (with webinar support via UNEP). The concept map will also form the basis of a framework and guidance document in the next stage of the project.

Section 5 concludes the baseline study and discusses how the findings will inform the next steps in the project.

2D. METHODOLOGICAL LIMITATIONS

The baseline review conducted for this project has the following methodological limitations:

- a. Concentration of research and publications in English may result in under-representation of initiatives and methodological approaches developed in non-English-speaking regions.
- b. When looking for examples, IEC did not conduct a comprehensive review of all known reports and communications on SPP by government agencies. Instead, IEC targeted its search criteria to identify literature and examples that would be most

relevant for the current project. In addition, IEC was limited to reports, calculators, and examples in the public domain. However, IEC suspects that several organizations have developed proprietary calculators and other measurement tools to capture SPP benefits. As such, there are likely more examples and approaches than reported in this document.

- c. While IEC conducted more interviews than initially planned, IEC still was only able to talk to experts from the fields of product sustainability with mainly environmental and economic expertise. Interviewees were also predominantly based in North America, followed by Europe, and Asia. Interviewing experts with more expertise in social benefit measurement and in regions such as South and Central America and Africa may result in a different set of approaches and challenges.

Despite these limitations, the baseline review provides a solid foundation for developing a measurement framework, and serves as a prompt to encourage more experts and government agencies to offer their approaches and experiences in measuring and communicating the benefits of SPP. IEC hopes to add to the literature base as the project progresses in 2015.

3. RESEARCH FINDINGS

3A. SUMMARY OF RESOURCES REVIEWED AND BENEFITS CITED

IEc identified and reviewed 166 resources (reports, Excel-based calculators and websites) on the subject of SPP that contained content discussing the topic of measuring SPP programs, and benefits measurements in particular. IEc shared an initial list of 140 resources with the 2B working-group and added an additional 26 resources which were then analyzed (making up the 166 total).

The resources are categorized into the following four main types. A full list of the resources reviewed can be found in Appendix 1 (which is organized into the four main types below).

1. **Method/guidance:** Reports that describe or summarize a particular method of measurement such as LCA or LCC, as well as reports that provide general guidance on how to measure the benefits of SPP.
2. **Benefit example:** Reports that provide benefits of an SPP program, which may be quantitative or qualitative.
3. **Calculators:** Tools that assist in quantifying the benefits of sustainable products or services into which users enter their own data.
4. **Other:** Resources that contain useful material on SPP even if they are not focused specifically on measuring benefits. This includes reports focused on process measurement (e.g. indicators of the uptake of an SPP program), the impacts of ecolabels, and the concept of net positive.

Exhibit 3 provides a summary of the number of resources for each of the above categories. IEc identified and reviewed 13 reports that provided methods or guidance on measuring the benefits of SPP.

IEc identified and reviewed 50 calculators for measuring the benefits of sustainable products or services⁶. Section 3b below contains further presentation and analysis of these calculators.

IEc reviewed the benefits cited across the method/guidance and benefit example resources to identify the breadth and type of benefits articulated in existing literature, and to demonstrate which of the benefits are most often measured and communicated.

⁶ IEc was limited to reviewing methods and calculators that are in the public domain.

EXHIBIT 3. COUNT OF RESOURCES BY CATEGORY

RESOURCE CATEGORY	COUNT	PERCENT
Method/guidance	13	8%
Calculators*	48	29%
Benefit example	23	14%
Other	82	49%
TOTAL	166	100%
*Note that this category includes 15 ENERGY STAR calculators for various products, which sometimes employ different methods so were counted as individual calculators		

Exhibits 4, 5, and 6 below list the number of citations for economic, social, and environmental benefits, respectively, within the literature reviewed. While there are strong causal links and interconnections between many categories of benefits, IEC assigned one category to each benefit cited to both 1) focus on the benefits actively communicated in the reports, and 2) to avoid potential double counting. For example, reduced water consumption leads to cost savings, but if a report discussed only reduced water consumption, and not cost savings from water consumption, then IEC did not include cost savings as a benefit identified in the report (unless other areas of cost savings were reported).

The lower half of each graph contains a list of additional benefit categories that were not cited in the resources reviewed (generated from draft SPLC Guidance v1.0)⁷. While IEC did not find existing calculators or examples of these additional impact categories monitored for SPP benefits in the literature, the additional impact categories may potentially be expressed as benefits, and there may be examples or methods for measurement that IEC did not uncover in its research to-date.

The benefits most often cited were reduces GHG emissions (23), reduces costs (22), promotes innovation (8), promotes regional economic development (7), generates employment opportunities (7), improves occupational health and safety (6), and reduces waste generation (6). GHG emission reductions and cost savings are also the benefits most often quantified.

⁷ Sustainable Purchasing Leadership Council, "Guidance for Leadership in Sustainable Purchasing v1.0" (2015). Available at: <https://www.sustainablepurchasing.org/guidance/>

