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Energy-efficient Public Procurement

Best Practice in Program Delivery

SEAD Initiative Procurement Working Group

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Note from the authors

Who is the intended audience for the document?

This document illustrates the key issues and considerations involved in implementing energy-efficient public procurement. Our primary sources of information have been our partners in the Super Efficient Equipment and Appliance Deployment (SEAD) Initiative Procurement Working Group.[1] Where applicable, we have highlighted specific ways in which working group participants have successfully overcome barriers to delivering effective programs.

It is our hope that the issues discussed in this guide will benefit developed and developing programs alike. In countries with less developed programs, the discussions contained in the document may aid in the planning process. Consideration of some of these key issues in the beginning stages of program implementation can help avoid some of the pitfalls experienced by others. In the case of more developed programs, we hope it will spur conversation among those responsible for administering and evaluating energy-efficient procurement. In many cases, developed programs are seeking to improve existing processes and purchaser resources.

About SEAD

SEAD is a voluntary international government collaboration whose primary objective is to advance global market transformation for energy efficient appliances and equipment. Improvements in the energy-efficiency of appliances and equipment offer enormous opportunities to reduce global energy demand and carbon emissions, while simultaneously lowering energy costs for consumers, businesses, and institutions. The SEAD Initiative is making it easier for governments and the private sector to capitalize on this opportunity by fostering the sharing of technical information and program design insights, and by supporting market transformation efforts such as awards, incentives, and procurement. Employing current best practices in SEAD economies can by 2030 reduce annual electricity demand by 2000 TWh (equivalent to 650 mid-sized power plants) and annual fuel energy demand by 30 million tonnes of oil equivalent. These measures would decrease carbon dioxide emissions over the next two decades by 11 billion tonnes.

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[1] The Procurement Working Group participants are Canada, India, Mexico, South Africa, Sweden, the United Kingdom, and the United States.

Since SEAD's launch in 2010, participating governments have implemented, issued, or begun development of efficiency requirements that are sufficient to achieve almost 30% of the estimated available electricity savings potential, 35% of the projected fuel savings potential, and 30% of potential cumulative CO_2 emissions reductions. [2] SEAD procurement activities support this goal of global market transformation for energy efficient products by leveraging the purchasing power of public- and private-sector buyers to draw highly efficient equipment and appliances into the market. These efforts are focused on developing effective policy instruments and advancing energy-efficient procurement practices. This guide was developed with support from the SEAD Procurement Working Group and aims to assist all countries in the development and improvement of energy-efficient public procurement programs.

[2] As of January 2013, SEAD participating governments include: Australia, Brazil, Canada, the European Commission, France, Germany, India, Japan, Korea, Mexico, Russia, South Africa, Sweden, the United Arab Emirates, the United Kingdom, and the United States. Energy savings potential was assessed using a common analytical platform built around the Bottom-Up Energy Analysis System (BUENAS) model, developed by Lawrence Berkeley National Laboratory in collaboration with the Collaborative Labelling and Appliances Standards Program (CLASP).

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Executive Summary

The following key points emerge from this analysis of programs for energy-efficient public procurement. Lessons for both developed and developing programs are highlighted throughout the guide.

Policy

Policy provides the initiative to begin a transition from first cost to life-cycle cost based purchasing methods and culture. Effective policy is well-communicated, establishes accountability from top to bottom of organizations and simplifies the processes necessary to comply. Flexibility and responsiveness are essential in policy development and implementation. Mandatory and voluntary policies may complement one another.

Procurement Criteria

Procurement staff must be confident that energy-efficient procurement criteria offer the best long-term value for their organization's money and represent real environmental gains. Involving multiple stakeholders at the early stages of the criteria creation process can result in greater levels of cooperation from private industry. Criteria should make comparison of products easy for purchasers and require minimal additional calculations. Criteria will need to be regularly updated to reflect market developments.

Training

Resources for the creation of training programs are usually very limited, but well-targeted training is necessary in order for a program to be effective. Training must emphasize a process that is efficient for purchasers and simplifies compliance. Purchaser resources and policy must be well designed for training to be effective. Training program development is an excellent opportunity for collaboration amongst public authorities.

Procurement Processes

Many tools and guides intended to help buyers comply with energy-efficient procurement policy are designed without detailed knowledge of the procurement process. A deeper understanding of purchasing pathways allows resources to be better directed. Current research by national and international bodies aims to analyze purchasing pathways and can assist in developing future resources.

Tracking Performance

Accurately tracking energy-efficient procurement progress is often difficult given data availability and the fragmented nature of existing business management systems. Vendors can be valuable partners in data collection and analysis. Creating a link between overall program progress and employee performance can positively influence compliance rates.

Introduction

What is public sector procurement?

Public sector procurement represents all of the goods and services purchased with public money. This includes items from office paper to warships, janitorial services to information technology services or the building of schools or public highways. In most countries this expenditure represents between 12 and 20% of national gross domestic product (GDP). The scale of this demand influences market suppliers. The public sector is often considered to have a leadership role when it comes to reducing negative environmental impacts and promoting more sustainable products and services.

Focusing public sector procurement can harness this influence to achieve policy objectives. For example, if governments prioritize the purchase of energy-efficient products, it is likely that more manufacturers will produce those products to meet the demands of the public sector. In theory, this will expand the market for those products and in turn drive down prices for all consumers. This effect, commonly called *market transformation*, is one of the driving forces behind efforts to direct public sector procurement towards more sustainable options.

Public sector procurement takes place at many levels - from central government to cities, state companies, universities and specialized agencies. While this guide primarily looks at policies implemented at the national level, many of the issues described are equally relevant to other levels of government.

What is sustainable public procurement?

A number of different concepts and terms are used to describe the process of taking sustainability considerations into account in public procurement. This has unfortunately led to a proliferation of acronyms which can make it difficult for those unfamiliar with the field to understand how they fit together. Different terms are also used in various parts of the world. A glossary of some of the most common terms is provided in the next section. The primary focus of this guide is on energy-efficiency. However it is important to see this in the broader context of sustainable public procurement (SPP).

SPP includes a wide range of government procurement activities with the overarching goal of lessening the negative impacts of purchased goods and services. These activities include programs to reduce greenhouse gas emissions, improve air and water quality, and ensure responsible use of natural resources, among others. On the social side, procurement policies may target unemployment, discrimination in the work

force or aim to ensure ethical supply chains. The third pillar of sustainability, the economic, may be addressed by the introduction of life-cycle costing (LCC), as well as policies aiming at promoting economic development or ensuring fair competition.

The below diagram shows the relationship between different concepts within sustainable public procurement. It begins with policy definitions at the top and then shows the tools and targets which typically relate to each type of policy.

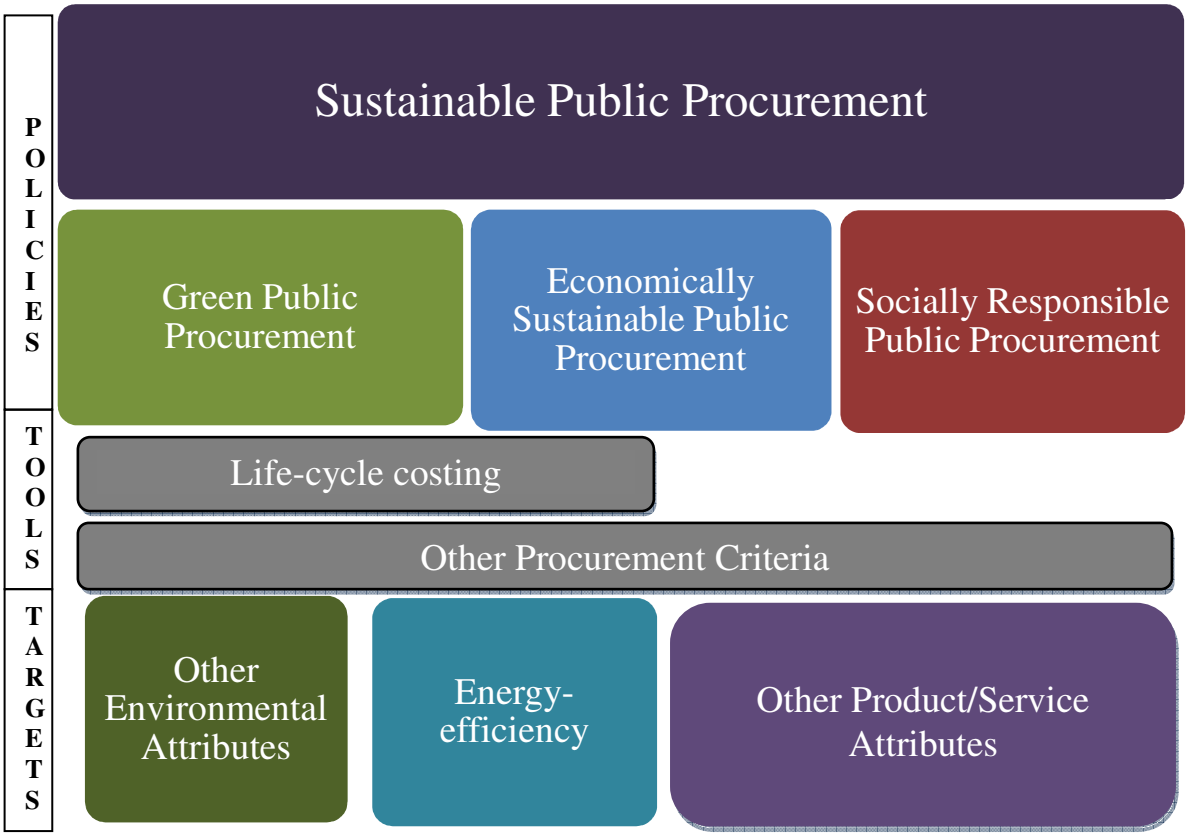

FIGURE 1: POLICIES, TARGETS AND TOOLS WITHIN SPP

Energy-efficiency is one of the attributes most commonly targeted by sustainable procurement programs. One reason for this is that it addresses both the environmental and economic aspects of sustainability. An energy-efficient product will often have a lower life-cycle cost than its inefficient alternative, and lower associated greenhouse gas emissions. Energy-efficient procurement (EEP) means taking these considerations into account when setting product requirements or choosing between alternatives. Examples of the types of product and service for which this is particularly relevant are:

- IT equipment – computers, displays, imaging equipment
- Vehicles and transport services
- Lighting (indoor and outdoor)
- Heating, ventilation and air conditioning
- Data centre services
- Building design and construction
- Medical and catering equipment

Structure of Guide

This guide is divided into five chapters addressing specific aspects of developing and delivering energy-efficient procurement programs. Chapter 1 looks at how effective policies can be designed and implemented. This draws upon experiences from the U.S. Federal Government and European Union in particular, exploring the use of voluntary and mandatory measures in these jurisdictions. Key factors which contribute to policy success are identified.

Chapter 2 focuses on setting procurement criteria, the central component of most energy-efficient procurement policies. The role of minimum product standards, life-cycle costing and other criteria is examined. Examples of the criteria-setting process in the U.S., U.K. and Sweden are given. Chapter 3 addresses an essential component of any public sector program, the training of relevant staff to deliver its objectives. The Chapter sets out the steps involved in developing training programs and how results can be maximized within limited budgets.

Chapter 4 places sustainable procurement policies in the broader context of business management. A number of different techniques for managing procurement workflows exist, and energy-efficiency or other sustainability considerations can be incorporated into these. Chapter 5 is about tracking sustainable procurement policies to measure their impact. This remains an area where even well-developed policies often fall short, due to the challenges associated with gathering data in the field. Recommendations are made for how effective monitoring strategies can be built into program design.

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Naturally responsibility for any errors remains with the authors and the views set out in this guide cannot be attributed to the above individuals or their organizations.

Glossary

The following terms and acronyms are used in this guide:

ENERGY STAR – A program initiated by the U.S. Environmental Protection Agency and Department of Energy, now used internationally to label products which meet minimum standards of energy-efficiency.

Energy-efficient purchasing/procurement (EEP) – Procurement which focuses on the energy-efficiency of products, services and works and aims to reduce energy consumption throughout their life-cycle.

Environmentally preferable purchasing – A term used in the United States to refer to government policies to reduce the life-cycle impact of goods, services and works purchased.

Federal Energy Management Program (FEMP) –A United States program addressing energy efficiency, the use of renewable energy, greenhouse gas emissions and water usage by federal agencies.

First cost – In procurement, the up-front cost or price paid for a good or service, as opposed to the total cost of ownership or life-cycle cost.

Green Public Procurement (GPP) – Public procurement which takes into account the environmental impact of goods, services and works throughout their life-cycle.

Life-cycle Assessment or Analysis (LCA) – A scientific, quantitative method for evaluating the environmental impact of a product throughout its life-cycle.

Life-cycle Costing (LCC) - A method of calculating the total cost of owning and disposing of an asset. This may include a monetary value assigned to environmental externalities such as greenhouse gas emissions, which is also sometimes known as whole-life costing (WLC).

Super-efficient Equipment and Appliance Deployment (SEAD) - An initiative of the Clean Energy Ministerial which seeks to engage governments and the private sector to transform the global market for energy-efficient equipment and appliances.

Sustainable Public Procurement (SPP) –Public procurement which takes into account the environmental, economic and social impacts of goods, services and works throughout their life-cycle.

Total Cost of Ownership (TCO) – The cost of owning a particular asset as calculated using life-cycle or whole-life costing.

Chapter 1: Setting Policy

1.1 Executive Summary

Key Points found in the chapter below:

- Policy provides the initiative to begin a transition from first cost to life-cycle cost based purchasing methods and culture
- Effective policy is well-communicated, establishes accountability from top to bottom of organizations and simplifies the processes necessary to comply
- Flexibility and responsiveness are essential in policy development and implementation
- Mandatory and voluntary policies may complement one another

This chapter begins by discussing three key policy elements. These elements should be considered in the beginning stages of any procurement policy creation process. They are: establishing intent, setting goals, and assigning responsibility and reporting requirements. This discussion is followed by an examination of barriers encountered when enacting top-level policies, with the United States and European Union as case studies.

1.2 Introduction

Procurement policies reflect organizational priorities, and governments are nested structures of organizations. Clear, internally consistent policies that define goals form the foundation of successful sustainable public procurement programs. Policy is of course only part of the picture, and later chapters look at the criteria, training, monitoring and management systems needed to implement energy-efficient procurement (EEP). EEP policies vary in terms of the goals they set, the compliance standards they establish, and the program structures they create. However, several patterns have emerged across programs.

Effective policy requires a change in the standard practices of an organization. It is the basis for overcoming the inertia of the status quo. In many countries, the status quo is purchasing lowest first-cost products. A successful program establishes energy-efficient products as the routine procurement choice, not just a viable alternative. Under successful programs the selection of these products becomes standard operating procedure.

EEP policies should include three elements in order to create lasting organizational change. They are:

1. Establishing leadership's intent
2. Setting program goals and reporting standards
3. Assigning responsibility

Many programs' policies evolve over time. A policy may not accomplish its objectives at first. Successful programs are able to modify policy in response to unforeseen challenges to implementation. In section 1.4 we present a case study of US federal procurement policy evolution. This case study highlights an instance where a program was forced to address barriers that were revealed in the execution of earlier procurement policies. Section 1.5 looks at the use in the EU of both mandatory and voluntary policies on energy-efficient procurement, and the impact these have had. A key take-away of this chapter is the need for flexibility in policy creation and implementation.

1.3 Key Policy Elements

1.3.1 Establishing intent

Effective policy establishes sustainable procurement as an organizational priority and communicates a commitment to action from the highest levels. Without this signal of intent, there is little to no impetus for individual entities to change business-as-usual practices. As with any good policy, the goal should be to enhance existing business processes without adding undue administrative burden. Policy makers should take care to avoid layering procurement policies in a way that interferes with the purchasing process and makes priorities difficult to identify. This is highlighted by the examples in this chapter.

Public procurement regulations are extensive. In the United States, for example, the Federal Acquisition Regulations (FAR)[3] are over 2,000 pages long. A small fraction of that document (less than 20 pages) is dedicated to environmentally preferable purchasing requirements. In the European Union, there are two main directives governing public procurement (2004/17/EC and 2004/18/EC), each approximately 100 pages long. However in addition procurers must be aware of national implementing legislation, principles derived from the EU Treaty, and a large body of case law decided at national and European level.

In the United States, the FAR is the definitive policy document for federal purchasers. However, the size and scope of the document makes it a poor policy delivery vehicle. Purchasers are technically required to comply with all of the regulations contained within it, but it is simply unrealistic to assume that relatively small changes to a 2000+ page document will effectively signal intent to change purchasing practice. In

[3] All procurements made with federal funds must comply with the FAR.

order to signal intent, new purchasing policies must be written *and* communicated. These are not necessarily the same thing. Official, written policies provide the justification for action. The next step is clearly communicating those desired actions to key decision makers in the purchasing process. Additional steps are then required to build capacity to implement the policy, and monitor its success.

India: High-level endorsement for GPP policy

India's green and energy-efficient procurement policy has been endorsed by the highest levels of its government. The Prime Minister, Manmohan Singh stressed the need to make public procurement green at a meeting of the Prime Minister's Council on Climate Change in 2007. This policy has been developed by the Ministry of Environment and Forests, working with the CII-ITC Centre of Excellence for Sustainable Development. Energy efficiency is being targeted through a range of measures aimed at both the public and private sectors. Financing has been introduced for public-private partnerships to reduce energy consumption through demand-side management programs in the municipal, buildings and agricultural sectors. India is also participating in the Procurement Working Group of the SEAD Initiative.

