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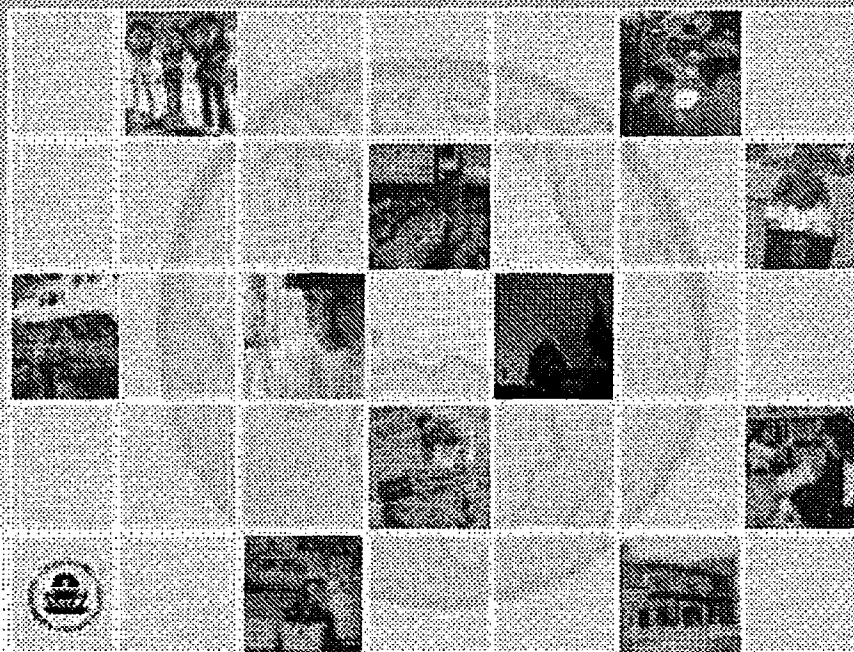
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RESOURCE CONSERVATION CHALLENGE STRATEGIC PLAN

WHAT CAN YOU SAVE TOMORROW?



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Draft
November 29, 2004
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Executive Summary

This document describes how the Resource Conservation Challenge (RCC) will establish a path to achieve the goals set out in EPA's Strategic Plan, the 2020 Vision, and the Agency's pollution prevention efforts. It represents the first step in an on-going planning and implementation process for the RCC.

In the more than thirty plus years of the U.S. Environmental Protection Agency's (EPA) existence, the US has made enormous progress in protecting the environment. Looking to the future, economic and population growth will continue in the US and throughout the world. According to the WRI (2000) Weight of Nations: Material Outflows from National Economies report, over the next fifty years, the world's population is expected to increase by 50 percent and global economic activity is expected to increase by 500 percent. Concurrently, global energy consumption and manufacturing activity are likely to rise at least threefold¹. These trends demand more creative ways of simultaneously addressing environmental, economic and social goals.

The Agency Strategic Plan, the Resource Conservation and Recovery Act's (RCRA) 2020 Vision, and Pollution Prevention (P2) Programs all call for a transformation of the nation's current waste-handling system and approach towards materials management. The Resource Conservation Challenge is a forum for leadership within the Agency, in partnership with the states, which aims to achieve this transformation. This document, the Resource Conservation Challenge Strategic Plan, with its focus on waste and toxics, will align the projects, goals, and strategies of EPA's Office of Solid Waste (OSW) and Office of Pollution Prevention and Toxics (OPPT). In the short term, this Strategic Plan will focus primarily on OSW and P2 issues. The mission of OSW is to provide protection against the hazards of waste disposal by focusing on recycling and reuse of materials, reducing use of toxic chemicals, and conserving energy. OPPT brings its strengths of toxic chemical evaluation and action and its role as the Agency's focal point for promoting pollution prevention. Through the RCC, OSW and OPPT will enter into a partnership to mutually support these projects that meet shared goals. Through this close alliance between OSW and OPPT and their joint leadership, many EPA programs, Regional initiatives, and state efforts can coalesce to identify and achieve waste and toxic reduction goals.

In announcing the RCC, EPA identified three basic goals:

1. Prevent pollution and promote recycling and reuse of materials;
2. Reduce the use of toxic chemicals; and
3. Conserve energy and materials.

More recently, discussions between OSW, OPPT, and several regions suggest that green product design and green purchasing might deserve inclusion as a basic goal, while energy conservation is more appropriately an overarching result of the RCC, along with resource conservation. These discussions continue.

¹ WRI (2000) Weight of Nations: Material Outflows from National Economies -- (See http://materials.wri.org/pubs_description.cfm?PubID=3023)

This Strategic Plan establishes a five to ten year guide for EPA, states, and stakeholders to set materials management goals, and achieve them where they are set. While it is designed to be flexible and expandable, EPA recognizes that and is in the process of identifying key areas of national priority, and developing implementation plans within each of these areas to provide focus to the RCC. This plan establishes a framework within which EPA can identify priority areas, and make decisions about how to invest resources to achieve current commitments and identify new annual performance targets and measures. Under the Implementation plans, the Agency will set goals, measure progress, develop and apply decision-making tools, and apply policy approaches.

In addition, the ideas and approaches contained in this RCC Strategic Plan will serve as a basis for a national dialogue on the importance of pollution prevention, recycling, reuse, and green product design, generally referred to as resource conservation. The outcomes from these discussions will shape the partnerships and projects within the RCC to produce measurable, positive, environmental results. Through the RCC, the Agency and stakeholders can bring together – subject to resource constraints – their many ongoing efforts and design and achieve a future in which resource conservation is part of our everyday lives. EPA recognizes that there are regulatory and programmatic barriers, real and perceived, to the achievement of RCC objectives, but the Agency is making a commitment to learn about those barriers and explore strategies to address them through this Plan.

This Plan identifies long-range goals and strategies, and places these in context with the Agency's 2003-2008 Strategic Plan, 2020 Vision, and P2 Program. RCC goals are currently a part of Goal 3 – Land Preservation and Restoration, and Goal 5 – Compliance and Environmental Stewardship, and the RCC is developing efforts that support both Goal 2 – Clean and Safe Water, and Goal 4 – Healthy Communities and Ecosystems. During each cycle of development of EPA's Annual Performance Plan, the RCC has added and will continue to add specific targets and measures that support the goals established under the Agency's 2003-2008 Strategic Plan. We are committed to identifying specific targets and measures for major RCC activities, although not all will necessarily be included in the GPRA structure.

The document is organized around five principles – Product Stewardship, Beneficial Reuse of Materials (Source Reduction, Recycling, and Beneficial Use), Energy Conservation, Priority Chemicals Reduction, and Greening the Government. The principles are broad in focus and provide a framework to understand projects and approaches. They encompass thematic projects that reflect the RCC's vision of a cradle-to-cradle materials management system. Taken separately, each principle represents a vital part of the Agency's overall effort to transform waste into materials management. Taken together, these principles form an integrated planning whole – stronger and more powerful because of the connections between them.

