

# **Copyright and Disclaimer**

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# **Executive Summary**

According to the Sustainable Purchasing Leadership Council, institutional purchasing, both in the public and private sectors, accounts for \$10 trillion annually in the U.S. alone. According to the research conducted for this guide, numerous federal agencies and 32 states have environmentally preferable purchasing (EPP) policies that give preferential purchasing status to products with desired environmental benefits. One of those desirable environmental attributes is recycled content. EPP policies and the purchasing of environmentally friendly goods will continue to expand in the future due to Executive Order 13693, "Planning for Federal Sustainability in the Next Decade," and other previously enacted legislation.

This guide is designed to provide an introduction to the many different environmentally preferable purchasing policies that the plastics industry can take advantage of to better position products containing recycled content and other environmentally friendly qualities. This guide focuses on the EPP policies in play at the federal and state levels; however, readers should be aware that many local governments and private institutions have EPP policies in effect as well. Readers will get an understanding of how they can leverage these policies based on their position in the plastics supply chain and strategies for navigating the systems. This guide also explores the growing importance of ecolabels and the interplay that these certification programs have with EPP programs, particularly at the federal level. Additionally, the guide gives an overview of how companies can begin the process of selling their products and services to federal agencies.

Those in the plastics industry wanting to take advantage of this EPP strategy should:

- 1. Determine what states or federal agencies they would like to engage with.
- 2. Evaluate the plastic product categories that consider and reward use of recycled content.
- 3. Reach out to the appropriate point of contact at that agency or institution to obtain help navigating the system.
- 4. Consider getting products certified as being in conformance with any of the standards or ecolabels that might be recognized qualifiers that will help or in some cases are required get a product on the EPP registries.

Because each EPP program is slightly different, we emphasize the importance of point three, contacting the agency that you are trying to get your product qualified for. The systems can seem daunting; however those that successfully navigate the EPP system have enjoyed preferential supplier status with customers that have sizable purchasing power. This guide is designed to be a starting point to make industry members aware of the opportunities and point them to the right starting point to further explore opportunities. We hope this guide can further help drive demand for recycled plastics, creating market pull through that further supports a healthy balance of supply and demand for the plastics recycling industry.

# Recycled Content and Environmentally Preferable Purchasing Policies

For as long as the recycling industry has existed, the price of recycled materials has been tied to the price of prime materials. Today's market conditions of low oil and natural gas prices have created a challenging time for plastic recyclers. The price of prime materials is often dictated by the price of chemical building blocks, which in today's market are very inexpensive. However, recycling has fixed costs to high-grade scrap plastics for remanufacturing. Historically, the price of recycled resins have maintained a reliable cost advantage to prime materials, but those cost savings are not a given in today's reality of low prime pricing, and in some cases, recycled content exceeds the price of prime. If the economic driver for choosing to use recycled content is absent, how do we sustain a healthy plastics recycling industry?

Many in the recycling industry believe that the long term stability of recycling will only come if we can decouple the price of recycled resins from the price swings of oil and natural gas. But how is that achieved? One potential way might be to underscore the many other value propositions of choosing to use recycled content that are not directly price motivated. While those benefits might not have the direct and easily calculable return on investment, the overall impact of those benefits should not be underestimated. Manufacturers of plastic products should know that the reasons for choosing to use recycled content go far beyond a pricing advantage, including:

- Honoring previous, publicly-stated commitments to using recycled content to which companies will be held accountable,
- Creating opportunities to use recycled content as a market differentiator, appealing to consumers who want recycled content, and
- Meeting requirements of standards and ecolables and EPP policies that reward use of recycled content.

This guide explores how EPP Polices can be leveraged to drive preference for products containing recycled content, particularly for plastic products. It also demonstrates how this information might be used to incentivize increased use of recycled content, and perhaps, even find new uses for recycled content that will create competitive advantages.

# **History of EPP Policies**

EPP polices have been around for nearly three decades now. In 1988, the U.S. Environmental Protection Agency (EPA) issued the Guideline for Purchasing Paper and Paper Products, which included the first federal recycled content guideline. In 1993, President Bill Clinton signed an executive order which triggered the General Services Administration (GSA) and EPA to pilot an EPP project on cleaning products. By 1994, the EPA drafted a concept paper which created national EPP momentum at the federal, state and local levels and gave preference to the purchasing of recycled content paper products. This concept paper has had a lasting effect, as it helped to normalize the presence of recycled-content in paper products.

EPP policies continue to expand to include a wide variety of products. Support for EPP polices have historically been bipartisan, with President George W. Bush signing an executive order in 2007, requiring federal agencies to place preference on purchasing electronic products that are on the Electronic Product Environmental Assessment Tool (EPEAT) registry. EPEAT is an ecolabel that also incentivizes use of recycled content, and has helped promote the use of recycled content in products like desktop computers, printers and televisions.

One might wonder, "Why are EPP policies particularly important?" Previously discussed in the Executive Summary, institutional purchasing, both in the public and private sectors, accounts for \$10 trillion annually in the U.S. alone. With collective purchasing power like that, it becomes very apparent how advantageous it can be to achieve any sort of preferential purchasing status with federal, state and local governments and institutions like universities. Let's consider the impact of President Bush's executive order creating federal procurement preference for EPEAT registry products. While putting products on the EPEAT registry is entirely voluntary for original equipment manufacturers (OEMs), it becomes rather compulsory if you're an OEM hoping to sell to the federal government, which happens to be the largest institutional purchaser in the world. Designing your products so that they qualify for the EPEAT registry has increasingly become the norm. And, including some amount of post-consumer recycled content in electronic equipment is an incentive for achieving extra points for products like desktops and laptops, while it is required in other product categories like imaging equipment.

A similar success story exists for copy paper. Before EPP policies, standard office copy paper containing recycled content represented a very small percentage of the paper on the market and was sold at quite a price premium. When EPP polices required recycled content in copy paper, it completely changed how paper manufacturers viewed recycled content. Recycled content was no longer seen as a "nice to have" for a niche consumer base, rather it became a serious criterion for selling to some of the largest customer bases in the market place. Once those types of economies of scale were reached, recycled content also no longer came at an exorbitant price premium. The result is that today, options abound for copy paper containing recycled content and they can often be found at cost parity with many virgin copy paper options.