High-level political endorsement can sometimes be the first step in announcing intent to change policy. Upper-level management then plays a crucial role in initiating the chain of communication necessary to disseminate policy to all decision makers in the procurement process. Managers help determine the priorities of their supervisees. They decide which portions of procurement policy are most important. In the absence of their buy-in and support, it is unlikely that EEP policies will ever make it from the rule book to the mental checklist actually used by the purchaser when executing procurement.

Lack of support from upper-level management is frequently cited as one of the top barriers to program success. In 2005, a report to the European Commission on the status of green procurement in Europe identified the top perceived barriers to program success in public agencies. In surveys conducted for the report, 33% of respondents identified "lack of management support, strategic focus and organizational policy strongly promoting GPP [Green Public Procurement]"[4] as a barrier to program success. The results of this survey suggest a gap between the establishment of policy and the communication of intent to change organizational purchasing processes. Closing this gap

[4] Bouwer M, Jonk M, Berman T, Bersani R, Lusser H, Nappa V, Nissinen A, Parikka K, Szuppinger P and Viganò C, 2005. *Green Public Procurement in Europe 2006 – Interim Report* at pg. 27

involves a commitment from the top levels of agency management to move environmentally preferable procurement objectives from the written policy to the mental checklist.

It goes without saying that managers of procurement staff do not emphasize all policies and regulations equally. In order to signal an intent to change procurement practice, managers should ensure that EEP policies make it on to the short list of regulations routinely emphasized as a key element of procurement compliance. That intent can be signaled in meetings, organizational approval procedures for spending, the employee evaluation process, or in required training programs, to name a few options. Most importantly, intent must be communicated in a clear, uncluttered manner that makes it easy for purchasers to translate the policy into a routine purchasing priority.

1.3.2 Setting goals

Intent must be accompanied by clear goals that support the commitment to changing purchasing practices. Effective policies set goals that are actionable and achievable with current resources. In addition, program goals should be designed with tracking capabilities in mind. The following three questions can help shape the goal-setting process:

1. What is the primary objective?
2. How will organizations be expected to achieve it?
3. Will procurement systems be able to measure progress and report success?

Considering these questions will allow for easier compliance checks and improve the ability of management to communicate specific expectations.

The nature of the goal should vary based on organizational capabilities. For example, some government agencies may not possess the systems that allow tracking of detailed product attributes – a finding which emerged from the SEAD Procurement Working Group. In these cases, it may not make sense to set a firm quantitative goal based on the attributes of products purchased, because it will be impossible to verify that the goal has been met. However it would still be possible to set a quantitative goal regarding the number of procurement procedures which include requirements for specific product attributes in the call for competition or tender documents.

It may also make sense to set easily actionable *prescriptive* goals in situations where purchasing systems are not able to handle detailed criteria. Effective policy utilizes prescriptive goals in cases where the actions they detail are simple and result in quick wins for the sustainable procurement program. In the United States and European Union, for example, policy requires central government purchasers to buy ENERGY-STAR qualified products where applicable. This type of requirement, based on a recognizable international label, makes it easy for purchasers to comply with the policy and maintains the efficiency of the purchasing process.

The example above illustrates an important point. Goals should not complicate the purchasing process unnecessarily. Ambiguous goals lead to the introduction of inefficiency. This can cause high rates of non-compliance as the burden associated with compliance outweighs the desire to comply with the policy. This is especially true when organizations lack the tracking mechanisms to hold purchasers accountable. The combination of complicated policy and a lack of enforcement mechanisms leads inevitably to low compliance, no matter how strongly a policy is worded.

If relatively vague language is used when setting a goal (e.g., "50% of all procurement should be of sustainable products by 2012"), it must be paired with an educational process that communicates what is meant by that language. If purchasers are told to "buy sustainable", "sustainable" must be defined in terms that are easily understood (e.g., "our organization defines sustainable paper products as those containing more than 30% recycled content.")

Policy should make room for exceptions in unusual cases. Examples include a product where actual use patterns, operating conditions, or utility prices are substantially different than normal. By definition, these exceptions should be rare, but policies should establish procedures for handling them. In general, purchasing an "exception" product should be more difficult for the purchaser than purchasing a compliant product. In other words, there should be some level of time burden associated with deviating from meeting the requirements of the program. This time burden can take the form of a process where the purchaser is asked to provide justification for purchasing the non-compliant product.

This type of strategy both discourages non-compliance and allows programs to track patterns that may indicate an issue with program requirements (for example, if purchasers consistently ask for exceptions for a specific product or product group, the efficiency requirements may be set too aggressively.)

1.3.3 Assigning responsibility and establishing reporting requirements

Announcing intent justifies sustainable purchasing. Creating goals establishes the basis for judging program success. Effective policy also assigns ownership of program targets to organizations and individuals within the purchasing process. It is necessary to give the appropriate entities authority to hold others accountable for their program responsibilities. Policymakers can establish the link between individual responsibilities and the authority to enforce those responsibilities. This link is important in all cases where the responsibility may not correspond to the status quo. Procurement programs frequently note the difficulty associated with enforcing policy. A portion of that difficulty can almost certainly be attributed to the absence of this link.

Effective policy creates high-level responsibilities in addition to individual responsibilities. In most countries procurement responsibilities are spread across many departments and agencies, so there is no one obvious 'control center.' Most countries

with established sustainable procurement programs have created reporting requirements for agencies or departments. These reports communicate high-level successes and barriers that could be used to inform operation-level change. They can also help reinforce the cultural change that programs seek to foster.

Mexico: Establishing a dedicated policy unit

In 2009 a specific unit was given the responsibility of creating and monitoring Mexico's purchasing policies. This change resulted from a system wide transformation with goals to reform legislation, define specific policy and standardize rules and procedures. The unit was also charged with establishing recruitment strategies, developing an electronic platform for procurement procedures of the federal government, establishing a framework for professionalization of public purchasers, and meeting international commitments.

The importance of collaborating with other institutions inside and outside the public sector has been stressed. This provides opportunities to generate economies of scale and spread and disseminate innovation, amongst other advantages. The policy unit is examining different approaches to sustainable procurement and Mexico is participating in the Procurement Working Group of the SEAD initiative.

There are several challenges associated with reporting requirements. Many of these challenges are related to data tracking and analysis capabilities (or deficiencies), which are discussed in Chapter Four of this document. Policymakers should consider tracking and reporting capabilities when assigning responsibility and establishing reporting requirements. Agencies that show heightened tracking and reporting capabilities should be singled out as examples of best practices. The tracking methods they use to compile the information should be shared with other agencies.

Policymakers face the challenge of considering these reporting requirements in the context of overall agency sustainability and procurement objectives. In particular, EEP reporting requirements can cause significant burdens if they are not in line with other procurement reporting requirements (i.e., provided on the same form or in the same format).

At the agency or department level, EEP reporting requirements should be considered alongside other sustainability goals. For example, if an agency has set overall greenhouse gas reduction goals, it makes sense to report progress on procurement initiatives in a way that complements those goals. Every effort should be made to reduce the burden placed on those providing procurement data, particularly in cases where data collection is manual. Combining multiple data calls and using consistent terminology and formats across different sustainability initiatives will help accomplish this goal.

Finally, any reporting requirements should be designed with program improvement in mind. The results of program reporting are most effective when they indicate specific areas in which the program is excelling or needs improvement. Reporting on progress alone (e.g., 50% of paper procured this reporting cycle meets our agency's sustainability goals") is useful, but is much more effective when combined with the 'why' (e.g., "Our agency altered the blanket purchasing agreement for office supplies to include a requirement for paper office products to contain at least 30% recycled content. This resulted in a 50% increase in paper products that meet our agency's sustainability goals.") This type of reporting provides specific details tying action to result, which can be shared as an example of best practice to other agencies or departments.

1.4 Case Study – U.S. Federal Agencies: Translating intent into action

Life-cycle-cost based purchasing offers clear benefits to governments. Public money is used most efficiently when the total cost of product ownership is minimized. In addition, with energy-consuming products, there are many known environmental externalities that are reduced by utilizing more efficient technologies. In the United States, the concept of life-cycle-cost based acquisition has not been controversial, but translation of that concept into practice has been met with challenges. The following narrative discusses some of the obstacles faced in the U.S.'s effort to translate intent into action.

In the U.S., purchasers are sometimes unable to make best-value decisions quickly and accurately. Policymakers must maintain purchasing efficiency while asking purchasers to take more criteria into consideration (energy use, product lifespan, etc.) The integration of these additional criteria into the purchasing process has been one of the primary stumbling blocks to the institutionalization of life-cycle based procurement in the U.S. These difficulties were reflected in the early attempts to utilize life-cycle based purchasing methods. Federal agencies were encouraged to perform life-cycle cost analysis on products that were significant consumers of energy (building HVAC equipment, for example). Policymakers believed that by drawing attention to the concept of life-cycle cost, procurement of energy-efficient products would be the natural result.

In practice, agencies found this difficult to implement for three reasons. First, top-level mandates were not filtering down to individual decision-makers. Second, even when purchasers attempted to comply with these policies, conducting full life-cycle costing for each procurement was found to be unduly burdensome. Third, policy language that encouraged the use of life-cycle costing did little to change key motivations behind the standard practice of selecting products based solely on lowest first cost, namely simplicity and budget optimization (i.e., the ability to buy "more" within a given budget). Combined, these factors resulted in a procurement situation that was largely unchanged.

Over time, U.S. policy evolved to address the issues described above. The following sections describe that evolution.

1.4.1 From top-level mandates to field-level policies

Early policies came in the form of declarations from the U.S. President and federal agency directors. These policies directed purchasers to adopt life-cycle based purchasing.[5] Initially, the policies overlooked the fact that procurement officials were guided by the Federal Acquisition Regulations (FAR) as their primary source of direction. The FAR was unaffected by the presidential directives; a formal regulatory process is necessary to modify the FAR. As a result, there was a disconnect between official policy (the declarations) and the detailed regulations and procedures to which purchasers referred when making procurement decisions (the FAR). To address this problem, language was inserted into the FAR requiring life-cycle cost based procurement.[6] With this change, policy was communicated to procurement officials through the mechanism that most affected their decision-making.

This experience raises an important point for program implementers. Buy-in from the highest levels of government is important for program success, but policy enacted at those levels may not directly translate to a change in the policies purchasers use. Programs must identify the policies and regulations most relevant to the purchasing process.

1.4.2 From complicated analysis to simple choice

Performing a life-cycle cost calculation can be complicated. First, the variables included in the calculation must be defined; for example, energy use and cost, maintenance cost, operating hours, product life, etc. Second, values for each of those variables must be acquired or estimated. Finally, the economic value of these costs over time must be determined.

In practice, this level of analysis is sometimes overwhelming – and unnecessary for many commonly purchased products. Purchasers cannot and should not be expected to regularly perform these tasks. For some large-scale acquisitions (buildings, public works projects, etc.), making a detailed life-cycle cost calculation is warranted. It is unreasonable however to expect procurement staff to perform this analysis when purchasing relatively inexpensive off-the-shelf products. Some mechanism for streamlining this process is necessary if life-cycle cost is to be considered for these product types.

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[5] Energy Policy Act of 1992 H.R.776.ENR and Executive Order 12759 on Federal Energy Management

[6] FAR Case 1999-011 (Energy Efficiency of Supplies and Services)

Policy plays a key role in determining the simplicity or complexity of the life-cycle cost evaluation process. Policy can specify standard values that procurement officials may use to make life-cycle cost calculations. This takes the guesswork (and associated time burden) out of determining the variables discussed above. However, even with these standard values, additional effort is required to choose a lowest life-cycle cost product. The life-cycle cost calculation still needs to be performed, and products must be compared. Individuals responsible for implementing the U.S. program decided that this calculation and comparison process should be removed entirely for commonly purchased products.

This simplification takes two forms. In one case, a designated agency[7] sets product performance levels deemed to be approximately life-cycle cost effective given typical operating hours, energy prices, etc. These performance levels, and the basis for setting them, are explained to purchasers. Procurers can then identify best-value products from among those that meet the performance levels. In the second case, another agency[8] identifies a performance level (e.g., 90% efficiency for a residential furnace) that, again, approximates what would be life-cycle-cost-effective for most buyers, and works with manufacturers to label products meeting that threshold. Purchasers can then either look for the program label or search for qualified products on the program's website.

Current U.S. policy directs purchasers to make use of one of these simplified processes. Both of these processes take the additional calculation out of the purchasing process. Selecting a life-cycle cost effective product is simplified to the point where a purchaser need only locate a standard product attribute or label in order to assume life-cycle cost effectiveness. Even these relatively simple processes require a small amount of additional effort on the part of the purchaser. In an ideal case, no additional effort would be required to achieve policy goals. Procurement policies would be directly integrated with government supply or e-procurement systems, so that only products matching policy requirements would be available for purchase. See Chapter Five for a more detailed discussion on this topic.

All programs should consider the impact of policy on the efficiency of the procurement process and strive to mitigate that impact. The U.S. case illustrates an example of how a program can recognize and respond to inefficiency. The more effectively a program is able to identify and address these inefficiencies, the higher the compliance rate it will achieve and the greater the benefit to the overall purchasing process.

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[7] The Department of Energy (DOE) Federal Energy Management Program (FEMP). FEMP.energy.gov

[8] The Environmental Protection Agency (EPA) ENERGY STAR Program http://www.ENERGYSTAR.gov

1.4.3 From voluntary to mandatory purchasing requirements

Procurement policy requiring the purchase of life-cycle cost effective products was initially voluntary in the U.S. As discussed above, there was a belief in the U.S. federal government that life-cycle based purchasing would naturally supplant first cost based purchasing. Contrary to these assumptions, adoption of life-cycle based purchasing did not immediately take hold in federal agencies. Changing standard practice was more difficult than anticipated. First-cost purchasing habits had become so ingrained in agency culture that more of a push was necessary to achieve widespread change. The voluntary nature of the requirements was identified as a potential barrier to this change.

Over time, policies moved from voluntary to mandatory. Policy language became more prescriptive as it disseminated from top to bottom. This prescriptive language was integrated into the FAR, as an executive order[9] requiring agencies to purchase energy-efficient products, and legislation[10] passed by Congress that required all federal agencies to purchase FEMP-designated and ENERGY STAR qualified products where applicable. Taken together, these policies set legal requirements for the procurement of energy-efficient products and established accountability from agency heads down to purchasing employees. Universal compliance has still not been achieved, but the increase in accountability attributable to these policies has provided the impetus for gradual cultural change in purchasing departments.

As will be discussed in more detail later in this document, the establishment of legally binding policy does not guarantee high or even moderate levels of compliance. For some governments, there may be no need for mandatory policy language if voluntary policies are enough to encourage change. The end goal of policy is to create cultural change that would not come about naturally. Good policy can start that process of change, but additional mechanisms are necessary to bring about a lasting cultural transformation. Policy is only the beginning of a process.

1.5 EU policies on energy-efficient procurement

The European Union offers another example of how policies addressing energy-efficiency in procurement have evolved. The EU is not a federal system like the United States but it does have responsibility for formulating policy in important areas such as public procurement and environmental protection. These policies are then implemented in each of the 27 Member States, with legal and financial sanctions for non-compliance. Different policy approaches are taken, from regulations setting minimum product standards, to voluntary policies which aim to encourage green public procurement, to

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[9] Executive Order 13514, available at http://www.fedcenter.gov/programs/eo13514/

[10] Energy Policy Act of 2005. http://www1.eere.energy.gov/femp/regulations/epact2005.html

overall strategies for growth, innovation and sustainable development which refer to the role of public procurement. Some of the key policies affecting EEP are highlighted here.

1.5.1 Energy Services and Energy Efficiency Directives

Energy efficiency and the development of renewable energy have been major areas of focus in EU policy over recent years. In 2006 the Energy end-use efficiency and energy services Directive[11] (ESD) was adopted, which requires public authorities to:

- Adopt an overall national energy savings target of 9% for the ninth year of application of the Directive, to be reached by way of energy services and other energy efficiency improvement measures;
- To achieve the target, adopt measures such as the use of financial instruments for energy savings, the purchase of energy-efficient equipment and vehicles and the purchase of low-energy products;
- Ensure that the public sector fulfils an exemplary role in energy-efficiency and exchange best practice in energy-efficient public procurement.

An example of how the Directive has been implemented in one Member State, Sweden, is given below.

Sweden: Implementing the Energy Services Directive

In Sweden, the End-use efficiency and energy services directive has been implemented by a law affecting about 180 national agencies. They are required to indicate which energy-efficiency improvement measures they are adopting, and register their choice with the Swedish Energy Agency. They must then report their energy use and the results of the measures annually. A range of supports are available from the Swedish Energy Agency and Swedish Environmental Management Council (SEMCo), including training, information and procurement criteria. Financial support is also available to implement the measures, and a majority of Swedish municipalities and county councils have received this funding.

In October 2012, the EU adopted a new directive on energy efficiency,[12] with the aim of achieving a 20% increase in energy efficiency by 2020. This includes a new obligation on national governments to purchase only products, services and buildings with high energy-efficiency performance. The obligation is expressed as being subject to cost-

[11] Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006

[12] **Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012**

effectiveness, economical feasibility, wider sustainability, technical suitability and sufficient competition. Relevant energy-efficiency standards for different types of products, services and buildings are set out in an Annex to the Directive.