To complement this Plan, EPA has identified four key areas for national focus – Priority and Toxic Chemical Reductions, Municipal Solid Waste, Beneficial Use of Materials, and Green Initiatives – Electronics. By spring 2005, after discussions within EPA and with our state RCRA and pollution prevention counterparts, we will develop national implementation strategies for each of these four areas. These strategies will describe specific goals and actions needed to

move toward the overall goals of the RCC and the Agency. The Implementation Plans will illustrate specific on-going and new projects, and associated means, benefits, measures and outcomes, and will describe the implementation priorities and responsibilities of participating EPA offices and key stakeholders.

Introduction

Waste and Materials Management

The Resource Conservation and Recovery Act (RCRA) established the basis for waste management in the United States. While the Act is probably most well known for creating a regulatory structure for the identification and safe management of hazardous and municipal wastes, its very name emphasizes the national interest in advancing strategies that prevent the creation of waste.

This concept of waste prevention and resource conservation was recently emphasized in the *Beyond RCRA: Prospects for Waste & Materials Management in the Year 2020* (referenced as the "2020 Vision"). A group of officials from the Environmental Protection Agency (EPA) and state environmental agencies developed the 2020 Vision to initiate a dialogue on the directions of waste and materials management in the United States over the next twenty years. The 2020 Vision examines trends and future directions in materials use, society, and technology, and proposes discussion of three new overarching goals: reduce waste and increase the efficient and sustainable use of resources; prevent exposures to humans and ecosystems from the use of hazardous chemicals; and manage wastes and clean up chemical releases in a safe, environmentally sound manner. EPA's Office of Solid Waste (OSW) implements RCRA and led the development of the 2020 Vision. Its mission is to provide protection against the hazards of waste disposal by focusing on recycling and reuse of materials, reducing use of toxic chemicals, and conserving energy.

Another vitally important EPA program that focuses attention on reducing risks from highly toxic substances is the Pollution Prevention (P2) Program. The goal of the P2 Program is to reduce or eliminate waste at the source, before it is generated. The Office of Pollution, Prevention, and Toxics (OPPT) is developing a Pollution Prevention Vision as a means of focusing the program strategically and identifying current P2 priorities. This P2 Vision is being developed in close coordination with P2 staff in the Regions. The vision and mission statements frame the P2 program within three broad strategic categories -- Greening supply and demand, P2 Integration, and delivery of P2 Services. The P2 program plays a critical role in moving the RCC strategic planning process towards the Agency's goals. Strong coordination and integration between OSW and OPPT is instrumental in realizing the resource conservation goals of the 2020 Vision and this Strategic Plan.

The Resource Conservation Challenge

Consistent with the goals of the 2020 Vision and the Agency's P2 program, the RCC challenges the Nation to put "resource conservation and recovery" back into everyday living. The RCC is primarily organized around ambitious challenges and voluntary partnerships that inspire all Americans to contribute to dramatic progress towards pollution prevention, recycling, reuse,

toxics use reductions, and energy and materials conservation. These voluntary partnerships seek to improve environmental performance by challenging stakeholders to identify and implement innovative approaches that go beyond compliance and current regulations. By focusing on resource conservation, including more efficiently using our materials, the RCC seeks to strengthen America.

Over the past 28 years, EPA has addressed the safe handling, management, and disposal of wastes through RCRA. In particular, EPA has worked within the framework of the "cradle - to - grave" management system for the subset of wastes identified as hazardous. With a regulatory structure in place to manage the most hazardous waste, EPA is now charting its direction for the next 20 years. Building on the RCRA 2020 Vision and the OPPT P2 program, the RCC's vision is to transform the way that materials move through the economy to achieve a future where throwing away "waste" is a concept of the past. EPA recognizes that where wastes and toxics cannot be prevented, reduced, or recycled, safe disposal will continue to be a viable, yet less desirable, option. For all other wastes, the goal is to reduce what comes into the waste management cycle - where it is economically feasible - through pollution prevention, waste minimization, source reduction, and process/design change. EPA acknowledges industry's progress and willingness to move forward in this "culture change" process of waste elimination/materials management.

This idea of an economy where waste is a concept of the past and, instead, materials and products circulate as valuable and abundant nutrients in a biological cycle (materials that safely biodegrade) or a technical cycle (materials that do not biodegrade, or do not biodegrade safely) was articulated by William McDonough and Michael Branungart in their book, "Cradle-to-Cradle: Remaking the Way We Make Things." Moving from the current "cradle-to-grave" approach of waste identification and management towards a "cradle-to-cradle" approach of efficient, safe materials flow is central to the RCC, the 2020 Vision, and the P2 program.

When it established the RCC, EPA announced that it would work with partners to establish and meet specific "challenges" designed to further three broad goals: 1) prevent pollution, and promote recycling and reuse of materials; 2) reduce the use of toxic chemicals and; 3) conserve energy and materials.¹ Through the RCC, EPA challenges the business and manufacturing sectors to enter into partnerships to dramatically reduce the use of toxic chemicals, or to eliminate waste entirely, where possible. It challenges individual consumers to make more informed purchasing decisions and more environmentally friendly waste and materials management decisions. And, it challenges government to lead by example.

To establish a strong foundation for the RCC, the program will emphasize an approach that harmonizes the work of OSW and OPPT to attain waste and toxic reductions. Principles focused around specific waste and toxic reduction areas within this Strategic Plan will provide national coordination, while still allowing the continuation of other areas that are important to Regions and states. The RCC is working to enhance state participation by working through state organizations (e.g. FOSTA, ASTSWMO, ECOS). The RCC is interested in reaching out to

¹ More recently, discussions between OSW, OPPT, and several regions suggest that green product design and green purchasing might deserve inclusion as a basic goal, while energy conservative is more appropriately seen as an overarching result of the RCC, similar to resource conservation.

states that are engaged in exploring materials management programs, projects, activities, and resource conservation.

The Five RCC Principles

This strategic plan is oriented around five principles that reflect a life cycle, multimedia approach to environmental results: Product Stewardship, Beneficial Use of Materials (Source Reduction, Recycling, and Beneficial Use), Energy Conservation, Priority Chemicals Reduction, and Greening the Government. We chose to organize the plan around these five themes because they are instrumental in achieving the vision of a cradle-to-cradle materials management system.²

Additional detail and discussion of the RCC program and its current projects can be found in the *Resource Conservation Challenge: A Year of Progress, Annual Report 2002-2003* and on the EPA web page at www.epa.gov/rcc.

Strategic Planning

Purpose of the RCC Strategic Plan

This Strategic Plan establishes EPA's direction, focus, vision and broad goals for RCC. It will be the key document through which EPA establishes the path along which the RCC will continue to grow from a series of individual, ambitious projects and achievements into a set of robust Agency-wide programs oriented towards identification and achievement of pollution prevention, recycling, reuse, toxics use reduction, and energy and materials conservation goals. The plan, however, will also be a living document, gaining greater specificity as EPA identifies areas of national focus, further identifies goals and measures specific to different areas, and develops specific implementation plans.