EXHIBIT 4. ECONOMIC BENEFITS CITED IN THE LITERATURE REVIEWED

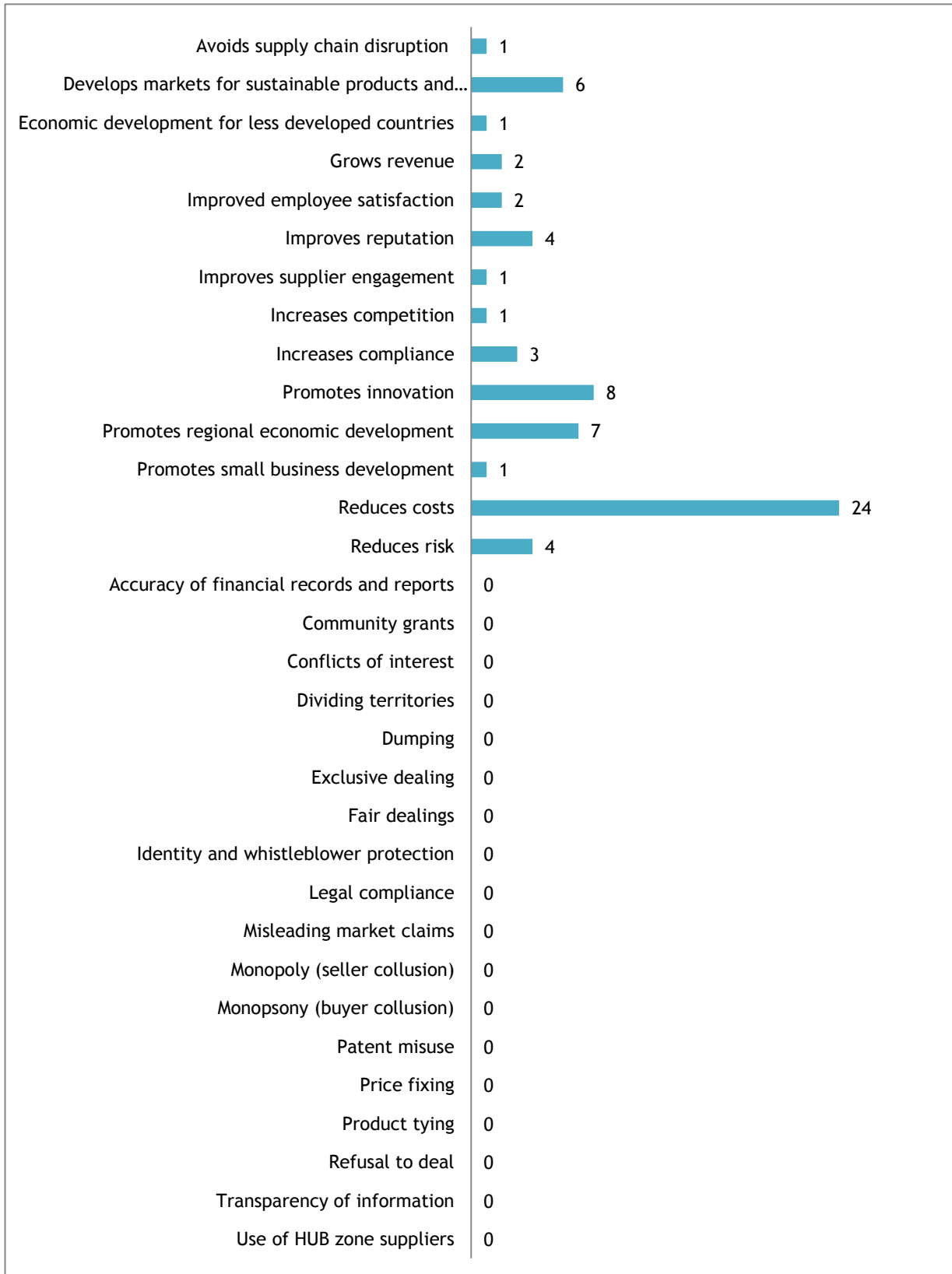


EXHIBIT 5. SOCIAL BENEFITS CITED IN THE LITERATURE REVIEWED

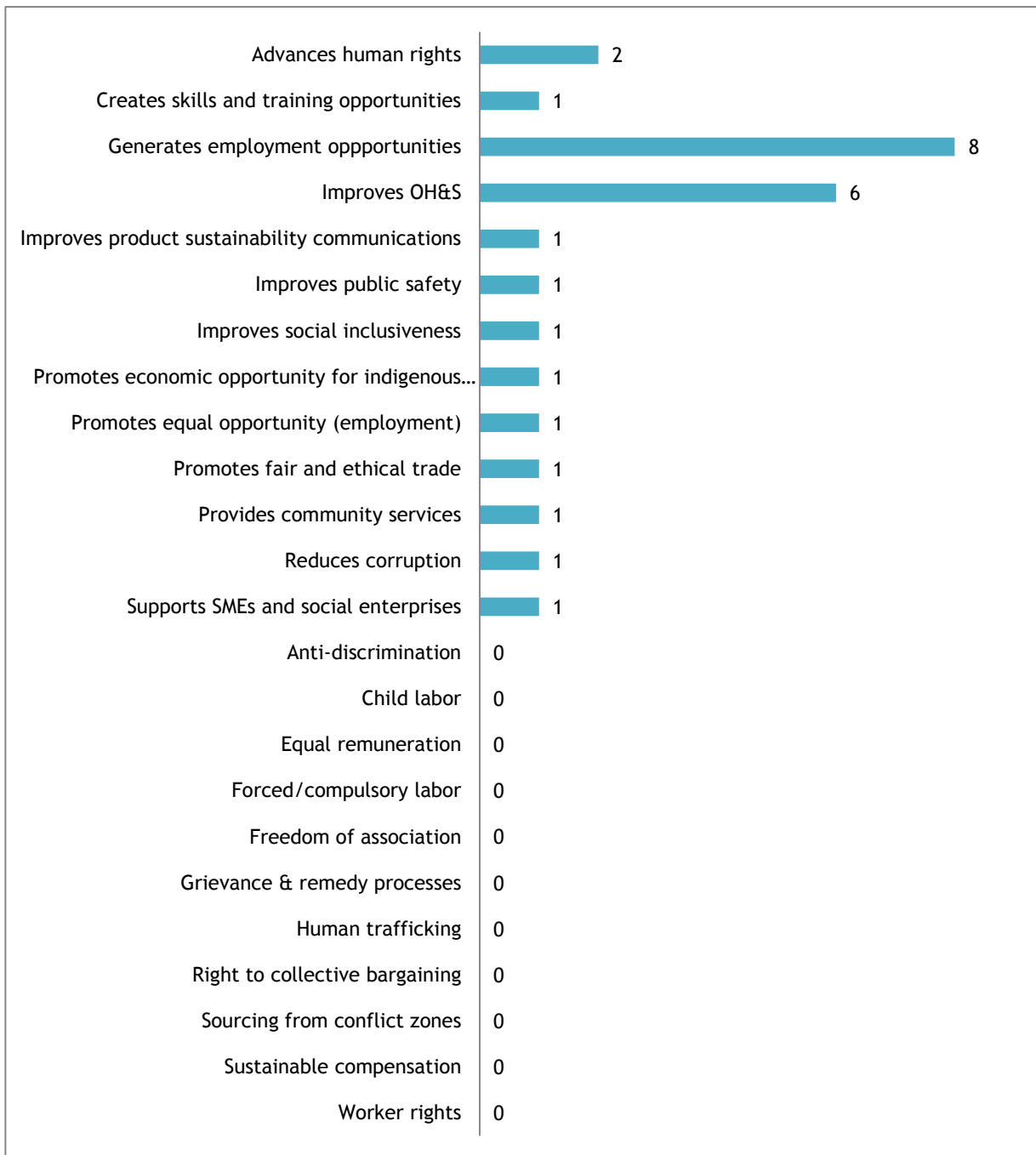
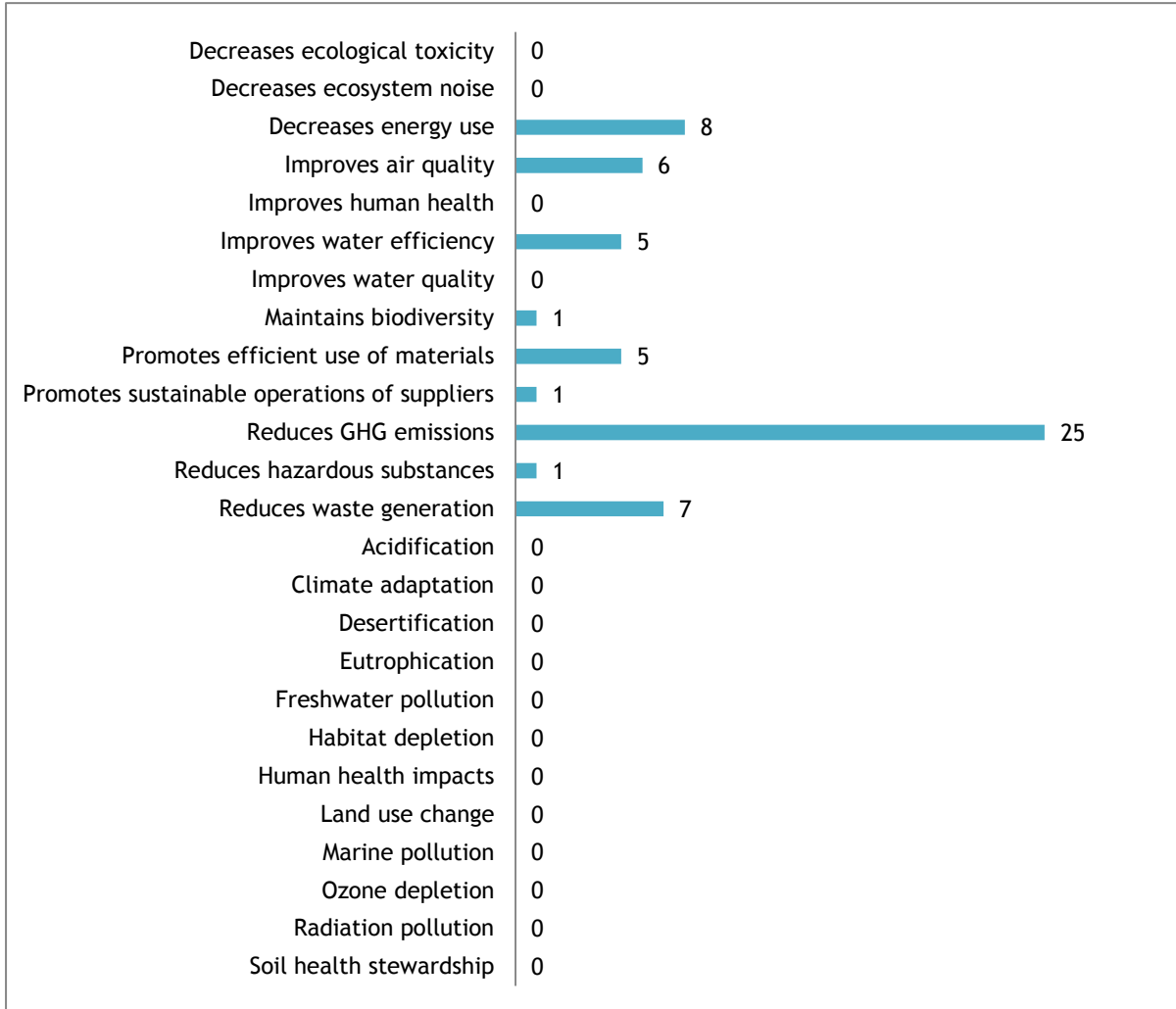


EXHIBIT 6. ENVIRONMENTAL BENEFITS CITED IN THE LITERATURE REVIEWED



3B. EXISTING METHODS AND CALCULATORS FOR MEASURING THE BENEFITS OF SPP

IEc reviewed the literature for the types of benefits measured, summarized above and in Exhibit 7 below. IEC classified the benefits listed as either internal or external or both:

- Internal benefits - realized by the organization with the SPP program
- External benefits - realized outside of the organization with the SPP program; these include benefits to the public, the environment, or the economy.
- Internal/External benefits - realized by both internal and external stakeholders. For example, reduced waste generation is beneficial for the organization with an SPP program because it reduces the costs of waste disposal. Also, reducing waste reduces demand for landfill space and/or environmental impacts associated with waste incineration, and where waste is diverted for recycling, reducing waste can alleviate pressure to develop virgin feed-stocks.

In addition, IEC identified methods that could be used to measure each of the benefits. These methods are derived from the review of the literature, calculators and examples, as well as IEC's institutional knowledge of additional methods that could be applied to measure the benefit.

IEc also identified calculators applicable to each benefit category. The calculators are split into two groups: those that can be used for any product category (specific methods and cross-category calculators), and those that are designed for a specific product category (product specific calculators – examples). “TBD” in Exhibit 7 refers to a gap; further research will determine if this gap is due to a lack of methods and/or calculators, or to a current gap in IEC's knowledge of the literature.

As seen in Exhibit 7, most of the calculators available focus on measuring cost savings and GHG emissions reductions. Additionally, many generic methods such as LCA can be applied to a wide variety of benefit categories. Calculators and methods are particularly lacking for measuring social benefits.

Exhibit 8 shows the number of calculators associated with each product and/or service category, based on assigning a standardized product classification scheme to each calculator⁸. IEC found that many of the calculators address multiple product and/or service categories, and that there is an abundance of calculators for calculating the benefits of appliances (largely due to the creation of many Energy Star calculators)⁹. Annex 1 lists the full set of the calculators reviewed for this analysis.

⁸ IEC applied the product classification system developed by the Green Products Roundtable Framework.

The Keystone Center, “Accelerating Green Commerce” (2011). Accessed online December 20, 2014. Available at: https://www.sustainablepurchasing.org/wp-content/uploads/2013/05/GPR_Report_FINAL.pdf

⁹ U.S. Small Business Administration, “Energy Saving Calculators from Energy Star”. Accessed online November 21, 2014 Available at: <https://www.sba.gov/content/energy-saving-calculators-energy-star>

EXHIBIT 7. LANDSCAPE OF METHODS AND CALCULATORS FOR MEASURING SPP BENEFITS

BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
ECONOMIC				
Avoids supply chain disruption	Internal	Supplier risk assessment; supply chain analysis	TBD	TBD
Grows revenue	Internal	Financial statement analysis	Impact Predictor; LM3 Online	TBD
Improves employee satisfaction	Internal	Interviews and surveys; review employment records payroll (measuring turnover)	TBD	TBD
Improves reputation	Internal	Brand equity; brand valuation modelling; conjoint analysis; consumer surveys; intangible asset of balance sheet; royalty release method; financial statement analysis	Supply Chain Environmental Sustainability Scorecard	TBD
Reduces costs	Internal	Break-even analysis; LCC; NPV; payback period; ROI; total cost of ownership	EnviroCalc; LCC-CO2 tool (beta version); Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard; TCO Calculator	Building for Environmental and Economic Sustainability (BEES) Software; Clean Fleet LCC tool; ENERGY STAR Calculators (air-source heat pump; leasing water cooler; water cooler; central air conditioning, commercial kitchen equipment; consumer electronics calculator; furnaces; light fixture and ceiling fan; light bulb; pool pump; office equipment calculator; programmable thermostat calculator; room Air conditioning; exit signs); Federal Automotive Statistical Tool (FAST); Flex Fuel Cost Calculator; Fuel Savings Calculator; Hybrid calculator; My Plug-in Hybrid Calculator; Trip Calculator

BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
Reduces risk	Internal	Insurance analysis; qualitative risk analysis; quantitative risk analysis; SWOT analysis	Supply Chain Environmental Sustainability Scorecard	TBD
Improves supplier engagement	Internal/External	Audits; qualitative analysis: supplier surveys, interviews	TBD	TBD
Increases competition	Internal/External	Cost effectiveness; market-share measurement; production efficiency analysis; productivity analysis; supplier /market assessment; value-analysis	TBD	TBD
Increases compliance	Internal/external	Compliance assessments; environmental management system assessments; financial report analysis; other third party audits; studies of incidents, sanctions, fines	Supply Chain Environmental Sustainability Scorecard	TBD
Develops markets for sustainable products and services	External	Market characterization analysis; market impact analysis; market share analysis	TBD	TBD
Economic development for less developed countries	External	Benchmarking; economic impact analysis; investment analysis (of FDI); socio-economic analysis; trade and export analysis	TBD	TBD