1.5.2 Mandatory procurement standards in certain sectors

In addition to the more general requirements set out in the above directives, EU policy has established energy-efficiency requirements which apply to certain categories of procurement. For office IT equipment, central government bodies must buy products which meet or exceed the relevant ENERGY STAR criteria.[13] For road transport vehicles, public authorities are obliged to take energy consumption and emissions into account in their procurement.[14] They are given a choice of whether to do this by setting specifications which vehicles must meet, or by using life-cycle costing to assess the cost of energy consumption and emissions during the vehicles' lifetime. If they choose the latter approach, common values for monetizing the costs of energy and emissions are given in the Clean Vehicles Directive.

In the building sector, all new buildings owned and occupied by public authorities from 31st December 2018 must be "nearly zero-energy" as defined nationally according to a common framework methodology.[15] Similar requirements apply if a building undergoes substantial renovation. In addition, minimum requirements relating to product standards and labeling apply across a number of sectors, although these are not always addressed directly to procurers. The proliferation of mandatory standards in recent years means that it is not yet possible to measure the impact of these policies and compare them with the voluntary GPP/EEP approaches taken by many countries and individual authorities.

1.5.3 Voluntary policies on sustainable procurement

A large number of public authorities in the EU have adopted policies for green and sustainable public procurement. This has happened both through a 'top down' approach of support from the European Commission and national governments, and through a 'bottom up' approach whereby individual cities or other public authorities have lead the way. Energy-efficiency figures prominently in most of these policies, but other environmental, social and economic criteria are almost always included. At the EU level,

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[13] Regulation (EC) No. 106/2008 on a Community energy-efficiency labelling programme for office equipment (recast version) *OJ L 39, 13.2.2008 (the 'Energy Star Regulation')*

[14] Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles (the 'Clean Vehicles Directive')

[15] Directive 2010/31/EU on the energy performance of buildings *OJ L 153, 18.6.2010*

a 2008 policy document confirmed support for GPP and committed resources for the development of product criteria, guidance, training and a helpdesk. A central website makes the criteria and guidance available in each of the EU's official languages. The overall impact of the EU's GPP policy, in terms of level of uptake, costs and environmental outcomes, is discussed in Chapter 4.

It is important to note the role which the EU procurement directives (2004/17/EC and 2004/18/EC) have played in allowing the voluntary take-up of GPP. These directives primarily govern the 'how' of procurement, rather than the 'what' – meaning that they do not themselves prescribe minimum standards for products, services or works. But as can be seen above, other legislation has come into force which effectively creates minimum standards for energy-efficiency in procurement. One of the aims of the current revision process for the procurement directives is to clarify the obligations and possibilities which public procurers have in relation to energy-efficiency and other aspects of sustainability.

1.6 Recommendations:

Several themes emerge from the chapter above:

1. ***Good policies do the following three things:***
    a. *Establish Intent* – Government procurement policy must send a clear and strong signal to buyers about intended outcomes.
    b. *Set Goals* – Effective policies require a clear target for successful implementation.
    c. *Assign Responsibility and establish reporting requirements* – Policies must clearly delineate specific roles and responsibilities for implementation.
2. ***Successful policy implementation includes the following three elements:***
    a. *Broad policy dissemination* - Purchasers should receive information about government priorities within the communications channels they use.
    b. *Specific policy mandates* - Policies and implementation strategies should be as specific and as simple as possible. Buyers should be given explicit directions that can be readily achieved.
    c. *Attention to behavior change as the desired outcome* - Policies are intended to achieve changes in behavior. Change can be difficult. Program implementers should monitor and adjust policies to effectively influence buyers.
3. ***Both mandatory and voluntary policies are likely to have a role to play in establishing energy-efficient procurement.***

    The choice between these approaches may depend upon the sector, existing practices, and the efficacy of policies which have been implemented in the past.

Chapter 2: Procurement Criteria

2.1 Executive Summary

Key points found in this chapter:

- Procurement staff must be confident that energy-efficient procurement criteria offer the best long-term value for their organization's money and represent real environmental gains.
- Involving multiple stakeholders at the early stages of the criteria creation process can result in greater levels of cooperation from private industry.
- Criteria should make comparison of products easy for purchasers and require minimal additional calculations.
- Criteria will need to be regularly updated to reflect market developments.

This chapter will focus on important issues for consideration when establishing procurement criteria. In addition, it will include a discussion of the processes used in the United States, the United Kingdom and Sweden to develop and apply criteria. Each of these country case studies highlights a number of points found in the 'key steps' section.

A Brief Definition of Criteria

Procurement criteria are all of the mandatory requirements set out in tender documents, together with optional characteristics which will result in more points being awarded. They are distinct from the legally binding minimum energy efficiency performance standards (MEPS) established by governments to regulate the manufacture, import, or sale of certain products. The focus of criteria discussed in this chapter will be energy efficiency, though most of the points also apply to environmentally preferable procurement criteria more broadly.

2.2 Introduction

A robust process for creating purchasing criteria is a crucial component of energy- efficient procurement programs. Effective criteria can be easily used by purchasers and enable them to achieve best value for money as well as environmental gains. In addition, purchasing criteria provide a baseline for evaluating overall program success.

Purchaser uncertainty regarding the cost effectiveness of energy-efficient products is a barrier to program success. Lowest life-cycle cost offers best long-term value for

money, but purchasers still often face pressure to buy on the basis of lowest first cost. The idea that "I can't go wrong buying the cheapest product" is deeply ingrained in some government procurement cultures. In addition, purchasers often face multiple demands in terms of meeting user expectations, ensuring legal compliance and maintaining relationships with suppliers. There is also often a conflict between the short-term desire to maximize budgets and the longer-term gains associated with energy efficiency. In some cases, the benefits of EEP will not accrue to the procurement agency but to an outside user, creating a split incentive.

Government procurement criteria help to address these barriers. Good criteria minimize the time and product knowledge necessary to evaluate the cost-effectiveness of each product. They also signal that purchasing on the basis of long-term value for money is acceptable (or required). The remainder of this chapter will detail some of the issues associated with creating effective procurement criteria. It will also provide examples of how to address those barriers.

2.3 Issues to Consider When Creating Procurement Criteria

Each of the following must be considered when creating procurement criteria:

1. Transitioning to life-cycle cost-based procurement
2. Involving stakeholders from government, private industry and the third sector (e.g. research institutes, NGOs) from the beginning
3. Using existing energy-efficiency performance metrics
4. Assuring transparency in the process of setting criteria
5. Creating criteria with future tracking needs in mind
6. Taking advantage of existing eco-labels and certifications

2.3.1 Transitioning to life-cycle cost-based procurement

The transition from first cost to life-cycle based purchasing is one of the most significant hurdles facing EEP programs. One of the main metrics procurement staff use when making a purchase is value for money spent by their organization. Value for money can have very different definitions depending on whether a first-cost or life-cycle cost model is used. Under a first-cost model, evaluating product value for money spent can be as simple as choosing the least expensive product (or the greatest quantity of products for a given price). The momentum of first-cost-based procurement culture is very difficult to overcome.

In order to overcome this barrier, purchasers must be assured that the products they are buying based on life-cycle based criteria achieve best value for money. This process begins with setting product procurement criteria that are certain to offer better

value to the organization. In turn, programs must clearly communicate the changed definition of value-for-money to purchasers. Purchasers should be assured that if they follow the procurement criteria set by the program, they are addressing life-cycle cost based value for money by default. Ultimately, these changes should be reflected in training and performance evaluation processes.

2.3.2 Involving stakeholders in criteria development

Involving multiple stakeholder groups adds legitimacy to the development of any product efficiency standard. By definition, mandatory criteria disallow the purchase of some products. In some cases this may prevent a vendor from providing its goods or services to the government. Involving industry stakeholders from an early point in the process is one means of heading off challenges posed by those whom the criteria exclude. An open process makes it clear that fairness to vendors is a priority. At the same time, the input of vendors should be balanced by input from organizations such as independent research institutes or NGOs which have a particular expertise in the sectors being targeted.

Internationally, public procurement programs have chosen to involve vendors and other stakeholders to varying degrees in the criteria creation process. This is discussed in more detail in the case studies below. In short, there is an important boundary to respect between building alliances with stakeholders and allowing them to dictate the criteria creation process or outcome. Some programs have addressed this issue by involving stakeholders in only certain parts of the process, while still allowing some aspects, particularly the choice of the final specifications, to be fully internal. This allows for vendor feedback, while not interfering with the establishment of aggressive criteria.

India: Industry and Ministries key in criteria development

The CII-ITC Centre of Excellence for Sustainable Development has played a central part in the development of GPP criteria. Since 2008 it has led a multi-stakeholder process for setting GPP standards for a range of products, inspired by a similar process in Japan. Bringing different ministries to the table in a manner that was progressive for the project was identified as a challenge right at the start of the project. The Confederation worked with the Planning Commission of India to be able to convene the different stakeholders. A “Core Group” of different stakeholders was constituted that would act as a sounding board as well as contribute to developing product specifications. This strategy has helped evolve consensus on some of the challenging issues, and allowed the project to remain on schedule.

2.3.3 Using existing performance evaluation metrics

In order to determine which products meet the government's procurement criteria (top quartile of energy efficiency, for example), programs must use or develop a reliable evaluation method. In some cases, the body responsible for setting government purchasing criteria can develop this process (i.e., the program develops a custom evaluation procedure.) However, in order to conserve program resources and send consistent market signals, it makes sense to build on established testing and rating methods when possible.

Using established, industry-accepted product testing and rating methods (established independent labels or voluntary, industry-led rating schemes, for example) helps assure that manufacturers will actually pay to have their products tested and rated. This can be useful in cases where the "pull" of government purchasing may be insufficient. In addition, following previously established product-testing methods adds credibility to the process.

Using industry standard test procedures developed under approved test methods (e.g., American National Standards Institute, Standards Council of Canada, International Electrotechnical Commission, International Standards Organisation) helps establish a market-wide, reliable method for rating product performance. This also ensures that product efficiency ratings are accessible to purchasers. For example, the U.S. Federal Energy Management Program (FEMP) uses energy ratings available on physical labels or on product specification sheets. By looking for these labels or specifications, purchasers can easily verify that a product is compliant with government efficiency standards. No further research is necessary, and purchasing process efficiency is uncompromised.

2.3.4 Emphasizing a transparent criteria creation process

Transparent criteria address the issue of purchaser confidence and promote industry and third sector buy-in. An open process is more likely to receive backing from stakeholders on both sides of the acquisition process. A closed process can result in market confusion or suspicion and be met with resistance by manufacturers and purchasers alike. A more open process lessens concerns related to manufacturer favoritism. Clear explanation of the process used to arrive at criteria will not entirely eliminate manufacturer and purchaser concerns, but it does make apparent that an unbiased method was used to determine target efficiency levels. Manufacturers can be more confident that they were not unfairly excluded, and purchasers can be more confident that they are achieving best value for the government's money. Aspects of transparency in the criteria development process include:

- Publishing full details of the process on one or more government websites;

- Indicating the basis on which particular product categories have been chosen for criteria development, and what the main objectives of the process are;
- Setting timelines which allow for meaningful input from stakeholders, and communicating these timelines well in advance;
- Minimizing the cost and administrative burden associated with contributing to the criteria development process, so that smaller organizations are also able to contribute;
- Publishing the input received from stakeholders.

2.3.5 Creating criteria with an eye towards tracking compliance

Criteria should be set in a way that allows for verification of product performance after the purchase is complete. In some cases, this will take the form of a single criterion (i.e., a performance rating) that can be easily stored by a business management system.[16] The greater the number of product criteria that are considered, the more complicated compliance verification and data handling becomes. This does not eliminate multi-attribute criteria from consideration. However, in cases where multiple attributes are considered, it is preferable that all of those individual attributes be wrapped in a single, easily verifiable standard product criterion (a label such as EPEAT, for example.)[17]

2.3.6 Coordinating with eco-labels where possible

The relationship between the United States' Federal Energy Management Program (FEMP) [18] and the ENERGY STAR labeling program will be examined later in this section. These two programs serve as an example of the advantages brought about by basing procurement criteria on well established energy labels or eco-labels, and the energy testing and rating methods that underlie them. This type of coordination sends a consistent message to manufacturers. It reduces the amount of extra effort needed to develop product efficiency specifications. Coordination also simplifies compliance for manufacturers, vendors, and purchasing officials. In jurisdictions with a low market presence of labeled products, consultation with industry and third-sector stakeholders can help to determine the most appropriate means of setting and verifying product standards fairly and objectively.

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[16] Discussed in more detail in Chapters Four and Five

[17] The Electronic Product Environmental Assessment Tool is a program administered by the Green Electronics Council. It assesses the life-cycle environment impact of electronic products and assigns gold, silver and bronze labels.

[18] Operated under the US Department of Energy (DOE) - http://www1.eere.energy.gov/femp/

2.4 Key Steps in Creating Procurement Criteria

The following five points outline the key steps necessary to implement government energy-efficient procurement policies by creating effective procurement criteria.

1. ***Decide which products to cover.*** Select 'quick win' products first. Good first products include those that use a significant amount of energy (per unit or in the aggregate)[19], products that are already covered under pre-existing product standards or labels, and products that have relatively low incremental cost and/or significant differences in energy efficiency levels.

2. ***Determine target efficiency levels for those products.*** Efficiency criteria should guarantee life-cycle cost effectiveness for typical applications of energy-using products. Typically, governments aim to set target levels with reference to efficiency ranges for a group of products (top 25%, for example). This type of approach achieves a good balance between incremental first cost and life-cycle energy savings, while simplifying the process necessary to set the criteria.

3. ***Periodically review target levels as markets evolve.*** A successful program will naturally shift the market towards more efficient products in targeted categories. When this occurs, more aggressive targets should be set to continue the market transformation process. In some cases, levels of efficiency may be reached where programs can declare victory and cease to update that product's target efficiency level. This can be quantified by a negligible difference between the highest and lowest performing products.

4. ***Modify procurement systems to capture product data relevant to efficiency criteria.*** Programs must develop a method for verifying that purchased products meet the established efficiency criteria. This requires procurement systems with the ability to track product attributes relevant to the criteria (e.g., efficiency levels) and to generate data that can be used in program evaluation studies.

Each of these steps can evolve over time. More product categories can be added to a government's list of covered products. Target efficiency levels can become more stringent as the market adapts. Cost effectiveness analysis can become more sophisticated by taking a greater number of product attributes into account. Review cycles can become

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[19] Government-specific purchase data are often difficult to obtain. A good first approximation is that government purchasing is proportional to commercial sector purchasing. Energy-using products with high commercial domestic sales are likely good targets for government procurement programs, with the exception of those related exclusively to household consumption, retail sales, or manufacturing processes.

more (or less) frequent to better match market changes. Product attribute data can be integrated into all procurement systems, allowing purchase of preferable products to become the default purchaser action. Examples of how specific programs have taken these steps are discussed in the next section.

2.5 Case Studies: Creating Procurement Criteria in the United States, the United Kingdom and Sweden

This section compares the processes used to create government purchasing criteria in the U.S., Sweden and the U.K. These countries are leaders both in the length of time their programs have been operating and in the processes used to define purchasing criteria.

2.5.1 The United States: Federal Energy Management Program

FEMP performs three primary functions for federal government procurement of energy-efficient products. These functions all support the goal of achieving maximum savings to U.S. taxpayers through reducing the energy footprint of the federal government. The functions are:

1. Identifying energy savings opportunities
2. Providing information to assist federal purchasers
3. Evaluating program effectiveness

The creation of government purchasing criteria, called Acquisition Guidance & Efficiency Requirements (AGERs),[20] supports each of the above functions. These requirements are mandatory for federal buyers by law and as specified in the Federal Acquisition Regulations (FAR).[21] Each AGER specifies product attributes that are easily identified on a specification sheet. This eliminates the need for all purchasers to have specific expertise in the technology being procured and minimizes the operational burden imposed by the requirements.

The following describes some of the key steps in the development of these requirements, the challenges faced by FEMP, and the strategies employed to overcome those barriers.

Defining and targeting product categories

The process of defining product categories to target can be difficult with limited available data on purchasing within the government. In an ideal scenario, it would be possible to analyze all purchases made on behalf of the government and identify which products represented the largest savings opportunities. However, in the US, as in the majority of

[20] Formerly "FEMP Purchasing Specifications"

[21] https://www.acquisition.gov/far/

large countries, there is no such central data repository. Data scarcity is a recurring theme and barrier in the area of sustainable procurement. FEMP has employed several techniques to overcome this barrier.

Whenever possible, FEMP aims to avoid the cost and personnel time associated with primary data collection. FEMP is somewhat limited in its ability to collect product data directly from manufacturers. There is no legal requirement for manufacturers to provide data to FEMP employees. In addition, manufacturers are less likely to provide data to FEMP if there is a perception that the resulting requirement might inhibit their ability to sell their products to the government.