At the visionary level, the RCC Strategic Plan begins to describe a longer-term, aspirational set of ideas that move beyond the concept of waste. At the practical level, the RCC Strategic Plan provides a sense of direction for each principle, a sense of the outcomes EPA plans to achieve, and the key strategies the Agency intends to follow. It creates a foundation for overall Agency planning, budgeting, reporting and accountability, while acknowledging that commitments are dependent on resources. The Strategic Plan is an invitation to new partners to engage in a broader discussion of how best to achieve waste reduction, recycling, and pollution prevention goals.

² Originally Environmentally Friendly Design (EFD) was an individual principle (formerly known as program elements) with its own strategic plan, hence the six principles discussed in the RCC Annual Report and elsewhere. However, as the RCC Strategic Plan evolved, it became evident that there is significant overlap between EFD's recommended strategies and the strategies contemplated for the other five principles. EFD emerged as a vital principle in moving all of the other principles towards the Agency's goals. Because EFD is more programmatic in nature, it has been incorporated into the other five plans. With this decision, EFD becomes a critical and fundamental piece of each of the other principles, rather than a separate one. See attachment for list illustrating how EFD is incorporated into the other principles.

The RCC Strategic Plan aims to:

- Coordinate OSW and OPPT waste and toxics reduction programs and projects;
- Better align EPA, Regional, and state focus to attain effective materials management;
- Build on current partnerships and attract new partners; and
- Illustrate the measures used to track success for future projects.

The Principles

The RCC Strategic Plan comprises individual sections focused on each RCC principle. Taken individually, each section defines the Agency's strategic directions and goals for a particular principle. Taken as a coordinated whole, the sections identify key goals of the RCC over the next five to ten years. Achieving the goals requires partnering with stakeholders inside and outside the Agency. Together, partners will participate in goal development and help put in place the structure and resources that will be needed. The RCC Strategic Plan does not start from scratch; existing efforts led by offices and Regions across EPA and in state environmental agencies have established the groundwork for progress. The Strategic Plan will align with Regional and state work and enhance resource conservation.

Although the individual principles are similar in seeking to promote resource conservation, it is important to recognize that the plans discussed under each principle differ. Each principle contains diverse strategic approaches, several at different stages of implementation. These strategic approaches do not reflect EPA's final thinking, and we expect to add focus and specificity in many areas as the RCC develops. Additionally, because the RCC Strategic Plan starts from the strong foundation of ongoing work, each principle describes a slightly different set of strategies. Some are focused on short-term ideas based largely on on-going projects; others reach into the future. Some will be carried out through new partnerships, others will succeed through cross-office collaboration, and some may require regulatory changes. These differences mean that results may be evident relatively quickly in some areas, while in others, results may take years to achieve. In all cases, the common objective across the individual principles is to establish direction and to create a mechanism to identify and achieve measurable, environmental results consistent with the 2020 Vision, the P2 program, and the Agency's Strategic Plan.

Relationships with Other EPA Programs

The RCC provides a forum for leadership and coordination to align and focus EPA efforts and the collaborative efforts of stakeholders and partners. Many RCC activities require a significant level of collaboration and alignment between OPPT and OSW because RCRA and P2 goals relate to materials management. Since there are many other Agency efforts related to each principle, the RCC will serve to complement and support those initiatives already underway. It will be important in the ongoing aspects of the RCC strategic planning process to ensure that the directions and goals established by the RCC are consistent with the goals established by other programs within EPA and within the work of Regional Offices and states. The RCC will seek the comprehensive collaboration needed to advance materials management efforts nationally.

Relationship to the Agency Strategic Plan

The RCC's three goals are drawn from the Agency's overall strategic goals and direction. More specific goals and strategies will be identified in the Implementation Plans, and will support the specific goals and commitments made in the 2003-2008 EPA Strategic Plan.

The RCC is currently a part of both Goal 3 – Land Preservation and Restoration, and Goal 5 – Compliance and Environmental Stewardship, and is developing efforts that support both Goal 2 – Clean and Safe Water, and Goal 4 – Healthy Communities and Ecosystems. During each cycle of development of EPA's Annual Performance Plan, the RCC plans to continue to add specific targets and measures that support the goals established under the Agency's 2003-2008 Strategic Plan.

The Need for Implementation Plans

To complement the RCC Strategic Plan, operational documents will be developed to describe the specific actions that will fulfill the promise of the RCC. These Implementation Plans will particularly focus on areas identified as national priorities, appropriate for national strategies. They will describe specific on-going and new projects, associated means, measures and outcomes, and the implementation priorities and responsibilities of participating EPA offices, Regions, and key stakeholders. Because they will be more detailed and involve resource commitments, the Implementation Plans will be developed over time.

The Principles

I. Product Stewardship

Introduction

Product Stewardship refers to "greening" products from beginning (e.g., design) through the use phase all the way to disposal. Thus, Product Stewardship encompasses toxics reduction, design for reuse, upgrade or recycling, maximizing energy conservation and product life span, and making sure that the product can be returned to some kind of useful application when it is no longer needed as is.

In the context of the RCC, we focus on the materials-use aspects of Product Stewardship: that is making sure that products are designed to have another useful incarnation and that there is funding, infrastructure and cooperation from the necessary parties to ensure that products, when they are discarded, find their way to another valuable use - whether back into service through upgrade or repair, or back into its component parts or commodities for use in making new products. In this way, we move toward systematizing resource conservation and leaving behind our history of resource use and disposal.

To get to this more sustainable place, we need to engage all of those who benefit from products—including, manufacturers, retailers, consumers, and recyclers- in new kinds of partnerships. Right now the primary responsibilities for managing discarded products and materials fall on

government and the waste management industry. Without help from these other players, it will not be possible to change the current paradigm of "buy, use and dispose" to one of "buy, use, reuse, upgrade or recycle".

Several things are needed to help change this situation. First, we need to ensure that products are made with reuse, upgrade and recycling in mind. This is a design issue. One reason it is so much more expensive to divert waste from landfilling or burning is that most products are not made to facilitate reuse, upgrade or recycling.

Second, sustainable funding sources for recovery must be found. This is a financing issue. Right now, recycling is largely funded by tax dollars. When tax revenues fall, recycling takes a back seat to other more urgent public needs, such as police, firefighters and schooling. One approach to get more sustainable funding for recycling, and the direction that is being taken by other developed nations including Canada, Japan, and the European Nations, is to make the cost of recovering products at the end of their useful life part of the cost of buying the product.

