

## ENVIRONMENTAL PROTECTION AGENCY

[OPPTS-00149; FRL-4760-5]

### Guidance on Acquisition of Environmentally Preferable Products and Services; Solicitation of Comments

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** This document announces a proposed general guidance designed to assist Executive agencies in identification and acquisition of environmentally preferable products. This document also solicits comments from all interested parties on the proposed guidance. The proposed guidance is in response to section 503 of the Executive Order 12873 on Federal Acquisition, Recycling and Waste Prevention.

**DATES:** All written comments must be received on or before November 28, 1995.

**ADDRESSES:** Written comments must be submitted in triplicate and identified with docket number OPPTS-00149 to: OPPT Document Control Officer (7407), Office of Pollution Prevention and Toxics, Environmental Protection Agency, Rm. E-G99, 401 M St., SW., Washington, DC 20460.

Comments and data may also be submitted electronically by sending electronic mail (e-mail) to: [ncic@epamail.epa.gov](mailto:ncic@epamail.epa.gov). Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also will also be accepted on disks in WordPerfect in 5.1 file format or ASCII file format. All comments and data in electronic form must be identified by the docket number OPPTS-00149. No Confidential Business Information (CBI) should be submitted through e-mail. Electronic comments on this proposed guidance may be filed online at many Federal Depository Libraries. additional information on electronic submissions can be found in Unit V. of this document.

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#### SUPPLEMENTARY INFORMATION:

##### I. Introduction

On October 20, 1993, President Clinton signed Executive Order 12873 entitled "Federal Acquisition, Recycling and Waste Prevention." Section 503 of this Executive Order requires EPA to "issue guidance that recommends principles that Executive agencies should use in making determinations for the preference and purchase of environmentally preferable products." EPA plans to hold a public meeting in October 1995, in Washington, DC to solicit input from interested parties concerning this proposed guidance. More detailed information about the meeting will be published in the Federal Register at a later date.

##### II. Process

To implement section 503, EPA established a process to solicit public input from all interested persons and organizations prior to development of the proposed guidance. EPA developed a "concept paper" that outlined preliminary thoughts on how the guidance might be structured and some guiding principles for implementation of section 503. The public was given an opportunity to comment on the concept paper, and over 50 comments were received. EPA also held a public meeting at which over 20 Executive agencies, companies, organizations, and individuals presented testimony.

In addition, EPA held meetings with "stakeholders" to give interested parties an additional opportunity to present their views on how EPA should proceed in developing principles for Executive agencies to use when making determinations for the preference and purchase of environmentally preferable products (EPPs). Meetings were held with over 20 stakeholders companies and organizations. EPA also consulted with the major purchasing agencies. Use of this public process has given EPA an appreciation for the diversity of views and complexity of the issues involving the acquisition of environmentally preferable products. EPA is open to

alternate approaches and welcomes comments on ways to encourage the acquisition of environmentally preferable products.

This proposed guidance is meant to serve as a framework for interested parties to begin a dialogue on environmental preferability of products and services as it is applicable within the Federal purchasing context. It is also EPA's first comprehensive articulation of its policy on "green" products and as such, it will evolve over time as scientific and technical understanding expands. What follows should serve as a backdrop for comments.

This proposed guidance reflects many months of deliberations and discussions with a wide variety of interested parties, including companies, Executive agencies, academia, environmental organizations, and others. During the process of developing this guidance, it became apparent that different parties had very divergent views on how EPA should go about implementing the Executive Order mandates. Given this, EPA recognizes that the guidance cannot meet all of the needs of all of the interested parties. Instead, the document attempts to capture these many views within a single document while presenting a possible approach that EPA believes will lead to effective implementation of the Executive Order.

EPA's effort to define and apply environmental preferability is not being done in a vacuum. Other initiatives are underway that will impact the Federal government's policies on acquisition and environmental management, most notably the National Performance Review (NPR, also commonly referred to as the "Reinventing Government" initiative). Another initiative is the interim rule amending the Federal Acquisition Regulation (FAR) which will allow consideration of broad environmental factors in acquisition decisions.<sup>1</sup>

At the same time that the Environmentally Preferable Products guidance is being developed, for example, efforts are being made to streamline and simplify the Federal government's procurement process under the NPR. The result will be to reduce the bureaucracy of Federal procurement by delegating additional purchasing authority away from procurement personnel and towards all government employees. To the extent that the streamlining will result in increasing the overall number of

<sup>1</sup> "Federal Acquisition Regulation: Environmentally Preferable Products," Interim Rule, Federal Register (60 FR 28494, May 31, 1995).

government purchasers, this guidance will have to be broadly distributed, easily understandable, and supplemented by education and training for government purchasers on the environmental implications of their purchases as well as tools to improve their purchasing performance.

The proposed guidance is intended, like the NPR, to promote a government that "works better and costs less." It will work better by reducing its negative impacts on the environment and ensuring productive, sustainable natural systems. And it will cost less by incorporating environmental considerations into its decisions (in this case, purchasing decisions) and, from a fiscal as well as an environmental standpoint, operating its facilities and programs more efficiently.<sup>2</sup>

To help Executive agencies move forward in acquiring environmentally preferable products, and to help in the further development of the tools and knowledge base to support this initiative, EPA is recommending that voluntary pilot projects be undertaken by Executive agencies. EPA believes that these pilot acquisitions will serve as the "laboratories" for applying this proposed guidance, helping to test the workability of the concepts presented and providing valuable information that can be used to improve the guidance in the future. The proposed guidance includes a more detailed discussion of the pilots.

EPA believes that this proposed guidance provides the first step in bringing forward the key issues surrounding the acquisition of environmentally preferable products, allowing Executive agencies to make the necessary choices more effectively. This proposed general guidance, however, will not answer many of the questions which may arise in acquisition of a particular product category or service, and thus is not intended for use by individual procurement officials. Instead, EPA envisions that the results of the pilot acquisitions will more closely address the needs of the acquisition community. However, EPA believes that this guidance will nonetheless, inform procurement officials interested in making decisions involving environmental preferability.

EPA intends this proposed guidance to serve as a broad framework for acquisitions involving environmentally preferable products or services. Following the issuance of this broad, umbrella guidance, EPA intends to issue

more specific guidance on certain product categories. Product categories could include not just common supplies but also services, facilities and/or systems. Which product categories will be the subject of specific guidance will depend upon the plans of the individual Executive agencies and on comments that are solicited from the public. EPA plans to use a public process to develop the product category-specific guidances, so as to draw on the extensive knowledge from both within and outside of the government.

### III. Request for Comment

EPA request comments on all aspects of this proposed guidance and is interested in receiving comments as they relate to the following sections in this unit.

#### A. General Framework

- Will the framework suggested in the guidance be effective in promoting federal purchase of environmentally preferable products and expand public sector markets for these goods and services? How might it be improved?

#### B. Guiding Principles

- The proposed guidance presents seven guiding principles. Combined, do these seven principles convey the multi-dimensional and dynamic nature of environmental preferability? Are these the principles that Executive agencies should follow? Are all of these principles appropriate or of equal importance to Executive agencies? What are the best ways to operationalize these principles so that they are easy for procurement officials to use in identifying and giving preference to environmentally preferable products and services?

- In collaboration with other Executive agencies, EPA plans to test out many of the concepts contained in the guiding principles through pilot acquisitions focused on specific product categories. EPA seeks comments on ways that can best facilitate operationalizing the concepts in the guidance through pilot acquisitions and other approaches and which will result in practical, user-friendly tools.

- The proposed guidance promotes a life-cycle perspective to determining environmental preferability. EPA seeks comments on the best and least burdensome ways to encourage reporting of life-cycle information and to embark on practical life-cycle approaches. Is it possible to determine some minimum level of life-cycle information that is necessary to reasonably evaluate environmental preferability of a product or service?

What is this minimum level? The government's need for any information needs to be weighed against the burden on vendors of providing, and consumers interpreting, that information.

- The concept of multiple attributes has been presented as a separate principle (Principle #2) from the concept of life-cycle perspective (Principle #3). EPA seeks comments on whether some combination of attributes can determine a product's overall environmental performance or whether such a determination can only be made after assessing the environmental effects during the product's life-cycle. If the latter is more appropriate, EPA seeks comments on whether these two principles should be merged into a single principle so that attributes associated with products are always viewed in the context of a life-cycle perspective.