# I. Leveraging the EPP Policies of Today

EPP policies are now well established at both federal and state levels in the United States. These federal and state programs provide agencies with a variety of resources that list products and services that meet the agencies' sustainability and financial goals.

#### Federal EPP Efforts

Today's approach to procurement by federal agencies is a huge opportunity to promote environmental benefits as well as a major strategic opportunity for suppliers that can achieve EPP status. Federal agencies are required to purchase products that meet designated criteria. Under Executive Order 13423, signed on March 29, 2007, entitled "Strengthening Federal Environmental, Energy, and Transportation Management and The Resource Recovery Act of 1976", agencies are required to purchase products with certain "green" criteria. The EPA has seven designated categories for green purchasing (See Appendix III), including:

- cafeteria,
- construction,
- custodial,
- electronics,
- grounds/landscaping,
- office, and
- operations/fleet/shipping/shop³.

To help agencies better evaluate impacts and costs of products and services, the federal government established five EPP principles: environmental impacts and price, pollution prevention, life-cycle perspective/multiple attributes, comparison of environmental impacts, and environmental performance information<sup>4</sup>. These five principles are a reference for many federal agencies' EPP policies.

Further, on March 19, 2015 the President issued Executive Order 13693, "Planning for Federal Sustainability in the Next Decade," which tasks the EPA with defining the approach to sustainable acquisition for federal agencies and ensuring that certain "environmental performance and sustainability factors are included to the maximum extent practicable" 5. One strategy the EPA is employing is to use private sector product sustainability standards and/or ecolabels to identify environmentally sustainable products for use in federal procurement. The Executive Order directly identifies those environmental attributes that will achieve sustainable procurement goals, which include:

- "Recycled content products designated by the EPA;
- Energy and water efficient products and services, such as ENERGY STAR® certified and Federal Energy
  Management Program (FEMP) designated products, and Watersense certified products, identified by EPA
  and the Department of Energy (DOE); and
- 3. BioPreferred® and biobased products designated by the U.S. Department of Agriculture (USDA)."

The Executive Order further goes on to say, "Federal purchasers can also purchase environmentally preferable products or services that:

- 1. "Meet or exceed specifications, standards, or labels recommended by EPA; or
- 2. Meet environmental performance criteria developed or adopted by voluntary consensus standards bodies consistent with the NTTAA section 12(d) and OMB Circular A–119."

It is in response to the first criterion above that the EPA released the Draft Guidelines for Environmental Performance Standards and Ecolabels for Voluntary Use in Federal Procurement in March 2015. To test the guidelines, the EPA launched a pilot assessment to apply the criteria to ecolabels and standards in three building product categories: furniture; flooring; and paints and coatings. The findings of this pilot study are expected by early 2017, and will result in updated EPA Recommendations for Specifications, Standards, and Ecolabels for Use in Federal Procurement, and updated Guidelines. Following completion of the Pilot, the program will consider assessing standards and ecolabels in other product categories.

To enable federal agencies to meet these requirements, the EPA, along with other federal agencies, has developed a variety of different tools and platforms for finding products that meet these environmental requirements (see Appendix I). Both purchasers and interested companies can use the platforms to buy and sell products and services, some of the tools and guidelines include:

- Comprehensive Procurement Guidelines<sup>6</sup>
- Green Procurement Compilation<sup>7</sup>
- GSA Advantage Program<sup>8</sup>

Many federal agencies' procurement departments, such as the Department of Commerce (DOC), Department of Defense (DOD) and Department of Energy (DOE), all refer to the EPA's EPP policies. For example:

- The DOC has a Green Procurement Program and designates EPPs and services to be purchased following the EPA guidelines<sup>9</sup>.
- The DOD is the largest purchaser within the federal government, and its Electronic Mall provides a database of products with environmentally friendly products that have a special label<sup>10</sup>.
- The DOT specifies its own requirements, listing certain products' preferred bio-based content, referring to the USDA for information.
  - Some plastic products include carpet, plastic lumber and disposable cutlery with between
     7-90 percent bio-based products<sup>11</sup>.

# State EPP Efforts

Many states have their own set of EPP guidelines or refer to the EPA's guidelines, with some states having more extensive guidelines than others. In total, 32 states have some general EPP guidelines. Of those 32 states, 12 specifically recommend the use of products with recycled plastic material; some states offer a range of recycled content. For example, South Carolina's EPP policy states that 25 percent of all products purchased have to contain recycled content<sup>12</sup>. The most frequent products mentioned in state EPP programs are office supplies such as binders and desktop accessories ranging from a recommended 25-100 percent post-consumer recycled content. Landscaping materials are another category of products mentioned frequently in state EPP guidelines, with products ranging from 30-100 percent post-consumer material content. To see a full list of states with EPP policies and the product categories they specifically call out, see Appendix II of this guide.

#### Leveraging the Incentive

So what can industry do with this information? There has been lots of talk about the disconnect between the supply and demand for recycled content and the challenge that this creates for the recycling industry. Understanding how to leverage the power of preferential purchasing for recycled content products can be one tool to help overcome that disconnect. The first stop for everyone should be visiting the EPA's site on EPP, and become familiar with the product categories listed. They have targeted areas for institutional purchasers, federal agencies, consumers and those in manufacturing. A similar check can be done with each state, or can be referenced in Appendix II of this guide, which will detail state initiatives. Brand owners, processors, and recyclers have unique opportunities to put this information to work to their advantage.

For brand owners, if you are manufacturing a product that qualifies for preferential purchasing under an EPP policy, you could seek to get your product qualified for the registry. If you are selling a product that falls into one of the EPP categories and it does not currently contain recycled content, consider the business opportunity that might exist if you began to manufacture that product with recycled content.

For processors, if you are making a product for a customer that falls into one of these EPP product categories, explore the potential to use recycled content to get them EPP status. The potential competitive advantage that it could yield for your customer could translate to more business for your company.

For recyclers, become familiar with the EPP categories. If you have existing customers who are making products in those categories and they may not be using recycled materials for all of them, show them the strategic advantage that might exist if they expanded use of recycled content to other product categories. Alternatively, consider creating a sales strategy to target new customers to buy recycled content using the EPP value proposition as a selling point. Even if recycled content is at a slight cost premium to virgin, the price difference may far outweigh the marketing advantage created in the realm of institutional purchasers.