In light of these difficulties, data is typically collected from trade associations and other organizations that aggregate product data for the industries being targeted by FEMP's efficiency requirements. In cases where primary data collection is unavoidable, FEMP uses publicly available manufacturer specification sheets, though for reasons stated above, this is not the preferred option.[22]

FEMP selects product types for which there are well-established testing procedures for measuring energy efficiency. Creating a product testing procedure from the ground up is a costly, time-consuming process. Using an industry-standard process ensures that information generated from the test is likely to be readily available from the manufacturer. This means that (1) FEMP can easily obtain the data necessary to perform analysis used to set the requirements, and (2) the purchaser can readily locate the performance data when determining if the product qualifies for federal purchase.

Early FEMP research suggested that federal buildings were similar to other commercial-sector buildings. FEMP therefore targets end uses that are common in the commercial sector (and assumes they are also prevalent in the federal sector). These include fluorescent lighting, chillers and boilers, motors, and commercial kitchen equipment. Plug loads within the buildings are also a significant end use, so FEMP's recommendations include commercial office equipment.

There are ongoing efforts to refine the process for targeting new product types. Currently, there is a pilot project underway to collect purchasing data from Oak Ridge National Laboratory.[23] The similar purchasing profiles of Oak Ridge and other large, contractor-operated federal facilities will allow FEMP to make inferences regarding federal purchasing based on the data collected during this study. This and other activities that provide snapshots of purchasing activity can serve as viable alternatives to costly attempts to consolidate all federal procurement data in one central database.

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[22] For example, FEMP used this approach when setting target efficiency levels for fluorescent ballasts.

[23] A U.S. Department of Energy National Laboratory

Setting product efficiency levels

FEMP seeks to collect energy performance data for the full range of models in each product category that it intends to address. After this data collection process, analysis is performed that identifies a level of performance that is considered life-cycle cost effective. When setting performance targets, FEMP aims for the top quartile in energy efficiency. This level has been found to be stringent enough to differentiate products while still encompassing enough products and manufacturers to assure adequate availability and encourage price competition. FEMP specifically targets product categories with a range of efficiency distributions, maximizing the market-pull effect and savings from government purchasing of products that fall into the top quartile.

Using federal product usage pattern data in combination with energy performance information, FEMP estimates the annual and lifetime energy savings associated with purchasing the efficient products compared to a base scenario. If the discounted lifetime energy cost savings exceed the price premium (if one exists) of the efficient product, the efficient product is considered life-cycle cost-effective for most use cases.

In addition to life-cycle cost effectiveness, the following criteria must be met:

- Multiple manufacturers (generally a minimum of 3) must be able to meet the efficiency requirements with currently available models.
- The technology used in the manufacturing process or product to meet the requirement must be available from multiple sources (cannot be proprietary)
- The requirements must specify product criteria that are readily identifiable through published product lists, on specification sheets, and preferably on the labels of products.

If any of the above criteria cannot be met, it may be necessary for FEMP to compromise on the top quartile goal, loosening the levels until all supplemental criteria are achieved.

Consulting with industry stakeholders

After FEMP creates an Acquisition Guidance & Efficiency Requirement internally, industry stakeholders are solicited for their input. FEMP consults with industry representatives only after its initial analysis is complete. If manufacturers offer convincing evidence that the efficiency requirements result in an undue burden, FEMP will consider a revision to the proposed requirement.

Coordinating with the ENERGY STAR program

The process used to create FEMP AGERs is closely aligned with the process used by the US ENERGY STAR program. Both FEMP and ENERGY STAR use the “top quartile” rule and the same criteria listed in the *Setting Efficiency Levels* section above. In addition, “ENERGY STAR specifications are set so that if there is a cost differential at time of purchase, that cost is recovered through utility bill savings over a reasonable period of

time for the typical consumer."[24] By using similar methods in the creation of purchasing requirements, FEMP is able to take advantage of product analysis performed by ENERGY STAR and vice versa.

U.S. federal buyers are required to buy efficient products in approximately 80 categories. Of these, ENERGY STAR covers over 60. In these cases, FEMP directs purchasers to select the ENERGY STAR qualified product. This coordination allows FEMP to offset the burden associated with maintaining purchasing specifications while providing purchasers with an easy means of identifying which products to buy: If the product type is covered by ENERGY STAR and the model in question has an ENERGY STAR label, the purchaser can assume that the product is cost-effective to the government.

FEMP is responsible for setting efficiency requirements for the product categories not covered by ENERGY STAR, including larger commercial products such as commercial lighting, building chillers and boilers. ENERGY STAR encompasses nearly all consumer-level product categories as well as some that are used both by individual consumers and businesses, such as appliances, home heating and cooling, personal computing and office equipment, and televisions. This division of labor has advantages for both programs and ensures that the government is sending a consistent message to the market about what it considers to be energy efficient.

2.5.2 The United Kingdom: Government Buying Standards

Background and scope

In the UK criteria to address energy-efficiency in government procurement have existed since 2003. The current Government Buying Standards (GBS) cover twelve high-priority product and service groups that represent significant opportunities in terms of energy and cost savings,, scope for environmental improvement and example-setting by the public sector. The GBS address a range of environmental impacts in addition to energy-efficiency, such as use of sustainable materials, restrictions on hazardous substances, recyclability of parts and packaging. They draw upon the GPP criteria and background reports developed by the European Commission. The use of the GBS is mandatory for all central government departments, their executive agencies, Non-Departmental Public Bodies (NDPBs) and Non-Ministerial Departments (NMDs).[25] In addition, they are used on a voluntary basis by a number of local government authorities in the UK.

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[24] The ENERGY STAR® Label: A Summary of Product Labeling Objectives and Guiding Principles. http://www.energystar.gov/ia/partners/prod_development/downloads/guiding_princip.pdf. pg. 7

[25] http://sd.defra.gov.uk/advice/public/buying/about/

Process

An examination of the process used by the UK Department for Environment, Food and Rural Affairs (Defra) to draft procurement criteria shows many similarities to the FEMP process, as well as several important differences. Similar to FEMP, Defra emphasizes life-cycle cost-effectiveness. A Cross-Government steering group prepares draft criteria, which are then published for stakeholder review accompanied by a partial assessment of their impact. Following stakeholder feedback, a full cost/benefit impact assessment is carried out, analyzing costs, benefits and market capacity to meet the criteria. For larger or higher risk product groups the process ends with approval from the Defra minister before the new GBS is launched, and a three month lead-in period is given before they become mandatory. For existing GBS, a review is carried out every one to three years to determine whether they need to be updated.

When referring to sustainability in regards to government procurement, value for money (VfM) is a term frequently used in the U.K. This term is similar to life-cycle cost-effectiveness but slightly more encompassing. It includes factors such as end-of-life disposal, the environmental impact of manufacture, materials used and appropriateness for intended purpose, in addition to return on investment through life-cycle energy cost savings. The GBS are divided into three levels, representing progressively higher levels of environmental ambition: mandatory, best practice and class leader. The criteria themselves encompass technical specifications (i.e. mandatory standards which must be met by products to comply with the tender requirements), award criteria (where more marks are given for performance above the minimum requirement) and, for some product and service groups, contract performance clauses.

The following diagram illustrates the Government Buying Standards creation workflow.

FIGURE 2: DEVELOPMENT PROCESS FOR UK GOVERNMENT BUYING STANDARDS

This diagram reflects similarities to the FEMP process described above with an increased emphasis on multi-stakeholder involvement. As with FEMP, the initial analysis is performed internally and industry stakeholders are invited to participate after the creation of the draft criteria.

From the outset of the Defra process, personnel from multiple areas of government are involved; whereas in the US, FEMP staff perform the initial analysis internally without the involvement of outside departments.

2.5.3 Sweden: SEMCo Procurement Criteria

The Swedish Environmental Management Council (SEMCo) develops procurement criteria and builds capacity for their implementation amongst Swedish public authorities. This includes a large number of cities and regions, as well as national authorities. Since 2003 SEMCo has developed procurement criteria covering over 40 product and service categories. The criteria are intended both for use directly in tender documents and as a source of information for procurers and suppliers regarding future requirements.

Although the use of the criteria is not mandatory, over 75% of local governments in Sweden currently use them. A key reason for the success of the program is the existence of an open and transparent development process for the criteria, drawing on internationally-recognized methods. The process is designed to reflect the way ISO standards are adopted, allowing input from stakeholders and ensuring that appropriate verification methods are available for all criteria adopted.

The process begins by choosing the product or service category, based on the following considerations:

- Relative magnitude of the environmental impacts
- Estimated volume of sales in the public sector
- Potential for improvements
- If procurement is an effective tool to green the market

A pre-study is then conducted, including a market overview to identify existing products and emerging innovations. An expert group is formed, with stakeholders from suppliers, procuring entities, eco-label organizations and others invited. The expert group uses the information in the pre-study to prepare draft criteria at three different levels: basic, advanced and spearhead. The basic criteria identify products which exceed minimum legal requirements for environmental performance. Advanced criteria cover products in the top 25% of the market, and spearhead criteria target products at the absolute forefront of environmental performance. The criteria draw upon existing life-cycle analyses (LCA) and also take into account Sweden's environmental priorities and procurement law. The draft criteria are made available for consultation with public, private and third-party stakeholders. The final criteria are subject to an external audit for quality assurance. The process is illustrated below:

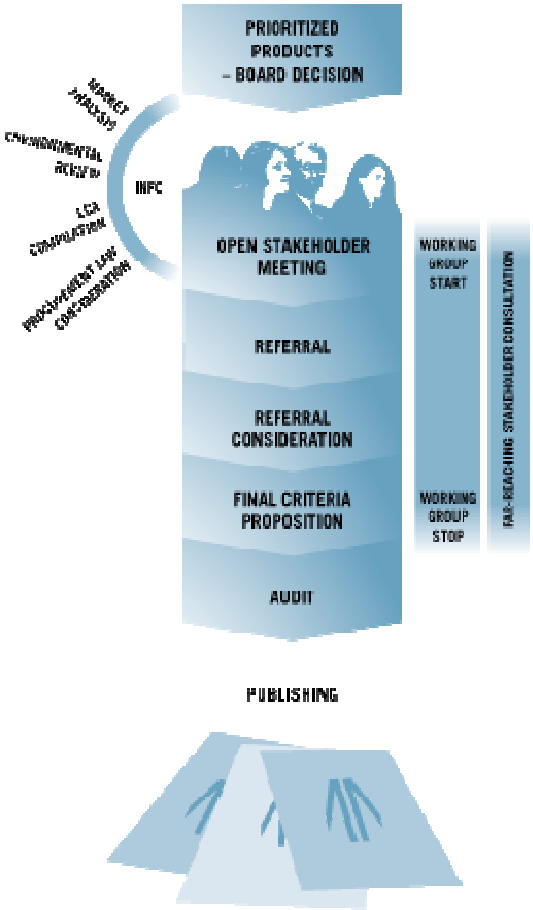

FIGURE 3: DEVELOPMENT PROCESS FOR SEMCO PROCUREMENT CRITERIA

The time period required to develop the procurement criteria ranges from about one month for relatively straightforward updates to up to 18 months for the more complex new criteria. The finished product is a criteria document, explaining the main environmental impacts of the product or service and how the criteria address them. The criteria themselves consist of four separate parts:

i) Supplier requirements (e.g. technical capacity and quality assurance)

ii) Mandatory product requirements (minimum standards which the product must meet)

iii) Award criteria (discretionary characteristics which will result in more points being awarded)

iv) Special contract terms (e.g. to ensure the delivery of the product or service meets the environmental standards agreed)

Each part has a different function in the procurement process and in the way suppliers will respond to the tender. Certain environmental attributes may be appropriate for inclusion in the award criteria or contract terms, but not in the mandatory product requirements. Because the criteria are voluntary, procurers may choose which aspects to use in their particular tender. This more flexible system means that the criteria can achieve wide use without compromising high standards of environmental performance. The criteria are updated regularly to keep track of market developments and to incorporate feedback on their use.

The criteria also include detailed information about how to verify compliance, for example which environmental labels are relevant. Guidelines on how to conduct life-cycle costing are included where relevant (for example, indoor lighting) and links to software tools. The focus is on making the use of LCC as clear as possible to both procurers and suppliers, so that it can be used appropriately.

2.6 Recommendations

Several themes emerge from this chapter:

1. ***Policy preference must be implemented through clear, actionable criteria.***
   In order to translate policy into action, specific information is necessary to guide purchasing decisions. It is not enough to set policy that simply directs officials to "Buy efficient equipment." Implementation criteria for a range of products are necessary in order to lower the barriers to purchasing energy-efficient products. Clearly defining the process for determining what constitutes an efficient product allows purchasers to have confidence in their product selections.

2. ***Performance requirements must be clearly and fairly set.***
   The process of setting performance requirements is, by definition, a process that eliminates some products from qualifying for government purchase. The implied market preference can be politically and commercially sensitive, so it is important that criteria are set in a transparent, repeatable, and fair way. Using metrics that have been developed through national or international standard-setting bodies can assist in demonstrating the fairness of the process.

3. ***Collaboration with other market actors is valuable.***
   Government procurement programs are often not alone in trying to affect markets. Other industry, government, or NGO stakeholders may also be involved in attempts to indicate preferable features of energy-consuming goods; for example, through the use of eco-labels. Where possible, government programs should

attempt to work in concert with these programs so that a clear and consistent signal is sent to buyers, both public and private.

4. *Criteria must be kept up-to-date.*

For many energy-using products, market developments are rapid and criteria which target the top quartile or higher in terms of efficiency standards will quickly become obsolete. While this implies ongoing effort and resources to maintain procurement criteria, the process for updating existing criteria is generally less onerous than the initial development process.

There should be an established and pre-announced schedule for reviewing and (if needed) updating each criteria set and an explicit lead-time between the determination and announcement of new criteria and their effective date. Both of these are designed to give buyers as well as suppliers adequate time to anticipate and make changes in their product lines, catalogues and purchasing practices.

Chapter 3: Designing Training Programs

3.1 Executive Summary

Key points found in this chapter:

- Resources for the creation of training programs are usually very limited, but well-targeted training is necessary in order for a program to be effective.
- Training must emphasize a process that is efficient for purchasers, in addition to being in compliance with new policies.
- Purchaser resources and policy must be well designed for training to be effective.
- Training program development is an excellent opportunity for collaboration amongst public authorities.

This chapter will cover some of the most important steps and considerations in the creation of a training program for government buyers on energy-efficient procurement. The chapter begins with a discussion of several issues to keep in mind from the outset when creating a training program. A section detailing key aspects of effective programs follows. The chapter concludes with two case studies, one from the United States and one from the European Union, illustrating important training program components discussed in the previous sections.

3.2 Introduction

Programs must communicate policy objectives to personnel at each point in the acquisition process. Training programs are a key component of any communication strategy. Training serves as a bridge between the policy, program resources, and desired outcomes. Without effective training, programs are unlikely to change established purchasing practices.

The most effective training programs build upon existing practices to improve the overall efficiency of the procurement process. Purchasing environmentally preferable products should not be viewed as an additional burden. This is why it is crucial that training programs promote efficient procurement workflows and changes to existing practices are clearly highlighted. Without increasing, or at least maintaining, the overall efficiency of the process, there is little incentive for procurement staff to deviate from a business-as-usual approach. Compliance rates will be higher when policy goals are consistent with an efficient work process.

Training programs vary from country to country and from agency to agency. The different procurement policies, structures and workflows in each unique context require training

programs to be tailored to those features. However, we have found that across programs, several common elements emerge as important components. Effective programs:

1. Identify 'nodes' (groups of actors) where the influence of training will be greatest.
2. Tailor training to the intended audience.
3. Link purchasers to tools and resources that make their daily work more efficient.
4. Facilitate compliance by making policy-consistent decisions easy.
5. Establish ongoing supplemental trainings to keep procurement staff up to date with evolving product specifications, procurement tools and relevant policy updates.

Each of the above requires thorough understanding of the public procurement landscape and program structures. Methods of achieving each of these points will be discussed in the following sections, in addition to issues and barriers that must be overcome.

3.3 Issues to Consider

The following topics are important to consider in the beginning stages of implementing a procurement training program. These topics are drawn from the collective experience of the SEAD Procurement Working Group and first-hand experience with the United States Federal Energy Management Program (FEMP).

3.3.1 Gap between policy, resources & action

Training is a mechanism to achieve change in business practice. One of the primary purposes is to direct purchasers towards the resources that have been created to aid their compliance with policy. Examples of these resources include guidance documents, cost savings calculators, and sample contract language. Purchasers are not always aware of these resources, nor do they understand how to integrate them into their business process. Closing the gaps between policy, resources, and action should be a primary focus of training programs. Training cannot bring about behavior change if it does not connect resources to the purchasers.

3.3.2 Limited budgets for training programs

Budgets allocated to environmentally preferable purchasing programs are typically very limited, especially when considered relative to the scale of public sector procurement. In the U.S., for example, over 500,000 people have the ability to make a purchase on behalf of the government. Even a very well-resourced program will have difficulty training each individual. This necessitates thoughtful targeting of training resources.

It is important to move away from a mindset where maximum coverage is the primary goal. Successful training programs target actors at specific high-impact points in the procurement process (the specification writers, for instance). An effective training program should identify key decision points in the procurement process and provide the corresponding employees with

targeted training that enables them to make effective purchasing choices.[26] This approach maximizes limited training resources and provides employees with information relevant to their position in the procurement process. This will be discussed in more detail in the *Key Steps* section of this chapter.