#### C. Proposed Menu of Environmental Performance Characteristics

- As part of the guidance, EPA proposes to offer a preliminary list of attributes that can serve as a starting point for presenting and comparing environmental information of products and services. This menu of environmental performance characteristics is attached to the guidance as Appendix B(1). Are these the right set of attributes? What should be added or deleted? Should the list include exposure factors associated with the materials, e.g., potential for exposure (low/high likelihood), number of people exposed, duration of exposure, magnitude of exposure, length of time until exposure, number of acres exposed, number of species exposed, etc? If so, how should these exposure factors be defined? How should the environmental attributes be characterized, i.e., in terms of environmental releases or effects, risks to human health and the environment, or some other characterization? Who should be involved in narrowing down the list of attributes to determine environmental preferability for a specific product category?

#### D. Establishing Core Environmental Values

Deciding whether one product is more environmentally preferable than another inevitably involves judgements that one environmental impact or environmental stressor is more important than another. The EPA believes that it is appropriate and important to establish a possible framework for a discussion of environmental priorities, and recognizes that there are various ways in which the government may establish

<sup>2</sup>From "Creating a Government That Works Better and Costs Less: Reinventing Environmental Management," page 2.

environmental priorities. One possibility for establishing environmental priorities is to use the matrix of ecological stressors and the list of high risk human health stressors that were developed by EPA's Science Advisory Board (SAB) and published in its 1990 report "Reducing Risk: Setting Priorities and Strategies for Environmental Protection."

EPA believes that this report and its findings may offer an appropriate baseline around which to frame the public discussion regarding the establishment of environmental priorities in the context of purchasing environmentally preferable products or services. It should be noted that the rankings in the report are not perfect; they may be incomplete and may emphasize global-scale impacts, at the expense of local ones. EPA is presenting the following matrix of ecological stressors and the list of stressors presenting high risk to human health to begin the public debate, and is very interested in receiving comments on whether this proposed approach should be used for making decisions concerning the relative environmental priorities and thereby assist in

determining the preferability of products or services.

EPA recognizes that determining which environmental impacts are most important and setting environmental priorities involve certain value judgements. Who should be responsible for making decisions concerning the relative environmental priorities? EPA envisions applying this decision matrix within the context of pilot acquisitions in hopes of learning how Executive agencies should establish environmental priorities for making decisions about environmental preferability. EPA is interested in receiving comments about this proposed approach. EPA proposes including this decision matrix and the list of human health impacts in the guidance as Appendix E. Should this approach be considered for inclusion as an Appendix to the guidance?

1. Ecological priority impacts matrix. The Decision Matrix for ecological priority impacts, which is presented below, would provide some guidance to Executive agencies on making trade-offs among various environmental attributes.

According to EPA's Science Advisory Board, the ecological recovery time affects the severity of the risk; the longer the recovery time (the less reversible the damage), the higher the risk of that

ecological stressor. Thus, the matrix uses reversibility of the impact as the horizontal axis for estimating the severity of the risk associated with environmental attribute information provided by the vendor. Stressors whose effects cause the ecosystem to take centuries or an indefinite amount of time to recover are given a greater risk ranking than those that take years or decades to recover. Non-renewable resource consumption, for example, is considered a more significant ecological stressor than the discharge to water of conventional pollutants such as biochemical oxygen demand, loadings, from which an ecosystem can recover in years.

The Science Advisory Board also considered significant the geographic scale of the area subject to the stress and the importance of the ecosystem that is actually affected within the stressed area. Thus, ecological stressors that have impacts on a global or biosphere basis are to be considered higher risk or more significant than ecological stressors that have an impact only on a local or regional/ecosystem basis. The Agency has, therefore, used geographic scale of the stressor's impact as the vertical axis for its matrix.

TABLE 1.—ECOLOGICAL PRIORITY IMPACTS MATRIX GEOGRAPHIC SCALE/REVERSIBILITY

	Years	Decades	Centuries/indefinite
Local/Regional .....	Rapidly Renewable Resource Consumption.		
National .....	Conventional Pollutants. Hazardous Air Pollutants .....	Bioaccumulative Pollutants.	
Global .....	Renewable Resource Consumption. Chemical Releases.		Non-renewable Resource Consumption. Ecosystem Impacts. Ozone Depleting Chemicals. Global Warming Gases.

2. List of stressors presenting high risk to human health. The list of stressors below have been identified by the Science Advisory Board in its "Reducing Risk" report as presenting high risks to human health. The stressors are not listed in any particular order of importance:

- Ambient air pollutants.
- Hazardous air pollutants.
- Indoor air pollution.
- Occupational exposure to chemicals.
- Bioaccumulative pollutants.<sup>3</sup>

<sup>3</sup>The EPA has added bioaccumulative pollutants to the list of stressors that pose high risks to human health. While not explicitly identified in the SAB report as a high risk stressor, the report does

provide support for this addition. The Science Advisory Board (SAB) did not consider bioaccumulative pollutants as a high risk stressor in part because "Unfinished Business" (an earlier report that provided the basis for "Reducing Risk") did not separately break out this category; that report focused on pollutants based on the Agency's organizational and regulatory structure. The SAB report discusses bioaccumulative pollutants in several sections, however, as posing potentially high risks. For example, the report states: "It is also noteworthy that certain environmental toxicants—such as heavy metals, PCBs, and long-lived radionuclides—tend to persist indefinitely in the environment and may gradually become concentrated in certain components of the human food chain. Consequently, such toxicants may continue to pose a threat to human health long after their release into the environment has halted." See Appendix B: The Report of Human Health Subcommittee of Reducing Risk for a more complete discussion of the human health stressors

EPA believes that this is one approach to making decisions concerning the relative environmental preferability of products. EPA seeks comments on the usefulness of the ecological impact matrix as well as the list of high priority human health impacts. In addition, readers are encouraged to provide their thoughts concerning the placement of the impacts in the matrix, gaps in the matrix, and whether or not the human health impacts can be prioritized in a similar manner. Comments on other methods of prioritizing ecological and human health impacts are also solicited.

listed above and how the SAB determined that they presented a significant risk.

### E. Third Party Environmental Certification Programs

EPA recognizes that a number of public and private programs already award "seal-of-approval" labels on consumer products for certain environmental attributes. Some programs have developed a "report card" approach whereby certain environmental information about a product or groups of products is profiled. Yet others certify single attribute claims made by manufacturers. More than 20 countries have environmental labeling programs and a number of private companies and non-profit programs claim to either identify environmentally preferable products here in the United States or label products based on environmental attributes. These third party environmental certification programs can play the important role of helping consumers identify which products are less environmentally damaging.<sup>4</sup>

Although these third party environmental certification programs currently operate primarily in the consumer sector, their influence in the Federal marketplace could become significant. For example, as streamlining efforts allow more Federal employees to make direct purchasing decisions, agency personnel, in their purchases of commercially available or "off-the-shelf" items may come to equate the "seals" or "report cards" of these programs as being environmentally preferable.<sup>5</sup> In addition, as Executive agencies begin to implement Executive Order 12873, it is possible that Executive agencies will look to these programs to assist in identifying environmentally preferable products in specific procurement. However, Executive agency decisions regarding federal procurement, including those involving the environmental preferability of products, are considered to be an inherent government function. As such, Executive agencies need to ensure that an acquisition decision does not turn on an unverified policy, or value judgment by a non-government entity.

Currently, there are no widely accepted standards for how these programs should operate. Although organizations such as the International Standards Organization (ISO) have

initiated efforts to develop a "code of conduct" for eco-labeling programs, the resulting standards will not be finalized for a number of years.<sup>6</sup> Until international standards or other practices are developed, EPA believes that it is appropriate for Executive agencies to consider the following questions if evaluating such programs for use in making decisions regarding the environmental preferability of products. Does the program have:

- An open, public process that involves key stakeholders (businesses, environmental and consumer groups, states etc.) in developing its criteria or standards?
- Award criteria, assumptions, methods and data used to evaluate the product or product categories that are transparent (i.e., they are publicly available, easily accessed and understandable to the lay person)?
- A system of data verification and data quality?
- A peer review process (with representation of all stakeholders) for developing the standards or criteria?
- Criteria which are developed based on a "systems" or life-cycle approach (i.e., "cradle to grave")?
- An outreach program to educate the consumer, which includes clear communications to consumers that provide key information concerning environmental impacts associated with the product?
- An established goal of updating standards or criteria as technology and scientific knowledge advance?
- Authority to inspect the facility whose product is certified to ensure compliance with the standards or criteria?
- Testing protocols for the products that are certified which ensure testing is conducted by a credible institution?
- Access to obtaining the seal by small and medium sized companies (e.g., the cost of the seal is not as high as to prevent access by companies)?
- Compliance with the Federal Trade Commission's (FTC) Guides for the Use of Environmental Marketing Claims?