EPP policies create powerful incentives to drive manufacturers to create products with environmentally beneficial attributes. The plastics industry, as well as others, should seek to exhaust those benefits, particularly as we seek to close today's gap between the supply and demand of recycled materials.

We encourage those interested in leveraging advantages of EPP to review the list of EPP programs (See Appendix I), as well as visit the following websites for additional resources:

- EPA: <u>epa.gov/greenerproducts</u>
- Sustainable Purchasing Leadership Council<sup>13</sup>
- National Association of State Purchasing Officials<sup>14</sup>

# **II. Navigating EPP Qualification**

While the reward for getting a product qualified can be high, so can the bar that your company may be required to hurdle. The price your company will have to pay to achieve qualification in these programs is most certainly persistence and quite possibly some financial resources as well. This section presents the story of one company seeking to leverage the environmental benefits of their product by getting them qualified on EPP registries.

#### **EcoStrate**

As you'll see from the EPP guide in Appendix II, building, construction and transportation products are a common product category for recognizing environmentally preferable products at the federal level. EcoStrate is made from a process that can use 100% recycled material, sourced from many different feed streams and grades of scrap plastic to make durable sign substrate and flooring. One of the most attractive aspects of EcoStrate is that it can be made with recycled feedstocks that are often considered challenging because they are mixed, can be expensive to clean up and process, or do not have strong recycling markets. Ecostrate products also displace aluminum, which has a higher environmental footprint in manufacturing, and has greater theft potential because of the metal scrap value. Aluminum signs also need to be replaced more frequently because they can get dented and damaged, and wear over time. Ecostrate believes their product can greatly reduce the need for replacement because it can withstand the wear that causes aluminum to need to be replaced.

According to the founder and CEO, Ron Sherga, EcoStrate is an "innovative company with all the boxes checked," from an EPP perspective. And based on Ron's experience navigating the EPP system, he's found that many government agencies are less driven by price considerations and more driven by their environmental image when EPP policies are in place. So, there's a great strategic opportunity to be found if you're making products that do, or potentially could, meet the EPP environmental criteria. Sherga found that this was particularly the case in California.

While Ecostrate has not yet seen the environmental positioning of their products translate to an increase in sales, it has increased opportunity. One of the biggest challenges is navigating the bureaucratic system. Sherga notes, "There is so much paperwork to navigate and it is costly and timely for a small company. This has been the biggest challenge." Sherga has also found that the qualification process was not always written by the people who are managing the programs, so finding the right government employees with the right answers can be, at times, difficult. Sherga found California and Texas to be some of the most straightforward EPP systems to navigate, as well making the regulators with the right answers relatively easy to find. Other states however, have proven to be a real struggle.

In terms of how long the qualification process can take, Sherga notes it really all depends. With California, it only took 18 months because California supported Ecostrate and wanted their recycled content products. In terms of capital outlay, testing can cost in the range of \$100,000, as required by the American Association of State Highway and Transportation Officials (AASHTO) check products for road safety. Then, a state must approve the product. Ecostrate paid the fee but AASHTO published the data and did not approve.

If a company is interested in leveraging the EPP potential, Sherga recommends starting with 8 to 10 of the largest states because they would have the most resources and grant money. Next, look to EPA qualification and getting into the GSA Advantage! Program. Once you do embark on this effort, it's important to understand there is a political dimension to state and federal procurement. Sherga's advice, "do not take no for an answer, keep filling out forms, keep calling, circle back, and try to speak to a higher level employee. Find someone who is going through the process, and get advice from them. Be prepared it does not happen overnight and it will probably take longer than expected. But the payoff could be well worth all of the effort."

# APPENDIX I

The federal government is the largest purchaser of goods and services in the U.S., spending over \$450 billion<sup>15</sup> a year on products and services. Selling products and services to the federal government is a huge financial opportunity. Companies that are interested in becoming a supplier to the federal government should research all the potential opportunities. Below is general overview of the Comprehensive Procurement Guidelines (CPG), Green Procurement Compilation (GPC), GSA Advantage! Program, EPA's ecolabels, and USDA's ecolabel.

# Navigating the EPA's Comprehensive Procurement Guidelines (CPG) Program

Following the EPA's Sustainable Materials Management<sup>16</sup> approach, the CPG program, authorized under Section 6002 of RCRA and Executive Order 13423, administered by the EPA, has produced extensive guidelines on the recycled content of designated product categories, (See Appendix III). There are eight product categories (bio-based products are not included):

- Construction Products<sup>17</sup>
- <u>Landscaping Products<sup>18</sup></u>
- Miscellaneous Products (awards, plaques, bike racks etc.)<sup>19</sup>
- Paper and Paper Product<sup>20</sup>
- Park and Recreation Products<sup>21</sup>
- Transportation Products<sup>22</sup>
- Vehicular Products<sup>23</sup>

If a company is interested in having their products or services listed on the <u>CPG program website</u><sup>24</sup> and meets the requirements, they should contact <u>reddoor.marlene@epa.gov</u>. In the email include:

- Information on its recycled content,
- Product category,
- Specified product type, and
- Full contact information of the company (including valid phone numbers, emails and web page)

# Navigating the Green Procurement Compilation (GPC)

The <u>Green Procurement Compilation</u><sup>25</sup> is an environmentally-friendly purchasing database for federal contractors and managers. This is a comprehensive database of the EPA, DOE, USDA, and other agencies' listed products and services. This database is linked to the GSA Advantage page and other federal purchasing sources. It is used most frequently by procurement offices due to its convenience and extensive database of products and services. The website offers an <u>informational video</u><sup>26</sup> about how the GPC is used. Some products listed on the database include:

- Appliances<sup>27</sup>
- Biomedical Equipment and Supplies<sup>28</sup>
- Construction Materials<sup>29</sup>
- Doors and Windows<sup>30</sup>
- HVAC/Mechanical<sup>31</sup>
- Non-paper Office Products<sup>32</sup>
- Office Electronics<sup>33</sup>
- Roadway Construction<sup>34</sup>
- Traffic Control<sup>35</sup>
- Vehicles and Vehicle Products<sup>36</sup>

Each category lists individual products. Each product then references the ecolabel standard for the product and any additional requirement such as the comprehensive procurement guideline program.