Third, we need to improve the mechanisms of collecting and separating products for recovery. Two competing needs conspire to make this a daunting task. On the one hand, it is efficient from a collection cost standpoint to load lots of different products from one container (e.g., a residential "blue bin") and dump them into one recycling truck. On the other hand, being able to separate different products and different materials at dropoffs (whether they are curbside, municipal or charity collection sites, or retailer special collections) can yield cleaner, more valuable product/commodity streams that will better help pay for their recovery. Collection can be accomplished either through the existing municipal waste or recycling infrastructure or by employing the existing product distribution system to take materials back for recovery (e.g., "reverse distribution"). Improvements in this area are needed to help make recovery more affordable and convenient and to maximize the value of recovered materials, and hence the potential markets for these materials.

Related to this is market development for collected materials. Traditionally, because governments and their waste haulers have led recycling programs, they have led developing markets for the materials they collected. Market-development for commodities is not a "core-competency" of government. If manufacturers or retailers have some role or obligations with respect to recovery of their products at end of life they will get involved in market development to help reduce the costs of this obligation and to maximize the value of the resulting commodities. This should result in more robust markets for the resulting materials, helping recycling to compete more successfully with disposal.

Finally, as we move toward an economy based on reuse, upgrade and recycling, we need to be sure that these processes are managed safely. We have worked to ensure that our landfill and incineration standards encompass safe management. We need now to devote resources to ensuring that reuse, upgrade, remanufacturing and recycling processes are conducted safely without unacceptable risk to human health and the environment.

Scope

For the purpose of this Strategic Plan, Product Stewardship includes:

- Design for environment with a stewardship focus
- Sustainable Funding Sources
- Facilitate Efficient Collection (in addition to Source Reduction, Recycling, and Beneficial Use)
- Market Development (in addition to Source Reduction, Recycling, and Beneficial Use)
- Safe Recovery

Where we want to be in 5-10 years – Broad Goals

Only by working with the product chain – manufacturers, retailers, consumers—before products ever become waste can products be designed to ensure that what is waste today will be useful to society tomorrow. This is a critical component of achieving EPA's goals for waste minimization, and a cornerstone of the transformation of materials and waste management policies, incentives, and disincentives necessary to achieve the 2020 Vision. The design component of product stewardship is vital to the overall success of implementing a culture change in materials management. Therefore, over the next few years, EPA anticipates that environmentally friendly design decisions will be important for designers to factor into their work. The underlying goal of Product Stewardship is:

Working with the product chain (including manufacturers, retailers, consumers and others) along with government to develop creative ways to encourage "greener product design" such that products are much easier and economical to reuse, upgrade and recycle for the same or higher value uses. Develop with these stakeholders sustainable financing mechanisms to support product recovery and discourage disposal. Encourage environmentally safe practices in the reuse, upgrading, remanufacturing and recycling of products.

Strategies

The Product Stewardship principle plan has three main components:

1) Identify Priority Product Streams:

EPA will work with states and external stakeholders to select a manageable set of product categories to target for product stewardship initiatives, and, for each product sector, develop a focused strategy for applying the product stewardship framework.

2) Environmentally Friendly Design:

EPA will work with stakeholders in the product chain to develop tools (such as "green product" rating systems) to encourage manufacturers to make "greener products" and to encourage institutional buyers and others to purchase these products.

3) Existing Product Streams:

EPA will continue work on product streams that have already been selected: electronics and carpet.

Strategic Targets: What we want to achieve

- ❖ In ten years, it will be as convenient for the average American to take a discarded TV or PC for reuse, upgrade, or recycling as it is to purchase a new one. The overwhelming

bulk of discarded electronic equipment will go to safe reuse and recycling. Electric products will be designed for recycling, and contain minimal toxic constituents.

- ❖ In 2002, the carpet industry, along with 12 states and EPA, signed a Memorandum of Understanding (MOU) for Carpet Stewardship. The 2002 Carpet Stewardship MOU set a goal to divert 40% of post-consumer carpet from landfills by 2012 primarily through reuse and recycling. The overall waste diversion goal is divided into specific goals for reuse 3-5%, recycling 20-25%, cement kilns 3%, and waste-to-energy 1%. As a result of the MOU, the carpet industry established and agreed to finance and administer the Carpet America Recovery Effort (CARE) with the aim of meeting the goals set in the MOU. CARE, along with signatory carpet manufacturers and governments, are responsible for promoting and monitoring progress toward the MOU's goals. EPA is working with the carpet industry to meet the goals set in the 2002 MOU, including: 1) encouraging carpet designs that can be readily and safely recovered and recycled at the end of its useful life; 2) helping develop the infrastructure to collect discarded post-consumer carpet for reuse and/or recycling; 3) growing high value-added markets for new products containing post-consumer carpet as recycled content; and 4) moving toward a long-term goal of no land disposal or incineration (including waste-to-energy) of waste carpet.
- ❖ EPA and states will develop effective partnerships for other product significant product categories.

The targets outlined below align with the Agency Strategic Plan goals

- ❖ **Goal 3: Land Preservation and Restoration, Sub-objective 3.1.1: Reduce Waste Generation and Increase Recycling**
 - Reduce waste material through product and process redesign
- ❖ **Goal 5: Compliance and Environmental Stewardship, Sub-objective 5.2.2: Prevent Pollution and Promote Environmental Stewardship by Business.**
 - Improve environmental stewardship practices in business operations by adopting more efficient, sustainable, and protective policies, practices, materials, and technologies.

II. Source Reduction, Recycling, and Beneficial Use

Introduction

The Source Reduction, Recycling, and Beneficial Use principle sees a future where we all generate less waste, we recycle as much as we can, and we beneficially use waste and materials through environmentally sound practices. For the environment we build, including roads, bridges, and buildings, we use industrial by-products in lieu of raw materials whenever we can accomplish this in an environmentally sound manner. Rather than view the by-products of our lives as wastes destined for disposal, we will see the economic and environmental benefits of source reduction, recycling, and beneficial use.

Scope

This principle focuses on both consumers and industry and outlines efforts to achieve our goals. All wastes and materials are covered under this plan since there are large volumes of these materials that may be recycled or beneficially used. That means wastes and materials from the home, yard, and office, as well as wastes and materials produced by manufacturing and industry are included. While the RCRA program's focus to date has typically been on hazardous waste and municipal solid waste, this principle adds a new focus on non-hazardous industrial waste. For example, coal combustion byproducts represent a large non-hazardous industrial waste stream with high potential for recycling and beneficial use.

Industry generates approximately 214 million tons per year of non-hazardous industrial waste. Some of these wastes are diverted from landfilling through reuse and recycling but, for others, inadequate markets restrict their reuse or recycling. In part, this is due to the uncertainty of the environmental impact of the reuse and recycling of these waste streams. America generates approximately 250-350 million tons per year of construction and demolition debris – waste generated from building, demolishing, and rebuilding roads, bridges, and buildings. While 50% of concrete and 30 million tons of asphalt are recycled each year, there are many untapped opportunities to recycle and safely reuse other construction-related products. In addition, by taking a design for the environment approach, Americans could reduce construction waste from new construction projects.