3.3.3 Emphasis on overall program efficiency

Procurement employees are typically evaluated on the basis of purchasing efficiency. Training is unlikely to be effective if trainees believe that new requirements make the procurement process more cumbersome. An important aspect of the training is to create the link between compliance with policy and increased overall ease and efficiency in the purchasing process.

If complying with the policy does not make the purchasing process more efficient for the employee, then training must emphasize new performance evaluation criteria that prioritize compliance (quality of procurement) over speed. As was discussed in the *Policy* chapter, creating compliance-based evaluation criteria is difficult. Therefore, training programs should place a heavy emphasis on the tools and resources being made available to purchasers. This helps maintain purchasing efficiency while also improving compliance.

3.4 Key Steps

The following section covers several key steps to creating an effective training program which addresses the above issues. These steps should be considered at the beginning of the program creation process. They may also be valuable to keep in mind during a revision of currently existing training programs.

3.4.1 Understand the process – effectively target resources

Many actors participate in the procurement process. Different groups of actors have distinct responsibilities and impacts. The procurement process can be thought of as a network of actors interacting to achieve a specific outcome (acquisition), with each group of actors representing a node in that network. Each node must have information relevant to its place within the network to be effective. Information also needs to flow effectively between nodes. Training enables each actor to access information relevant to their position and facilitates the movement of information between nodes. Making training contextually specific is necessary to achieve this desired effect.

Typical procurement structures can be grouped into tiers. The diagram below illustrates this grouping with a simplified procurement structure for a public agency.

[26] This is discussed in more detail in Chapter Five.

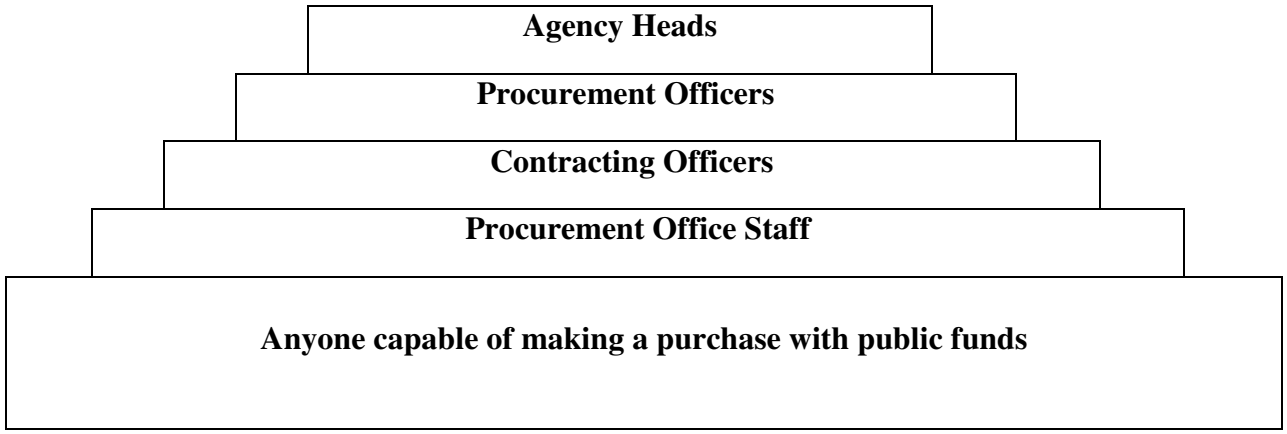

FIGURE 4: NOTIONAL PROCUREMENT TIERS

As is illustrated by Figure 1, the number of actors present at each tier increases from top to bottom. Interviews with members of the Procurement Working Group have revealed that on both national and municipal levels, many purchases happen at these lower tiers. A large number of employees are able to buy small miscellaneous items with purchase cards[27] or another equivalent method. Particularly at these lower levels in the pyramid, it is difficult to deliver effective personalized training. Centralized, web-based resources (such as those described in the U.S. and Canadian cases) play a prominent role in delivering the necessary training to these individuals.

With limited training resources, it is difficult to balance the need for context-specific training with the need to reach the large number of actors at these lower tiers. There is no easy resolution to this conflict of the need for specificity versus scale; however, it is important to keep in mind that some level of training is necessary for actors at each tier. Where possible, training should be targeted at the tier that has the highest impact on the procurement of energy-consuming goods.

Training should be targeted based on an analysis of procurement patterns. Within each department or agency, there may be a handful of purchasers responsible for the acquisition of major energy consuming products. For example, if certain contracting officers are responsible for the acquisition of building-level systems (HVAC equipment, lighting, etc.), or information technology equipment, those individuals should be targeted for more focused training.

3.4.2 Make training strategies and materials transferable

Training methods that are effective in one department or agency are likely to be effective in others. Redundancy in the creation of training materials is an area of significant waste. One

[27] Chapter 5 discusses purchase cards in more detail.

method of maximizing the effect of limited training budgets is the establishment of channels for agencies to exchange training materials. In addition, new materials should be integrated into already existing training platforms. Exchanging training materials among agencies reduces redundancy and enhances interagency collaboration. Consistent training materials provide a common foundation on which a network of peers can be built.

The U.S. has several examples of centralized training resources:

- The Defense Acquisition University (DAU) is a web-based training center used by Department of Defense (DoD) employees.[28]
- The Federal Acquisition Institute (FAI) provides corresponding services to civilian agencies.[29]
- FedCenter.gov provides information relevant to environmentally preferable purchasing policies, purchaser tools, and training resources.[30]

The U.K. launched a web-based portal in 2010: The Sustainable Procurement Centre of Excellence for Higher Education.[31] Similar to the portals in the U.S., the U.K. website is intended to serve as a central hub of knowledge concerning sustainable acquisition.

Canada: Online training in green procurement for federal employees

The Canada School of Public Service (CSPS) makes green procurement training available free online to federal government employees. The course takes two to four hours to complete and counts towards professional development certification. It introduces the federal government's Policy on Green Procurement and provides detailed strategies and tools for applying its principles throughout the procurement process. Topics covered include the reasons for buying green, how to evaluate environmental performance claims and recognize major eco-labels, identify what makes a good or service green, apply life-cycle analysis, define value for money and develop green specifications.

[28] http://www.dau.mil/default.aspx

[29] http://www.fai.gov/drupal/training/training

[30] http://www.fedcenter.gov/programs/buygreen/

[31] http://spce.procureweb.ac.uk/

3.4.3 Link purchasers to existing expertise

Procurement departments are often divided into areas of unique expertise. For example, some contracting staff may specialize in information technology (IT) procurement, while others specialize in the procurement of food service equipment. Training programs should take advantage of this specialization and offer programs to employees tailored to their primary areas of responsibility.

It is unreasonable and unrealistic to expect all purchasers to become experts on every product category. In cases where purchasers have product category-specific expertise, training programs should enhance that expertise. In cases where purchasers do not have product-specific expertise, training should help connect them with those who do have that expertise. Trainings should focus on creating links between purchasers and hubs of existing expertise. These hubs could be in the form of online purchaser resources, such as life-cycle cost calculator tools or acquisition guidance documents. Hubs of expertise could also be the personnel in procurement departments who have the unique product category expertise for the item being purchased.

3.4.4 Make training resources modular

In cases where the majority of employees have the ability to make purchases with public funds, some level of universal training is necessary. The key issue is the question of how to effectively reach the greatest number of employees on a limited budget. In some countries, the answer to this issue has been the creation of online training that takes the place of costly face-to-face training sessions.

Online training has the advantage of being easily modifiable. Training can be built in modules based on the individual needs of the trainee. This allows for the creation of progressive trainings ranging from those provided to all agency employees to those received by procurement officials and agency leadership. If face-to-face training takes place, online modules can be used to allow participants to familiarize themselves with basic concepts before attending sessions in person, to facilitate the submission of assignments/exercises and to allow follow-up contact between attendees and trainers.

3.4.5 Coordinate policy updates with training updates

Like any aspect of procurement training, energy-efficient procurement training materials must be updated to match changes in applicable policy. An advantage of centralized training portals (discussed above) is the relative ease with which resources can be updated. Fragmentation of training resources, and a resulting disconnect between training and policy is nearly inevitable in the absence of such central portals. Centralized resources allow more fluid information updating.

Training may require customization tailored to each agency. Designing training in modular form (as described above) helps to create a standard baseline for training materials

capable of being updated in a central online repository. Systems can be designed to automatically alert relevant personnel at each agency when these central documents are updated. The modular approach allows for easier editing of trainings during each refresh – avoiding the need to revise large sections of material while maintaining flow and integrity.

3.4.6 Develop standard processes for trainer certification

Training resources may be developed or delivered by outside contractors to federal agencies. In these instances, coordination is essential to ensure accuracy. Standard criteria should be developed to ensure that trainings are consistent over time regardless of who is responsible for training delivery. One method of promoting this coordination is to develop a trainer certification process. Such a process could require the trainer, or organization providing the training, to periodically compare their material with agency policy in order to continue providing training services. If this certification process were standardized across departments or agencies, it could be an effective means of ensuring training material consistency. Developing a base of certified trainers may also be helpful to the private sector in implementing similar procurement initiatives.

3.4.7 Eliminate the need for training

The most effective changes to the purchasing process are changes to the purchasing structure — changes, in other words, that do not require training. In some cases, a program could benefit from a focus on removing expertise from the equation. This is accomplished by making energy-efficient purchases the default choice. As has been a theme of this document, an overarching goal is movement to a point where the acquisition of energy-efficient goods and services does not require specialized action.

As will be discussed more in Chapters Four and Five, business management systems are increasingly capable of supporting the goals of EEP programs. Optimizing the capabilities of these systems offers significant potential benefit to program compliance and purchasing efficiency. In cases where these systems can guide the purchaser towards a compliant product by default, the need to educate the purchaser is greatly reduced.

3.5 Case Studies

The following two case studies illustrate points described in the sections above. The United States House of Representatives case study details the benefits of linking employees to procurement experts within the organization. The European Union case study describes “train the trainer” programs used in several E.U. countries. These programs seek to maximize the reach of training programs by instructing agency employees in how to train their colleagues – creating a multiplier effect with training resources.

3.5.1 U.S. House of Representatives: Training employees to utilize procurement office expertise

Training employees to utilize procurement office staff expertise can be an effective method of raising compliance levels. A relevant example of this idea can be found in Lawrence Berkeley National Laboratory's work with the Green the Capitol Initiative at the U.S. House of Representatives (the House). Over the course of the development of the House's Sustainable Procurement Program, it was revealed that the procurement department was an underutilized resource.

The procurement department[32] at the House contains staff members with specialties in certain procurement areas, such as IT, vehicles, and other areas. However, it was found that in the majority of cases when a staff member would purchase an item that fell within these specialty areas, the staff member would not consult the procurement office. Those who knew the most about the products being purchased (the procurement staff) were not responsible for specifying the product's attributes. Anecdotal evidence from conversations with procurement staff suggest that this situation may be replicated in many public procurement settings.

Coaching staff in other offices or departments to take advantage of the expertise found in procurement departments can be a valuable addition to environmentally preferable procurement training programs. Organizations often have experts who specialize in the procurement of goods such as electronics, chemicals, vehicles, etc. It is important for other staff to know they can utilize that unique expertise to make more informed procurement decisions that benefit the organization as a whole.

Lack of compliance with environmentally preferable procurement policies often stems from a lack of knowledge of the resources available to assist in that compliance. Effective training programs impart knowledge to employees and also teach them to take advantage of expertise where it already exists within the organization.

3.5.2 EU: Training of Trainers Programs – Creating Multiplier Effects

Training of trainers offers an opportunity to maximize limited training resources by creating a multiplier effect. The E.U. has developed such programs as part of its support for Green Public Procurement. In these programs, training resources are focused on a limited number of individual employees. Once those employees have completed the training process, there is an expectation that they will train others in their respective departments or similar agencies. "When implemented correctly, training key individuals within departments is an effective way to reach a

[32] Part of the Office of the Chief Administrative Officer (CAO) within the U.S. House of Representatives. The CAO is responsible for the day-to-day administrative operation of the House, of which procurement is a part.

maximum number of employees without the need for the training program to directly instruct all of those individuals."[33]

The E.U. Green Public Procurement (GPP) Training of Trainers Programme was first aimed at a very limited number of procurement experts. The training literature describes the intended audience:

> These experts consist of GPP policy makers, environmental and procurement specialists who are responsible for the preparation, implementation and monitoring of GPP policies, National Action Plans (NAPs), guidance, procedures, products criteria, tendering, training and awareness raising events.

The training given to these individuals consisted of a combination of web-based and face-to face meetings covering the following topics:

1. The E.U. GPP Policy Framework and the Key Elements of GPP National Action plans.
2. Facilitation Methods and Techniques for GPP awareness raising events/National Communication Plan (NCP).
3. The E.U. GPP Legal Framework.
4. The E.U. common GPP Criteria for 10 products/services categories.[34]

The training of trainers programs teach the procurement experts training techniques alongside the policy, product criteria, and legal framework present in other training programs. This can be a very effective method of producing new trainers.

One of the main challenges of this approach is that teaching training techniques to employees does not ensure that those employees will become effective trainers themselves. Hiring trainers from outside of the organization is more costly, but it does ensure with reasonable certainty that the training sessions will be of consistent quality. While acknowledging that this is a potential barrier, representatives from the U.K. reported that in their case, the training of trainers program has been a highly successful method of reaching a maximum number of employees with limited resources.

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[33] Source: Email correspondence with Stephen Steele, the U.K. representative to the Super Efficient Appliance Deployment Initiative's Procurement Working Group.

[34] The EU GPP criteria have since been expanded to cover 19 product and service groups.

Due to the success in training procurement employees with this technique, the U.K. is applying this training strategy beyond procurement to other public-sector policy spheres. Experiences in Sweden have been similar, with this approach seeing particular effectiveness on the municipal level. In the Swedish model, trained procurement experts from the Swedish Environmental Management Council (SEMCo) collaborate with municipal governments. As stated in a 2010 European Commission report that compared sustainable procurement programs in Europe:

> SEMCo personnel deliver GPP training to around 3000 individuals annually. Online training courses for procurement officials have been created for individuals to complete in their own time. These cover an introduction to GPP and procurement law, life-cycle costing and how to set up effective criteria, as well as guidance on how to increase energy-efficient procurement. In addition a helpdesk is available through telephone and email and a toolkit of training materials was in preparation at the time of writing this report.[35]

Utilizing existing expertise in this manner avoids the added cost of hiring external contractors and establishes internal structures that reinforce the environmentally preferable procurement program. When combined with up-to-date knowledge of applicable legislation, purchaser tools and other resources developed with the purpose of promoting GPP, the training-of-trainers approach provides an effective blueprint for training the maximum number of purchasers with limited resources.

3.6 Recommendations

Several themes emerge from the chapter above:

1. ***Programs should identify personnel situated at key points in the procurement process to maximize training resources.*** Resources allocated for training activities may not allow for full coverage of all employees with the ability to purchase goods or services on behalf of the government. Analysis should be done to prioritize the allocation of limited resources to positions and personnel within the procurement process where those resources will achieve maximum effect.

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[35] Evans, L., Ewing, D., Nuttall, C., & Mouat, A. (2010). *Assessment and Comparison of National Green and Sustainable Public Procurement Criteria and Underlying Schemes: Final Report.* Brussels: European Commission, Directorate-General for the Environment, at Pg. 57

2. ***Training must create the connection between policy and resources*.** Training programs bridge the gap between purchasers and the resources that have been created to aid them in complying with environmentally preferable procurement policy. It is important to have robust policies and useful purchaser resources in place prior to the creation of training programs.

3. ***Training resources should be modular*.** Training resources maximize investment when they are easily transferred from one context to another. Modular resources that can be assembled based on the needs of the target audience make the most of limited program budgets and provide the most relevant information to trainees.

4. ***Overall purchasing efficiency should be emphasized*.** Environmentally preferable purchasing practices should enhance the purchaser's workflow efficiency. Complying with policy should be an easy purchasing path, not one that requires extra work of the purchaser as compared to business as usual. A training program that asks purchasers to consider more criteria at the expense of productivity will not be successful.

5. ***Exchange of training materials is an opportunity for collaboration among departments, agencies, and governments*.** Training programs and associated materials are highly transferable. This presents an excellent opportunity for collaboration among departments, agencies, or governments. Collaboration reduces repetition of work and ensures consistency in what purchasers are being taught.

Chapter 4: Analyzing Procurement Processes

4.1 Executive Summary

Important points found in this chapter:

- Many resources[36] intended to help buyers comply with energy-efficient procurement policy are designed without detailed knowledge of the procurement process.

- A deeper understanding of purchasing pathways will allow current resources to be better directed. It will also allow more effective resources to be developed in the future. Current research by national and international bodies aims to analyze purchasing pathways.

- Centralized purchasing and purchase cards are examples of approaches which may help to increase compliance rates, as well as offering cost savings and efficiencies.

A ***purchasing vehicle*** is a method of executing procurement. A ***purchasing pathway*** represents the steps in the procurement process when using a discrete purchasing vehicle.

This chapter begins by framing the concepts of procurement vehicles and pathways. This is followed by a discussion of several initial steps EEP programs can take to develop a better understanding of procurement pathways. This understanding should inform the deployment of program resources. The chapter concludes with several examples of projects being undertaken to increase procurement process knowledge and link this to sustainable procurement practices.