# Navigating the GSA's Role in EPP Policies

The GSA provides resources for agencies to find products and services that meet the requirements of each of EPA's product categories. This resource provides federal contractors a database to find environmentally-friendly products and services which meet the federal green purchasing guidelines. The products listed in the database consist of appliances, biomedical equipment and supplies, traffic control, plumbing systems and a variety of other types of products listed on the website<sup>37</sup>. Similarly, the GSA offers another opportunity to find green products through the GSA Advantage! program. This program has a branch titled Environmental Program aisle, where federal agencies can find products to meet their environmental procurement needs. Many of the preferred products listed have "Energy Star," "Recycled" and "EPEAT" labels<sup>38</sup>. Purchasers can search for products based on the certifications the product has or the specific category of good or service. The convenient directory of green products gives agencies the ability to compare and purchase goods and services to meet the EPA's requirements.

The Federal Supply Schedule is used by the Federal Government to obtain discounts on goods and services. Through the <u>GSA Schedule Program</u><sup>39</sup>, more than <u>\$42 billion</u><sup>40</sup> are spent on goods and services a year. The GSA has a <u>schedule list</u><sup>41</sup> of a variety of different categories of goods and services such as medical equipment and supplies and shipping, packaging and packing supplies. This program consists of long-term contracts, and purchasers are then able to order goods and services directly from the GSA Schedule contracts and/or the GSA Advantage Program.

Before companies can register with the GSA Advantage Program,

- They recommend first registering at <u>FedBizOpps</u><sup>42</sup>,
  - At the top of the browser companies should click <u>Getting Started</u><sup>43</sup> to learn more information and how to register.
- All companies that are registering are required to have a D-U-N-S number<sup>44</sup>.
  - There is a <u>video<sup>45</sup></u> that gives step by step instructions on how to register.
- There is also a section to learn more about how to register for green purchasing<sup>46</sup>.
  - The sustainable goods and services can be found through the GSA Advantage webpage.

# Registering for the GSA Advantage Program

Once companies have a contract and DUNS number, they can then register with the GSA Advantage Program. The GSA Advantage website offers step by step instructions to companies who are interested in having a contract with the Federal Government.

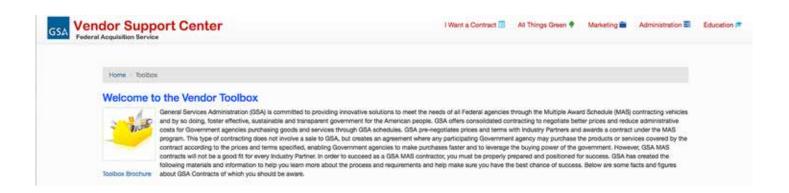
To sign up and learn more information about how to get a contract, click the contractor's icon at the bottom of the page.



This website offers information about GSA contracts and how small businesses can also have opportunities.

# **Resources for Small Business Owners:**

Small business owners are able to use the <u>Vendor Toolbox</u><sup>47</sup> to "research, analyze and decide" if applying for a contract is a plausible investment opportunity.



In addition to the Vendor Toolbox, small businesses should visit the <u>GSA's Office of Small Business Utilization</u> website. This resource offers an informational video, steps to registering your business, and other useful information.



# Alternatives to GSA Schedules

Companies who are not interested in using the GSA Schedules have other options in regards to selling to the federal government. Options include:

- GSA Global Supply<sup>50</sup>
- Governmentwide Acquisition Contracts<sup>51</sup>
- Subcontracting opportunities<sup>52</sup>
- US Small Business Administration Subcontracting Network<sup>53</sup>
- Veteran- Owned Small Businesses and Service-Disable Veteran- Owned Businesses

# Products and Services Identified by EPA Programs

Ecolabels are critical for distinguishing and verifying if products and services are environmentally friendly. The EPA has a variety of ecolabel programs listed below. Many product categories for the comprehensive procurement guideline require specific ecolabels and/or recycled content to meet the EPA's recommendation, Appendix II.

#### Significant New Alternatives Policy (SNAP)55

This EPA program provides information about alternatives for ozone-depleting substances (ODS) required by Section 612 of the Clean Air Act of 1990. Regulations are listed by industrial sector:

- Refrigeration & Air Conditioning
- Foam Blowing Agents
- Cleaning Solvents
- Aerosols
- Fire Suppression and Explosion Protection
- Sterilants
- Tobacco Expansion
- Adhesives, Coatings, & Inks.

#### WaterSense<sup>56</sup>

The WaterSense Label is given to companies and products who meet the EPA standards. These companies achieve certain water saving standards, listed on the EPA WaterSense webpage.

#### SaferChoice57

This is a voluntary program designed to protect the health of consumers and the environment. This program encourages companies to use safer chemicals in their products. The list of standards and requirements are listed on the Safer Choice webpage, along with information about how to obtain the label if the criterion is met.

#### SmartWay<sup>58</sup>

This voluntary program promotes transportation efficiency through partnerships with companies to "measure, benchmark, and improve logistics," fuel-saving technology branding, and working with international organizations to standardize carbon accounting methods.

# <u>GreenGuard</u>59

This certification program gives certifications to products and materials that meet their low emissions standards. There are two certifications under the GreenGuard program including Certification and Gold. <u>UL Environment<sup>60</sup></u> regulates the certification program.

# US Department of Agriculture (USDA)'s BioPreferred

#### BioPreferred

The goal of this program is to increase the use of U.S. agricultural products. Federal agencies are required to purchase bio products from the <u>97 categories</u><sup>62</sup> listed on the website. Each category has minimum bio based content. For example, "Plastic Insulating Foam for Residential and Commercial Construction" must have a minimum of 7% bio based content.

# APPENDIX II

Appendix II contains information about specific state EPP policies. In total, PLASTICS was able to identify 32 states that have EPP policies in place that guide agency purchasing decisions. Some states go into a greater level of detail about the types of products that receive preferential purchasing if they contain varying levels of recycled content, while others do not cite specific products. Table 1 contains information about state EPP policies that do cite specifics regarding desired level of recycle content and/or specific target products. Table 2 contains information for states that have general EPP policies that discussed reward of recycled content more generally.