The RCC's success in this area, however, will largely be measured by EPA's ability to work with states, local governments, and other stakeholders to reduce the generation of municipal solid waste, to divert municipal solid waste from disposal, and to promote effective recycling of valuable municipal waste streams now going to waste. EPA has set the daunting national goal of achieving a 35% recycling rate for municipal solid waste by 2008 and holding the per capita rate of municipal solid waste generation constant. To meet these goals, EPA will develop a targeted strategy, aimed at increasing the recycling rate of paper, "organic" wastes (e.g., yard wastes, food), and packaging containers as key waste streams to address first.

Where we want to be in 5-10 years – Broad Goals

The long-term goal under this principle is:

Reducing the amount of waste and increasing recycling and beneficial use by increasing the recycling rate of key municipal solid waste streams and beneficial use of key non-hazardous industrial waste streams.

Strategies

This principle has five main strategic components:

- 1) Analyze and characterize (manufacturing, process, and product) waste streams (this includes both industrial and municipal wastes).**
- 2) Continue ongoing efforts where they have proved effective and needed.**
- 3) Identify additional efforts based on select criteria and develop corresponding initiatives for new wastes streams/partners.**
- 4) Identify environmentally safe and beneficial practices, incentives, and barriers.**

5) Increase outreach and education on the benefits of source reduction, recycling, and beneficially using wastes/materials.

Strategic Targets: What we want to achieve

The nation has a fairly strong infrastructure for recycling municipal solid waste. By focusing on targeted key waste streams, such as paper, "organic" waste (e.g., yard wastes, food), and packaging containers, the recycling meets the 2008 national goals. The goals of the Coal Combustion Products Partnership Program (C2P2), which is a cooperative effort of EPA and the coal combustion products (CCPs) industry to help promote the beneficial use of CCPs, will be met by recycling the large waste stream of coal combustion byproducts. Construction and demolition debris will be another large non-hazardous waste stream targeted for recycling and beneficial use goals.

The targets outlined below align with the Agency Strategic Plan goals

- ❖ **Goal 3: Land Preservation and Restoration, Sub-objective 3.1.1: Reduce Waste Generation and Increase Recycling**
 - **Source Reduction:**
 - By 2008, maintain the national average municipal solid waste generation at 4.5 pounds per person per day.
 - **Recycling:**
 - By 2008, increase municipal solid waste recycling to 35% from 30% in 2002.

III. Energy Conservation

Introduction

The goal of conserving energy, through the way waste and materials are managed, runs through many RCC activities. It provides a vision for EPA as the RCC works with stakeholders to increase energy savings associated with the management of wastes. Products that end up in the waste stream have energy impacts at each stage of their life cycle: the acquisition of raw materials, their manufacture into products, their use by consumers, and their disposal as wastes. While the existing regulatory scheme in the U.S. ensures wastes are, for the most part, managed properly, opportunities still exist to improve on this scheme and to come closer to Congress's original vision for waste management. Most notably, we can increase the amount of waste that is source reduced and recycled (thereby conserving energy) and the amount of waste that is processed for energy recovery. The energy saved and recovered will provide many benefits, such as reduced releases of pollutants, conserved land that is currently utilized for landfilling, enhanced production of energy to minimize reliance on foreign sources, and financial incentives to manage certain wastes.

Scope

The Energy Conservation principle challenges partners to focus on untapped opportunities to conserve and recover energy from wastes. Additionally, there are other forms of energy

conservation that are being covered in other Agency actions (e.g., wind, solar, hydro, etc). The RCC will continue to discuss inclusion where it is feasible and makes sense. This principle includes 1) safely recovering energy from materials now handled as wastes, and 2) managing materials more effectively throughout their lifecycle, thereby saving energy at each stage.³ Many RCC activities contribute directly to this principle – for example, using coal combustion byproducts (e.g., fly ash) in concrete reduces the need to produce Portland cement, leading to direct energy savings; when conditions are appropriately controlled, scrap tires can be safely burned as fuel (sometimes with secondary benefits in NOX reductions); landfill gases can be recovered through landfill bioreactors. The RCC will continue to explore opportunities in these areas, and has developed or is developing measurable goals. In addition, some advanced industrial processes for handling secondary materials and industrial byproducts may have energy benefits. To advance the goal of energy conservation, the RCC will increase public information and technical assistance. Initial focus areas include comparable and waste-derived fuels and innovative funding and financing efforts for technology investment.

Where we want to be in 5-10 years – Broad Goals

Access to reliable and clean energy is a national priority and, within the context of the RCC, energy conservation represent areas in which the RCC wants to increase attention and activity. By focusing on these areas, the RCC hopes to accelerate the introduction of conservation measures in the U.S., which can reduce the environmental impact of energy production, conserve national resources, diversify our energy production profile, and enhance sustainability.

Because there are many opportunities and priorities that vary according to Region, the first phase of the strategy implementation will involve pilot projects focused on energy conservation. The RCC plans to work with the Regions as they consider what should be the focus of their energy activities and how the activities will contribute to the strategic objectives outlined here. This effort, along with others in the next five years, will put in place a more structured energy conservation program under the RCC that works towards the following goal:

Challenge partners to increase energy savings associated with recovering energy from wastes and saving energy throughout materials life cycle

Strategies

To achieve the strategic goals, the RCC plans to engage in a variety of activities across program areas. While many of these activities involve new efforts, some are associated with well-known programs and thus require a significant level of collaboration and alignment towards common goals to ensure that any new actions make positive contributions. The strategies are organized under three main areas:

1) Reform and Revision:

³ The focus of this plan is on energy recovery from wastes because the other RCC strategic plans address the energy savings associated with source reduction, recycling, and product stewardship efforts. Note that advances in the recovery of energy from wastes should not come at the expense of current and future efforts in source reduction and recycling.

Analyze our regulations/policies/guidances and consult with our stakeholders to identify barriers, gaps, and opportunities that can be exploited through revision or flexibility that will aid in achieving our short term and long term energy conservation and recovery goals.

2) Assistance, Evaluation and Outreach:

Facilitate change by providing necessary support, outreach and partnership services to the public and private sector.

3) Education:

Institutionalize a new ethic in the public and private sector with respect to waste and waste management that places a premium on the reuse of waste materials to increase resource conservation or to produce energy products.

Strategic Targets: What we want to achieve

Within ten years, we anticipate meeting the objectives outlined in the "targets" section below. We will add to the RCC objectives already included in the Agency's Strategic Plan by working with stakeholders to agree on appropriate numerical targets for the following⁴:

- ❖ Increase the energy saved through waste prevention, recycling, and product stewardship efforts.
- ❖ Increase the energy generated from wastes not amenable to source reduction, recycling, or product stewardship efforts.
- ❖ Also, in consultation with stakeholders, we will be identifying numerical targets for the specific areas/wastes we identify as the "low hanging fruit" and the initial activities on which we will focus.
- ❖ Our objectives under this principle relate to, and are consistent with, subobjectives 5.2.2 through 5.2.4 from the Agency's Strategic Plan. These subobjectives include energy savings that result from activities in the Performance Track Program, Sector Strategies Program, State Innovation Grant Program, and the Environmental Results Program, among others.