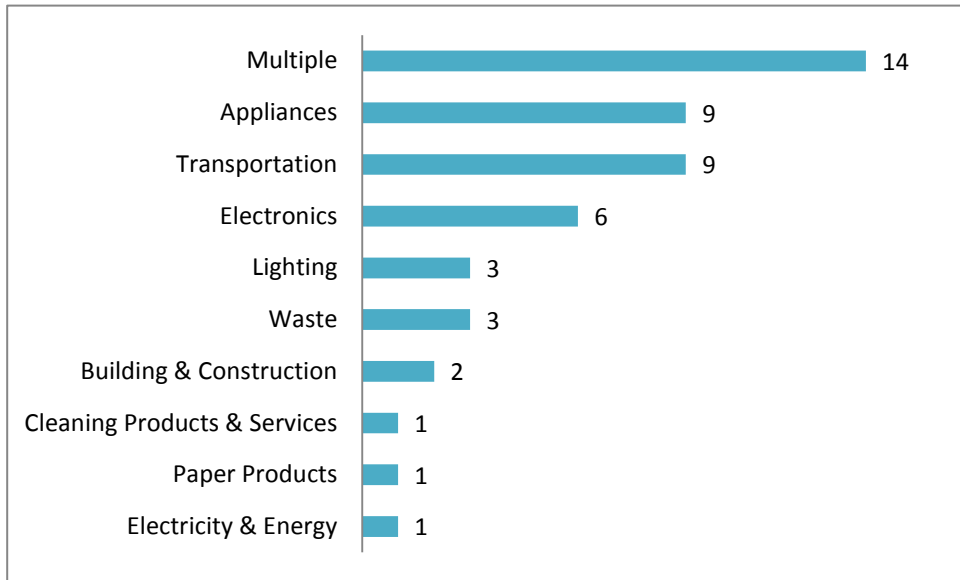
BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
Promotes innovation	External	Market characterization studies; learning curve/cost progress analysis; patent analysis; technology commercialization tracking	Supply Chain Environmental Sustainability Scorecard	TBD
Promotes regional economic development	External	Benchmarking; investment analysis; regional economic impact analysis; socio-economic analysis; trade and export analysis	Impact Predictor; LM3 Online; IMPLAN	TBD
Promotes small business development	External	Sales and employment analysis of SMEs	TBD	TBD
SOCIAL				
Improves Occupational Health and Safety (OH&S)	Internal/External	Audits; insurance costs; liability/injury claims; safety reports	TBD	TBD
Improves public safety	Internal/External	Analysis of police records; public safety incidents	TBD	TBD
Reduces corruption	Internal/External	TBD	TBD	TBD
Advances human rights	External	Analysis of media; audit reports; compliance assessments; document review of CSR, audit and annual reports; due diligence; policy review; social LCA; supplier assessments	TBD	TBD
Creates skills and training opportunities	External	Surveys and interviews; training effectiveness assessments	TBD	TBD
Generates employment opportunities	External	Job creation studies; unemployment rates	TBD	TBD
Improves product sustainability communications	External	Market research; media analysis; surveys	TBD	TBD

BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
Improves social inclusiveness	External	TBD	TBD	TBD
Promotes economic opportunity for indigenous people	External	Access to capital; employment analysis; local entrepreneurship drivers; policy content analysis	TBD	TBD
Promotes equal opportunity (employment)	External	Employment analysis; supplier assessment	TBD	TBD
Promotes fair and ethical trade	External	Fair trade assessment; social LCA	TBD	TBD
Provides community services	External	TBD	TBD	TBD
Supports SMEs and social enterprises	External	Competitiveness; new company formation, SME growth	TBD	TBD
ENVIRONMENTAL				
Decreases energy use	Internal	Energy systems analysis; EIOLCA; ecolabels; EPDs; LCA, environmental management systems; supplier assessments and audits	Carbon Value Analysis Tool (CVAT); EnviroCalc; EU Ecolabel- the Carbon Footprint Measurement Toolkit; Flex Fuel Cost Calculator; Measuring Environmental Benefits Calculator (MEBCalc); NERC Environmental Benefits Calculator; ReCON tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard	Building for Environmental and Economic Sustainability (BEES) Software; Campus Carbon Calculator (CarbonMAP); Carbon savings calculator for energy contracting; Carbon savings calculator for ICT-Office equipment; Carbon savings calculator for street lighting; Carbon savings calculator for vehicles; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; hybrid calculator; Office Carbon Footprint Tool; Paper Calculator
Decreases ecosystem noise	Internal/External	Decibel measurement; environmental impact assessments	SCLA Tool	TBD
Improves human health	Internal/External	Quality adjusted life years; value of a statistical life; morbidity analysis	Measuring Environmental Benefits Calculator (MEBCalc); SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software
Improves water efficiency	Internal/External	EIOLCA; environmental management systems; LCA; water consumption assessments; water footprint	LCC-CO2 tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard	Building for Environmental and Economic Sustainability (BEES) Software; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; ENERGY STAR commercial kitchen equipment calculator; Paper Calculator

BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
Promotes efficient use of materials	Internal/External	EIOLCA; industrial ecology/ circular economy; LCA; material flow analysis	Conversionator; EnviroCalc; NERC Environmental Benefits Calculator; SCLA Tool; Supply Chain Environmental Sustainability Scorecard	Building for Environmental and Economic Sustainability (BEES) Software; Electronics Environmental Benefits Calculator (EEBC); Paper Calculator
Reduces waste generation	Internal/External	LCC, LCA; measurement of waste volumes; recycling rates	Supply Chain Environmental Sustainability Scorecard; WARM model	Electronics Environmental Benefits Calculator (EEBC); Paper Calculator
Reduces hazardous substances	Internal/External	LCA	TBD	Electronics Environmental Benefits Calculator (EEBC); Green Cleaning Pollution Prevention Calculator; Paper Calculator
Decreases ecological toxicity	External	Environmental impact assessments	Measuring Environmental Benefits Calculator (MEBCalc); SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software
Reduces GHG emissions	External	Avoided emissions; CO2 equivalents; ecolabels; environmental management systems; emissions inventories (Scope 1, 2 and 3); EPDs; global warming potential; LCA; LCA-EIO; offsets; third party verified product data sheets	Carbon Value Analysis Tool (CVAT); Catalina Government's GHG emissions calculator; EnviroCalc; EU Ecolabel- the Carbon Footprint Measurement Toolkit; Flex Fuel Cost Calculator; Footprint Expert; LCC-CO2 tool; Measuring Environmental Benefits Calculator (MEBCalc); NERC Environmental Benefits Calculator; ReCON tool; SCLA Tool; Supply Chain Environmental Sustainability Scorecard; Sustainable Procurement Cupboard; Value Chain Manager; WARM model	Building for Environmental and Economic Sustainability (BEES) Software; Campus Carbon Calculator (CarbonMAP); Carbon savings calculator for energy contracting; Carbon savings calculator for ICT-Office equipment; Carbon savings calculator for street lighting; Carbon savings calculator for vehicles; Clean Fleet LCC tool; Electronics Environmental Benefits Calculator (EEBC); ENERGY STAR appliance calculator; hybrid calculator; Office Carbon Footprint Tool; Paper Calculator
Improves air quality	External	Air quality testing; ambient monitoring; ecolabels; emissions measurement; environmental management systems; indoor air quality testing; LCA	SCLA Tool	Building for Environmental and Economic Sustainability (BEES) Software; vehicle emissions calculator
Improves water quality	External	Water quality monitoring (BOD/TSS)	Measuring Environmental Benefits Calculator (MEBCalc)	Building for Environmental and Economic Sustainability (BEES) Software
Maintains biodiversity	External	Ecosystem service analysis; environmental impact assessment	TBD	Building for Environmental and Economic Sustainability (BEES) Software
Promotes sustainable operations of suppliers	External	Supplier audits	Supply Chain Environmental Sustainability Scorecard	TBD

BENEFITS	INTERNAL/EXTERNAL BENEFITS	GENERAL METHODS	SPECIFIC METHODS AND CROSS-CATEGORY CALCULATORS (SEE ANNEX 1 FOR MORE DETAIL)	PRODUCT SPECIFIC CALCULATORS - EXAMPLES (SEE ANNEX 1 FOR MORE DETAIL)
OTHER				
Demonstrates sustainability to private sector purchasers	External	Replication analysis at policy level; citation analysis; content analysis	TBD	TBD
Energy source scarcity, reliability, availability, recovery	External	Payback analysis; security analysis; (Tbd)	SCLA Tool	TBD

EXHIBIT 8. CALCULATORS BY PRODUCT AND SERVICE CATEGORY



Note: The total number of calculators by category is greater than the total number of calculators, as some of the calculators address more than one category.

3C. EXAMPLES OF SPP BENEFITS COMMUNICATIONS

IEc identified and reviewed 23 reports, case studies, and websites that provided the benefits associated with specific SPP programs. Analysis of these revealed that many of the examples provided only qualitative benefits, and that many reports with quantitative benefits did not provide methodological detail.

Overall, IEC did not find many examples of SPP benefits communications compared to the number of agencies and organizations IEC knows are working on SPP implementation. While many reports addressed the *potential* benefits of SPP, or stated the anticipated benefits of their programs, as discussed in the previous section, only 23 of the 166 documents analyzed (14 percent) feature examples of measured benefits. Most of these reports cover a wide range of product categories, or alternatively, contained case study examples on certain categories. Please note that IEC did not check every government agency active in SPP to see if they reported on SPP, this could be a future research project.

Exhibit 9 summarizes key aspects of the 23 reports communicating SPP benefits including: author/organization, world region, and whether the report has a case study focus. As shown in the exhibit, many of the studies were published by international organizations with an interest in measuring and promoting SPP (e.g., UNEP, IISD, and ICLEI), or by academic researchers. IEC also found reports prepared by the European Commission and OECD. Additionally, IEC found case study examples for national government agencies, as well as for individual cities, states, and municipalities including

Municipality of Ferrara (Italy); Portland, Oregon (United States); Melbourne, Queensland, and Victoria (Australia); City of Ghent (Belgium); and local government bodies from Yorkshire and Humber (England). Some additional case studies focused on private companies. The reports focus predominantly on the United States, Western Europe, and Australia. Two notable exceptions to this general regional trend were UNEP's "The Impacts of Sustainable Procurement: Eight Illustrative Case Studies"¹⁰ and SEAD's "Guide for Monitoring and Evaluating Green Public Procurement Programs"¹¹, which document the benefits of SPP in developed and developing countries.