Table 1 - States with EPP Policies that include specific plastic product categories

State	Regulating Authority	Specified Types of Plastics Products	Recycled Content Standard	Contact Information
California¹  Legislative Information²  Article 4. Recycled Materials, Good, and Supplies [12200- 12217]³  Suppliers Guide⁴	Department of General Services, Procurement Division	Printers, cartridges, carpet, office products, plastic lumber, buckets, waste baskets, containers, benches, tables, fencing, clothing, mats, packaging, signs, posts, binders, sheets, building products, garden hose, trays	"At least 50 percent of reportable purchases are recycled products (PCC section 12201(C))"	buygreen@dgs.ca.gov
Colorado <sup>5</sup> Department of Personnel & Administration <sup>5</sup>	Department of Personnel and Administration State Purchasing Office	Copiers, printers, bottled water, construction cones	"States should avoid purchases of bottled water except in these situations: where water supply is unavailable; bottled water is needed to protect safety and health; and for use in emergencies" (p. 14)  "Acquisition of copiers and printers shall include specifications that contain language aimed at increasing recycled or recyclable component parts and/or component replacement considerations" (p. 16)  "Specifications for the purchase of transportation products including signs, cones, parking stops, delineators, and barricades shall include recycled content wherever available, economically feasible, and/or practicable" (p. 17)	Contact the Greening Government Leadership Council, gglc@state.co.us

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Co	nn	ecti	ICL	ıt∠

CT presentation on EPP policies<sup>8</sup> Administrative Services, State Procurement Marketplace

N/A

Department of Administrative Services, "shall not procure any product for state use if the original manufacturer of the product prohibits the remanufacture or recycling of such product..." (presentation)

Donald.Caseela@ct.gov (860) 713-5150

Hawaii<sup>9</sup>

State of Hawaii Department of Business, Economic Development & Tourism

Construction products, carpet, reprocessed latex paint, plastics lumber landscaping timbers and posts, binders, office furniture

Construction Products: Rigid Foam (9 % total recovered material content; Foam-in-Place (5% total recovered material content); phenolic rigid foam (5% total recovered material content); Plastic, NonWovenBatt (recovered and/or postconsumer plastics (100%))

Carpet: Polyester Carpet Face Fiber (PET- 25-100% post-consumer content & 25-100% total recovered material content), Bonded polyurethane (15-50% postconsumer content & 15-50% total recovered material content), Synthetic fibers (100% total recovered material content), Rubber (60-90% post-consumer content & 60-90% total recovered material content)

Reprocessed Latex Paint: white, off-white, pastel colors (20% post-consumer content & 20% total recovered material content), Greys, brown earth tones and other dark colors (50-99% postconsumer content & 50-99% total recovered material content), Consolidated Latex Paint (100% postconsumer content & 100% total recovered material content)

Gail Suzuki-Jones, gsuzuki@dbedt.hawaii.gov Hawaii cont.

Plastic lumber landscaping timbers and posts: HDPE (25-100% postconsumer content & 75-100% total recovered materials content), mixed plastics & sawdust (50% postconsumer content & 100% total recovered materials content), HDPE/Fiberglass (75% postconsumer content & 95% total recovered materials content), Other mixed resins (50-100 % post-consumer content & 95-100 total recovered materials content), other mixed resin (50% postconsumer content & 95-100 % total recovered materials content);

Binders: plastic-covered (25% total recovered materials content); Solid plastic binders: HDPE (90% postconsumer content & 90% total recovered materials content), PE (30-50% postconsumer content & 30-50% total recovered materials content), PET (100% postconsumer & 100% total recovered materials content), Misc. Plastics (80% postconsumer content & 80% total recovered materials content), Plastic clipboards (HDPE 90% postconsumer content & 90% total recovered materials content) (PS 50% postconsumer content & 50% total recovered materials content) (Misc. Plastics 15% postconsumer content & 15-80% total recovered materials content), Plastic file folders, Plastic clip portfolios, plastic presentation folders (HDPE 90% postconsumer content & 90% total recovered materials content

Hawaii cont.			Office furniture: fabric (PET 100% postconsumer content & 100% total recovered materials content), Plastic furniture component (HDPE 70-75% postconsumer content & 95% total recovered materials content)	
Maryland <sup>10</sup> Maryland Green Purchasing Committee Information <sup>11</sup> Chapter 604 (House Bill 629) <sup>13</sup>	Department of General Services, Maryland Green Purchasing Committee	Toner and ink cartridges, binders, clipboards, labels, single-use pens and pencils, refillable pens and pencils	"Toner and ink cartridges that are not recyclable will not be accepted; binders must have a minimum of 75% post-consumer content"  "Clipboards must have a minimum of 50% postconsumer recycled content"  "Labels must have a minimum of 30% postconsumer recycled content"  "Single-use pens and pencils must have a minimum of 50% postconsumer recycled content or have a biopolymer barrel that is biodegradable"	DGS.buygreen@maryland.gov
Massachusetts <sup>13</sup> Executive Order 515 <sup>14</sup>	Executive Office for Administration and Finance	Binders, plastic envelopes, plastic desktop accessories, report covers, color, plastic HDPE and misc. plastics	Binders, plastic covered (20% Post-consumer recycled content); binders, solid plastic (HDPE 90%, PE 30-50%, PET 100%,  Misc. Plastics 80% postcon- sumer recycled content); trash can liners (20% post- consumer recycled content);	Julia Wolfe, Director Environmental Purchasing, Julia.wolfe@state.ma.us

		trash can liners (20% post- consumer recycled content);  Debris receptacles, plastic, for plastic and paper recycling (50% postconsumer recycled content); file folders, plastic (90% PCRC),  Plastic envelopes (25% postcon- sumer recycled content),  Plastic desktop accessories (25% postconsumer recycled content);  Report covers, color, plastic HDF (90% postconsumer recycled content)	6
		plastic and paper recycling (50% postconsumer recycled content); file folders, plastic (90% PCRC),  Plastic envelopes (25% postconsumer recycled content),  Plastic desktop accessories (25% postconsumer recycled content);  Report covers, color, plastic HDF (90% postconsumer recycled	6
		sumer recycled content ),  Plastic desktop accessories (25% postconsumer recycled content);  Report covers, color, plastic HDF (90% postconsumer recycled	ó
		postconsumer recycled content);  Report covers, color, plastic HDF (90% postconsumer recycled	
		(90% postconsumer recycled	PE
December 1			
an Department of Carpet, toner ca	artridges, office furniture	Carpet (minimum of 25% post-consumer material by weight)	info@greenpurchasing.org
t of Environmen- , Home Care, mes and Mental cs		Encourages the purchasing of rec cled postconsumer content	ry-
		Minimize use of 100% virgin	
	of General	of General	of General Minimize use of 100% virgin