4.2 Introduction

Government buyers have an array of purchasing vehicles available. Depending on the type of product or service being procured, any one of the following vehicles may be used:

1. Purchase orders
2. Purchase cards
3. Framework (blanket) purchasing agreements

[36] In this chapter, a resource is defined as any tool (life-cycle cost calculator, product comparison aid, purchasing assistant, etc.) or piece of information (purchasing guidance document, web-portal designed for purchasers, etc.) developed or used by a program with the intent of aiding purchasers in making purchase decisions in compliance with program goals.

4. Centralized buying websites/central purchasing bodies
5. Collaborative or joint procurement (with other agencies)
6. Research and development or phased contracts
7. Concession arrangements
8. Technology procurement
9. Bulk procurement
10. Energy Saving Performance Contracts (ESPC) or other performance-based contracts.

Each of these vehicles has a unique procurement pathway. A procurement pathway begins with the decision to purchase. It ends with the verified receipt of the desired product or service – or in some cases, upon the attainment of a specified level of performance. The pathways between these two points differ depending on the procurement vehicle.

It is important to discard the notion that all purchases are similar and can therefore be influenced using identical methods. When programs group all purchasing vehicles together, the result is an inefficient use of resources. By developing "one size fits all" strategies, programs assume universal applicability but achieve only a fraction of their intended impact. Different pathways contain unique critical decision points. It is at these unique points that programs can most effectively influence purchasing decisions.

Relatively little research has been done in this area, and the details of these different purchasing methods are generally unclear. This chapter is intended to provide insight into the opportunities made available through an increased understanding of procurement pathways. It also offers suggestions regarding the targeting of nodes that likely affect a variety of procurement pathways.

4.3 Issues to Consider

The following issues can contribute to ineffective resource design or deployment in the context of EEP programs. Many of these issues stem from the fact that each individual resource is seen as a discrete deliverable, created by a government employee or contractor. The development and evaluation of that resource effectively ends upon delivery. This results in a lack of understanding of that resource's true effectiveness in the field.

The landscape of currently available purchaser resources suggests that many programs are taking similar approaches to their development. Resources (cost calculators in particular) are developed for use at the point of purchase. However, it is not clear whether these resources actually fit in with the purchasing workflow they are intended to influence (i.e., does the purchaser see a benefit to making use of the resource?) The consideration of the relevant procurement structures and pathways in the development of resources help to ensure that they are used effectively.

4.3.1 Resources should be developed with purchasing workflows in mind

An example of the assumption of universal resource applicability is the design of many cost calculator tools. These tools are similar in structure across national programs. Cost calculators are often developed for products with predictable end-use patterns and energy consumption, such as lighting, HVAC equipment, and food-service products. Due to these product characteristics, cost calculators can be used to estimate lifetime operating costs, the total cost of ownership, and the benefit of improved energy efficiency. Cost calculators are designed to help purchasers make effective life-cycle cost (LCC) based decisions when buying energy-consuming products.

When tested outside of the context of a procurement workflow, cost calculators are usually easy to use. They can effectively differentiate between the life-cycle costs of the products being considered. Cost calculators are therefore seen as an aid to overcome the bias towards purchasing the least expensive product rather than the product with the lowest LCC.

On the other hand, examining cost calculators within the context of procurement workflows reveals a potential problem. Procurement workflows tend to be highly structured. The context in which a buyer operates discourages deviation from this structure. Typically, the way cost calculators are made available to buyers requires the buyer to step outside the structured workflow. Access to calculators is usually provided to buyers via a website or spreadsheet.

This means that the resource is separate from the standard tools used by the buyer such as business management systems. The assumption that buyers will use a separate resource fails to account for the influence of workflow structure. While the information that is provided by these calculators may be valuable, buyers often cannot or will not use it. Anecdotal evidence strongly suggests that procurement structure trumps the requirement or incentive to take the additional step of using a purchasing aid.

The development of stand-alone cost calculators without a proper understanding of procurement pathways is an example of ineffective resource investment. A better understanding of the context of procurement would allow cost calculators to be better integrated into the purchasing workflow. The first step in this process is developing a better understanding of where the resource is intended for use; i.e., which point in the purchasing path. The second step is examining what is being asked of the employee at that point in the purchasing path in order to use that resource. Is that individual being asked to deviate from her established workflow? If so, does that deviation make the procurement process less efficient? These considerations can aid in the deployment or re-deployment of purchaser resources.

4.3.2 Business management systems help define procurement pathways

To varying degrees, countries with well-developed sustainable procurement programs are moving towards public acquisition based primarily on electronic procurement (e-procurement) systems. E.U. countries in particular are rapidly implementing e-procurement solutions. As part of the E.U.'s 2010 eGovernment Action plan, "The Member States have undertaken to give their

public administrations the capability to carry out 100% of their procurement electronically. In particular, this means ensuring that at least 50% of procurement above the E.C. threshold…is carried out electronically by 2010."[37] The following diagram, prepared for the U.K. Office of Government Commerce, shows a high-level view of procurement pathways for low-, medium-, and high-value acquisitions. The extent to which the procurement process is reliant on electronic systems is shown by this figure.

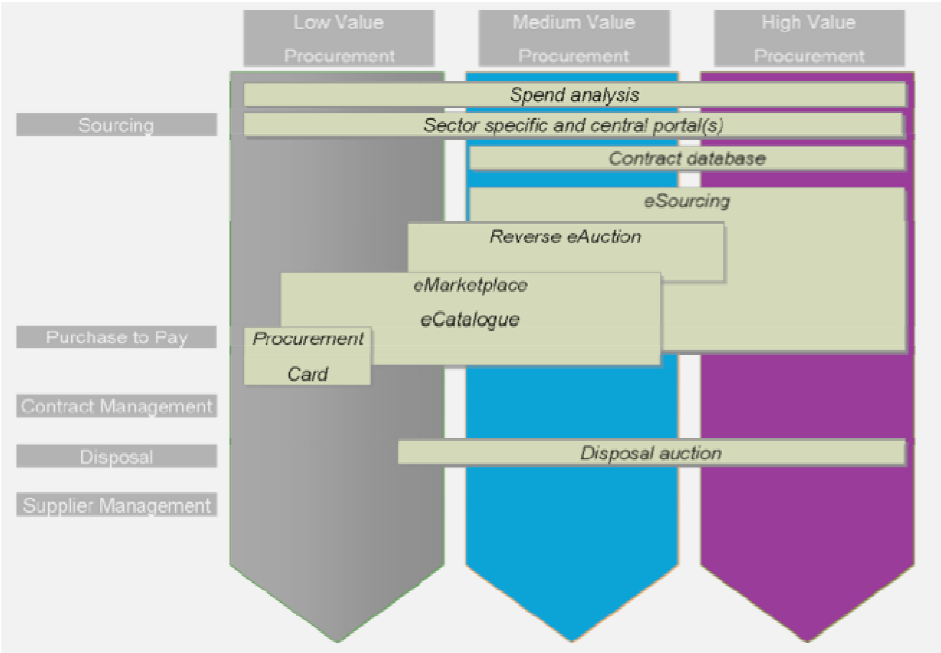

FIGURE 5: U.K. OGC GUIDANCE ON E-PROCUREMENT

Figure 5 shows that the purchasing process can easily involve two or more electronic systems, depending on value level and acquisition method. This example from the U.K. is paralleled in the United States. In the US a single federal agency may often use multiple systems-based solutions depending on the type of procurement being executed. Electronic business management solutions are ubiquitous.

Business management systems provide a structured workflow for employees. The systems guide the procurement process and influence the user's perception of the relative importance of policies. For example, a system will often require a user to indicate whether or not a vendor is a small or medium sized enterprise (SME). It is more unusual for a user to be prompted to confirm that a purchase is compliant with energy-efficient procurement standards. In such cases, energy-efficiency considerations will be secondary to SME criteria in the eyes of the user, even if they

[37] United Kingdom Office of Government Commerce (2009) *E-procurement Policy* Pg 1.

are equivalent in terms of purchasing policy. The steps provided by a business management system directly influence the criteria the purchaser views as important. Programs should take this into account when developing specifications for these systems.

4.3.3 Business management systems impact compliance rates

The particular system(s) used in the procurement process determine what information is available, acted upon, and stored at each stage of the acquisition cycle. If information relevant to energy-efficiency is not integrated into the system, policies based on those criteria cannot influence the purchasing process. For example, the US Defense Logistics Agency (DLA) uses an electronic tool to produce standard procurement contracts. The tool had not, as of January 2012, been updated to include the FAR clause mandating the acquisition of life-cycle cost effective products. Therefore, contracts produced using this tool could not readily meet the requirement for procurement of energy-efficient products mandated by the U.S. government. Changing the tool to include this clause by default would bring it into alignment with federal procurement requirements and enhance compliance with environmentally preferable procurement policies.

Business management systems can enhance environmentally preferable purchasing by capturing more data, integrating LCC calculators, or placing automatic notices, or even restrictions, on procurements that do not meet requirements. A 2011 study of U.K. purchasers found that many procurement employees believed that the capabilities of business management systems to support program goals were not being fully realized. Specifically, the survey asked the question: "Do you think your current IT systems or databases could be changed to allow you to capture (more) sustainable procurement information?" In response, 76% of organizations expressed the belief that systems were underutilized and could capture more information. Only 14% of respondents indicated that doing so would be difficult to implement or require a new system. [38] These results show that, at least as perceived by procurement employees, significant gains are possible and readily available given current system capabilities.

4.3.4 Buyers are only part of the procurement process

Buyers are an important part of the procurement path, but they control only a portion of the process. Other groups or individuals also influence purchasing decisions (specifiers and end-users, for example). These actors may be outside of the standard procurement workflow but are still important influencers of what is ultimately bought. Programs should recognize that these outside actors play key roles in defining procurement pathways. Identifying the groups or individuals who drive purchasing decisions is an important component of understanding procurement pathways.

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[38] AECOM and Cyril Sweett Ltd. *How can Government assess the success of sustainable procurement in the public sector?* Prepared for Defra. February 2011. Pg. 37.

In Chapter Two, we discussed the development of performance specifications for energy-efficient products. Program implementers who create these performance standards are typically outside of the everyday procurement workflow, but they have a significant impact on the procurement process. In most cases, those responsible for maintaining product specifications do not take part in the contractual process of acquiring a product or service. They are not typically direct users of procurement systems. The performance criteria mandated in product specifications can make the purchasing process either more efficient or more cumbersome, depending on how well they match with the purchaser's current information-gathering capabilities. For example, an efficient purchasing workflow will result if a specification is based on criteria readily available to the purchaser (and the business management system) such as an energy or eco-label.

4.3.5 Contract templates drive large numbers of purchases

In most cases, contracts are written based on standardized contract templates. The structure of these templates and the wording of their clauses help define the standard terms of procurement. Linking policy to standard contract language is a key step in implementing EEP programs. Contract templates serve as an intermediary between policy and contract language for standard procurements. A purchaser naturally assumes the contract terms contained in templates are in compliance with applicable policy. Hence, updating the templates used by procurement staff influences a wide range of contracts by default.

In their report on agency compliance with energy-efficient procurement laws in the U.S., the Alliance to Save Energy (ASE) interviewed federal purchasers and asked questions regarding their procurement practices. The ASE found that none of the personnel interviewed "used a [policy-mandated] standard clause to ensure energy-efficient purchases...."[39] These responses indicate that standard contract language is not in sync with procurement policies in the U.S. While the official policy provided a standard clause, the contract templates actually used by procurement employees had not been updated to include it.

This example highlights an issue with decentralized procurement structures. In a decentralized approach to public procurement, maintenance of contract templates occurs at the agency or department level. Standard language is mandated at the national level, but it is up to individual agencies or departments to integrate this language with its own separately maintained templates. The location of contract templates, and their relative degree of centrality and accessibility, is highly dependent on the type of business management system being used. On one side of the spectrum, contract templates may be stored centrally, accessible to all procurement staff. In this scenario, updating contract templates to reflect national government laws and agency-level policies should be relatively straightforward. On the other hand, for

[39] Capanna, Devranoglu & Loper (2008) *A Review of Federal Agency Compliance with Energy-Efficient Procurement Law* The Alliance to Save Energy

agencies with systems without the ability to store contract templates, or agencies still using legacy processes[40] for some or all forms of procurement, aggregating and updating templates is a significantly more daunting task.

This subject could benefit from additional research in order to better determine how national government programs address the issue of updating contract templates. There is a spectrum of methods for both storing and updating contract templates to accurately reflect procurement laws and agency procurement goals. If countries or agencies have developed protocols for updating these templates to accurately reflect changes in procurement law, the process used would be valuable information to distribute to the broader procurement community.

4.4 Key Steps

The issues discussed above illustrate the importance of understanding procurement pathways. The following suggested initial steps will help programs with this process. Many countries have developed a wealth of procurement tools, purchaser references, and other support mechanisms. The next step for many programs is enhancing the effectiveness of those already-developed resources through an understanding of procurement pathways.

4.4.1 Develop resources based upon purchaser workflows

Programs struggle with a low uptake of resources developed for purchasers. Specific numbers are difficult to obtain, but the general consensus among those involved with government programs is "resources are not used as often as we would like." As discussed in previous sections, purchasers have indicated in surveys that they frequently do not know that resources exist, or do not know how to use them properly. As we have seen, resources developed for purchasers do not always provide information that fits within the buyer's standard workflow. These factors all contribute to low usage rates for cost calculators, purchaser guides, and other tools.

This problem of resource underutilization can be attributed to a number of factors. Perhaps the most important factor is a lack of integration of these tools into purchaser workflows. Current use rates make it clear that purchasers are not sufficiently motivated to voluntarily seek out the resources intended to aid in their compliance with EEP policies.

The purchasing process follows a standard workflow. When the flow is interrupted, inefficiency is introduced and purchasers are less likely to take that additional step in order to be in compliance with policy. As was discussed in Chapter One, the degree to which these policies are voluntary or mandatory also seems to have little effect on purchaser willingness to deviate from their normal purchasing processes. This indicates that programs need to bring resources to the purchaser instead of expecting purchasers to seek resources out voluntarily.

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[40] For example, systems based on the use of paper forms

In order to bring more effective resources to purchasers, programs should strive to integrate resources with existing purchaser workflows. The resources developed to facilitate sustainable acquisition are typically intended to stand alone. In most cases, they are placed either on a public website or internal intranet. Purchasers are directed to these resources when making acquisitions that fall within covered product categories. A more thorough understanding of procurement processes could lead to integration of these resources with the relevant systems. In addition to the likely effect of increasing compliance, this would also increase purchasing efficiency by eliminating the need for procurement staff to navigate to a web resource, and switch back and forth between that resource and their own system. In the absence of complete integration, programs could benefit from creating standard resource development criteria that more closely match the workflow as dictated by business management systems.

4.4.2 Evaluate resource effectiveness

In most situations, the development and testing of a purchasing tool ends when it is deployed. Programs operate under the assumption that purchasers will utilize tools that are successful in the test environment. As has been discussed in previous sections, anecdotal and survey evidence suggests that these tools are underutilized, even when they perform the desired task in the test environment. This speaks to a general need to evaluate tools and other resources following their field deployment.

For the most part, programs do not attempt to evaluate the effectiveness and use rates of resources once they are released. The usage statistics currently available are based on very generalized survey questions such as, “do you regularly use cost calculators?” Such survey questions help indicate general usage levels for tools as a whole. They do not help programs evaluate the effectiveness of specific tools, or groups of tools. Programs should implement detailed evaluations of resource performance and usage rates post-delivery. Using information gained from these evaluations, resources can be either re-directed or re-developed to better suit their place within the procurement pathway.

4.4.3 Harness collective buying power

Centralized buying solutions can be an effective means of reducing redundancy in purchasing. Centralized purchasing also leverages the effective buying power of multiple government agencies. In addition, focusing program resources on a consolidated pathway can raise compliance with EEP policies. Drawing on the experience with central procurement in the U.S., we have identified two key criteria that centralized procurement systems should meet in order to achieve maximum effectiveness. The system should:

1. Be a primary purchasing pathway.

2. Offer only products that comply with all procurement policies.

If these criteria are met, it is likely that centralized procurement systems can be a viable means of reducing cost while increasing compliance rates. However, savings are not guaranteed solely because a centralized system exists. As is the case in the U.S., centralized systems can be one option for purchasers among many. When this is the case, the benefits of centralized procurement are not fully realized. In order to maximize the benefits attributable to collective buying power, centralized solutions should form a significant portion of total procurement.

4.5 Case Studies

The following three case studies illustrate the points discussed above. The U.K.'s efforts to centralize procurement demonstrate the potential benefits to leveraging government buying power. The U.S. purchasing card example shows the necessary procurement pathway considerations with this highly popular decentralized purchasing strategy. The final case study introduces current procurement pathways research underway in the U.S.

4.5.1 U.K. efforts to centralize procurement

The U.K. has announced its intention to move to a more centralized approach to public procurement. One of the main drivers for this policy was the identification of instances where agencies (or the same agency) were buying identical products or services at wildly different prices. As cited in a report by the National Audit Office, titled, "A review of collaborative procurement across the public sector:"

> Public bodies are paying a wide range of prices for the same commodities, even within the existing collaborative arrangements. There was a 116 per cent variation between the lowest and highest prices paid for the same broad specification of paper. The difference was 169 per cent for LCD computer monitors and 745 per cent for black toner cartridges.[41]

These cost differences point to significant waste attributable to poor contract negotiation, lack of adequate competition for certain goods/services, and a failure to leverage the collective buying power of the government.