Those reports prepared by national governments reviewed tended not to quantify the benefits of their sustainable purchasing activities, instead relying on either process measure indicators or qualitative descriptions. One notable exception was a presentation prepared by Thailand's National Science and Technology Development Agency (NSTDA) and Kasetsart University, which reported the environmental benefits, GHG reductions, and cost savings associated with Thailand's SPP program¹². NSTDA initiated the study in cooperation with the Thai Pollution Control Department to examine the success of the government's Green Procurement Plan in promoting the production and consumption of sustainable products, and achieving environmental benefits and costs savings. In addition to the Thai study, KEITI and Korea's Ministry of Environment, the Government of France, and UK's Sustainable Development Commission have published reports communicating SPP benefits, as documented in the SEAD report;¹³ however, IEC has not directly reviewed those reports.

¹⁰ United Nations Environment Programme, "The Impacts of Sustainable Procurement: Eight Illustrative Case Studies" (2012). Accessed online November 3, 2014. Available at: <http://www.unep.fr/scp/procurement/docsres/projectinfo/studyonimpactsofspp.pdf>

¹¹ Super-efficient Equipment and Appliance Deployment, "SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs" (July 2013). Accessed online November 6, 2014. Available at: http://www.superefficient.org/Activities/Procurement/~media/Files/SEAD_GPP_ME_Guide_final.pdf

¹² T. Mungcharoen, "Approach on Life Cycle Costing (LCC) and its benefits" (May 1, 2013). Prepared for the Green Public Procurement and Eco-labeling Regional Workshop in Phuket, Thailand.

¹³ SEAD, "Guide for Monitoring and Evaluating Green Public Procurement Programs", op. cit.

EXHIBIT 9. OVERVIEW OF SPP BENEFITS COMMUNICATIONS

TITLE	AUTHOR/ ORG	WORLD REGION	CASE STUDY FOCUS
The Impacts of Sustainable Procurement	UNEP	Central and South America, Europe, China, U.S.	Brazil: Foundation for Education Development, Secretary of Education (State of São Paulo)
			Costa Rica: The Institute of Electricity of Costa Rica (ICE)
			France: Ministry of Education
			Hong Kong SAR: Transport Department
			Italy: Municipality of Ferrara, Region of Emilia Romagna
			England: Local government bodies from Yorkshire and Humber
			Scotland: Government of Scotland
			United States: Metropolitan Regional Government of Portland, Oregon
SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs	SEAD	Europe, Latin America, Asia, Europe, U.S.	France: Commission for Sustainable Development (Ministry of Ecology, Sustainable Development and Energy)
			Chile: Directorate of Public Procurement, Ministry of Finance
			Korea: Ministry of Environment
			United Kingdom: Central Government - Department for Environment, Food and Rural Affairs (DEFRA)
United States: Department of Energy			
Value of Sustainable Procurement Practices	PwC; EcoVadis; INSEAD	Western focus (not directly specified)	Various companies and agencies (e.g., Nike, Walmart, UPS)
Sustainable Procurement - Back to Management!	EcoVadis	Europe	Europe
Green Procurement Program Implementation Guide	U.S. Department of the Navy	U.S.	United States: Department of Navy
Collection of Statistical Information on Green Public Procurement in the E.U.	PwC Sustainability	European Union	U.K., Austria, Sweden, Finland, Denmark, Germany, Netherlands
Costs and Benefits of Green Public Procurement in Europe, Part 1	Oko-Institut e.V.; ICLEI	Europe	European public procurers
Options to Improve the Uptake of Green Public Procurement in the E.U.: Impact Assessment	European Commission	Europe	European Union

TITLE	AUTHOR/ ORG	WORLD REGION	CASE STUDY FOCUS
Improving the Environmental Performance of Public Procurement: Report on Implementation of the Council Recommendation	OECD Environment Policy Committee	World	OECD
Green Public Procurement in Lithuania: Volumes and Possibilities for Environmental Impact Reduction	Dagiliūtė and Anikanova, Vytautas Magnus University	Eastern Europe	Lithuania
Taking the Lead: A Guide to More Responsible Procurement Practices	Chartered Institute of Purchasing and Supply/ TRADCRAFT	World	Various companies (e.g., L'Oreal, Barclays, Gap)
Green Purchasing in Australia, 2009	ECO-Buy/ netbalance Foundation	Australia	Eco-Buy Membership
			Toyota Australia - Organizational Green Purchasing
			Melbourne Airport - Cost
			Fuji-Xerox Australia - Supply Chain
			Whitehorse City Council - Staff Training
			Queensland Government Chief Procurement Office
Victorian Department of Treasury and Finance			
Results and Achievements of the European Project: SMART SPP	SMART SPP Project Consortium/ ICLEI	Europe	Europe
The Procura+ Manual: A Guide to Cost-Effective Sustainable Public Procurement	Procura+/ ICLEI	Mostly discusses Europe	Mostly discusses Europe
Benefits of Green Public Procurement	Nordic Council of Ministers	Northern Europe	Scandinavia
Using Life Cycle Approaches to Evaluate Sustainable Consumption Programs: Car Sharing	Briceno, Peters, Solli, and Hertwich (Norwegian University of Science and Technology)	Europe	Norway
Sustainable Supply Chain Management: A Framework to	Dragos, Richman, Sartorius, and Sutherlin (UC-	United States	University of California, Santa Barbara (UCSB)

TITLE	AUTHOR/ ORG	WORLD REGION	CASE STUDY FOCUS
Assess and Reduce Environmental Impacts from UCSB Procurement	Santa Barbara)		
Approach on Life Cycle Costing and its Benefits	Thai National Science and Technology Development Agency	Asia	Thai Green Public Procurement
Procurement, Innovation and Green Growth: The story continues...	IISD with the Global Green Growth Forum	World	World (15 case studies from various countries such as Brazil, China, Australia, and Denmark)
Guide to the Business Case and Benefits of Sustainable Purchasing	BuySmart Network	Western-focused	Not specified
GPP 2020 Annual Monitoring Report	GPP 2020 project consortium	Europe	European Union
Mayor of London's Green Procurement Code 2009 Annual Report	London Remade	Europe	London
Ecoprocura - City of Ghent: Addressing Broader Policy Objectives Through Procurement	Procura+, City of Ghent	Belgium	City of Ghent

BENEFIT CATEGORIES AND METHODS

Exhibit 10 summarizes the economic, social, and environmental benefit categories covered in each report. As shown in the exhibit, the most frequently identified benefits were cost savings and GHG/CO₂ reductions; half the studies include both of these benefits. Other commonly cited environmental benefits include reduced waste generation, reduced water consumption, and improved energy efficiency. Economic benefits cited in multiple studies include cost savings, local or regional economic impacts, risk reduction, and innovation. The most commonly referenced social benefit is employment opportunities, typically for local and/or disadvantaged businesses. For example, UNEP's case study on the French Ministry of Education's procurement of remanufactured toner cartridges reports on full-time equivalent employment for disabled workers for toner cartridge production and delivery¹⁴. Overall, social benefits receive less attention in the studies than economic and environmental benefits. It is unclear whether this reflects a bias in favor of economic and environmental benefits, or whether social benefits are less

¹⁴ UNEP, "The Impacts of Sustainable Procurement", op. cit.

reported on because they are more difficult to measure. It may also reflect the limitations of the research being focused primarily on English-language sources.

While reviewing the benefits cited in the 23 reports, IEc also considered the methodological rigor and transparency of the benefit calculations. All but two of the 23 studies include at least some discussion about methods, though the level of detail varies across and within reports (e.g., some case studies within a report discuss methods, others do not). The most robust or detailed methodologies generally focus on ways to calculate cost benefits – typically calculated based on life cycle or whole-of-life costing – and estimates of GHG or CO₂ benefits. Methods range in complexity from the application of simple unit conversion factors, to complex approaches including use of life cycle assessment models¹⁵. Data sources include purchasing data on the quantity of sustainable and non-sustainable products sold, surveys, and review of product attributes.

Although most studies included a methodology, only about one-third (7 of 23) include any discussion of attribution issues. For example, one report, discussing a company's reduction in GHG emissions, notes, "This reduction is *mainly* attributed to their commitment to 'greening' their buildings by making design, materials, and construction decisions based on environmental considerations" (emphasis added)¹⁶. Only six reports include equivalency factors (otherwise known as social math), which converts benefits to language that is more likely to resonate with a non-technical audience. For example, a report discussing CO₂ reductions in China states, "This [105,749 tonnes of CO₂] is the equivalent of the annual CO₂ emissions of 17,335 Chinese people in 2009"¹⁷. Thus, although most of the 23 reports reviewed are transparent in their methods, they tend to assume that all reported benefits can be attributable to the program, and do not generally communicate their findings in language accessible to broader audiences.