South Carolina<sup>19</sup>

State Fiscal Accountability Authority, Procurement Services Plastic desktop accessories; plastic envelopes; binders, solid plastic; , paper covered paperboard; office waste & recycling receptacles; clipboards; plastic trash bags; fabric; patio blocks; floor tiles; shower and restroom dividers/partitions; modular threshold ramps; park benches; plastic fencing; playground equipment; playground surfaces; running tracks; plastic lumber landscaping timbers and posts; bike racks; signs; parking stops; traffic barricades; flexible delineators; channelizers; awards & plaques; mats; industrial drums; pallets

Plastic desktop accessories (25-80% postconsumer content);

Plastic envelopes (minimum 25% postconsumer content);

Binders, solid plastic (HDPE, high density polyethylene, 90% postconsumer content) (PE 30-50% postconsumer content), (PET 100% postconsumer content) (Misc. plastics 75-100% postconsumer content);

Binders, paper covered paperboard (90-100% recovered materials content to include 75-100% postconsumer content); Office waste & recycling receptacles (20-100% postconsumer content);

Clipboards (HDPE 90% postconsumer content), (PS 50% postconsumer content), (Misc. Plastics 15% postconsumer content); Plastic trash bags (10-100% postconsumer content);

Fabric (PET 100% postconsumer content; Plastic furniture component (HDPE 90% recovered materials content include 70-75% postconsumer content);

Patio blocks (rubber or rubber blends 90-100% postconsumer content);

Floor tiles (rubber 90-100% postconsumer content) (plastics 90-100% recovered materials content); South Carolina cont.

**Shower dividers** (plastic 20-100% postconsumer content);

Modular threshold ramps (rubber 100% postconsumer content);

Park benches (plastic 100% recovered material content to include 90-100% postconsumer content); Plastic fencing (90-100% recovered materials content to include 60-100% postconsumer content);

Playground equipment (plastic 90-100% recovered materials content to include 60-100% postconsumer content); (plastic composite 95-100% recovered materials content to include 50-75% postconsumer content);

Playground surfaces (plastic or rubber 90-100% postconsumer content);

Running tracks (plastic or rubber 90-100% postconsumer content);

Plastic lumber landscaping timbers and posts (HDPE: 75-100% recovered materials content to include 25-100% postconsumer content) (mixed plastic/sawdust 100% recovered material content to include 50% postconsumer content) (HDPE/fiberglass 95% recovered materials content to include 75% postconsumer content) (other mixed resins 95-100% recovered materials content to include 50-100% postconsumer content);

South Carolina cont.

**Bike racks** (HDPE 100% postconsumer content);

Signs (plastic signs, posts & supports 80-100% postconsumer content);

Parking stops (plastic or rubber 100% postconsumer content);

Traffic barricades (plastic HDPE, LDPE, PET 80-100% postconsumer content); delineators (plastic 25-90% postconsumer content) (rubber base only 100% postconsumer);

Flexible delineators (plastic 25-80% postconsumer content);

Channelizers (plastic 25-95% postconsumer content) (rubber base only 100% postconsumer content);

Awards & plaques (plastic & plastic wood composite 50-100% postconsumer content);

Industrial drums (plastic HDPE 30-100% postconsumer content);

Mats (rubber 75-100% postconsumer content) (plastic 10-100% postconsumer content) (rubber/ plastic composite 100% postconsumer content);

Pallets (plastic lumber 100% postconsumer content) (plastic thermoformed 25-50% PC)

<u>Texas</u> <sup>20</sup>	Texas Comptroller's State- wide Procurement and Statewide Support Services divisions	Recycled content plastic trash bags & plastic covered binders	Gives preference to products with recycled material
Washington <sup>21</sup>	Department of General Administration & Department of Ecology	Reprocessed Latex Paint	White, off-white, pastel colors (20% postconsumer content)(20% total recovered materials);  Grey, brown, earth tones and other dark colors (50-99% postconsumer content & total recovered materials content);  Consolidated latex paint (100% postconsumer content & total recovered materials content)

Table 2 - States with no specific plastic product categories

State	Legislation/Executive Order	Summary	Contact Information
<u>Delaware</u> <sup>63</sup>	140th General Assembly S. 395 (2000) (enacted <b>)</b> .	It is required for states using federals funds to purchase products containing recycled content, under Section 6002 of The Resource Conservation and Recovery Act (RCRA). Delaware state government has a goal of meeting or exceeding the EPA's CPG (Appendix III) when purchases products and services unless proved to be unreasonable.	
<u>Florida<sup>64</sup></u>	S. Title XXIX. Chapter 403. Part 403. 7065 (2010)	Any agency that is using state funds must purchase products with recycled content when available.	Frank Miller, frank.miller@dms.myflorida.com (850) 488-8855
Georgia <sup>65</sup> (Georgia Technology Authority) <sup>66</sup>		P2AD encourages Georgia colleges and universities to have EPP policies.  The Georgia Technology Authority is taking steps to purchase environmentally preferable products and services.	
Minnesota <sup>57</sup>	Minnesota Statute 16C.072	Minnesota agencies are required to purchase products with recycled content unless the product is more than a non-recycled product. 10% more than a non-recycled product.	

<u>Missouri<sup>68</sup></u>	RSMo 34.032(4).	Missouri state agencies have a goal of continuing to increase the quantity of recycled content paper.	
Montana <sup>69</sup>		Montana is working towards beginning to expand EPP policies, and directs interested parties to the EPA webpage.	
<u>Nevada<sup>70</sup></u>		The Nevada Department of Administration Purchasing Division directs interested parties to third party ecolabels such as EPEAT and Green Seal.	
New Jersey <sup>71</sup> State Green Contracts <sup>72</sup>	Executive Order 76 Issued January 2006 <sup>73</sup>	The New Jersey Department of Treasury encourages the purchasing of products with environmentally friendly characteristics and recycled content.	
New York <sup>74</sup> <u>Green</u> Procurement <sup>75</sup>	Executive Order 4 (2008)	The State of New York prioritizes the purchasing of products with recycled content and has a published list of green contracts.	greenEO4@ogs.ny.gov
North Carolina <sup>76</sup>	Executive Order 156 (1999)	The state of North Carolina gives priority to products with minimal environmental impact.	
North Dakota <sup>zz</sup>		Recycled paper purchased by state agencies must contain 25% recycled content.	
<u>Ohio</u> <sup>za</sup>		Ohio references the EPA guidelines as well as other federal agencies EPP programs (Appendix III).	
Oregon <sup>79</sup> Sustainability Resources <sup>80</sup>	Executive Order 12-05	The Oregon Department of Administrative Services will train state agencies on purchasing environmentally preferable products. Oregon will give preference to products that were manufactured using green chemistry.	