IV. Priority and Other Toxic Chemical Reduction

Introduction

The use of chemicals in industrialized nations has brought about tremendous advancements in technology and improved virtually every aspect of society. Although initially considered

⁴ Currently, the Agency's Strategic Plan has energy goals expressed both in BTUs of energy reduced and in percent of energy saved. The targets presented here can be expressed either way.

beneficial, certain chemicals in use today are also highly toxic, do not break down when released into the environment, and can be dangerous even in small quantities. The Agency has identified 31 specific priority Chemicals (see Attachment 1) meeting these criteria.⁵ This list of 31 chemicals is certainly not exhaustive; other candidates for national attention are likely to be developed.

Scope

In the Agency's Strategic Plan, EPA has identified reducing the release of "priority chemicals" by an additional 10% by 2008, compared to a 50% reduction in 2005 (using a 1991 baseline). The 1991 baseline reflects releases of 31 specific "priority" chemicals. EPA's national efforts to date regarding these priority chemicals have focused primarily on pollution prevention, prior to use, and regulatory, end-of-pipe waste management. The U.S. has made significant progress in reducing releases of the 31 priority chemicals and their presence in materials and wastes. For example, reported releases dropped by 53% in 2001 using a baseline year of 1991.

Although the reduction of the 31 priority chemicals (to meet specific goals in the Agency's strategic plan) remains a priority, EPA recognizes that new and innovative programs are necessary to meet more ambitious goals, including an additional 10% reduction in priority chemicals by 2008, and a broadening of the program scope to include releases of priority chemicals from non-hazardous waste.

The list of 31 priority chemicals, of course, does not include many other chemicals of Agency concern. Consequently, the RCC is developing a chemicals reduction plan that will identify and reduce the use of other toxic chemicals used in product manufacturing and ultimately ending up in waste streams. Some are persistent, bioaccumulative and toxic chemicals, such as certain brominated flame retardants (BFRs). Others may include chemicals that are of high importance that meet key criteria such as a new use, increased use, high production volume, or potential significant exposure risk. Still others – for example, halogenated organic solvents – have long been identified as a concern, and are targets of EPA and state P2 efforts. National efforts to reduce these chemicals will be acknowledged under the RCC and will contribute greatly to the mission of the Priority and Other Toxic Chemicals principle.

Where we want to be in 5-10 years – Broad Goals

The RCC plans to continue its focus on priority chemicals and other Agency chemicals of concern and to integrate the Agency's activities that are focused on the pollution prevention, reduction, and proper management of these chemicals in wastes and products. One activity to help achieve this goal will be to significantly expand the existing National Partnership for Environmental Priorities (NPEP) Program, a multi-faceted effort designed to increase collaboration between EPA and the regulated community.

Efforts to reduce the 31 priority chemicals will contribute to meeting both GPRA and pollution prevention goals within the NPEP program. Identifying and targeting additional chemicals as being of national importance and therefore addressed under the RCC, will further supplement these goals. This chemicals reduction plan will bring important chemicals identified by other

⁵ Additional information about EPA's 31 priority chemicals can be accessed on the EPA website at <http://www.epa.gov/epaoswer/hazwaste/minimize/chemlist.htm>

Regions and states into the RCC Priority and Other Toxic Chemicals principle, and reduction achievements will be documented in OSW's Annual NPEP Trends Report (<http://www.epa.gov/epaoswer/hazwaste/minimize/trends.htm>).

Additionally, the RCC will bolster its Sustainable Futures program and other efforts such as the Green Suppliers Network to encourage industry and others to use certain tools such as the PBT Profiler to self assess and develop appropriate pollution prevention and toxic use reduction strategies. Further into the future, the RCC is also planning a campaign to educate consumers that would allow them to factor priority and other toxic chemicals into purchasing choices.

The RCC's broad goals under this principle, consistent with the Agency's Strategic Plan (See Goals 3 and 5) include:

1. Substituting priority and other toxic chemicals with safer alternatives whenever possible;
2. Minimizing the amount used whenever substitution is not possible;
3. Maximizing recycling whenever minimization or substitution is not possible;
4. Cradle-to-cradle chemical management;
5. Minimizing exposures to toxics, and the volume and toxicity of waste through product design;
6. Exploring assessment tools, using available data, to quantify the realized risk reduction from priority and other toxic chemical programs; and
7. Increasing collaboration with our state agencies, and between EPA and the regulated community.

In summary:

Through our focus on toxic and persistent chemicals, EPA plans to minimize the use of these chemicals throughout their lifecycle in products, manufacturing, and their resulting presence in waste. EPA will also develop new methods to target, reduce, and measure success in minimizing priority and other toxic chemicals.

Strategies

EPA will advance several main strategies in the short term and long term:

1) National Partnership for Environmental Priorities Program:

The NPEP program is the RCC's newest and most direct tool for "beyond compliance" management of priority chemicals, and forms a significant foundation upon which OSW will build its priority chemicals reduction and management plan.⁶ As NPEP grows, it will complement existing state programs to provide a framework for national chemical reduction.⁷

Other activities, such as EPA and the states' efforts related to mercury in dental amalgam, mining operations, or switches in automobiles, or efforts to find replacements for lead in automobile tire weights, can also play a significant role in reducing the release of priority chemicals to the environment.

⁶ The National Partnership for Environmental Priorities (NPEP) Program was formerly named the National Waste Minimization Partnership Program.

⁷ Please visit the NPEP website at <http://www.epa.gov/epaoswer/hazwaste/minimize/index.htm>

2) Pollution Prevention Chemicals Agenda:

This component of the priority and other toxic chemicals reduction strategy will look for additional P2 opportunities for substances that are identified as being of national concern. This may include other persistent, bioaccumulative and toxic chemicals (PBTs) that are not currently included in the current priority chemicals list e.g. brominated flame retardants. It may also focus on chemicals known to cause environmental problems, e.g., chemicals of concern frequently found at cleanup sites. In the next several months, as OSW works with OPPT, the regions, and the states to identify priority areas for the RCC, it will specifically address the need for additional national-level activity in this area.

Historically, we have focused on chemicals that typically demonstrate high toxicity, are very bioaccumulative, and are very persistent in the environment. Our current approach may include chemicals that do not score as high on some or all of these criteria, but that are still a significant potential risk to human health and the environment and can be reduced through voluntary P2 techniques. Considerations in selecting any substance may include: new use, increased or widespread use, significant production volumes, presence in common products, and other factors that indicate potential significant risk or exposure (where data do not exist to support specific risk assessment). The program will establish a process with relevant manufacturers, processors and users to identify and implement reductions through P2 opportunities. However, RCC recognizes that some chemicals are currently not good candidates for management by pollution prevention, and we will not target those.