In reaction to these findings, and pressed by the general need to trim government spending, the U.K. is aggressively promoting collaborative procurement among agencies. One of the first and most successful instances of collaborative procurement in the U.K. was energy

[41] United Kingdom National Audit Office (May 2010) *A review of collaborative procurement across the public sector* at pg. 6

purchase. The U.K. government has consolidated its energy procurement contracts. In 2010 all central government departments were mandated to source energy through the Government Procurement Service (GPS), saving £51million. GPS buys energy for 75% of the entire public sector which accounts for 3% of total UK energy demand. At the end of 2012 it announced plans to offer contracts to renewable generators for a set proportion of their capacity for up to 25 years. In addition to supporting the development of renewable generation capacity, this is expected to result in savings of around £155m over fifteen years.[42] Other sectors where the GPS has realized savings through collaborative procurement include IT, travel and property.

The creation of a new central buying website (Government eMarketplace) is prominent in these efforts. This online service allows buyers to access framework agreements for commonly purchased goods and services. The frameworks have been established to offer best value-for-money to the government. Over 2,000 suppliers provide supplies and services via the site, of which more than 50% are SMEs. The eMarketplace makes these supplies and services available to over 14,500 organizations in central government, health, local government, devolved administrations, education and the not for profit sector. It managed over £8.4bn of spending in the 2011-12 financial year.[43]

4.5.2 Purchase cards in the U.S. federal government

Purchase cards are a popular method of acquiring low-cost, commonly purchased items in the U.S. Equivalent purchasing methods can be found in many other countries. These cards function in the same way as a consumer credit card but with restrictions. They can only be used for certain agency- or department-approved purchases. Purchasing card use has become widespread in the U.S. over the past two decades. Originally identified as a method to reduce per-transaction costs, the use of purchase cards is estimated to save the federal government approximately $1.4 billion in administrative overhead annually.[44] This considerable savings is realized by limiting the number of steps from need identification to order placement. Prior to the advent of purchase cards, purchase approval of each transaction was required in nearly all cases, even for small, incidental purchases.[45] This process resulted in high administrative costs compared to the relatively low value of the products being purchased. The reduction in those per-transaction costs made purchase cards extremely attractive when they were introduced in the late 1980s.

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[42] Source: UK Cabinet Office website http://www.cabinetoffice.gov.uk

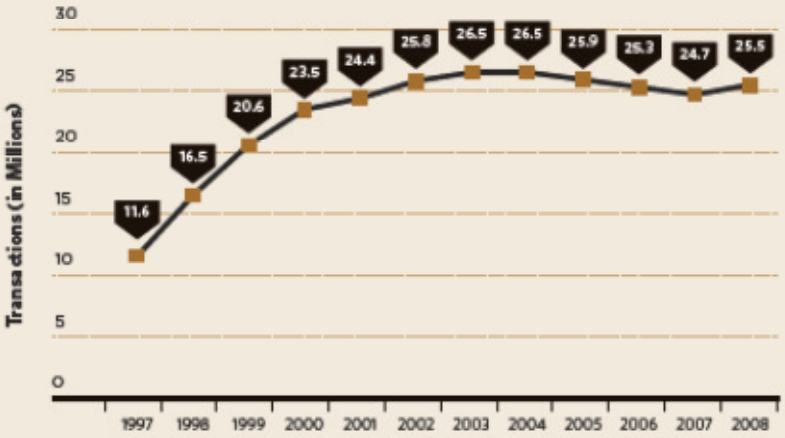
[43] Source: Government Procurement Service website: http://gps.cabinetoffice.gov.uk/

[44] This figure was given by GSA Assistant Commissioner Neal Fox during congressional testimony in 2004 based on FY2003 data. Quoted in Palmer, R. and Gupta, M. *The Federal Purchase Card: Use, Policy and Best Practice*. AGA CPAG Research Series: Report No. 4. April, 2006.

[45] The per-purchase limit for US purchase cards is typically set at $2,500 dollars, which effectively limits their use to small procurements.

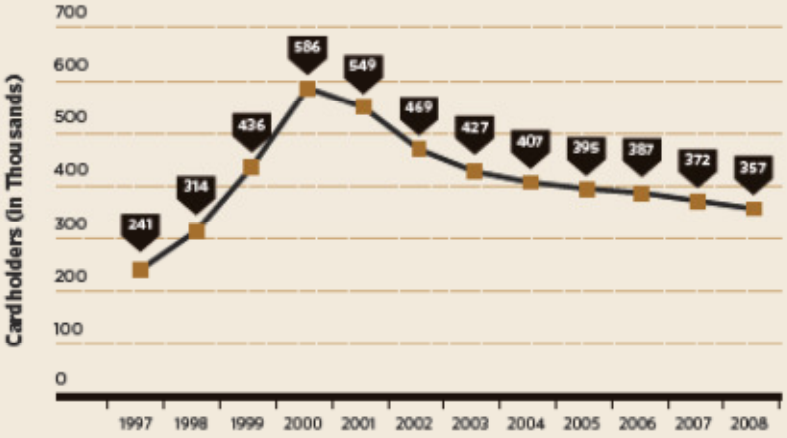
A report produced in 2010 shows the growth in purchase card use in the U.S. federal government. The top chart in figure 3 below shows the growth in the value of transactions made using purchase cards from 1997 to 2008. This is part of a much longer upwards trend in the total value and volume of transactions made with purchase cards since their introduction. The lower chart in figure 3 shows the number of federal employees authorized to use the cards, which grew exponentially until 2000. The drop after 2000 is explained by a change in government policy that consolidated the number of individuals approved for purchase card use in each agency.

FIGURE 5. PURCHASE CARD TRANSACTIONS BY U.S. GOVERNMENT (1997–2008)



Note. Adapted from U.S. General Services Administration, GSA SmartPay Performance Summary at http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_OVERVIEW&contentId=11490.

FIGURE 6. U.S. GOVERNMENT PURCHASE CARDHOLDERS (1997–2008)



Note. Adapted from U.S. General Services Administration, GSA SmartPay Performance Summary at http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_OVERVIEW&contentId=11490.

FIGURE 6: PURCHASE CARD USE TRENDS IN THE U.S.[46]

Purchase cards have generated considerable interest among those involved in sustainable procurement programs. The primary interest centers on what data (if any) can be retrieved when this purchasing option is used. Two related questions have emerged as topics for further research:

1. How can agencies leverage the data resulting from purchase card use (collected by the issuing bank) to enhance tracking capabilities and facilitate compliance with program policies?

2. How can effective restrictions be placed on purchase cards without compromising the reduction in administrative costs that makes them an attractive purchasing vehicle?

As purchase cards function nearly identically to consumer credit cards, the data stored by the issuing bank is also similar. There has been general interest in the U.S. to investigate the possibility of collecting this data from the banks for internal analysis of purchasing patterns, and potentially, to evaluate compliance rates. This idea has been met with resistance, mainly due to the cost of retrieving the data. Even in an ideal case, where line-item levels of detail could be retrieved, it is highly unlikely they would contain product-attribute data that could be useful in evaluating compliance with procurement policy. Information retrieved from issuing banks could yield useful data (such as volumes/values of purchases in general categories), but this method should not be expected to function as a sole method of meeting wider tracking needs associated with this procurement pathway.

There is an alternative method of leveraging purchase card data that may require less processing effort. Issuing banks are able to group purchases into broad categories (transport, food, office supply, etc.). Banks typically provide breakdowns of these categories to consumers free of charge. If the same could be done for government purchase card users, this data could be used to tailor training and resources based on individual cardholder purchasing patterns. In addition, procurement supervisors could use this data to verify that their employees are making purchases in the areas where they have sufficient expertise.

This last point leads into the second question posed above regarding what restrictions can be placed on purchase cards without diminishing the efficiency they bring to the purchase process. The standard limit on purchase cards in the U.S. is $2,500 per transaction. Some agencies have placed restrictions on which cardholders can buy certain categories of goods or services in

[46] Source: Palmer, R., Gupta, M. and Dawson, R. (2010) *U.S. Government Use of Commercial Card Technology: A Case for Change in Military Card Distribution Policy* Defense Acquisition University

addition to this dollar limit. Unfortunately, it is unlikely that these restrictions could be applied to the purchase of energy-using products. Due to the limited nature of the line-item data, it would be difficult to restrict purchasing based on attributes relevant to environmentally preferable purchasing programs. As electronic capabilities continue to advance, this may be worth discussing with the issuing banks in the future.

Restrictions on purchase cards are probably best handled at the point of purchase. Purchase cards are frequently used to buy goods and services from central purchasing websites (such as GSA Advantage! in the U.S.) Centralized purchasing sites present a challenge. By design, these sites offer goods and services that are "pre-approved" for government buyers. However, examination reveals that products are frequently listed that do not meet mandated performance levels. Improvement in this area, for example by limiting the models for sale to compliant ones, would result in a significant increase in compliance rates for the purchase card pathway.

4.5.3 Current procurement pathways research

There has been relatively little research into exactly how procurement pathways are structured. It is generally understood that there are multiple types of purchasing vehicles that can be used for procurement. Different purchasing vehicles may be easier or more difficult to use for given product or service types. Different sets of actors are likely involved depending on the procurement pathway used. The specific impacts of these differences on the ability of energy-efficient procurement policies to change purchasing patterns are not fully understood. How can government procurement policies effectively achieve lasting change in actual purchasing decisions?

The United States' Federal Energy Management Program (FEMP) has begun asking these questions. For the first time, procurement officials are being interviewed to describe the procurement pathways they use for the ENERGY STAR and FEMP-designated products covered by FEMP's purchasing program.[47] Buyers are explaining exactly how they use tools to try to comply with the myriad procurement regulations that they face. This understanding of *how* buyers are making their choices is expected to lead to a better process for changing those choices.

Investing in this level of research effort is expensive; however, the results are expected to significantly improve FEMP's ability to change U.S. federal buying practices. Through a more complete understanding of the structured workflows used in federal procurement, FEMP will be able to better develop future resources and to enhance the effectiveness of existing tools.

A similar process is taking place at international level, coordinated by the Chartered Institute of Purchasing and Supply (CIPS) and The National Institute for Government Purchasing (NIGP).

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[47] For a list of product categories covered by the federal procurement requirements for energy-efficient products, see http://www1.eere.energy.gov/femp/pdfs/eeprod_categories.pdf [Visited on 11 January 2013]

As part of a larger shared initiative to define and formalize global professional standards for government procurement officials, they have developed a number of detailed procurement practices. These are made available in draft form via a dedicated website and public comments are invited.[48] To date 19 such practices have been developed, including ones for sustainable procurement and performance-based contracting. The development process for practices helps to uncover both commonalities and differences in the way procurement is conducted internationally.

[48] See http://principlesandpractices.org for the practices developed to date and explanation of the process.

4.6 Recommendations

1. ***Purchasing pathways direct purchasers to follow structured procurement processes.*** Purchasers are not encouraged to deviate from well-established pathways. They are trained to stay within them. EEP programs should not expect purchasers to deviate from this structure in order to satisfy a single policy requirement.

2. ***Resources designed for use outside of set pathways are less likely to be successful.*** Many resources are currently designed and tested outside of the context of how they will be used once they are deployed. This leads to the development of ineffective tools and other resources that are, in turn, underutilized by procurement staff. Resources should be developed with an understanding of procurement pathways and integrated at specific points of influence. In addition, they should be evaluated following delivery to ensure effectiveness.

3. ***Business management systems present opportunities for program resource integration.*** The separation of program resources and business management systems decreases the efficiency of the purchasing process. In this situation, purchasers are expected to alternate between purchasing systems and resources intended to aid in their compliance with policy. This inefficiency makes program resources unattractive. The integration of resources with existing systems will help eliminate this inefficiency and encourage higher usage rates.

4. ***First hand research into procurement pathways can help improve program resources.*** In order to understand how program resources interact with existing processes, interviews with procurement practitioners and reviews of how procedures translate into practice are valuable. This type of research can be time-consuming, but is likely to result in better-targeted resources which deliver better program outcomes.

Chapter 5: Tracking Performance

5.1 Executive Summary

Key points found in this chapter:

- Accurately tracking energy-efficient procurement progress is often difficult given data availability and existing business management systems.
- Current systems used by governments and agencies are highly fragmented, resulting in data compatibility issues and difficulty in implementing consistent tracking methods.
- Vendors can be valuable partners in data collection and analysis.
- Creating a link between overall program progress and employee performance makes tracking programs meaningful and more likely to positively influence compliance rates.

This chapter highlights some of the barriers related to measuring program implementation. These challenges are examined in section 5.3, followed by discussion of several steps that can be taken to address them in section 5.4. Case studies from the European Commission, Sweden and Malta show different approaches to monitoring GPP implementation. The Chapter concludes by exploring strategies used by private sector organizations to link program progress to employee performance evaluation.

5.2 Introduction

The scale and decentralization of public sector procurement has historically prevented detailed examination of government purchasing patterns. Expenditure, volume and compliance with regulations are usually discussed as high-level estimates. Procurement information is currently not tracked at the product level in most countries. In order to track the attributes relevant to an EEP program, systems must be able to accomplish the basic task of accounting for products received – and data about actual usage may also be needed. Otherwise the benefits of EEP are more notional than real. Most programs can only estimate the number and type of products purchased by public entities. These estimates are performed through the analysis of limited datasets and purchaser surveys, or by gathering information on purchasing intentions as expressed in contract notice or documents.

Advances in business management software present opportunities to improve analysis of government procurement. These systems can provide a significant value-add to programs if they collate meaningful data on procurement, highlighting areas of particular success or those lagging behind. This potential is well understood by those involved with public procurement. As will be discussed later, there seems to be a general sentiment that these platforms are underutilized or could be made more useful through targeted improvements.

Why are effective tracking systems desirable? At least three reasons can be identified.

First, tracking systems can provide the data necessary to evaluate program implementation and measure whether activities are meeting policy goals. You cannot manage what you do not measure. Program implementers are forced to make do with significantly less accurate feedback mechanisms (i.e., interviews, surveys, contract sampling, etc.) in order to gauge program progress.

> The term ***business management system*** refers here to the systems used by public authorities to handle their procurement and other related functions. In some cases these systems are primarily concerned with the purchasing process, whereas in others they are integrated with planning, accounting or other management systems. A ***tracking system*** is a specific function allowing data on goods and services purchased to be collected and analyzed.

The more accurate the system of measure, the more detailed the management options offered to implementers. In turn, this affects the degree to which policy can be modified to address program barriers. It also allows programs to contribute to broader policy goals, such as headline reductions in energy consumption or greenhouse gas emissions.

Second, by connecting policy intent with implementation results, tracking systems create a relationship between action and consequence. In the absence of effective tracking mechanisms, the purchaser does not perceive a connection between his or her actions and program success. As discussed below, private sector organizations are beginning to tie sustainability criteria into employee evaluations. Accomplishing this requires accurate, measurable data to measure that employee's success. Tracking systems can create this link and foster a sense of ownership on the part of employees. When purchasers sense this link, they will be more likely to comply with policy. In other words, tracking systems do not only allow for compliance evaluation, they can directly raise compliance rates.

Third, tracking systems provide the foundation for compliance enforcement mechanisms to function. Currently, compliance with many sustainable procurement policies is effectively voluntary even in countries that have passed legally binding policy. The compliance data available demonstrate that these laws are frequently violated or ignored without clear consequence, undermining the policy's legal status. In some part, this is attributable to a lack of tracking systems capable of providing data that could be used to hold employees or organizations responsible for compliance.

5.3 Issues to Consider

There are significant barriers related to altering or replacing business management systems. Legacy systems are difficult to modify and expensive to replace. In addition, the effectiveness of new systems can be limited by the need (whether perceived or actual) to preserve compatibilities with old data formats. These are just several of the barriers to realizing the benefits of systems more able to support program goals.

Despite these barriers, there are compelling reasons for programs to evaluate their current systems. The following basic questions can help guide discussion:

1. How does the current system complement program objectives?
2. How *could* the current system complement program objectives?
3. What abilities would an *ideal* system add?
4. What are the costs (money, time, business process impact, etc.) to implementing that ideal system?

Careful planning is required to put a system in place that will perform effectively over time. The following sub-sections highlight selected issues associated with tracking program progress. Most, but not all, can be traced back to procurement management systems.

5.3.1 Tracking meaningful quantities of procurements

Procurement takes place through a variety of pathways. In the public sector, many goods and services are provided to agencies as a part of larger service or supply contracts. For instance, an agency may have a contract for information technology services, which includes both the provision of equipment (computers, servers, printers, etc.) and the technical support related to those products. The contract may be saved in the agency's procurement records. However, the items provided through that contract may not be tracked by the same system. In some cases, the individual contractor may be able to provide information regarding goods and services provided to the agency. In other cases, this information may simply be unavailable.

The diversity of procurement methods makes it very difficult for programs to accurately track all purchased products or services. In addition, different procurement methods may result in the utilization of different business management systems. This fragmentation contributes to the difficulty in obtaining agency- and government-wide procurement data. Tracking systems must account for all of these pathways in order to be effective.

EEP programs should strive to track purchases of relevant goods and services (i.e. those that use energy, or affect the energy performance of other assets) across different procurement methods. Tracking on an individual product basis may not be necessary in all cases. A government or agency may decide that the cost associated with implementing a system with this

capability outweighs the benefits. However, all programs should seek to sample different methods of acquisition in order to accurately judge program progress and compliance rates.