Pennsylvania <sup>81</sup> Ecolabels and Other guidelines <sup>82</sup> Green Policy <sup>83</sup>		The Pennsylvania Department of General Services references prod- uct certifications such as Recycled Content and EPEAT.	
South Dakota <sup>84</sup>	SDCL 5-18A-38	The Pennsylvania Department of General Services references prod- uct certifications such as Recycled Content and EPEAT.	
<u>Tennessee<sup>85</sup></u>		Tennessee's Department of General Services Sustainable Design Guidelines references the Federal Executive Order encouraging the purchasing environmentally preferable goods and services.	
<u>Utah<sup>86</sup></u>		Utah's Department of Environmental Quality encourages businesses to adopt environmentally preferable purchasing policies.	Paul Harding, pharding@utah.gov (801) 536- 4108
<u>Vermont<sup>87</sup></u>	Executive Order 15-12	Vermont's Office of Purchasing & Contracts encourages the purchasing of environmentally friendly products.	
<u>Virginia<sup>88</sup></u>	Code of Virginia § 2.2-4323; APSPM section 3.19	The state of Virginia promotes the purchasing of products with recycled content.	
West Virginia <sup>89</sup>	West Virginia Code § 22-15A-21	The West Virginia Department of Administration-Purchasing Division when possible will seek to purchase products with recycled content.	

# APPENDIX III

EPA's Interim recommendations for the EPA's designated purchasing categories90:

# EPA's PDF Version of Requirements<sup>91</sup>

# Cafeteria

Product	Applicable Statutory Requirements	Other EPA Recommended Standards & Ecolabels
Takeout Service: Containers, Cutlery, Dishware	Biopreferred <sup>92</sup>	Biodegradable Products Institute <sup>93</sup>

# Construction

Product	Applicable Statutory Requirements	Other EPA Recommended Standards & Ecolabels
Carpet	Biopreferred <sup>65</sup> Comprehensive Procurement Guidelines for Recycled Content Products (Polyester Carpet) <sup>94</sup>	NSF 140 Sustainability Assessment for Carpet <sup>95</sup>
Ceiling Tiles- Acoustical	Biopreferred <sup>65</sup>	<u>California Section 01350</u> <u>standard for low-VOC materials</u> <sup>96</sup>
Flooring	Biopreferred <sup>65</sup> Comprehensive Procurement Guidelines for Recycled Content Products (Flooring) <sup>97</sup>	Purchases meet one or more of the following:  Floor Score <sup>98</sup> UL2818 GREENGUARD Certification Program for Chemical Emissions For Building Materials, Finishes And  Furnishing <sup>99</sup> NSF332 International Sustainability Assessment for  Resilient Floor Coverings <sup>100</sup>
Insulation	Biopreferred <sup>65</sup> . Comprehensive Procurement Guidelines for Recycled Content Products <sup>101</sup>	UL 2818 GREENGUARD Certification Program for Chemical Emissions For Building Materials Finishes And Furnishing <sup>102</sup>
Interior Latex Paint	Biopreferred 65. Comprehensive Procurement Guidelines For Recycled Content Products 103	South Coast Air Quality  Management District Rule  1113 standard 104

# Custodial

Product	Applicable Statutory Requirements	Other EPA Recommended Standards & Ecolabels
Wastebasket Liners (24" x 33" or smaller	Biopreferred <sup>92</sup> Comprehensive Procurement Guidelines for Recycled Content Products <sup>105</sup>	Purchases meet one or more of the following:  ≥ 20% post-consumer recycled content 106  UL 126 Standard for Sustainability for Plastic Film  Products 107

# **Electronics**

Product	Applicable Statutory Requirements	Other EPA Recommended Standards & Ecolabels
Computer Desktops, Notebooks (including two in one notebooks), Displays, Integrated Desktops, Thin Clients, and Slates/Tablets	Energy Star <sup>108</sup> FEMP <sup>109</sup>	EPEAT Registered (high rating available 100.
Imaging equipment: (Printers, Copiers, Multi-Function Devices, Scanners, Fax Machines, Digital Duplicators, Mail- ing Machines)	Energy Star <sup>81</sup>	EPEAT Registered (high rating available)82
Televisions	Energy Star <sup>g</sup>	EPEAT Registered (high rating available)82

# Office

Product	Applicable Statutory Requirements	Other EPA Recommended Standards & Ecolabels
Furniture	Comprehensive Procurement Guidelines for Recycled Content Products <sup>98</sup>	Purchases meet one or more of the following:  Business and Institutional Furniture Manufacturers  Association (BIFMA Level ^1 <sup>111</sup> UL 2818 GREENGUARD Certification Program For  Chemical Emissions For Building Materials Finishes And  Furnishing <sup>112</sup>
Toner Cartridges	Comprehensive Procurement Guidelines for Recycled Content Products <sup>98</sup>	Purchases meet one or more of the following:  STMC- Manufacturer meets Standardized Test Methods of the International Imaging Technology Council <sup>113</sup> UL 2785 Standard for Sustainability for Printing Cartridges <sup>114</sup>

# **Comprehensive Procurement Guidelines**

Comprehensive Procurement Guidelines for Non-Paper Office Products<sup>115</sup>

Binders, Clipboards, File Folders, Clip Portfolios, and Presentation Folders

Product	Material	Postcustomer Content (%)	Recovered Material
Binders- Plastic Cov-	Plastic High Density	90	25-50 90
ered  Binders- Solid Plastic	Polyethylene Polyethylene	30-50 100 80	30-50 100 80
Plastic Clipboards	HDPE Polystyrene Misc. Plastics	90 50 15	90 50 15-80
Plastic File Folders	HDPE	90	90
Plastic Clip Portfolios	HDPE	90	90
Plastic Presentation Folders	HDPE	90	90