EPA believes that Executive agencies should not make decisions regarding the environmental preferability of products based on third party environmental certification programs that do not generally meet these basic characteristics. EPA is interested in receiving comments on this proposed approach to dealing with the use of third party environmental certification programs by Executive agencies in

making decisions regarding environmental preferability. Although EPA is not proposing that these characteristics be used by individual Federal procurement personnel and does not plan for them to serve as a model for Federal approval of third party environmental certification programs in the private marketplace, it does believe that these characteristics may nonetheless be helpful to decisionmakers. EPA proposes to include this discussion in the guidance as an Appendix F. Should this be considered for inclusion as an Appendix to the guidance? Does the existing FTC Guides help Executive agencies to evaluate third party environmental certification programs?

### F. Other Issues

In addition to these specific topics, EPA is also interested in soliciting ideas from the public concerning tools (e.g., a computerized software tool for evaluating products, etc.) that would be useful to Executive agencies in identifying and purchasing "green" products. Finally, EPA is requesting suggestions for product categories to target for specific pilot acquisitions and additional guidance.

### IV. The Proposed Guidance

For the convenience of the reader, the proposed guidance is published below in its entirety.

#### Proposed Guidance on Acquisition of Environmentally Preferable Products and Services

##### I. Introduction

Executive Order 12873. On October 20, 1993, President Clinton signed Executive Order 12873, entitled "Federal Acquisition, Recycling and Waste Prevention."<sup>1</sup> Section 503 of this Executive Order requires EPA to "issue guidance that recommends principles that Executive agencies should use in making determinations for the preference and purchase of environmentally preferable products." "Environmentally preferable" is defined in the Executive Order to mean "products or services that have a lesser or reduced effect on human health and the

<sup>1</sup> Executive Order 12873 is one in a series of executive orders that President Clinton has signed since 1993 that emphasizes Federal government purchasing practices to promote environmental goals. Other executive orders include: Executive Order 12843, Procurement Requirements and Policies for Executive Agencies for Ozone Depleting Substances; Executive Order 12844, Federal Use of Alternative Fueled Vehicles; Executive Order 12845, Federal Procurement of Energy Efficient Computers; Executive Order 12856, Pollution Prevention and Right-to-Know in the Government; Executive Order 12902, Energy Efficiency and Water Conservation at Federal Facilities; Presidential Memorandum on Environmentally and Economically Beneficial Practices on Federal Landscaped Grounds.

<sup>4</sup> The term, third party environmental certification program, is used to capture the different types of programs, including those which verify single environmental claims, compile report cards, award seals, etc.

<sup>5</sup> This may not be warranted particularly if the seal or report card does not provide sufficient information about the criteria used to judge the product.

<sup>6</sup> Work on eco-labeling is being done under the Technical Committee on Environmental Management System (TC 207).

environment when compared with competing products or services that serve the same purpose.”

The guidance proposed below is designed to help Executive agencies meet their obligations under this Executive Order to identify and purchase environmentally preferable products and services.<sup>2</sup> It is intended to draw on the extensive procurement experience of the Executive agencies and on the environmental expertise of EPA and others both within and outside of the government. EPA believes that this guidance provides the first step in bringing forward the key issues surrounding the acquisition of environmentally preferable products, allowing Executive agencies to make the necessary choices more effectively. EPA recognizes that this proposed general guidance, however, will not answer many of the questions which may arise in acquisition of a particular product category or service and thus is not intended, although it will be

<sup>2</sup>Section 401 of Executive Order 12873 requires Executive agencies to consider the use of environmentally preferable products in acquisition planning for all procurement and in the evaluation and award of contracts, as appropriate. Section 501 of the Executive Order requires Executive agencies to “review and revise federal and military specifications, product descriptions and standards to enhance Federal procurement of products” that are environmentally preferable. Section 503(b) of the Executive Order requires Executive agencies to use the guidance developed by EPA “to the maximum extent practicable” in identifying and purchasing environmentally preferable products.

informative, for use by individual procurement officials.

The guidance attempts to implement the goals of the National Performance Review and procurement reform objectives of making Federal purchasing a simpler and not a more complex process. This guidance also recognizes that defining what is an environmentally preferable product and service may require a complex balancing of different environmental factors. In sum, the guidance does the following:

- Focuses on all types of acquisition, from supplies and services to buildings and systems.
- Establishes a general, umbrella guidance and requests Executive agencies to select voluntary pilot acquisitions or demonstration projects.
- Establishes a framework for issuing more detailed guidances on specific product categories that are related to current or future pilot acquisitions.
- Establishes a set of guiding principles.
- Outlines a number of steps for Executive agencies’ short-run and medium-run implementation.

## *II. Broad Principles and Approach*

### *A. Overall Approach*

In implementing section 503 of the Executive Order, EPA proposes an approach that has two components. The first is the publication of this general, umbrella guidance. Following this, additional guidances will be issued that will focus on

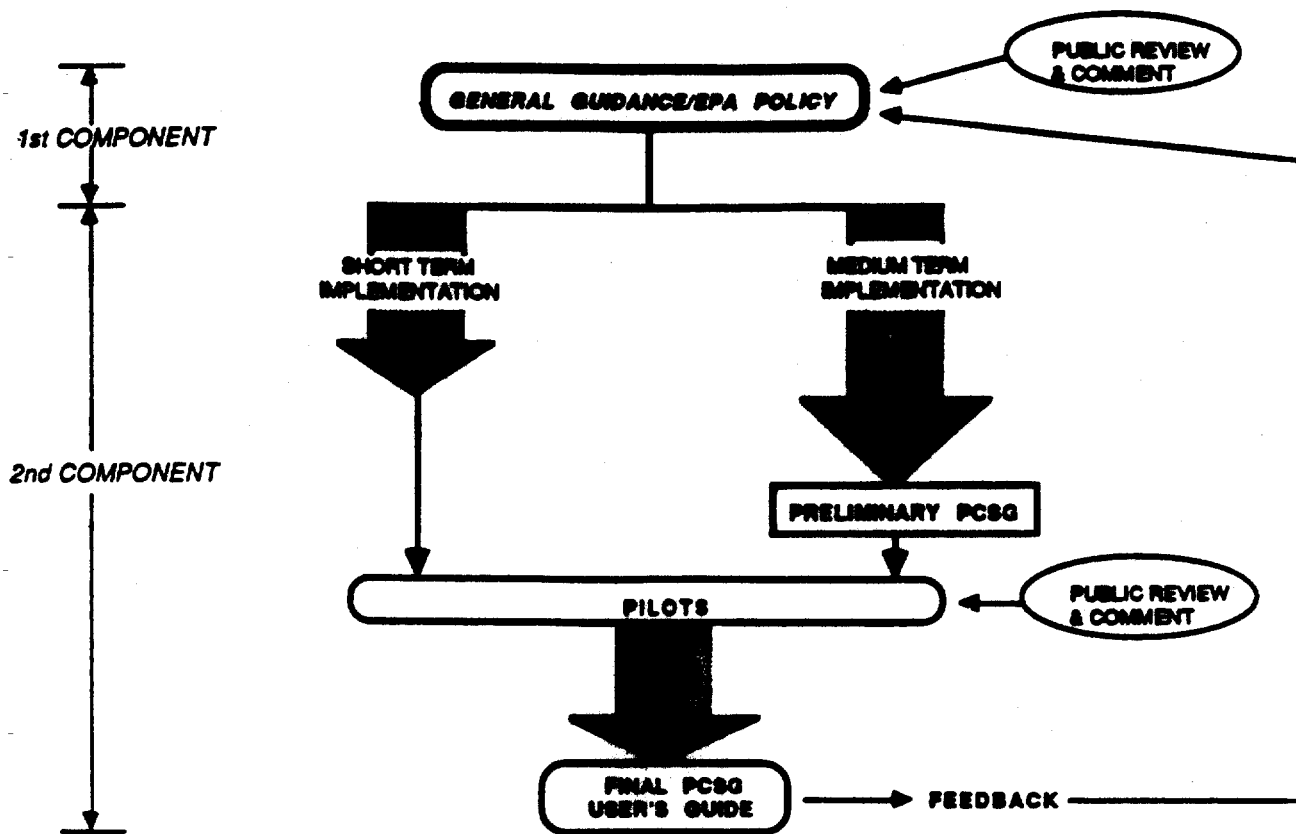
specific product categories. These will be linked to the pilot acquisitions selected by Executive agencies. A more detailed discussion of how these pilot acquisitions might work is included in Section III.B.