¹⁵ Alex Dragos, Sarah Richman, Katy Sartorius, and Eric Sutherlin, UC-Santa Barbara, "Sustainable Supply Chain Management: A Framework to Assess and Reduce Environmental Impacts from UCSB Procurement" (April 2013). Accessed online November 20, 2014. Available at:

http://www.bren.ucsb.edu/research/2013Group_Projects/documents/SmartSource_Final_Report.pdf

¹⁶ BuySmart Network, "Guide to the Business Case & Benefits of Sustainability Purchasing" (March 2007). Accessed online November 16, 2014. Available at:

http://www.buysmartbc.com/Library/Resources/resource_bsn_business_case_to_sustainability_2008.pdf

¹⁷ International Institute for Sustainable Development, "Procurement, Innovation and Green Growth: The story continues..." (2012). Accessed online November 5, 2014. Available at: http://www.iisd.org/pdf/2012/procurement_innovation_green_growth_continues.pdf

EXHIBIT 10. BENEFIT CATEGORIES IN THE 23 SPP REPORTS

TITLE	CASE STUDY FOCUS	ECONOMIC					ENVIRONMENTAL					SOCIAL	
		COST	ECONOMIC ACTIVITY	RISK	INNOVATION	OTHER	ENERGY	GHG/CO ₂	WASTE	WATER	OTHER	JOB IMPACTS	OTHER
The Impacts of Sustainable Procurement	Brazil: Foundation for Education Development		x						x	x	x		
	The Institute of Electricity of Costa Rica	x						x			x		
	France: Ministry of Education	x				x			x			x	
	Hong Kong SAR: Transport Department	x					x						
	Italy: Municipality of Ferrara, Emilia Romagna							x				x	
	England: Local government bodies	x							x			x	x
	Scotland: Government of Scotland	x											
	United States: Portland, Oregon		x						x			x	
SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs	France: Commission for Sustainable Development						x	x				x	
	Chile: Directorate of Public Procurement											x	
	Korea: Ministry of Environment	x						x				x	
	United Kingdom: DEFRA						x	x	x	x	x		
	United States: Department of Energy											x	

TITLE	CASE STUDY FOCUS	ECONOMIC					ENVIRONMENTAL					SOCIAL	
		COST	ECONOMIC ACTIVITY	RISK	INNOVATION	OTHER	ENERGY	GHG/CO ₂	WASTE	WATER	OTHER	JOB IMPACTS	OTHER
Value of Sustainable Procurement Practices	Various companies and agencies	x		x	x	x							
Sustainable Procurement - Back to Management!	Europe: based on Sustainable Procurement Barometer	x		x	x						x		x
Green Procurement Program Implementation Guide	United States: Department of Navy	x						x					
Collection of Statistical Information on SPP in the EU	UK, Austria, Sweden, Finland, Denmark, Germany, Netherlands	x						x					
Costs and Benefits of Green Public Procurement in Europe, Part 1	European public procurers	x											
Options to Improve the Uptake of Green Public Procurement in the EU	European Union	x			x	x		x		x	x	x	
Improving the Environmental Performance of Public Procurement	OECD				x	x					x	x	x
GPP in Lithuania	Lithuania							x					

TITLE	CASE STUDY FOCUS	ECONOMIC					ENVIRONMENTAL					SOCIAL	
		COST	ECONOMIC ACTIVITY	RISK	INNOVATION	OTHER	ENERGY	GHG/CO ₂	WASTE	WATER	OTHER	JOB IMPACTS	OTHER
Taking the Lead: A Guide to More Responsible Procurement Practices	Various private companies			x		x							x
Green Purchasing in Australia, 2009	Eco-Buy Membership										x		
	Toyota Australia Organizational Green Purchasing					x	x	x	x	x			
	Melbourne Airport - Cost	x					x		x				
	Fuji-Xerox Australia - Supply Chain			x		x							x
	Whitehorse City Council - Staff Training												x
	Queensland Government Chief Procurement Office	x				x	x	x					
	Victorian Department of Treasury and Finance						x		x		x		x
Results and Achievements of the European Project: SMART SPP	Europe	x						x					
The Procura+ Manual: A Guide to Cost-Effective SPP	European focus	x			x						x	x	x
Benefits of Green Public Procurement	Scandinavia	x			x			x					

TITLE	CASE STUDY FOCUS	ECONOMIC					ENVIRONMENTAL					SOCIAL	
		COST	ECONOMIC ACTIVITY	RISK	INNOVATION	OTHER	ENERGY	GHG/CO ₂	WASTE	WATER	OTHER	JOB IMPACTS	OTHER
Life Cycle Approaches to Evaluate Sustainable Consumption Programs	Norway							x					
Sustainable Supply Chain Management	University of California, Santa Barbara (UCSB)							x					
Approach on Life Cycle Costing and its Benefits	Thai Green Public Procurement	x				x		x					
Procurement, Innovation and Green Growth: The story continues...	World (15 case studies from various countries such as Brazil, China, Australia, and Denmark). <i>Partial list of benefits; may not be inclusive.</i>	x						x					x
Guide to the Business Case and Benefits of Sustainable Purchasing	Business case for SPP benefits (general)	x	x	x	x	x		x	x		x		x
GPP 2020 Annual Monitoring Report	European Union							x					
Mayor of London's Green Procurement Code 2009 Annual Report	London	x					x	x	x	x	x	x	
Ecoprocura - City of Ghent	City of Ghent	x				x			x				

AUDIENCES AND POLICY GOALS

While a few reports reviewed focus on advancing a methodology for measuring SPP benefits, most of the 23 reports aim to describe the benefits of SPP to validate and encourage SPP activities. To the extent that the reports aim to influence policymakers, IEC was interested in whether they draw a link between SPP benefits and policy goals. Most of the reports (17 of 23) connect their findings directly to national, regional, or agency policies. For example, as noted in the foreword to UNEP’s report, “Through SPP, governments can lead by example and deliver key policy objectives in the environmental, social, and economic fields”¹⁸. Several case studies in the UNEP report discuss the connection between SPP and policy goals, such as sustainable development, waste management, and developing a low-carbon economy. The SEAD study also draws a link between SPP, and sustainable development, and green growth. Many of these reports draw a link between SPP benefits and SPP policy goals, but they do not necessarily focus on broader policy goals beyond SPP such as sustainable development, or green economy development¹⁹.

In summary, IEC’s review of SPP communications provides some insight into the types of benefits typically discussed, how methodologies are used and described, and how messages are framed. However, the limited number of reports (23 of the 166 documents) is a finding in itself, and makes it difficult to generalize results.

Initially, IEC was surprised to find relatively few statements and reports communicating the benefits of SPP. However, as IEC conducted the interviews and discussed some of the challenges associated with measuring SPP benefits, it became clear that many methodological, organizational, and perception challenges hamper organizations from measuring and communicating SPP benefits. The following section describes these challenges.

3D. BARRIERS AND CHALLENGES TO MEASURING AND COMMUNICATING SPP BENEFITS

Through interviews, literature reviews, and a short poll of workgroup and workshop participants for which IEC received 12 responses, IEC identified many barriers and challenges to measuring and communicating SPP benefits. As one interviewee stated, “The reason public agencies are not communicating more about their SPP benefits is because it’s so hard to calculate, and oftentimes the data aren’t available.”

While nearly all of the interviewees agreed that it was valuable, and in some cases, vital for public agencies to understand overall SPP benefits, undertaking such evaluations are difficult and problematic.

This section summarizes the main barriers and challenges cited by interviewees, the literature, and workgroup and workshop participants with respect to measuring and communicating the benefits of SPP (not in implementing SPP in general, which is well

¹⁸ UNEP, “The Impacts of Sustainable Procurement”, op. cit.

¹⁹ See for example, European Commission, “Options to improve the uptake of Green public procurement in the EU: impact assessment” (2007) (working document).

covered by other reports)²⁰. The challenges are grouped into measurement, data, organizational, and communication issues. The list is comprehensive, and no distinction is made as to how commonly the challenges are cited.

MEASUREMENT CHALLENGES

Measurement challenges arise when trying to track the benefits of an SPP activity. IEC identified the following measurement challenges:

- **Definition of “sustainable or green.”** Measuring the benefits of SPP requires a clear definition of sustainable, green or environmentally preferable products or services being bought. However, interpretations of sustainable purchasing vary by region/country and by product category. The lack of a uniform, agreed-upon definition of SPP makes it difficult to measure benefits. Furthermore, definitions vary across government agencies, making measurement that much harder, and comparison impossible. One respondent stated, “I’m challenged by everything associated with measuring benefits because the ability to accurately identify green products, track them, and report them when they’re purchased does not exist.”
- **Conflicting goals.** Sometimes there are tradeoffs where sustainability goals conflict with each other, a classic example being a product with higher environmental performance having a higher upfront cost. The measurement question is whether to report on just the positive, or also the negative impacts of the SPP activity.
- **Scope.** Measuring SPP benefits entails a number of scoping challenges, such as
 - Should environmental, economic, and/or social performance be measured? Within each, what benefit categories should be selected?
 - Should the analysis focus on the full product/service life cycle or a specific life cycle phase (e.g., production, use, or disposal), or a subset of products versus all products within a benefit category? Frequently, it is impossible to measure life cycle benefits due to limited information. For example, procurement officials in Europe are often limited to asking bidders for information about emissions associated with the contract, and not, for example, with transportation of the product or service. This makes it difficult, at the contract level, to gain a comprehensive view of a product or service’s life cycle benefits.
 - Should measurement focus on product or supplier performance, or both?
 - Who can make the changes needed to reduce impacts (and therefore, whose efforts should be measured)? Impact reductions typically require changes in the supply chain, where public authorities may only have limited leverage/influence.

²⁰ See for example, Section 3.4 of UNEP, “Sustainable Public Procurement: A Global Review Final Report” (December 2013). Available at: http://www.unep.org/resourceefficiency/Portals/24147/SPP_Full_Report_Dec2013_v2%20NEW%20%282%29.pdf

- Should the whole organization’s performance be measured, or only the subset of activities focusing on SPP?
- **Baseline-setting/comparisons.** Measuring benefits requires a clearly defined baseline against which to assess changes. However, determining the appropriate baseline against which to compare a more sustainable product or service raises difficult methodological questions²¹. For example, should a green product be compared to earlier versions of the same product (which may have changed significantly since the last time an agency purchased the product, or may not even be available in the market anymore), to the industry average, or to “best in class” at the same price? A similar question arises when assessing the impacts of administrative or policy changes for sustainable purchasing. There may be more than one baseline year for different policy criteria, further complicating measurement efforts.
- **Measuring more complex effects.**
 - **Unintended consequences.** In measuring the benefits of SPP, consideration may also need to be given to unanticipated or unintended results. For example: should consideration of the rebound effect²² be included in SPP benefit calculations? If cost savings were achieved, how were the savings used by the organization – and should that be included in the benefit calculations?
 - **Indirect effects.** A core tenet of SPP programs is that government action will catalyze changes in the broader marketplace for goods and services. These changes are typically indirect – e.g., changes in attitudes, awareness, and behaviors of manufacturers, suppliers, and consumers in response to government purchases. Choosing which indirect effects should be included in an analysis of SPP benefits (and how to account for these indirect effects) is methodologically challenging. Moreover, indirect effects can be more difficult to attribute than direct effects.
- **Attribution.** Attributing (or assigning “credit”) for observed benefits is a significant challenge in measuring SPP benefits. There are typically many intervening variables and drivers to any observed benefits, making it difficult to show that an SPP program “caused” or resulted in the observed benefits. For example, when a company makes its product more sustainable, it is unclear whether credit should be apportioned to the manufacturer, user, or purchasers – or whether they should all share the credit. Other attribution issues include:
 - **The effect of offsets and carbon markets.** In other cases, a program’s benefit may be overstated by only looking only at the benefits reported

²¹ Shaefer, B (2014) Measuring the Impact of Sustainable Procurement, Presentation at EcoProcura 2014, Ghent. Accessed Online Jan. 4, 2015. http://www.ecoprocura.eu/fileadmin/editor_files/images/EcoProcura_2014_-_Bettina_Schaefer_ecoinstitut_Barcelona.pdf

²² The rebound effect refers to the behavioral response to the introduction of new technologies that increase the efficiency of resource use, which tend to offset the beneficial effects of the new technology or other measures taken. For example, an increase in fuel efficiency lowers the cost of consumption, and hence increases the consumption of fuel.

by a single agency. For example, if an agency buys less power, and a different organization then buys the reduced emissions as an offset, it does not necessarily result in a net emissions reduction. A conceptual question is whether this should be counted as a benefit to the agency.