5.3.2 Tracking applicable energy and environmental attributes

Our research indicates that most business management systems do not currently track environmental criteria. In practical terms this means that there are no database fields that indicate which environmental product criteria, if any, are included in a contract. Further, there is often no standard way to access this information from vendors. This makes evaluating contracts for compliance a labor-intensive process, where government staff or contractors must examine individual contract documents. Any effort to evaluate the status of a program is then time and resource-intensive. In the absence of comprehensive product- and contract-level data, program compliance studies rely on a combination of surveys[49] and analysis of contract notices and tender documents. The combination of these methods is the primary means of tracking program progress over time in most countries.

It is compelling to have a tightly controlled method for survey administration and data analysis so that results will reveal meaningful trends in program compliance. Particularly in cases where requirements are relatively consistent across regions (such as the E.U.), there is benefit to using a consistent survey method that can be repeated both on a regional and national level, and through multiple iterations over time. The absence of this consistency results in data fragmentation. As the ability to compare results over time is crucial, programs could benefit in developing standardized methods.

Malta: Tracking environmental attributes in public tenders

As a small state Malta has been able to introduce an ambitious monitoring system for its green public procurement policy. Since January 2012, the procurement of paper, IT equipment, textiles, and gardening products and services must be fully compliant with GPP criteria. Procurers of these products or services are to ensure that when the tender specifications are drafted, they are based on the GPP criteria.

To monitor compliance, all **calls for tenders** must be supported by a Tender Originators Form which includes information on the application of GPP. Originators of departmental tenders submit a scanned signed copy of this form to the Office of the Prime Minister by e-mail. Departmental Contracts Committees of each Ministry are directed not to approve the award of tenders for the chosen GPP products or services without the confirmation that the mandatory technical specifications have been adopted.

[49] These surveys primarily target procurement department staff.

Programs could also benefit from closer integration of evaluation results and follow-up action. As will be discussed later in this chapter, the private sector has begun to tie performance on sustainability initiatives with overall performance evaluation. There may be opportunities for the public sector to use the data resulting from EEP program evaluations in a similar way, both increasing their value and generating investment in their results.

5.3.3 Most tracking systems are limited to high-value contracts

In the U.S. and the E.U., contracts that exceed certain values[50] must be reported to central agencies.[51] These reports are among the only consistent sources of data available for analysis. As such, they are a central piece of current compliance analysis efforts. However, these reporting mechanisms capture a limited number of contracts, and do not always record full and accurate information about the contracts reported. For example, in the EU there is a requirement to advertise contracts above the threshold values in the Official Journal (OJEU), and to publish a notice when the contract is awarded. However it is estimated that these notices account for only 20% of the total value of public procurement in the EU,[52] and they often do not contain detailed information about the contract requirements.

The original purpose of mandatory reporting requirements was to ensure that contracts were awarded fairly through vendor competition, not to evaluate compliance with other policies. These requirements exist independently of sustainable procurement programs. Therefore, the reports may not be well structured to enable analysis of program compliance rates and may not require the collection of relevant environmental attributes.

As a result, analysis of compliance with environmentally preferable purchasing policy based on these high-value contracts is difficult. In order to assess compliance rates, contracts are often manually examined for specific language. This is labor-intensive and therefore not often done. The percentage of total procurement volume captured by contracts that must be reported to central agencies is unclear. As a corollary, the percentage of energy-using or otherwise environmentally relevant products and services captured by these systems is also difficult to determine. Due to these limitations, compliance evaluation based on high-value contracts should be viewed only as a stepping stone to more complete tracking systems, not a full solution. Statements about the overall success of a program should not be based on these contracts alone.

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[50] $25,000 for the United States; €130,000 (central government) or €200,000 (sub-central government) for the EU in the case of supply and service contracts, and €5 million for works contracts.

[51] FedBizOps in the case of the US, and the European Commission in the case of the EU

[52] European Commission (2011) *Evaluation Report: Impact and Effectiveness of EU Public Procurement Legislation* SEC (2011) 853 final at p. 27

5.3.4 Business management systems are not consistent across agencies

Business management systems are regularly identified as having the potential to significantly lower transaction costs while increasing compliance rates. The consolidation of what were formerly many separate paper-based processes into one (or several) electronic system(s) would seem to achieve this potential by default. However, several barriers still exist that prevent these systems from raising compliance rates for energy-efficient procurement. One of the issues is the variation in business management systems within single agencies or departments. Another related issue is the differing capabilities these systems possess to support program goals.

Business management systems are the face of the procurement process to purchasers. These systems directly affect perceptions of whether or not sustainable procurement is an agency priority. If a given system does not provide an ability to integrate energy-efficient procurement criteria or other information, it is unlikely that the end-user will consider those criteria to be a priority. Simply identifying the existing capabilities of different systems in operation across the public sector would be a valuable first step in understanding the extent to which different systems can support program goals.

Variation in business management systems hinders analysis of program progress by making it difficult to obtain basic information regarding government purchasing patterns. In the U.S., for example, conversations with agency representatives indicate that there is no standardized method for system selection or implementation. A lack of consistency in systems results in a lack of consistency in the data produced by those systems. In turn, this hinders analysis efforts. The lack of standardization makes it effectively impossible to create a consolidated understanding of government purchasing patterns.

This lack of standardization undoubtedly exists in other countries as well. We believe it is a significant contributing factor to the paucity of procurement data collection and analysis. A survey of what systems are currently in use and their capabilities could be a good first step in understanding this issue. An extension of this information-gathering effort is the creation of standardized performance criteria for agency or department business management systems. The creation of these criteria (to be used in the procurement of these systems) would help send a unified signal to vendors that these capabilities are a government priority. This is in itself a market transformation opportunity for programs.

5.3.5 Independent market trends have an impact on compliance rates

Program compliance rates increase as the market begins to naturally adopt preferred products or service requirements. As energy-efficient products become more available, they are more likely to be purchased. Environmentally preferable attributes are also more likely to propagate through the market. For example, many manufacturers in the U.S. view the ENERGY STAR logo as something that most customers have come to expect. Therefore, government purchasers are

likely to procure items that comply with these aspects of policies, because the market is well-stocked with compliant products.

This trend has positive effects on government procurement programs for products that fall under popular eco-labels. The goal of any procurement program is to make compliance the default action. However, this effect may also be responsible for inflating compliance attributable to program actions. In other words, market forces that enable default compliance can make programs appear successful, even where the increase in market penetration may not be attributable to the program itself. This speaks to the importance of coordination with national and regional labeling programs in program design. Programs should take advantage of other initiatives that have complementary goals in order to send a unified signal to the market where possible.

5.4 Key Steps

The following section describes several initial steps that are key to implementing an effective program progress tracking process. The discussion below focuses on methods to improve data reliability and create the link between tracking systems and procurement staff.

5.4.1 Link tracking initiatives and performance targets

Performance targets for EEP programs serve a number of functions. They are a highly visible way to measure program outcomes, and can help create political momentum. However targets are only useful if they can be meaningfully assessed over time. A lack of tracking mechanisms in business management systems precludes a realistic assignment of responsibility to agencies and individuals for the achievement of performance targets. At the same time, without signaling intent to establish quantitative performance targets, there is little incentive to use tracking systems. There is value in maintaining broad quantitative targets in order to encourage the adoption of systems with the ability to accurately track their progress. Further, even in the absence of robust tracking systems, it is important to implement some means of monitoring program progress and employee compliance.

European Union: Setting and monitoring targets for GPP

In 2008 the European Commission adopted an indicative target for 50% of all public tendering procedures in the EU to be 'green' by 2010. Green procedures were defined as those which met the common core EU GPP criteria for ten priority product/service groups such as construction, transport and IT products. In 2011, a study was carried out to establish if this target had been met. Since there are no systematic statistics on GPP in the Member States, the Centre for European Policy Studies and the College of Europe conducted a survey in which over 850 public authorities from 26 Member States participated.

The respondents provided detailed answers regarding the use of GPP criteria in the last contract they had signed for one of the ten product/service groups and more general information on the "greenness" of their overall procurement in the period 2009/2010. For this general part, the study collected information on more than 230,000 contracts signed by public authorities in 2009-2010, with a value of approx. 117.5 billion Euros. The results of the study show that the initial target has not yet been reached. 26% of the last contracts signed in 2009-2010 included all of the core EU GPP criteria. However a much higher percentage, 55%, included at least one of the criteria. The value of the contracts including green criteria accounted for 38% of the total contract value in the study.

Source: Centre for European Policy Studies/College of Europe (2012) *The Uptake of Green Public Procurement in the EU27*, Brussels: European Commission

5.4.2 Do not rely solely on contract language evaluation

Program tracking should report data that provide a meaningful snapshot of program progress. The most effective tracking initiatives allow measurement of program success and identify specific areas needing improvement. Due to the current difficulty associated with tracking individual purchases, some environmentally preferable purchasing programs have instituted contract-level evaluation. In addition to contract evaluation, some governments require agencies to provide written narratives detailing procurement program progress. This type of reporting can be a useful evaluation mechanism in the absence of more accurate tracking capabilities.

While contract evaluation can make up an important part of a performance tracking strategy, steps should be taken to fill the gaps inherent in this sort of analysis. Requiring some sort of written evaluation of agency-level progress is one method of determining what is happening "on the ground" in addition to in the contract language. Purchaser surveys combined with evaluations of lower-value contracts is an additional method of evaluating the reach of procurement policy. Programs must balance available resources and data limitations with a desire to perform meaningful analysis. Contract level evaluation strategies can serve as one means of achieving this balance; however, they should ideally be a component of a wider tracking strategy.

5.4.3 Ensure data consistency

Due to shifting budgets, priorities, and other factors, many programs have difficulty maintaining a consistent evaluation strategy. In order to judge the effectiveness of new policies, purchaser resources, or behavior change initiatives, tracking methods should remain consistent over time. The data collected must remain consistent as well. Frequent changes in tracking methods or data collected (e.g., changing language in purchaser surveys) make it impossible to accurately identify trends. Different methods of program evaluation can produce altered pictures of program success. Programs should work to ensure consistency in data collection and survey administration. This is particularly important when different contractors are employed to perform evaluation studies from year to year.

Sweden: Monitoring the use of environmental procurement criteria

The Swedish Environmental Protection Agency is the authority responsible for monitoring green public procurement. A series of monitoring studies have been carried out by the agency to assess the extent and nature of green public procurement in Sweden. The same questions have been asked in successive studies, allowing for the comparison of results over time.

The most recent study was conducted in 2009 with a sample of 510 public organizations at municipal, regional and national level. A high response rate was achieved (82%), providing sufficient statistical information for a reliable assessment of GPP implementation. Key findings included 57% of respondents stating that they used SEMCo's environmental criteria in their procurement 'always or very often.' The use of the criteria within the studied group varies substantially, with local governments and county councils using the criteria to a much higher extent (75% and 89% respectively).

5.4.4 Work with vendors to obtain data

Vendors, responding to pressure from public and private sector consumers, are increasingly tracking environmental attributes associated with their products and services. In the United States, for example, some agencies have begun to integrate requirements for vendors to report on the environmental attributes of products sold to the agency. This requirement takes a large data collection and analysis burden off of the agency, while at the same time leveraging the capabilities that some vendors already possess.

The main challenge in this arrangement is transferring the data from the vendor to the department or agency. Differences in business management systems can result in data conversion challenges. In addition to evaluating the capabilities of internal procurement systems, government agencies should begin to evaluate the capabilities of vendors' systems. Governments have a unique opportunity to develop, define, and disseminate data reporting standards. It is then important to define who is responsible for analyzing this data, and acting upon it. This may be written into the terms of individual contracts, or established in overall organizational policies.

5.5 Lessons learned from the private sector

There is a need to transfer responsibility for achieving program targets to managers and employees. Given the current state of tracking capabilities, systems with the ability to accurately track procurement meeting environmentally preferable criteria may be many years off. In the absence of such capabilities, it is worthwhile to pursue qualitative performance targets. In our research, we have noted that the private sector is aggressively pursuing corporate sustainability goals, with a focus on achieving high rates of accountability among executives and managers. Experience in the private sector has shown that even qualitative evaluation criteria may be a successful means of improving compliance.

Staff performance criteria in procurement departments require re-examination. Frequently, the overriding performance evaluation standard in procurement departments is volume and efficiency (time per award). In other words, speed is the primary emphasis, while environmental performance is one secondary consideration among many. Programs should seek to integrate procurement quality into performance evaluations in a way that clearly indicates that life-cycle cost and other environmentally preferable considerations are a priority. If performance with regard to these other metrics has no impact on overall employee evaluation, programs should not expect high compliance rates.

Just as we have found in the public sector, the private sector is struggling to achieve high rates of compliance with sustainability initiatives. In addition, the private sector shares the public sector's dilemma regarding best way to measure program progress. However, our preliminary research in this area has shown that the private sector is experimenting with incentive schemes much more actively than the public sector. This experimentation may in turn lead to higher compliance rates and clearer indicators of individual and program-level success.

Knowledge of sustainability is becoming an increasingly important trait for company CEOs. Private sector corporations are beginning to directly link progress on sustainability initiatives to executive pay. A study cited by the World Business Council for Sustainable Development states that, "29% of the largest listed companies in Europe include ESG (environmental, social and governance) factors in their executive remuneration policies." [53] Performance evaluation that includes compliance with sustainability initiatives does not need to be limited to the executive level. Private sector companies are developing methods to evaluate managers at all levels on their compliance with social and environmental initiatives.

One of the more interesting aspects of this move in the private sector is a deviation from performance criteria that can be easily and objectively (i.e., quantitatively) evaluated. The

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[53] World Business Council for Sustainable Development (2011) *People Matter: Reward - Linking Sustainability to Pay* at pg. 5

WBCSD report asserts that with "incentives [that] are only limited to quantifiable performance indicators, there is a danger of missing out [on] the most important factors." [54] In other words, the WBCSD is indicating that despite the difficulties with precisely measuring progress on sustainability initiatives, it is still valuable to include those criteria in the evaluation of managers.

5.6 Recommendations

Several themes emerge from the above chapter:

1. ***Effective tracking programs can determine and improve compliance rates.*** Tracking programs create a link between program success and individual performance. This link helps employees feel as though they have a stake in the success of the program, and holds them accountable for their actions.

2. ***Compliance rates are difficult to determine accurately.*** Due to the current capabilities of business management systems and data collection methods, compliance rates are often determined by approximation based on contract sampling, purchaser surveys, and procurement volume estimation.

3. ***Contract language evaluation can provide a useful snapshot of compliance, but they should be supplemented by other methods for a more complete picture.*** Sampling high-value procurement contracts for applicable environmentally preferable procurement criteria is a popular method of estimating compliance rates. This method omits substantial portions of total government procurement activity and should be considered a stepping-stone to a more robust tracking strategy.

4. ***The use of targets and performance evaluations can act as an incentive for program implementation.*** Targets and performance indicators should be specific, measurable, attainable, relevant and time-bound (SMART). In the public procurement context, targets and indicators must include a clear definition of program expectations and be communicated via appropriate channels.

5. ***Emerging information technologies provide an opportunity for all programs to enhance tracking capabilities.*** Rapidly evolving tracking software presents opportunities for all procurement programs to re-examine current systems. Updated and consolidated systems, when implemented effectively, will have a positive impact on procurement efficiency and program tracking capabilities.

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[54] *Ibid.* at pg. 13

Further Resources

A selection of resources on energy-efficient procurement and related topics are listed below.

Energy-efficient procurement

SEAD website www.superefficient.org
The website of the Super-efficient Equipment and Appliance Deployment initiative aims to serve as an online hub for appliance efficiency policy, connecting experts and policymakers with technical resources and each other. It also provides access to a Street Lighting Evaluation Tool which performs photometric analysis as well as energy consumption and life-cycle cost computations.

FEMP energy-efficient product procurement website
http://www1.eere.energy.gov/femp/technologies/procuring_eeproducts.html
The U.S. Federal Energy Management Program website provides resources for buyers and suppliers to meet federal requirements for energy-using products.

ENERGY STAR U.S. www.energystar.gov and E.U. www.energy-star.eu websites
The ENERGY STAR websites explain program requirements for different product categories and offer dedicated information for governments.

The **World Bank** produced a report in 2012 entitled *Public Procurement of Energy-efficient Products: Lessons from Around the World*. It is available here:
http://documents.worldbank.org/curated/en/2012/08/16928989/public-procurement-energy-efficient-products-lessons-around-world

Topten Professional Procurement website www.topten.eu/professional
Topten is an independent international program operating in 20 countries around the world to create a dynamic benchmark for the most energy-efficient products.

Green and Sustainable Procurement

Sustainable Procurement Resource Centre www.sustainable-procurement.org
The SPRC provides news and links to a wide range of resources on sustainable procurement for procurers, policy makers, researchers and other stakeholders.

European Commission GPP website http://ec.europa.eu/gpp
The GPP website is the source for the EU GPP criteria, background documents and procurement guidance including the *Buying Green!* Handbook.

Swedish Environmental Management Council (SEMCo) website
http://www.msr.se/en/Upphandling
SEMCo's website contains criteria, guidance and life-cycle cost information (in English) for the procurement of a large number of energy-using and other products and services.