3) National Consumer Campaign that encompasses Education, Empowerment, and Effective Marketing:

This future effort encompasses a new, yet vitally important phase of chemical reduction. The underlying premise is to educate consumers, harness their purchasing power, and use market forces to drive down use of hazardous chemicals.

Strategic Targets: What we want to achieve

- ❖ **NPEP Recruitment Targets:** For the early years of the NPEP program, it is critical that EPA develop relationships with priority chemical generators. For that reason, NPEP historically set ambitious numeric goals for the number of partners recruited. However, as the NPEP program has matured, the program has shifted to focus more on the type and amount of chemical reduction that each program participant can offer. Put more succinctly, the emphasis of the NPEP program is now on the number of pounds of priority chemicals reduced, and not simply on the number of partners recruited.
- ❖ Between 2004 and 2008, part of the RCC priority chemicals strategy will be to collaborate with states, Regions and Headquarters to identify new candidate chemicals of national concern. By the end of FY 2005, RCC will identify additional substances to target for a 10% reduction by 2008.

The targets outlined below align with the Agency Strategic Plan goals The Priority and Other Toxic Chemicals principle will work toward specific targets and goals laid out in the Agency Strategic Plan. Such goals include:

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- ❖ **Agency Goal 5: Compliance and Environmental Stewardship, Sub-objective 5.2.2: Prevent Pollution and Promote Environmental Stewardship by Business**
 - Reduction of priority chemicals in hazardous and non-hazardous waste by 10% by 2008 using 2001 as baseline year
- ❖ **Agency Goal 4: Healthy Communities and Ecosystems, Sub-objective 4.1.3: Reduce Chemical and Biological Risks**
 - PBTI: By 2008, decrease releases of persistent bioaccumulative toxic (PBT) chemicals by 15 percent and toxic chemicals (including dioxin) by 10 percent as reported in the Toxic Release Inventory (TRI), compared to 2001 levels.
- ❖ **Agency Goal 4: Healthy Communities and Ecosystems, Sub-objective 4.1.4: Reduce risks at Facilities.**
- ❖ **Agency Goal 1: Clean Air and Global Climate Change, Sub-objective 1.3: Protect the ozone layer**

V. Greening the Government

Introduction

This plan provides a vision for EPA's role in implementing future waste prevention, recycling, and federal purchasing of environmentally preferable products and services across the EPA, and the federal government as a whole. The federal government's environmental footprint is immense. The United States government is the largest purchaser in the U.S., buying the equivalent of roughly \$250 billion dollars worth of goods and services annually. The federal government also spends an additional \$240 billion a year, indirectly, through grant and cooperative agreements. In addition, the buildings and landscapes that the federal government occupies have an affect on land, energy, natural resources, and the indoor and outdoor environment. The U.S. government owns nearly 500,000 buildings covering 3.1 billion square feet, accounting for 0.4 percent of the nation's energy use, and emitting about 2 percent of all U.S. building related green gases. Given the size of the federal government and the scope of its work (e.g., national parks, roads and highways, revitalization efforts, etc.), it has an opportunity and a responsibility to reduce the environmental impacts from these areas. This principle will produce a variety of benefits from avoiding waste generation and disposal, reducing multi-media emissions, ecological conservation, reduced life cycle costs, habitat restoration, and expanding and creating markets for green products and services.

Scope

Three of the other RCC principles, Source Reduction, Recycling, Beneficial Use, Conserving Energy, and Reducing Priority and Other Toxic Chemicals, overlap in content with portions of this principle as many issues are interrelated (i.e., energy conservation and product design). This principle will focus on the myriad of environmental issues associated with federal procurement, greening buildings and waste prevention and recycling. It formalizes the direction of the EPA

with respect to "greening" the government and it highlights new areas where the RCC can serve in a leadership capacity.

It also addresses the Executive Order (E.O.) 13101 "Greening the Government through Waste Prevention, Recycling and Federal Acquisition"; E.O. 13148 "Greening the Government through Leadership in Environmental Management"; E.O. 13123 "Greening the Government through Energy Efficient Management"; and Section 6002 entitled "Federal Procurement" of RCRA.

"Greening" can be defined in a number of ways and can encompass a broad spectrum of environmentally preferable products, services and practices. Under this principle, "Greening the Government" includes:

- **Green Procurement:** The acquisition and/or offering of goods and services that have attributes that reduce the reliance on virgin or raw material and have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. "Green" procurement includes products that are made with recycled content, are energy efficient, or have other environmentally preferable attributes, such as containing fewer toxic chemicals, or is recycled easily.
- **Green Buildings and Landscaping:** Creating federal buildings that are environmentally sustainable, conserving natural resources and reducing pollution throughout their life cycle – from siting and design; during construction and deconstruction; through operations and maintenance; to reuse. It includes federal large scale landscaping operations that are planned promoting cost effective and environmentally preferable solutions and practices, such as reusing organic waste materials, conserving natural resources, and reducing the use of pesticides and other harmful chemicals.
- **Recycling and Waste Prevention Programs:** Creating a culture of waste awareness that motivates everyone to avoid the generation of waste material, and to recycle and/or reuse waste material whenever they are able.

In general, no one Agency or Department is responsible for making the federal government "green". Instead, it is a shared responsibility among many. A number of specific offices within EPA also work toward greening both EPA and the rest of the federal government, including OPPT, OSW, the Office of Enforcement and Compliance Assistance (OECA), the Office of Acquisition and Resource Management (OARM), and all ten EPA Regions.

Where we want to be in 5-10 years – Broad Goals

EPA's Greening the Government efforts for the next few years will focus on the broad goals below. The action plan will determine which of these goals will be priority and will then develop specific goals under them.

1. Enlisting federal management and procuring officials - at all levels – to embrace the "buying green ethic", and make it a priority.
2. Making EPA an innovative leader in "Greening the Government".
3. Coordinating one seamless "Greening the Government" program within EPA.
4. Making purchasing and reporting easier, including identifying "green" products or services.

5. Incorporating the "Greening the Government" concept into grants, cooperative agreement and contracts and encouraging other federal Agencies to do the same.
6. Measuring success of the "Greening the Government" program.
7. Establishing criteria that reward manufacturers for practicing product stewardship and incorporating procurement guidelines.
8. Establishing, implementing, and improving waste prevention and recycling efforts within EPA and encouraging other federal Agencies to do the same.
9. Having an ISO 14000 certified EMS for all EPA offices, and encouraging other federal Agencies to do the same.
10. Establishing a disciplined approach to identify future Greening of the Government opportunities.