- **Double-counting.** With multiple stakeholders reporting the same benefits, there is a risk of “double-counting” – i.e., accounting for the same benefit more than once, thereby overstating a program’s benefit. For example, two agencies that jointly purchase an energy-reducing appliance may both claim “credit” for the energy savings in their respective annual reports. When attempting to aggregate benefits across government agencies, care must be taken not to count the same benefit twice.
- **Health risks and benefits.** Beyond environmental benefits, many people are interested in the health benefits of sustainable products/services; however, these benefits are often very difficult to assess and quantify due to data and attribution issues. While some parts of the sustainable purchasing community are giving significant attention to this issue, methodologies do not yet exist to rigorously measure the health benefits of SPP in a comprehensive way.
- **Aggregation.** It is not possible to aggregate SPP benefits across different benefit calculators, because each calculator addresses different product/service categories and benefit types, and each uses different units of measurement. As one interview respondent put it, “There is a mish-mash of tools that require disparate inputs that are not in the same units, assumptions are not aligned, are not always apparent to you, and are not updated. Outputs are generated all in different units that would then have to be combined (units are hard to understand). When people look for equivalents, if the tool provides the courtesy, the equivalents are all different.”
- **Monetized benefits.** Another challenge is translating between economic values and environmental or social benefits. While some interviewees noted that all benefits should ideally be expressed in monetary terms, others cautioned that this approach overlooks important benefits that cannot be monetized. The question of how to assign a dollar value to environmental goods and services is classic question in environmental economics, and a conceptual challenge for measuring SPP benefits where monetization may not be possible, straightforward, or desirable.
- **Extrapolation.** Extrapolating from one product or service category to other categories is also quite difficult. Problems may arise when assumptions are made based on existing data and then extrapolated to other products, without knowledge of differences in use; or, extrapolations to other categories may be too generic to provide meaningful insight.

DATA CHALLENGES

Deciding on and implementing an SPP benefits methodology is often constrained by data limitations. At every stage and every level, limited data was identified as a significant barrier to measuring the benefits of SPP.

- **Life cycle benefit data.** Data on environmental and social life cycle benefits is limited for many product/service categories, particularly in comparison to economic data. As one respondent stated, “The economic benefit is easier to work with because you have most of the data available. But the same is not true for measuring social and environmental impacts as a result of SPP. Do we have requisite data, which can be used by procurement professionals while taking informed decisions about procurement of certain materials? Most of the methodologies developed for measuring impacts assume availability of quality data during the production, use, and disposal phase.” Moreover, existing life cycle data tend to be generated in Europe and North America, but not in other parts of the world. How to use the data when analyzing the benefits of sustainable purchasing in other regions is challenging.
- **Downstream benefits.** Sometimes the benefits of sustainable purchasing occur far down the supply chain, and may even extend to firms in other countries. Gathering information on downstream benefits is complicated when the suppliers with whom procurement officials interact do not have the information needed to calculate benefits throughout the whole supply chain. In this case, deciding who should gather the information about downstream benefits (and how) is not straightforward.
- **Upstream benefits.** Gathering information on the use and disposal phase of products purchased can be a barrier to including the benefits. Even if for some product categories – especially energy or resource using ones – upstream benefits represent the source of the greatest benefit, oftentimes from a practical point of view data is either not gathered, or not accessible to those seeking to make such measurements. One interview respondent noted that many existing calculators were designed to justify purchases rather than track actual benefits; and many existing benefit calculators were not built to enter purchasing data.
- **Test results.** Purchasers often use sustainability standards and eco-labels to identify green products. To assess the products’ benefits in quantitative terms, access to the results from labs, or certification results from the eco-labeled products is needed. However, even when products carry an eco-label, the underlying performance and environmental data can be difficult to obtain.
- **Spend data.** Assessing the benefits of sustainable purchasing requires knowing the number and dollar value of sustainable and conventional products/services procured. Additionally, a breakdown of expenditures by product/service category can help agencies target their efforts toward categories with the greatest potential benefit. However, the accounting systems currently used in many agencies are not

granular enough to parse out the costs to a fine enough detail to support these analyses.

- **Supplier data.** Suppliers may be the primary source for certain types of data. However, they may not be able or willing to provide all of the information needed to conduct a benefits analysis. Information requests that are burdensome for small suppliers could conflict with other policy goals of improving competition and supplier diversity. It may also be difficult to confirm the completeness and quality of the data provided.
- **Data uncertainty.** Data uncertainty can be quite high, resulting from differences in purchase prices for products of different brands; or fluctuations between geographical regions or from temporal developments (e.g. time-related development of electricity or water costs). This uncertainty can affect calculations²³.
- **Capacity for data analysis.** In general, vendors today are able to provide more data than they were a decade ago. However, there has been less progress in the account manager's ability to manipulate the data and provide what is needed for an SPP benefits analysis. As one interviewee noted, "You can have the best tool, but if you haven't got someone to put in the information or who is prepared to use it, then it's not useful." Similarly, the process of distilling large amounts of data into a select number of environmental metrics with associated equivalents can be very difficult. As one individual put it, this requires "the extremely labor-intensive process of distilling hundreds of thousands if not millions of lines of data into a few environmental metrics."

ORGANIZATIONAL CHALLENGES

This section describes four types of organizational challenges identified in IEc's research: expertise/staffing, cost, access, and legal issues.

Expertise/Staffing

Challenges include the following:

- **Expertise.** Specialized knowledge and skills are needed to analyze SPP benefits. This expertise may or may not be available within the organization. Even when an organization has the required expertise, the individuals who can measure benefits are typically not on the procurement team, and may not have full access to purchasing data. Due to budget limitations, it is not feasible for most public agencies to have experts on every product/service they purchase, so to a certain extent, they must trust their suppliers, and/or rely on third-party verification. While this can substitute for in-house expertise to an extent, it may limit the breadth and depth of the analysis.

²³ Öko-Institut e.V. and ICLEI, "Costs and Benefits of Green Public Procurement in Europe" (2006). Accessed online November 6, 2014. Available at: http://ec.europa.eu/environment/gpp/pdf/eu_recommendations_1.pdf

- **Motivation.** Lack of motivation is a barrier to measuring SPP benefits. Conducting SPP activities requires extra time and effort, not to mention monitoring and collecting SPP data. Data collection and analysis is typically not part of a purchaser's job responsibilities; instead, procurement staff are often measured on time to complete contracts and how much money they spend. Sustainability can add to both of these dimensions, especially when adding extra reporting burdens. As a result, there is little motivation to measure SPP benefits.
- **Coordination.** As alluded to throughout this chapter, the measurement process requires input from a very broad range of stakeholders – e.g., suppliers, vendors, manufacturers, independent testing agencies, procurement staff, etc. Even if an organization is motivated to measure SPP benefits, the level of coordination required to undertake the analysis can be overwhelming.

Cost

Attempts to measure SPP benefits are constrained by considerations about cost and cost effectiveness:

- **Budget.** Put simply, it costs money to conduct an analysis of SPP benefits. In today's budget-constrained environment, agencies may not have sufficient funds to undertake this type of analysis.
- **Return on investment.** The lack of demonstrated (empirical, research-validated) financial or economic (monetized risk) ROI for sustainable purchasing actions is a barrier to approval at the management level.
- **Opportunity cost.** Another cost barrier is the trade-off between measuring SPP benefits versus alternative uses of funds. For example, if an agency allocates funds to measure the benefits of SPP, it may have to forego other projects, which may be higher priority than measuring SPP benefits.

Access

Obtaining the data needed to measure SPP benefits can be a challenge:

- **Agency-Level Data.** This is a major barrier, both in terms of an organization's own spending, and to cost accounting systems to know whether benefits are realized (e.g., in terms of reduced energy costs). SPP benefits cannot be quantified without this information.
- **Confidential business information.** While insight into cost and sustainability performance of products and suppliers may be needed to complete an assessment, confidential business information often forms a barrier to accessing that information. Cost data is often confidential, and therefore sometimes difficult to collect²⁴.

²⁴ Öko-Institut e.V. and ICLEI, "Costs and Benefits of Green Public Procurement in Europe", op. cit.

Legal

IEc’s research identified two major legal issues that can arise when measuring SPP benefits:

- **Delegated authority.** Depending on the jurisdiction and agency, individuals and organizations may not have the authority to conduct SPP work; require the data; and/or ask suppliers for extra information.
- **Lack of uniformity.** Legal/policy definitions of sustainability vary by jurisdiction. The lack of a uniform way of defining sustainable makes it difficult to measure and compare benefits.

COMMUNICATION CHALLENGES

While most of the previous discussion focused on measurement challenges, the following section considers barriers to communicating SPP benefits. This section describes three types of communication barriers: the need to communicate, credibility of the messenger, and characteristics of the audience.

The Need to Communicate

An agency’s reporting requirements and organizational dynamics may encourage or discourage open communication:

- **Reporting requirements.** Different agencies have different reporting requirements, even within the same government. Some agencies do not have to report, some do, and for others, reporting is encouraged but voluntary. Even when agencies are required to report on SPP activities, they may not be required to report on benefits.
- **Motivation to report.** Whether or not reporting is required, agencies may actively choose to communicate their benefits to senior managers and other stakeholders (e.g., purchasers). Particularly when the program is new and growing, it is very important to communicate effectiveness and secure backing from an internal audience. Agencies use information on SPP benefits to message their stakeholders that their efforts make a difference. At the same time, agencies need to make sure that the benefits are accurate, representative, and backed by reasonable approximations.

Credibility of the Messenger

The credibility of the messenger is very important for how audiences will respond to the information that is being communicated:

- **Who communicates?** An audience’s perceptions about the messenger’s qualifications, experience, and motivations affect how the audience responds to the message. For example, senior managers may discount results if they feel that a department is “selling” them on a project. The public may not trust claims made by government officials who they believe have ulterior motives or are trying to justify their budget. Finding a messenger who can address the needs of a diverse audience (see below) is challenging.