Although both components are meant to address multiple audiences (e.g., acquisition community, companies, environmental organizations, etc.), each has a slightly different target audience in mind. The first component, which sets a broad policy framework, is aimed primarily at policy makers and others, both in the public as well as in the private sector, who may be interested in EPA’s first comprehensive statement on “green” products. The second component, which will result in more detailed and practical guidance on specific product categories, will be aimed at the procurement and the acquisition personnel. By making clear its goals and directions, both the general and product category specific guidances (PCSGs) should also provide pragmatic direction for companies who desire to produce more environmentally preferable products and services, and who seek to sell those products and services to the Federal government. The consideration of environmental factors in purchasing needs to be put in the context of other important considerations such as performance, health and safety issues and price.

Figure 1 illustrates the approach which is described above.

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Figure 1. Implementation Approach



## B. Guiding Principles

The following seven principles are recommended as a broad guide to help Federal purchasers address environmental preferability in Federal acquisitions.

### Guiding Principle 1:

Consideration of environmental preferability should begin early in the acquisition process and be rooted in the ethic of pollution prevention which strives to eliminate or reduce, up front, potential risks to human health and the environment.

It has been estimated that 70 percent or more of the costs of product development, manufacture, and use are determined during the initial design stages.<sup>3</sup> Thus, customized purchases or projects where program managers, architects, engineers, systems designers, or others have influence over the design phase afford the agencies an early opportunity to apply environmental preferability and offer a unique point of leverage from which to address environmental impacts.

Environmental preferability does not involve just substituting one "green" product for another, it also involves questioning whether a function needs to be performed, and how it can best be performed to minimize environmental impacts. For instance, in degreasing operations, the question is often posed whether an efficient cleaner using halogenated solvents is better or worse for the environment than an aqueous based cleaner. A more appropriate question may be whether the cleaning/degreasing step can be eliminated without affecting the overall performance of the product or system. This might be accomplished for example, by consolidating cleaning/degreasing in a later stage of the manufacturing process or changing the process itself.

### Guiding Principle 2:

A product or service's environmental preferability is a function of multiple attributes.

Environmental preferability is a function of many attributes (e.g., energy efficiency, impacts on air, water, and land and fragile ecosystems, etc.), not just one or two. Targeting a single environmental performance characteristic for improvement, like energy efficiency or recycled content, may be much easier, because they are more easily defined (most of the time), measured and understood. By focusing on one dimension of a product's performance, however, one might overlook other environmental impacts associated with the product that may cause equal or greater damage. Furthermore, it is possible that improvements along one dimension may result in other unintended negative environmental impacts along another dimension.

The menu of environmental performance characteristics described in Appendix B offers a preliminary list of product or service attributes that can help to identify environmentally preferable products.

### Guiding Principle 3:

Environmental preferability should reflect life-cycle considerations of products and services to the extent feasible.

Ideally, "environmental preferability" of a product or service should be determined by comparing the severity of environmental damage that the product or service causes to human health and ecological health across its life-cycle with that caused by competing products—from the point of a raw materials acquisition, through product manufacturing, packaging, and transportation to use and ultimate disposal.

The term "life-cycle" is often interpreted by different people to mean very different things. To some, it connotes an exhaustive, extremely time-consuming and very expensive analysis. To other life-cycle is an abbreviated process whereby a long list of potential environmental attributes and/or impacts is narrowed to just a few which provide the basis for comparison across a particular product category. This guidance promotes the latter interpretation and encourages the use of tools which are currently available. For starters, Executive agencies are directed to EPA's document "Federal Facility Pollution Prevention Project Analysis: A Primer for Applying Life Cycle and Total Cost Assessment Concepts." (EPA 300-B-95-008, July 1995)

A more detailed discussion of issues related to life-cycle considerations is included in Appendix C.

### Guiding Principle 4:

Environmental preferability should consider the scale (global vs. local) and temporal reversibility) aspects of the impact.

Determination of environmental preferability may require weighing the various environmental impacts among products. For example, is the impact of increased energy requirements of one product more tolerable than the water pollution associated with the use of another product? While there is no clear hierarchy as to which attributes or environmental impacts are most important, EPA has articulated, in its Science Advisory Board's 1990 report entitled *Reducing Risk*, a statement of policy on priority pollutants affecting environmental and public health. In this report, environmental stressors were judged to be significant based on two primary criteria—the geographic scale and degree of reversibility of the impact. Applying this principle suggests that products with pollutants whose effects are local and rapidly reversible are to be generally preferred over products that impose global and irreversible environmental damages.

A matrix of priority ecological impacts that reflects the scale and temporal consideration of impacts, and a list of priority human health impacts is included in a discussion in proposed Appendix E.

### Guiding Principle 5:

Environmental preferability should be tailored to local conditions where appropriate.

The importance of environmental impacts may vary depending on geographic location and other site-specific factors, such as the variation in the availability of natural resources and pollutant effects on a particularly sensitive ecosystem. For

example, products that conserve water usage may be valued more highly by those who live in the southwest United States where water is scarce than by resident of the northeast where water is abundant. Thus, purchasers may wish to consider local environmental issues when evaluating life-cycle environmental information provided by offerors. When making purchasing decisions, these local issues would need to be carefully weighed against other global and national environmental problems, such as ozone depletion and global climate change.

### Guiding Principle 6:

Environmental objectives of products or services should be a factor or subfactor in competition among vendors, when appropriate.

An approach to selecting environmentally preferable products that promotes competition on environmental grounds among vendors is better than an approach which inhibits competitive forces. The consideration of environmental factors in purchasing needs to be put in the context of other important considerations such as performance, health and safety issues and price. A crucial element in fostering competition and encouraging a market-driven approach is to have disclosure of information by vendors about their products and services. Where appropriate, Federal personnel should seek meaningful information about the environmental aspects of products in order to judge whether one product or service is more of less environmentally preferable than another. The accessibility of the information to the public (both the Federal personnel and the general public) will help ensure its accuracy and credibility (e.g., through "the power of the spotlight") as well as to stimulate continuous improvement in the environmental performance of vendors' products.

### Guiding Principle 7:

Agencies need to examine carefully product attribute claims.

A number of sources of information about environmental performance of products are currently available.<sup>4</sup> Two general categories of information sources can be distinguished. The first is manufacturers who make claims about their products either on the product label or in their advertisements. Second, some third party environmental certification programs evaluate environmental aspects of products and award "seals-of-approval" or compile "report cards" of environmental information. Others verify specific claims made by manufacturers (e.g., product contains X percent recycled content). The extent to which information conveyed through claims and seals can assist Executive agency personnel in identifying environmentally preferable products may vary depending on the types of product being

<sup>3</sup> From Office of Technology Assessment's "Green Products by Design," page 3.

<sup>4</sup> Information about environmental aspects of products are much more abundant in the consumer marketplace. However, as the Federal acquisition system becomes more decentralized and allows for more direct purchasing of commercially available products, the line that distinguishes the Federal marketplace from the consumer marketplace will become increasingly blurred and the information flow between the two marketplaces will increase.

purchased and the legal requirements applicable for a particular acquisition.

This guidance includes two tools to assist Executive agency personnel in evaluating attribute claims or "eco-labels" that appear on products. First, a summary of the Federal Trade Commission's (FTC) "Guides for Use of Environmental Marketing Terms," appears as Appendix D. Second, EPA proposes to include a discussion of characteristics for third party environmental certification programs in the guidance as Appendix F. Executive agency decisions regarding federal procurement, including those involving the environmental preferability of products, are considered to be an inherent government function, therefore the EPA believes that Executive agencies should not make decisions regarding the environmental preferability of products based on third party environmental certification programs that do not generally meet certain characteristics. EPA has requested comment on this proposed Appendix.

### III. Executive Agency Implementation

This section recommends steps that each agency can take to implement the environmentally preferable provisions of Executive Order 12873.

#### A. Policy Directive and Affirmative Procurement Plans

Recognizing that effective implementation will require clear direction and support from the top levels of the agency, it is recommended that each Executive agency issue a Policy Directive that promotes the purchase of environmentally preferable products and services. Elements in the policy directive should include:

An overall statement of policy:

- Agency personnel should seek to reduce the environmental damages associated with their purchases by increasing their purchase of environmentally preferable products and services to the extent feasible, taking into account other considerations such as performance, health and safety issues and price.

- Environmental factors should be taken into account as early as possible in the acquisition planning and decision-making process.

A commitment to the following:

- Increase the acquisition of environmentally preferable products and services.<sup>5</sup>
- Identification of voluntary pilot projects (see discussion below).

- Establishment of incentive and award programs to recognize those people, teams, and interagency work groups who are most successful at promoting the purchase of environmentally preferable products.<sup>6</sup>

<sup>5</sup>This is pursuant to section 602. "Goal for Increasing the Procurement of Recycled and Other Environmentally Preferable Products," which states "Agencies shall strive to increase the procurement of products that are environmentally preferable or that are made with recovered materials and set annual goals to maximize the number of recycled products purchased, relative to non-recycled alternatives."