# **Office Furniture**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Fabric	PET	100	100
Plastic Furniture Component	HDPE	70-75	95

# Office Recycling Containers and Waste Receptacles

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Waste Receptacles	Plastic	20-100	

# **Plastic Desktop Accessories**

Product	Material	Postcustomer Content (%)
Plastic Desktop Accessories	Polystyrene	25-80

# **Plastic Envelopes**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Plastic Envelopes	Plastic	25	25-35

# **Plastic Trash Bags**

Product	Material	Postcustomer Content (%)
Plastic Trash Bags	Polystyrene	10-100

# Comprehensive Procurement Guidelines for Landscaping Products<sup>116</sup>

# Plastic Lumber Landscaping Timbers and Posts

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Plastic Lumber Land- scaping Timbers and	HDPE Mixed Plastics/ Sawdust	25- 100 50 75	75-100 100 95
Posts	HDPE/ Fiberglass Other mixed resins	50-100	95-100

# **Awards and Plaques**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Awards and Plaques	Plastic and Plastic/ Wood Composite	20-100	95-100

# **Bike Racks**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Bike Racks	HDPE	100	100

# **Industrial Drums**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Plastic Drums	HDPE	30-100	25-35

# **Plastic Trash Bags**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Polyester Strapping	PET	50-80	50-85
Polypropylene Strapping	PP		10-40

#### Mats

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Mats	Rubber Plastic Rubber/Plastic Composite	75-100 10-100 100	85-100 100 100

# **Pallets**

Product	Material	Postcustomer Content (%)	
Plastic Lumber	Plastic	100	
Thermoformed	Plastic	25-50	

# Office Recycling Containers and Waste Receptacles

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Signage	Plastic	80-100	80-100

#### **Sorbents**

Product	Material	Postcustomer Content (%)
Sorbents	Plastic	25-100

# Comprehensive Procurement Guidelines for Park and Recreation Products<sup>118</sup>

# **Park Benches and Picnic Tables**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Park Benches and	Plastics	90-100	100
Picnic Tables	Plastic Composites	50-75	100

# **Playground Equipment**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Playground Equipment	Plastics	90-100	100
	Plastic Composites	50-75	95-100

# **Running Track**

Product	Material	Postcustomer Content (%)
Running Track	Rubber or Plastic	90-100

# Channelizers, Delineators, and Flexible Delineators

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Channelizers	Plastic Rubber (base only)	25-95 100	25-95 100
Delineators	Plastic Rubber (base only)	25-95 100	25-95 100
Flexible Delineators	Plastic	25-85	25-85

# **Parking Stops**

Product	Material	Postcustomer Content (%)
Parking Stops	Plastic and/or Rubber	100

#### **Traffic Barricades**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Traffic Barricades	Plastic (HDPE, LDPE, PET)	80-100	100

# **Traffic Cones**

Product	Material	Postcustomer Content (%)	Total Recovered Materials Content (%)
Traffic Cones	Plastic (PVC and LDPE) Crumb Rubber		50-100 50-100

# Comprehensive Procurement Guidelines for Vehicular Products<sup>119</sup>

This section of the CPG addresses the agencies preference of purchasing vehicles with remanufactured parts.

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<sup>11</sup>FHWA Green Procurement Guideline.

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- 83http://www.dgs.pa.gov/Documents/Procurement%20Forms/Handbook/Pt1/Pt%20I%20Ch%2022%20Green%20Procurement.pdf
- 84 http://boa.sd.gov/divisions/procurement/agencies/procurement\_information\_state\_agencies.aspx#EPP
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- 87http://www.bgs.vermont.gov/purchasing-contracting/forms/epp
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- 99http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=27251
- 100 http://www.nsf.org/services/by-industry/sustainability-environment/sustainability-standards-protocols/floor-coverings/
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- <sup>105</sup>https://www.epa.gov/smm/comprehensive-procurement-guidelines-non-paper-office-products
- 106http://www.gsa.gov/portal/mediald/239595/fileName/KSP\_report\_for\_071415\_%281%29.action
- 107 http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=24209
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# Appendix II. States with EPP Policies that include specific plastic product categories

- <sup>1</sup>http://www.calrecycle.ca.gov/BuyRecycled/StateAgency/Categories/default.htm
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- 3http://leginfo.legislature.ca.gov/faces/codes\_displayText.xhtml?lawCode=PCC&division=2.&title=&part=2.&chapter=4.&article=4.
- 4http://www.dgs.ca.gov/buyinggreen/SuppliersGuide.aspx
- <sup>5</sup>https://www.colorado.gov/pacific/sites/default/files/EPP%20Policy.pdf
- <sup>6</sup>https://www.colorado.gov/pacific/osc/GreenPurchasing
- <sup>7</sup>http://das.ct.gov/fp1.aspx?page=146
- 8http://www.ct.gov/deep/lib/deep/p2/goinggreen/epp\_deep\_presentation.pdf
- 9http://energy.hawaii.gov/wp-content/uploads/2011/10/EPG-FINAL\_Fall-2011.pdf
- <sup>10</sup>http://dgs.maryland.gov/Documents/specs/PaperandOfficeSuppliesSpecification.pdf
- \*http://www.dgs.maryland.gov/Pages/GreenOperations/GreenPurchasing/index.aspx
- 12 http://mgaleg.maryland.gov/2014RS/Chapters\_noln/CH\_604\_hb0629t.pdf
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- 14http://www.mass.gov/courts/docs/lawlib/eo500-599/eo515.pdf
- 15 https://www.michigan.gov/documents/CIS\_EO\_GLM\_EPP\_161542\_7.pdf
- 16 https://www.michigan.gov/documents/deq/deq-oea-ecolabels\_447994\_7.pdf
- <sup>17</sup>http://des.nh.gov/organization/commissioner/p2au/pps/hs/pphhfp/documents/purchasing.pdf
- 18 https://www.ok.gov/DCS/documents/DCS\_SB833\_Ltr&Atchmnt\_10.13.2009.pdf
- <sup>19</sup>http://procurement.sc.gov/PS/agency/PS-agency-green-purchasing.phtm
- <sup>20</sup>https://www.comptroller.texas.gov/404.php
- <sup>21</sup>http://des.wa.gov/SiteCollectionDocuments/ContractingPurchasing/EPP-Manual.pdf