Characteristics of the Audience

The audience for SPP benefits includes a diverse group of stakeholders, from purchasing officials and agency management, to policymakers and the general public. Each group has different conceptions, familiarity, and attitudes regarding sustainable purchasing – and different information needs. Some of the major challenges in reaching the audience include:

- **Information needs/interests.** Those receiving the information on SPP benefits may be interested for some product or benefit categories, but not others. For example, different departments within an agency may value some types of benefits over others, depending on the department’s mission and focus. Also, audiences may not be receptive to information that is surprising and unexpected.
- **Complexity.** Communicating highly technical information to a non-technical audience requires striking a balance between clarity and oversimplification. For example, it can be very challenging to communicate the resource intensity and toxicity of a product to policymakers without a technical background. In some ways, it may be better to simplify the communication in terms they will understand, such as economic or monetary units. However, this risks oversimplifying the actual situation.
- **Apathy and aversion.** Some audiences are skeptical, apathetic, or averse to sustainability issues, as well as to the data that would require them to change. Overcoming general public apathy or aversion to measuring sustainability benefits might lead to focusing more on economics – e.g., shifting to cheaper products such as energy-efficient appliances. Efforts to communicate the benefits of SPP may also run counter to preconceived notions – e.g., that sustainable products are more expensive, or that environmental issues are another layer of bureaucracy and have little value. These perception issues both contribute to apathy and aversion, and make it harder to overcome negative or indifferent attitudes regarding SPP. To paraphrase one interview respondent, “the problem is not so much the data, but whether people care about the benefits and are willing to make decisions based on the evidence.”
- **Burden of proof.** An overarching question that comes up in many circles is the need for a robust toolset to support environmental, social, and economic claims regarding sustainability benefits. As discussed throughout section 3d, conceptual and methodological limitations preclude a comprehensive and quantifiable assessment of the full life cycle benefits of many product/service categories. Audiences that are skeptical of sustainability claims sometimes choose to focus on gaps in the knowledge, rather than what we *do* know about sustainable purchasing benefits. In addition, policymakers would like to have a direct link between sustainability activities and benefits, but this is hard to show, for the reasons discussed above in this section.

In summary, IEC’s research identified many and significant challenges to communicating the benefits of SPP. Combined with the measurement and organizational barriers

described earlier in the baseleine review, it is clear that much work remains to be done to be able to effectively measure and communicate SPP benefits. Section 5 presents IEc's conclusions and discuss possible next steps for addressing some of the challenges identified in this paper.

4. CONCEPTUAL MAP OF THE KEY CONCEPTS

4A. PURPOSE OF THE CONCEPTUAL MAP

The baseline study research highlighted many different concepts, methods, calculators and communications approaches that inform measurement and communication of SPP benefits. From these resources, IEc created a draft conceptual map of the context, key concepts, methods and issues involved. The conceptual map presented in this section is intended to:

- Provide the broader policy and stakeholder context for undertaking measurement and communications of SPP benefits.
- Assist the SPP community in navigating this complex landscape when they come across methods, measurements, communications, and concerns.
- Facilitate a conversation about the need, opportunities and challenges associated with this work.
- Offer a basis for a further articulation of a framework and supporting methods for measuring and communicating SPP benefits (the expected outcome of the 2B workgroup project).

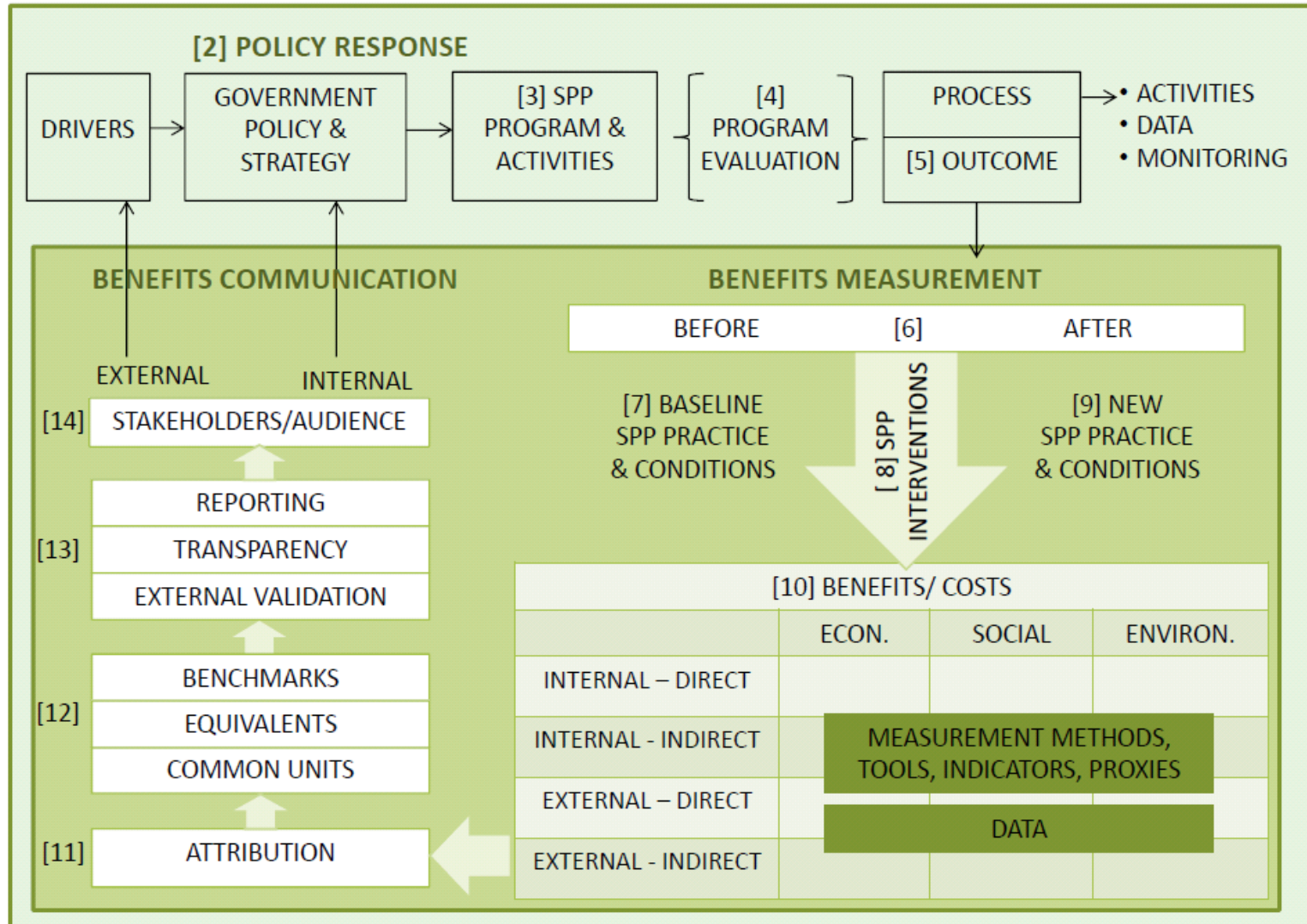
Exhibit 11 provides the conceptual map. The map is laid out to start at the top left-hand corner and work clock-wise around the diagram. The text that follows connects and explains each of the key concepts in the figure, the numbers listed in [square brackets] illustrate where the concept is found in the corresponding figure.

IEc expects to refine the map and subsequent work products in accordance to the feedback they receive from the 2B working-group and January 14th workshop participants. IEc will then use the map as a foundation for developing a more detailed framework²⁵.

²⁵ Moving forward, with the resources available for this project, IEc can use the concept map in one of two ways: to sketch out a broad but general framework, or to drill down and sketch out a narrow and detailed framework for a selected product and/or benefit categories.

EXHIBIT 11. CONCEPTUAL MAP

[1] ENVIRONMENTAL, SOCIAL AND ECONOMIC CONDITIONS



4B. CONDITIONS, DRIVERS AND POLICY RESPONSE

Economic, social and environmental conditions [1] and stakeholder pressure drive government organizations to develop a policy response and strategy [2] for acting upon those conditions. The inclusion of sustainability into procurement functions is based on the recognition that some of the largest sustainability benefits of government agencies occur in the products and services they purchase. “Our acquisition of goods and services creates a carbon footprint nine times that of our buildings and fleet, put together” explained Dan Tangherlini, Administrator of the U.S. General Services Administration in May 2014²⁶.

Amongst other activities, government agencies establish SPP programs [3] to “lead by example” in reducing the footprint of their own operations and supply chains, and to generate more positive environmental, social and economic change. Recognizing the importance of procurement in reducing the impacts of government agencies, as well as the opportunity to provide leadership and promote sustainable practices, SPP programs ideally measure their benefits, prioritize which of those to focus on, create intervention strategies to implement SPP activities, and then measure the benefits being achieved²⁷.

A useful discipline for measuring the benefits of a program is program evaluation [4]. Program evaluation is a systematic method for using measurement and analysis to answer specific questions about how well a program is achieving its outcomes and why²⁸. Program evaluation can help identify areas of programs that need improvement and determine whether the programs are achieving their goals and objectives. Typically, program evaluators separate *process* evaluation from *outcome* evaluation, and conduct systematic, data-based inquiries²⁹:

- A *process evaluation* assesses whether a program or process is implemented as designed or operating as intended and identifies opportunities for improvement. The UNEP 10YFP SPP Programme working group 2A project covers process measures of SPP implementation, suggesting a range of indicators and measures for monitoring progress³⁰.

²⁶ Sustainable Purchasing Leadership Council, “Video Address to the SPLC Summit” (May 21, 2014). Accessed online December 20, 2014. Available at: <https://www.sustainablepurchasing.org/meeting14/multimedia/#videos>

²⁷ Various guidance documents on SPP implementation exist, including: CIPS (2014) Sustainable Procurement Review; DEFRA UK, “Sustainable Procurement in Government, Guidance to the Flexible Framework” (2011); European Commission, “Managing Green Public Procurement Implementation” (2008); European Commission & ICLEI, “Buying Green! Handbook – 2nd Edition” (2012); EPA, “Final Guidance on Environmentally Preferable Purchasing” (1999); ICLEI, “The Procura+Manual” (2007); IGPN, “Guidelines & Starter Kit” (2011); NASPO, “Green Purchasing Guide” (2014); Responsible Purchasing Network, “10 Step Process” (2010); Sustainable Purchasing Leadership Council (SPLC), “Guidelines v1.0” (2015 forthcoming); UNEP, “Sustainable Procurement Implementation Guidelines” (2011).