<sup>6</sup>This is pursuant to section 302(b)(2) of the Executive Order that states that Agency Environmental Executives shall "establish

Collaboration among agencies to provide education and training is highly encouraged.

In order to minimize the burden on Executive agencies, EPA recommends that provisions of the Policy Directive to promote environmentally preferable products be incorporated into individual agency's Affirmative Procurement Plans.<sup>7</sup> This can be done as agencies revise their Plans.

#### B. Pilot Projects

The discussion in Section II.B. identified seven principles which are key to promoting the purchase of environmentally preferable products. To encourage Executive agencies to move forward in acquiring environmentally preferable products and to further develop the infrastructure and knowledge base to support this initiative, EPA is recommending that voluntary pilot projects be undertaken by Executive agencies.

The pilot acquisitions will be the "laboratories" for applying the principles, will help test their workability, and through the results of the pilots, provide actual "lessons learned" as well as improved or more effective policy for future acquisitions. For each of the pilots, a product category specific guidance (PCSG) or "users guide" aimed at the acquisition community will be developed. EPA will seek involvement of established commodity sources, such as the General Service Administration (GSA) and the Defense Logistics Agency (DLA), who have experience and expertise concerning their respective commodities in the pilot projects. EPA plans to keep track of projects that are planned or already underway and thereby serve as a focal point for information on government-wide activities related to environmentally preferable products. Information about different pilots will be disseminated among the agencies to avoid any duplication of efforts and to ensure that lessons learned in one pilot project can be shared to inform other pilot projects.

The discussion below further describes how these pilots and demonstration projects might work. Figure 2 illustrates this process.

1. Selection of pilots. Selection of pilot acquisitions is at the discretion of individual Executive agencies. Criteria that agencies should consider in selecting pilots include:

- Potential for a reduction in risk to human health and the environment.
- Feasibility/degree of flexibility in the acquisition.
- Products or services that are representative or typical of the procurement system; this maximizes the potential value of the pilot acquisition in providing lessons as to the effectiveness of the guidance as well as future acquisitions.

2. Short-term implementation. There are several demonstration projects that are

incentives, provide guidance and coordinate appropriate educational programs for agency employees."

<sup>7</sup>Under section 6002 of the Resource Conservation and Recovery Act of 1976, procuring agencies are required to establish affirmative procurement programs for purchasing EPA-designated recycled products. EPA recommends that agencies expand the scope of their affirmative procurement programs to include other environmentally preferable products.

already in the planning or implementation stages that illustrate how to promote the purchase of environmentally preferable products. These include:

#### GSA/EPA Cleaning Products Pilot

In 1993 at the request of GSA, EPA began developing environmental performance criteria that would help identify "green" cleaning products. Stakeholder meetings were held to develop the criteria, and a study was undertaken to look at product efficacy and the relationship between product performance and environmental impact. Using the results of these efforts, GSA's Federal Supply Service is developing a solicitation for a multiple award schedule that will convey from vendors to federal consumers information on attributes of cleaning products that can serve as indicators of environmental impacts. This information will then be available to purchasers for their examination when selecting products. As part of this pilot, EPA will examine the information provided on the "environmentally preferable cleaning products" schedule and will select cleaning products for EPA facilities.

#### GSA/EPA Computer Pilot

Computer hardware accounts for approximately \$4.6 billion in purchases by the Federal government annually. Currently, the Federal government has been successful in purchasing energy efficient Energy Star computers which have resulted in significant environmental benefits and cost savings. Using its purchasing power, the Federal government can and, in the case of Energy Star, has stimulated product manufacturers to make environmental improvements. EPA and GSA, in collaboration with computer manufacturers and others, are seeking to expand the Energy Star model to identify additional attributes that can be used in the acquisition of environmentally preferable computers.

#### Current Sources for Products With Environmental Attributes

Executive agencies have the option of acquisition products through various supply sources available from GSA and DLA. GSA's Multiple Award schedules (MAS) are one such source of supply. With recent modifications, these schedules offer to purchasers some information on the environmental performance of products. GSA also currently publishes an Environmental Products Guide which identifies those products which vendors have associated with an environmental claim and a New Item Introductory Schedule that often includes information on the environmental performance of products.<sup>8</sup> While agencies should consider purchasing items from this Guide, they should be aware that often the claims refer to a single environmental attribute (e.g., recycled content) and are not verified by GSA. GSA is planning to enlist EPA's assistance in implementing a demonstration project that will involve expanding these publications to include

<sup>8</sup>Other catalogs of supply include GSA's Supply Catalog and DLA's Energy Efficient Lighting Catalog.



more comprehensive information on the environmental performance of products.

3. Medium term implementation. In addition to completing the aforementioned pilots that have already been initiated, EPA requests that Executive agencies select voluntary acquisitions that would become the next wave of pilots and which would also benefit from lessons learned from those case studies already underway or completed. These voluntary pilots will be implemented in three phases.

Phase I—Agencies will identify possible pilot projects. Based on their selections, additional guidance targeting specific product categories will be developed and published. EPA will support these pilots, providing overall coordination and technical assistance, as resources allow. The product category-specific guidances will include the following:

- A qualitative description of the most important environmental performance characteristics for that product category; this will involve a scoping process that will include technical experts both inside and outside the government.
- A description of standard methods by which those characteristics can be measured.

Institutionalizing the purchase of environmentally preferable products in the long run requires that the efforts on the part of the Executive agencies not end when these pilots are completed. So that agencies will continue to acquire "green" products, EPA will coordinate an effort to develop additional guidance documents for product categories that will become the subjects of future pilots. These guidance documents, similar to the product category-specific guidances described above, will describe environmental performance characteristics and measurement methods, and will be developed through a process involving technical experts both inside and outside the government. The identity of the product categories to be targeted for additional guidance will be determined at a future date, and will be influenced by suggestions that are submitted during the public comment period on this proposed guidance.

Phase II—Applying the product category-specific guidance to the acquisition process, agencies will actually purchase environmentally preferable products. While the acquisition strategy and method are left to the discretion of the purchasing agency,

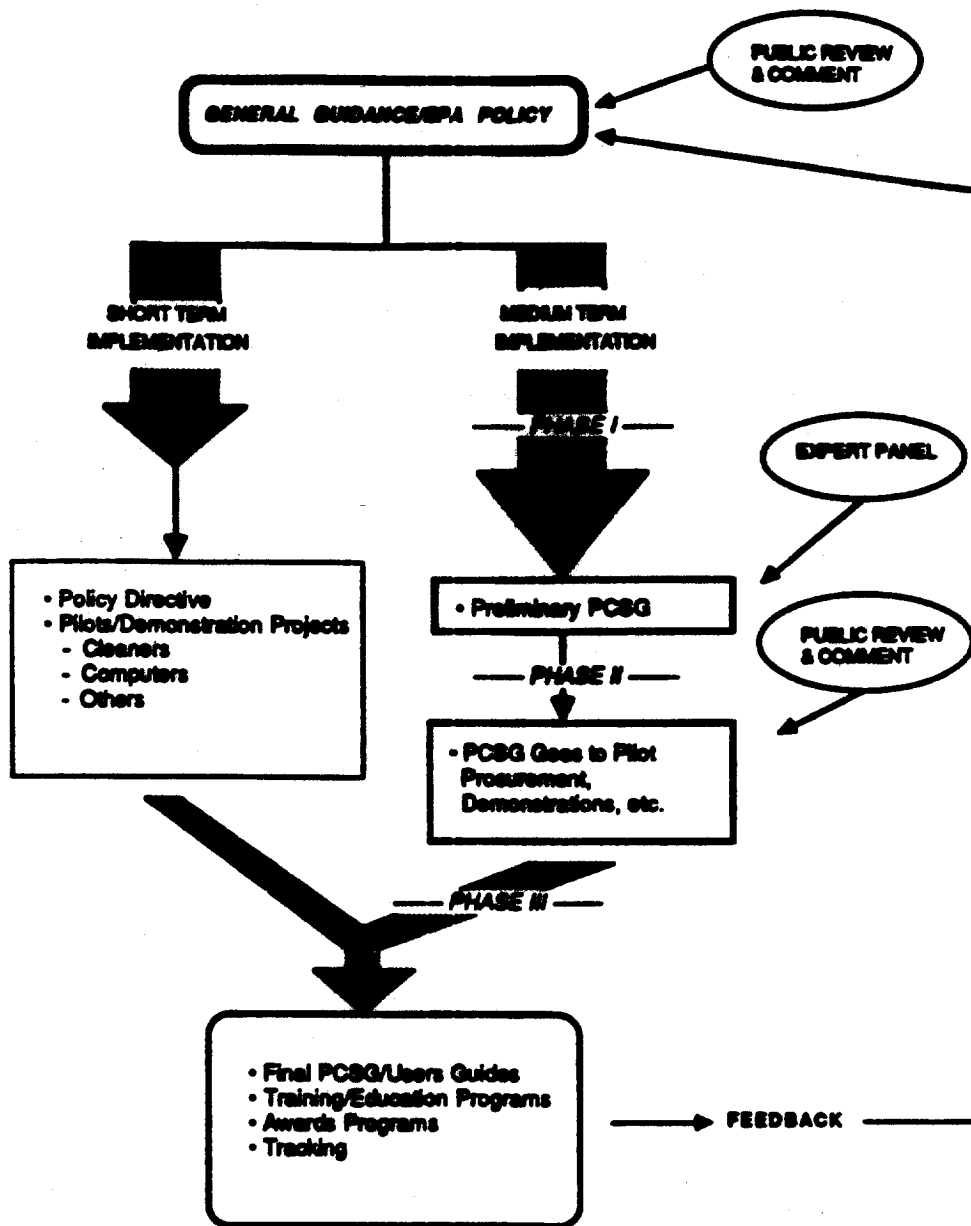
Executive agencies are asked to select the procurement strategy that:

- Maximizes the number of environmentally preferable product choices available to the purchasing Agency.
- Promotes competition across products in terms of environmental performance.
- Stimulates product and process innovation and continuous improvement.
- Allows for the consideration of local environmental conditions.
- Promotes a definition of environmentally preferable products that can improve over time.

Phase III—Upon completion of the pilot project, a compilation and analysis of lessons learned in the acquisition process, data gathered about product categories and results of the pilots will be assembled. The results of these joint efforts will be shared with other agencies through the Electronic Acquisition Network process. EPA believes that the lessons learned from these efforts will help to refine the concepts and principles contained in the general guidance and thereby ensure the effective implementation of the mandates in the Executive Order.

**BILLING CODE 6560-50-M**

**Figure 2. Pilot Implementation**



4. Long-term success. The experience gained from the short- and medium-term pilots will be key to determining the scope and nature of EPA's long-term activities to advance Federal acquisition of environmentally preferable products and services. The lessons learned from these pilots as well as the partnerships formed during the pilots will help to establish a broader infrastructure to support this initiative. EPA may need to utilize existing or help develop new mechanisms—guidance, networks, data bases, etc.—in support of the Federal purchasing community to build this infrastructure. The infrastructure can serve to bridge the gap between the environmental and procurement expertise within the Executive agencies.

All Federal personnel will have a role in creating a demand for products and services that have fewer environmental burdens. Thus, the infrastructure will also have to support the development of tools that are easy and convenient for Federal personnel to use in selecting and purchasing environmentally preferable products.

Furthermore, in light of the evolving acquisition landscape and the dynamic nature of the marketplace, the infrastructure will have to be flexible in order to meet the changing needs of the acquisition community. Given the increased globalization of the economy and the trend towards commercialization of the Federal marketplace, another important consideration will be to coordinate this initiative with new international trade and standardization developments. Ultimately, the measure of success of this initiative will be in terms of increased availability and purchase of products and services that have fewer impacts on human health and the environment.

## Appendix

The set of appendices that follows should be viewed by procuring officials and other government employees as separate but related "tools boxes" to be used in determining preferability. As with all tasks, the type and complexity of the tools should be appropriate to the magnitude and importance of the job. The EPA seeks comments on the appendices that follow:

Appendix A. Glossary of Terms

Appendix B. Environmental Performance Characteristics

(1) Preliminary "Menu" of Environmental Performance Characteristics

(2) Definitions for Terms in the Menu of Environmental Performance Characteristics

Appendix C. Applying a Life-Cycle Perspective

Appendix D. Summary of FTC's "Guides for Use of Environmental Marketing Claims"

Appendix A. Glossary of Terms

Environmentally preferable. Products or services that have a lesser or reduced effect

on human health and the environment when compared with competing products or services that serve the same purpose. The comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

Life-cycle assessment. The life-cycle assessment is a process or framework to evaluate the environmental burdens associated with a product, process, or activity by identifying and quantifying energy and material usage and environmental releases, to assess the impact of those energy and material uses and releases on the environment, and to evaluate and implement opportunities to effect environmental improvements. The assessment includes the entire life-cycle of the product, process, or activity, encompassing extracting and processing raw materials; manufacturing, transportation and distribution; use/re-use/maintenance; recycling; and final disposal.

Often the terms life-cycle assessment and life-cycle analysis are used synonymously. The Executive Order uses the latter and provides a slightly different definition as follows: "Life-cycle analysis is a comprehensive examination of a product's environmental and economic effects throughout its lifetime including new material extraction, transportation, manufacturing, use and disposal.

Life-cycle cost. For the purposes of this guidance document, life-cycle cost is defined to mean all internal and external costs associated with a product, process, or activity throughout its entire life-cycle—from raw materials acquisition to manufacture to recycling/final disposal of waste materials. The term life-cycle cost has also been used by the Department of Defense to mean the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs, and disposal costs discounted over the lifetime of a product. However, this second definition has traditionally not included environmental costs associated with systems and thus, the first definition is used in the guidance.

Multiple Award Schedule (MAS). MASs contain a number of product listings for which several vendors are available for a particular product. Purchasers obtain information from the vendors and determine from which vendor they want to buy.

Pollution prevention. Pollution prevention means "source reduction," as defined under the Pollution Prevention Act of 1990, and other practices that reduce or eliminate the creation of pollutants through:

—Increased efficiency in the use of raw materials, energy, water, or other resources, or

—Protection of natural resources by conservation.

The Pollution Prevention Act defines source reduction to mean any practice which: —Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive

emissions) prior to recycling, treatment, or disposal; and

—Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

The term includes: equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control.

Third party certification programs. Within the context of this guidance, this general term is used to include programs (either non-profit or for-profit, government-run, government-related or independent) that verify or certify single attribute claims made by manufacturers or other programs that compile key environmental information into "report cards" (e.g., those compiled by the Scientific Certification Program). The term also encompasses a large category of both international and to a lesser extent, domestic programs that award "seals-of-approval" to those products that meet a specific set of environmental award criteria. Award criteria may reflect an analysis of environmental impacts, such as Canada's Environmental Choice's standards for reduced-pollution paint, or single categories, such as Japan's EcoMark seal awarded for the recycled content of paper. A seal is given only if a product meets the standards established by the program. Most of the major foreign environmental certification programs use a seal of approval approach. Active third party seal of approval programs include Germany's Blue Angel, Canada's Environmental Choice, Japan's EcoMark, Green Seal (U.S.), and the international Flipper Seal-of-Approval, among others.

Participation by manufacturers or vendors in the various programs is usually on a voluntary basis.

## Appendix B. Environmental Performance Characteristics

The menu of environmental performance characteristics listed below is designed to help identify the attributes that can be targeted for improvement. This, together with the life cycle graphic which appears in Appendix C, can be used by Federal purchasers to help select that product or service that minimizes environmental impact. It is a preliminary list of the major potential sources of human health and environmental risk. Definitions for each of the characteristics follow the menu.

This menu can be used by agency personnel in two ways: (a) to provide a standard framework for focusing in on the most important environmental attributes of products, systems, and facilities, and determining which product is preferable based on those attributes, or (b) as a checklist of environmental issues to be considered when designing and acquiring systems or buildings. Not all of the environmental performance characteristics will apply to each product; indeed, in some cases, information on only a few key environmental

attributes may be needed to determine environmental preferability.

The menu of environmental performance characteristics suggests that two different approaches to soliciting information can be used. The first includes consideration of releases of pollutants that occur during the life-cycle of the product. In the research on product life-cycle assessments that have been conducted over the past several years, these releases are known as "inventory" items. Alternatively, the risks (or risk surrogates) associated with various life-cycle stages of a product can be identified. This approach seeks to identify actual environmental impacts rather than solely environmental releases. When calculating risks, general population (both environmental and human) exposures and occupational exposures need to be considered. Executive agencies may consider using both risk and release data in their decisions to purchase environmentally preferable products and services.

Additional guidance on how the menu may be used within the context of a particular product category as well as how the Ecological Priority Impacts Matrix and the List of Stressors Presenting High Risk (discussed below in Appendix D) may be applicable will be issued as part of specific guidances that will follow based on voluntary pilot acquisitions.