Green procurement policies are, for the most part, in place at the federal level; there are statutes, executive orders and policy statements, which require and encourage federal agencies to purchase and pilot green products and services across the government. Together, these policies direct the federal government to become leaders in this area, and to use their purchasing power to create markets for green products and services. The ultimate goal of the Greening the Government plan is:

Implementing a program that brings together all Greening the Government Sections - green procurement of products and services, greening buildings and landscaping, and recycling and waste prevention actions; Encouraging other federal agencies to move forward in their greening activities; and influencing market development for green products and services.

Strategies

The principle will cover 2 broad areas of focus: (1) green procurement (which includes green buildings and landscaping), and (2) recycling and waste prevention programs. Within those areas, this principle will use two strategies to define how EPA can provide overall leadership, how EPA can work with other federal agencies in moving forward in greening actions, and how EPA can assist in developing markets.

(1) Green Procurement:

This principle illustrates the conscientious goal and commitment of the government to purchase products with green design and recycle content in mind. As defined here, green products includes, but not limited to, office supplies, building and landscaping supplies, as well as services that embrace environmentally preferable practices and/or solutions such as green landscaping, green building construction and deconstruction, or green cleaning services.

(2) Recycling and Waste Prevention Programs:

This principle seeks to instill an ethic of waste awareness in all federal government employees, which will encourage them to avoid the generation of waste material, and to recycle and/or reuse waste material whenever possible. By utilizing the size of the federal government, we can help build the necessary infrastructure needed to create successful and sustainable waste prevention and recycling programs across the United States.

Strategic Targets: What we want to achieve

❖ **Green Procurement:**

- EPA Leadership
 - By 2010, meet all EPA Environmentally Preferable Products goals which can be found at (<http://www.epa.gov/greeningepa/p2/eppgoals.htm>)
 - Gain agreement with OPPT and OSW that establishes "Greening of the Government" as one coordinated effort, rather than separate and distinct programs.
 - Look to measured baselines to establish additional goals.
- Moving Federal Agencies Forward
 - By 2005, establish a baseline on contract purchases that buy CPG items from data gathered from the Federal Procurement Data System. This baseline can be used to track increases in compliance across the federal sector.

❖ **Recycling and Waste Prevention:**

- EPA Leadership
 - By 2008, EPA will do its share to reach the national Municipal Solid Waste recycling goal of 35% waste diversion.
- Moving Federal Agencies Forward
 - Take action to encourage federal Agencies to do its share to reach the Municipal Solid Waste recycling goal of 35%

The targets outlined below align with the Agency Strategic Plan goals

❖ **Agency Goal 5.2: Improve Environmental Performance through Pollution Prevention and Innovation; Sub-objective 5.2.1: Prevent Pollution and Promote Environmental Stewardship by Government and the Public**

- By 2006, reduce Toxic Release Inventory (TRI)-reported toxic chemical releases at federal facilities by 40 percent, from a baseline year of 2001.
- By 2008, EPA will go beyond compliance with executive orders to "green" federal government operations in its purchases of "green" products and services from a baseline year of 2002.
- By 2008, all federal agencies will have defined Environmentally Preferable Purchasing programs and policies in place and will be expanding their purchases of available "green" products and services, from a baseline of one federal agency in 2002.

Attachment 1. Environmentally Friendly Design (EFD)

Below is a list that illustrates how significant **Environmentally Friendly Design (EFD)** is to each individual plan:

1. **Product Stewardship** is an expression of the responsibility that designers, suppliers, manufacturers, retailers, consumers/users, disposers are taking on to help to conserve resources, reduce waste, and ensure that products are used properly in order to protect human health and the environment.
2. In **Beneficial Use of Materials**, developing baseline data about the waste that exists and how it can be reused and recycled can influence decision-making during the designing of products, resulting in reduced waste (i.e., cradle-to-cradle or closed loop systems). Creating material flow accounts can be a useful way to promote efficient materials management and provide designers with the information necessary to design environmentally-friendly products.
3. By continuing to emphasize the **Energy Conservation** and resource recovery in product design, we can reduce the environmental impacts of energy production used for manufacturing, conserve national resources by recycling energy within the manufacturing process, encourage the use of innovative energy sources by both manufacturers and users, and reduce the amount of energy consumed by operators of electronic and fuel-driven products.
4. The **Priority Chemicals** strategy discusses EPA's approach to reducing use of certain chemicals. EPA can work with designers and manufacturers to create products with chemicals that have an environmentally friendly profile.
5. Because the United States government is the largest purchaser in the nation, and therefore has a major effect on the products and services that are produced, working in **Greening the Government** offers a tremendous opportunity to reduce environmental impact. Through "green" procurement, the government preferentially selects many products and services based on one or more of their environmental attributes, such as paper made with recycled content. However, by considering all of the environmental attributes of a product (i.e., examining its life cycle), designers and manufacturers may find that products can be re-designed to be entirely recycled, reused, or made without toxic constituents.

Attachment 2. List of 31 Priority Chemicals

Chemical Name	CASRN
1,2,4-Trichlorobenzene	120-82-1
1,2,4,5-Tetrachlorobenzene	95-94-3
2,4,5-Trichlorophenol	95-95-4
4-Bromophenyl phenyl ether	101-55-3
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthracene	120-12-7
Benzo(g,h,i)perylene	191-24-2
Dibenzofuran	132-64-9
Dioxins/Furans *	1746-01-6
Endosulfan, alpha & Endosulfan, beta *	959-98-8 & 33213-65-9
Fluorene	86-73-7
Heptachlor & Heptachlor epoxide *	76-44-8 & 1024-57-3
Hexachlorobenzene	118-74-1
Hexachlorobutadiene	87-68-3
Hexachlorocyclohexane, gamma-	58-89-9
Hexachloroethane	67-72-1
Methoxychlor	72-43-5
Naphthalene	91-20-3
PAH Group (as defined in TRI)	
Pendimethalin	40487-42-1
Pentachlorobenzene	608-93-5
Pentachloronitrobenzene	82-68-8
Pentachlorophenol	87-86-5
Phenanthrene	85-01-8
Polychlorinated Biphenyls (PCBs)	1336-36-3
Pyrene	129-00-0
Trifluralin	1582-09-8
Cadmium	7440-43-9
Lead	7439-92-1
Mercury	7439-97-6

* (considered one chemical on this list)

Attachment 3: List of Acronyms

-B-

BFR Brominated Flame Retardants

-C-

CPG Comprehensive Procurement Guidelines

-E-

EFD Environmentally Friendly Design

EMS Environmental Management Systems

EO Executive Order

EPA Environmental Protection Agency

EPP Environmentally Preferred Purchasing

-M-

MOU Memorandum of Understanding

MSW Municipal Solid Waste

-N-

NPEP National Partnership for Environmental Priorities

-O-

OPPT Office of Pollution Prevention and Toxics

OSW Office of Solid Waste

-P-

P2 Pollution Prevention

PBTs Persistent, bioaccumulative, and toxics

-R-

RCC Resource Conservation Challenge

RCRA Resource Conservation and Recovery Act