²⁸ U.S. EPA, “Basic Information: Program Evaluation” (2014). Accessed online January 2, 2015. Available at: <http://www.epa.gov/evaluate/basicinfo/index.htm>

²⁹ American Evaluation Association, “American Evaluation Association Guiding Principles for Evaluators”. Accessed online January 6, 2015. Available at: <http://www.eval.org/p/cm/ld/fid=51>

³⁰ The UNEP 10YFP SPP Working-Group maps different approaches to assess SPP implementation and provides recommendations for setting up more efficient SPP monitoring systems both at policy and technical level as well as recommendations for an International Framework to Report on SPP Progress.

- An *outcome evaluation* [5] examines the results of a program, whether intended or unintended. This is the focus of the 2B working group and this baseline study.

In the 2B workgroup project, SPP program outcomes are broadly described as “benefits,” to capture the idea that positive benefits can also be created that actually improve the environment, social welfare and add to economic development. Of course, reducing negative impacts is also an important benefit.

4C. KEY MEASUREMENT CONCEPTS

While there are many methods that could potentially be used and some calculator-type tools already available, many challenges with measuring SPP benefits persist, as described in Section 3d of this report.

In theory, the way to measure the program benefits is to study what was done before an intervention; what was the invention; and what comes after [6], measuring the difference or delta between the two. Factors to consider in measuring SPP benefits include:

- Consideration of the audience and the level of rigor and data transparency required.
- The time period of the evaluation.
- Whether the benefits have been already achieved or if they can be predicted.
- The skill, competence, and independence of the team undertaking the evaluation.
- The scope of the analysis informed by:
 - Policy goals.
 - Benefit categories selected.
 - SPP strategies undertaken by the program.
 - Scope of the program being evaluated.
 - Degree to which the evaluation will cover downstream and/or upstream benefits.
 - Access to data.

Setting a baseline [7]

To understand the benefits achieved by an SPP program, agencies should characterize conditions before the intervention occurred. A mix of qualitative and quantitative methods can be used to set baselines for SPP, including:

- Spend analysis of the goods and services conventionally purchased by the organization.
- Sustainability measurement methods such as LCA and Economic Input-Output LCA.
- Characterization of the social, economic, market, and environmental conditions that the program might reasonably expect to effect.

Identifying the SPP intervention strategies and activities [8]

In the case of SPP programs, the interventions are not just about buying green products (though certainly this is typically the main strategy). SPLC identified 11 strategies, as shown in Exhibit 12.

EXHIBIT 12. SPP INTERVENTION ACTIVITIES, SOURCE SPLC 2015.

SPP IMPACT REDUCTION STRATEGIES

Efficiency

Reduced impact through reduced use

Example: 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

Example: Air pollution from medical waste incineration is reduced by switching to reusable surgical tools that are steam sterilized.

Servicizing

Lease rather than buy to align environmental, social, economic (ESE) incentives

Example Lease carpet so that it is returned to the manufacturer for full recycling.

Product Substitution

Choose a different product with lower ESE impacts

Example: Chemical costs and workers compensation insurance premiums reduced by switching to green cleaning products.

Supplier Engagement & Accountability

Engage and hold accountable suppliers with regard to a specific impact

Example: Some universities require apparel manufacturers to conduct independent audits of factory conditions and provide retribution-free grievance and remedy processes.

Supplier substitution

Choose a supplier with lower ESE impacts

Example: Making evidence of bribery or extortion automatic grounds for suspension of business with a supplier.

In-source

In-source a function to better reduce impacts

Example: Hiring LEED expertise in-house to optimize and streamline green building across all of org’s construction and renovations.

Outsource

Outsource when an external party can better reduce impacts

Example: 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

Example: Buying carbon offsets; paying to put land in permanent conservation to offset development of other land.

Behavior Change

Implement programs to shift attitudes and practices

Example: Voluntary “green office” competitions reduce energy and material consumption, while increasing recycling.

Combining Actions

Combine multiple actions into a single positive ROI project

Example: An energy efficiency project is combined with a solar project. Energy savings offset the solar costs for a good overall ROI.

Source: SPLC Guidance v1.0 January 2015

New SPP practices [9]

Following the intervention, new SPP practices can be expected to be implemented and then measured.

Measuring the benefits of the intervention [10]

Measurement of the benefits that resulted from the intervention will depend on the scope of the evaluation, the intervention, and the benefits being measured. A range of different methods and calculators are available (shown in Exhibit 7).

Factors to consider in measuring benefits include:

- The entity or stakeholder receiving the benefit (internal, external or both).
- If the benefit is consistent, is it always realized or is it sometimes contingent on other factors?
- If there are multiple benefits from a single activity.
- If any of the outcomes caused negative impacts as well as positive benefits.
- Whether the benefits are direct, indirect or both.
- Potential rebound effects.
- The extent to which the observed benefit can be attributed to the SPP program.
- Other factors that may explain the observed benefits.
- Data access and quality.
- If needed or desired, whether the agency can use proxies to indicate the benefits being achieved.

4D KEY COMMUNICATION CONCEPTS

ATTRIBUTING BENEFITS

To the extent feasible, observed benefits should be compared with an estimate of what would have happened if the program had not existed; otherwise, the observed changes cannot necessarily be attributed to the program and agencies should be cautious in making such claims. This is known as attribution [11]. Program evaluation is a useful method in understanding the attribution of realized benefits to program activities.

CONTEXTUALIZING AND TRANSLATING THE BENEFITS

In communicating on the benefits of the SPP measurement, contextualizing the benefits into units and measures that can be comprehended by lay audiences aids in developing an understanding of SPP benefits [12]. Contextualization methods include:

- Converting findings into a common unit, such as expressing an environmental benefit with a dollar amount. For example, energy savings and water use savings are commonly monetized to communicate benefits.

- Using equivalents and “social math”, such as expressing electricity savings using the number of homes that can be powered for a year by those savings, or the cars “taken off the road” for a year.
- Comparing and benchmarking to other organizations, to previous benefits, or between business units.
- Comparing the benefits to costs, measuring whether the benefits that have been achieved outweigh the costs. This can be done using a cost-benefit analysis or a ROI methodology.

Factors to consider in reporting on SPP benefits include:

- The degree of transparency concerning the methods, data, assumptions, scope, calculations, and missing information.
- The perceived credibility of the organization or individual conducting the evaluation.
- The perception of neutrality and bias of the benefits. As with certification and auditing assessments, program evaluations are generally rated higher if conducted by neutral and external experts.
- The format of the reports and communication materials.

Finally, agencies should keep in mind that a good communications strategy starts with the end user of the communications. Factors to consider include:

- Who is the audience?
- What do they want to know, and why?
- What else do they need to know before they can interpret the findings?
- What decisions may be taken as a result of the communication (if any)?

In the case of SPP benefits, there are a range of audiences, some internal to the organization and some external [14]. These audiences differ in hold a variety of different pre-conceptions and biases about the value of SPP, and also vary in their understanding of measurement approaches applicable to SPP. External validation and or recognition can be helpful to meeting the goals of the communication. Communicating effectively to a wide range of audiences may bolster support for continuing and expanding SPP programs.

5. CONCLUSIONS AND NEXT STEPS

The baseline study forms the initial step in the larger 2B workgroup project, forming the conceptual and methodological foundation for the future development of a framework that will help to guide purchasing organizations through considerations in conducting SPP benefit studies and communications.

IEc, at this juncture, is seeking input from 2B working group members, workshop participants, and other interested parties on the type of framework that would be most useful to develop. IEc sees two main options for a framework, given the limited resources of this project and time available to support pilots.

- **Option A:** A broad framework and pilot approach covering all benefit categories and types of SPP activities, guiding up to three organizations, with 30 hours per organization, through a streamlined process of: choosing what to measure, selecting from existing methods and tools, identifying risks and opportunities, and communicating the benefits. Option A favors breadth over depth, since IEc does not have resources to conduct a “deep dive” in multiple categories, and does not have the resources to guide pilot organizations through all of the methodological, measurement, data and communications steps outlined in a framework.
- **Option B:** A narrower focus on a single benefit category and/or up to 2 product categories, providing a more detailed investigation of benefit categories, indicators, data requirements, organizational and communications issues to consider. Option B would go more in depth for the selected categories, but may have more limited applicability than Option A.

The three planned pilots will be developed based on which option is advanced, on the project resources available, and on the interest and availability of willing organizations.

Aside from informing this particular project, the baseline study could be used by the SPP community to:

- Navigate existing methods and calculators available today.
- Point out where gaps and challenges still exist in that landscape.
- Clarify and reflect upon some of the frustrations and challenges to conducting SPP benefits measurement and communications from those in the field.
- Highlight areas where further research and testing is needed.
- Provide a mechanism for other researchers and practitioners to supplement the research with additional existing methods and tools, and/or to suggest novel approaches.

There are many methods and calculators already developed and being used to analyze SPP benefits. However, even in aggregate, they do not cover all benefits being generated, and oftentimes use different units and underlying methodologies, which challenge users. There are also gaps in the methods and calculators landscape, most notably in measuring social benefits, and benefits to economic and community development.

Existing methods and calculators are also not necessarily designed to capture the sometimes large and important indirect benefits being generated, such as the promotion of innovative and sustainable products and services; or improving how information on the sustainability performance of suppliers and supply chains is improving as a result of purchasers' interest and requests.

While many barriers and challenges to measure and communicate the benefits of SPP surfaced in the interviews and desktop research, IEc also found many examples where benefits were measured, and communicated as case studies, reports, or online statements and quotes. Over time, UNEP and SPLC hope to build and share a library of knowledge on the subject to continue to expand collective learning on how to do this, and do it credibly.

The baseline research highlights the need - common to other sustainable products, supply chain, and corporate social responsibility initiatives - for more consistency and interoperability of tools, measurement systems and sustainability communications. Many interviewees stated that a valuable outcome of the 2B project would be to develop guidance and a common approach to measuring and communicating the benefits of SPP. With this study, IEc seeks to lay the foundations for such a common approach, fleshing out the issues, concerns, and challenges ahead of time so that the problems are clear and the solutions can begin to be developed by member organizations such as SPLC and UNEP and their partners. A common classification of product and service categories of sustainability benefits indicators would be helpful to those working directly on SPP and to their stakeholders with whom they are communicating. Doing so is but one step in the complex but rewarding journey of transforming purchasing activities into a force for sustainable development.

ANNEX 1: FOUR TABLES OF REFERENCES

ANNEX 2: CALCULATORS ANALYSIS

ANNEX 3: INTERVIEW QUESTIONS

ANNEX 4: LIST OF ACRONYMS