If vendors/offerors use the menu as a basis for making environmental marketing claims, they should conform to the Federal Trade Commission's Guides for Use of Environmental Marketing Claims (16 CFR 260.5). A summary of the FTC's Guides is included as Appendix D. As explained in the FTC guides, claims concerning a product's environmental performance need to be supported by environmental data provided by offerors and offerors are encouraged to have the information verified by a credible, independent third party certifier to provide product users, acquisition officials and program managers with the assurance that the information they are evaluating is accurate and scientifically sound.

#### Appendix B(1). Preliminary Menu of Environmental Performance Characteristics

##### A. Natural Resources Use

- Ecosystem impacts (endangered species, wetlands loss, fragile ecosystem, erosion, animal welfare etc.)
- Energy consumption (including source, if known)
- Water consumption
- Non-renewable resource consumption (>200 years)
- Renewable resource consumption (<200 years)
- Rapidly renewable resource consumption (<2 years)

##### B. Human Health and Ecological Stressors

- Bioaccumulative pollutants
- Ozone depleting chemicals
- Global warming gases
- Chemical releases (Toxics Release Inventory (TRI) list chemicals or others)
- Ambient air releases (other than TRI, including volatile organic compounds & particulate matter)

- Indoor environmental releases (consumer and occupational)
- Conventional pollutants released to water
- Hazardous waste
- Non-hazardous solid waste (municipal solid waste, large volume waste, surface impoundments)
- Other stressors

##### C. Positive Attributes

- Recycled Content
- Recyclability
- Product Disassembly Potential
- Durability
- Reusability
- Other attributes

##### D. Hazard Factors Associated With Materials

- Human Health Hazards
  - acute toxicity
  - carcinogenicity
  - developmental/reproductive toxicity
  - immunotoxicity
  - irritancy
  - neurotoxicity
  - sensitization
  - other chronic toxicity
- Ecological Hazards
  - aquatic toxicity
  - avian toxicity
  - terrestrial species toxicity
- Product Safety Attributes
  - corrosivity
  - flammability
  - reactivity

#### Appendix B(2). Definitions for Terms in the Menu of Environmental Performance Characteristics

##### A. Natural Resource Use

(1) Ecosystem impacts: Adverse impacts on the ecosystem, e.g., endangered species, wetlands loss, fragile ecosystems, erosion.

(2) Energy consumption: The total amount of energy consumed. Different sources of energy are associated with different environmental impacts (e.g., petroleum consumption creates global warming gases while hydroelectric power may have localized site impacts on ecosystems and/or species diversity).

(3) Water consumption: Refers to the water resources that are consumed or used.

(4) Non-renewable resource consumption: Those resources consumed that are not renewable in 200 years (e.g., fossil fuels, minerals).

(5) Renewable resource consumption: Those resources consumed that are renewable in 2 to 200 years (e.g., timber-based products).

(6) Rapidly renewable resource consumption: Those resources consumed that are renewable in less than 2 years (e.g., grain-based feed stocks).

##### B. Human Health and Ecological Stressors

(1) Bioaccumulative pollutants: Those chemicals that bioconcentrate in the environment as described in the Significant New Use Rule for new chemicals. (See 40 CFR 721.3)

(2) Ozone depleting chemicals: Ozone depleting chemicals have been defined in the Protection of Stratospheric Ozone Final Rule, (58 FR 65018, December 10, 1993).

(3) Global warming gases: Global warming gases are listed in Climate Change 1992, The Scientific Report on the IPCC Scientific Assessment, Table A 2.1.

(4) Chemical releases: This refers to ambient releases of chemicals of concern such as those reported on the Toxics Release Inventory (TRI) of the Emergency Planning and Community Right-to-Know Act. The current list is reported in 40 CFR 372.65.

(5) Ambient air pollutants: Refers to pollutants for which ambient air quality standards have been developed (see 40 CFR 50.4–50.12). These include nitrogen dioxide, sulfur dioxide, ozone precursors, particulate matter, carbon monoxide and lead.

(6) Indoor environmental releases: This refers to releases to an indoor environment of chemicals of concern such as those reported on the TRI in both occupational and consumer settings.

(7) Conventional pollutants: Conventional pollutants are defined in 40 CFR 401.16. These include biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease.

(8) Hazardous waste: Quality of Resource Conservation and Recovery Act (RCRA) hazardous waste as defined in 40 CFR 261.3.

(9) Non-hazardous waste: Quantity of solid waste as defined in 40 CFR 261.3. Includes municipal solid waste, large volume (e.g., oil and gas, mining, etc.) waste and solid disposed of in surface impoundments.

(10) Other stressors: Any other stressors associated with the product or service but not captured elsewhere.

##### C. Positive Attributes

(1) Recycled content: Percentage of recovered material content (see Federal Trade Commission guidelines mentioned above for more details). Executive agencies are required to purchase EPA-designated items with recycled content (40 CFR part 247). Purchasers may want to consider whether the material contains pre-consumer or post-consumer recycled content. Post-consumer recycled content or material that would have otherwise been incinerated or landfilled is considered to be better for the environment than manufacturers' scrap material that would have, in any case, been incorporated into the product. Refer to FTC's "Guides for the Use of Environmental Marketing Claims."

(2) Recyclability: Refers to products or materials that can be recovered from or otherwise diverted from the solid waste stream for the purpose of recycling. It should be noted, however, that although technically most materials may be recyclable—i.e., processed and used—whether a product or a material is actually recycled depends to a large extent on the community availability of collection and use programs for the materials. Refer to FTC's "Guides for the Use of Environmental Marketing Claims."

(3) Product disassembly potential: Refers to the ease with which a product can be disassembled for maintenance, parts replacement, or recycling.

(4) Durability: Refers to the expected lifetime of the product.

(5) Reusability: Refers to how many times a product may be reused. Since reusable products, in general, may require more up

front costs than disposable products they are often subjected to a cost/benefit analysis in order to determine the payback period.

(6) Other attributes: Any other positive attributes that are associated with the product but are not listed here.

*D. Hazard Factors Associated With Materials Human Health Hazards*

(1) Acute toxicity: The potential to cause adverse health effects from short-term exposure to a chemical substance.

(2) Carcinogenicity: Carcinogenicity is defined EPA using a weight-of-evidence approach (51 FR 33992, September 24, 1986). When quantification is possible, slope factors can also be used to express carcinogenic potency.

(3) Development/reproductive toxicity: EPA defines developmental toxicity as adverse effects on the developing organism that result from exposure prior to conception (either parent), during prenatal development, or postnatally to the time of sexual maturation (56 FR 63798, December 5, 1991). Reproductive toxicity is any adverse effect on an organism's ability to reproduce.

(4) Immunotoxicity: Any adverse effect on an organism's immune system that results from exposure to a chemical substance.

(5) Irritancy: Irritancy can be reported according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR part 1910.1200) or using the Draize scale.

(6) Neurotoxicity: Any adverse change in the development, structure, or function of the

central and peripheral nervous system following exposure to a chemical agent (59 FR 42272, August 17, 1994).

(7) Sensitization: Sensitization is an immunologically mediated cutaneous reaction to a substance. EPA test methods for evaluating sensitization potential are found in 40 CFR part 798.4100.

(8) Other chronic toxicity: The potential to cause an adverse effect on any organ or system following absorption and distribution to a site distant from the toxicants entry point.

*Ecological Hazards*

(1) Aquatic toxicity: The potential of a substance to have an adverse effect on aquatic species. Measurement methods for aquatic toxicity can be found in 40 CFR part 797, subpart B.

(2) Avian toxicity: The potential of a substance to have an adverse effect on avian species.

(3) Terrestrial species toxicity: The potential of a substance to have an adverse effect on terrestrial species other than man.

*Product Safety Attributes*

(1) Corrosivity: EPA defines dermal corrosion as the production of irreversible tissue damage in the skin following application of a test substance. Test methods for evaluating dermal corrosion can be found in 40 CFR 798.4470.

(2) Flammability: Flammability is defined by the OSHA Hazard Communication

Standard (29 CFR 1910.1200) and ignitability is defined in 40 CFR part 261.21.

(3) Reactivity: As defined in 40 CFR 261.23.

*Appendix C. Applying a Life-Cycle Perspective<sup>9</sup>*

The life-cycle stages are represented in the graphic below. The "Design" heading below the life-cycle stages is meant to reinforce the fact that the most critical and effective time to address the environmental impacts of a product is in the design stage. Note that the pre-manufacturing stages should reflect environmental effects associated with raw materials, acquisition, intermediate processing, and all activities prior to manufacturing.

To ensure reduction of environmental impacts in as many of the life-cycle stages as possible, the following information is desirable: (1) a description of the environmental impacts at each life-cycle stage, and (2) an indication of at which stage(s) the greatest environmental impacts occur. Strategies can then be developed to reduce environmental impacts at that stage. For example, if the greatest impact occurs in the use stage, Executive agencies could develop strategies for proper maintenance or training. While the federal consumer may be tempted to focus on the last 2 stages, it is possible for environmental impacts to be greater in the first three stages.

FIGURE C-1.—LIFE-CYCLE STAGES

Design				
Pre-manufacture .....	Manufacture .....	Distribution/packaging .....	Use, reuse, & maintenance.	Waste management.

*Appendix D. Summary of Federal Trade Commission Guides for Use of Environmental Marketing Claims<sup>10</sup>*

*Background*

The Federal Trade Commission's Guides for the Use of Environmental Marketing Claims are based on a review of data obtained during FTC law-enforcement investigations, from two days of hearings the FTC held in July 1991, and from more than 100 written comments received from the public. Like all FTC guides, they are administrative interpretations of laws administered by the FTC. Thus, while they are not themselves legally enforceable, they provide guidance to marketers in conforming with legal requirements. The guides apply to advertising, labeling and other forms of

marketing to consumers. They do not preempt state or local laws or regulations.

This Commission will seek public comment on whether to modify the guides after 3 years. In the meantime, interested parties may petition the Commission to amend the guides.

Basically, the guides describe various claims, note those that should be avoided because they are likely to be misleading, and illustrate the kinds of qualifying statements that may have to be added to other claims to avoid consumer deception. The claims are followed by examples that illustrate the points. The guides outline principles that apply to all environmental claims, and address the use of eight commonly-used environmental marketing claims.

*General Concern*

As for any advertising claims, the FTC guides specify that any time marketers make objective environmental claims—whether explicit or implied—they must be substantiated by competent and reliable evidence. In the case of environmental claims, that evidence often will have to be competent and reliable scientific evidence.

The guides outline four other general concerns that apply to all environmental claims. There are:

(1) Qualifications and disclosures should be sufficiently clear and prominent to prevent deception.

(2) Environmental claims should make clear whether they apply to the product, the package, or a component of either. Claims need not be qualified with regard to minor,

<sup>9</sup> It is recognized that it may be initially difficult to apply a full life-cycle perspective in determining and purchasing environmentally preferable products. However, despite the challenges presented by applying the life-cycle concepts, EPA strongly believes that the life-cycle framework offers the holistic and comprehensive perspective needed to address adequately the issue of

environmental preferability. As efforts are made to apply the concepts more broadly, both in the private and public sector and as the work of those developing the methodology for establishing standards for life-cycle assessment continue, tools will evolve over time that can facilitate application of a life-cycle perspective to environmentally preferable purchasing. Until then, users of this

guidance are encouraged to apply as much of a life-cycle perspective to their purchases of environmentally preferable products and services as possible.

<sup>10</sup> Excerpted from FTC Press Release announcing guidelines for environmental marketing claims.

incidental components of the product or package.

(3) Environmental claims should not overstate the environmental attribute or benefit. Marketers should avoid implying a significant environmental benefit where the benefit is, in fact, negligible.

(4) A claim comparing the environmental attributes of one product with those of another product should make the basis for the comparison sufficiently clear and should be substantiated.

(Summary of FTC Environmental Marketing Guidelines)

The guides then discuss particular environmental marketing claims. In most cases, each discussion is followed in the guides by a series of examples to illustrate how the principles apply to specific claims.

General environmental benefit claims. In general, unqualified general environmental claims are difficult to interpret and may have a wide range of meanings to consumers. Every express and material implied claim conveyed to consumers about an objective quality should be substantiated. Unless they can be substantiated, broad environmental claims should be avoided or qualified.

Degradable, biodegradable, and photodegradable. In general, unqualified degradability claims should be substantiated by evidence that the product will completely break down and return to nature, that is, decompose into elements found in nature within a reasonably short period of time after consumers dispose of it in the customary way. Such claims should be qualified to the extent necessary to avoid consumer deception about: (a) The product or package's ability to degrade in the environment where it is customarily disposed; and (b) the extent and rate of degradation.

Compostable. In general, unqualified compostable claims should be substantiated by evidence that all the materials in the product or package will break down into, or otherwise become part of, usable compost (e.g., soil-conditioning material, mulch) in a safe and timely manner in an appropriate composting program or facility, or in a home compost pile or device. Compostable claims should be qualified to the extent necessary to avoid consumer deception. (1) If municipal composting facilities are not available to a substantial majority of consumer or communities where the product is sold; (2) if the claim misleads consumers about the environmental benefit provided when the product is disposed of in a landfill; or (3) if consumers misunderstand the claims to mean that the package can be safely composted in their home compost pile or device, when in fact it cannot.

Recyclable. In general, a product or package should not be marketed as recyclable unless it can be collected, separated, or otherwise recovered from the solid waste stream for use in the form of raw materials in the manufacturer or assembly of a new product or package. Unqualified recyclable claims may be made if the entire product or package, excluding incidental components, is recyclable.

Claims about products with both recyclable and non-recyclable components should be adequately qualified. If incidental

components significantly limit the ability to recycle a product, the claim would be deceptive. If, because of its size or shape, a product is not accepted in recycling programs, it should not be marketed as recyclable. Qualifications may be necessary to avoid consumer deception about the limited availability of recycling programs and collection sites if recycling collection sites are not available to a substantial majority of consumers or communities.

Recycled Content. In general, claims of recycled content should only be made for materials that have been recovered or diverted from the solid waste stream, either during the manufacturing process (pre-consumer) or after consumer waste (post-consumer). An advertiser should be able to substantiate that pre-consumer content would otherwise have entered the solid waste stream. Distinctions made between pre- and post-consumer content should be substantiated. Unqualified claims may be made if the entire product or package, excluding minor, incidental components, is made from recycled material. Products or packages only partially made of recycled material should be qualified to indicate the amount, by weight, in the finished product or package.

Source Reduction. In general, claims that a product or package has been reduced or is lower in weight, volume, or toxicity should be qualified to the extent necessary to avoid consumer deception about the amount of reduction and the basis for any comparison asserted.

Refillable. In general, an unqualified refillable claim should not be asserted unless a system is provided for: (1) the collection and return of the package for refill; or (2) the later refill of the package by consumers with product subsequently sold in another package. The claim should not be made if it is up to consumers to find ways to refill the package.

Ozone Safe and Ozone Friendly. In general, a product should not be advertised as "ozone safe," "ozone friendly," or as not containing CFCs if the product contains any ozone-depleting chemical. Claims about the reduction of a product's ozone-depletion potential may be made if adequately substantiated.

Appendix E—Establishing Core Environmental Values [Reserved]

Appendix F—Establishing Third Party Environmental Certification Programs [Reserved]

#### V. Public Record

A record has been established for this document under docket number "OPPTS-00149" (including comments and data submitted electronically as described below). A public version of this record, including printed, paper versions of electronic comments, which does not include any information claimed as CBI, is available for inspection from noon to 4 p.m., Monday through Friday, excluding legal holidays. The public record is located in

the TSCA Nonconfidential Information Center, Rm. NE-B607, 401 M St., SW., Washington, DC 20460.

Electronic comments can be sent directly to EPA at: [ncic@epamail.epa.gov](mailto:ncic@epamail.epa.gov)

Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption.

The official record for this document, as well as the public version, as described above will be kept in paper form. Accordingly, EPA will transfer all comments received electronically into printed, paper form as they are received and will place the paper copies in the official record which will also include all comments submitted directly in writing. The official record is the paper record maintained at the address in ADDRESSES at the beginning of this document.

#### List of Subjects

Environmental protection.

Dated: September 25, 1995.

Carol M. Browner,  
Administrator.

[FR Doc. 95-24284 Filed 9-28-95; 8:45 am]

BILLING CODE 6560-50-M

[OPPTS-62150A; FRL-4980-3]

#### Guidance on Acquisition of Environmentally Preferable Products and Services; Notice of Meeting

AGENCY: Environmental protection Agency (EPA).

ACTION: Notice of meeting.

SUMMARY: This Notice describes a process that EPA has established to solicit input from all interested parties on the proposed guidance that Executive agencies can use in determining the preference and purchase of environmentally preferable products and services. As a part of this process, EPA is announcing a public meeting to be held in October. This proposed guidance is being developed to implement section 503 of Executive Order on Federal Acquisition, Recycling and Waste Prevention. The proposed guidance in its entirety is published elsewhere in this issue of the Federal Register.

DATES: The meeting will take place on October 26 and 27, 1995, starting at 9:30 a.m. and ending each day at 5 p.m. unless concluded earlier. Registration will occur one hour before the meeting is scheduled to begin on both days. The second day will only proceed if there are more confirmed presenters than can be accommodated on the first day.