

# Sustainable Procurement

Environmental Science Senior Capstone Fall 2013

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## **Abstract**

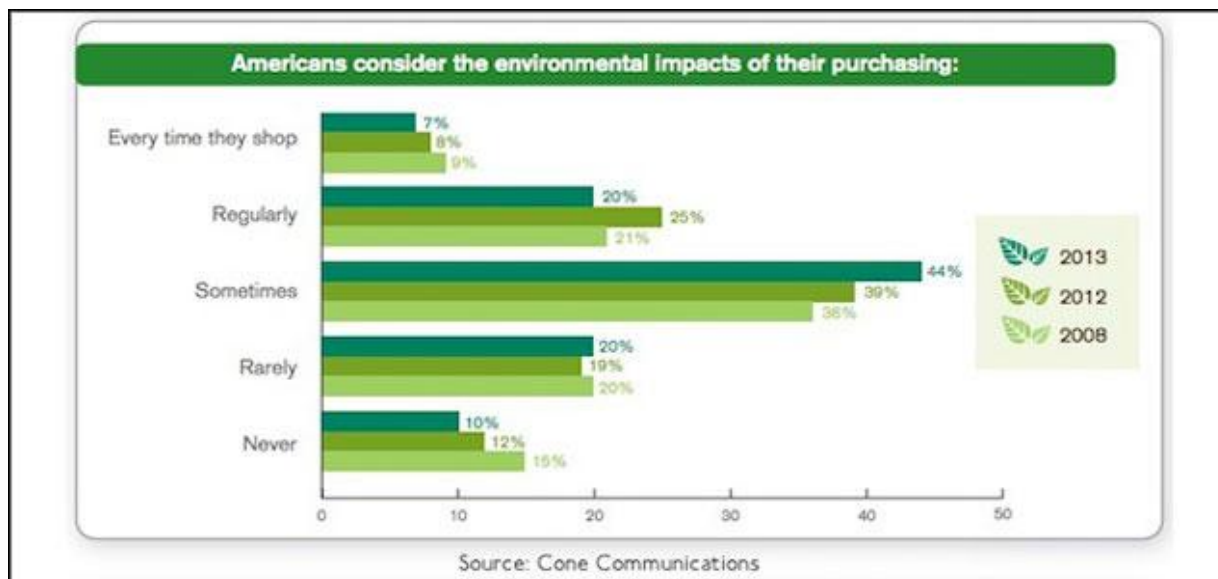
Humboldt State University is renowned for its investment in sustainability and eco-friendliness both in the context of course content as well infrastructure. However, this ideology has not yet penetrated to the procurement office, so we have set forth guidelines for a more sustainable procurement model. We've concluded that the accounting and process of procurement at HSU must transition into a more simplified online aggregate procurement model. This will allow for product sustainability analysis and for procurement changes to be made. In the meantime, we've identified the most commonly purchased office supplies and have developed an environmentally preferable suggestion list, which includes options both inside and outside of the OfficeMax CSU contracts. This list has been distributed to department purchasing heads and to influential procurement policy makers at HSU in order to most effectively implement our suggestions into procurement policy.

## **Problem statement**

I take pride in the fact that I attend one of the most sustainably minded universities. Unfortunately this ideology of sustainability does not translate into the basic school supplies purchased and used by this university. Many of these products contain harmful chemicals for humans or the environment and are made of virgin materials which weigh heavily on our limited natural resources. We plan to identify some of the most prominent office supplies purchased by departments at HSU and provide more environmentally preferable options and in doing so support more sustainable purchasing solutions.

## Background

Sustainability is a concept that is gaining ground in the management practices of institutions worldwide. It is increasingly important as population and resource demands grow that we manage our institutions with sustainability in mind so that they can operate in perpetuity. As awareness of sustainability grows so does the influence of a consumer. Procurement has now evolved to take in other considerations such as environmental, social and economic also known as the triple bottom line while continuing to incorporate cost and quality. ORC International a leading market research company recently conducted a study asking if American's consider environmental impacts when they shop. It shows an increase in American shoppers who consider the environment when they shop from 66% in 2008 to 71% in 2013. Additionally, 45% of Americans now actively seek out environmental information of the products they buy, the highest it has ever been. This is a study done that shows how often Americans consider the environmental impacts when they shop.



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The purpose of this project is to find sustainable products that provide environmental, social and economic benefits. Ideally these products will protect health of students throughout their use at HSU and the health of the environment with regards to the material and energy inputs to the production of a product. Sustainable procurement is important and must incorporate or at least take into consideration is extrinsic costs and embedded energy into the price of an item. The embedded energy with regard to the packaging and distribution of a product must also be considered. By doing so we hope to either save the university money through non-disposable products or have the same costs as the current products used but have fewer environmental consequences. Although some of these products could be more expensive, they might last longer and therefore could be cheaper or equivalently priced with existing products over a longer period of time.

The federal government is the largest consumer of energy and one of the largest consumers of office supplies in the United States and therefore it's their responsibility to lead by example. The environmental protection agency has set forth two executive orders which include sustainable practices federal agencies are urged it implement. Although HSU is technically a state run institution and is not federally run, therefore not mandated to follow either executive order, it is still a government institution that shares a similar responsibility to sustainability.

The first executive order set forth is the EO 13423: Strengthening Federal Environmental, Energy, and Transportation Management, which was made on January 24th 2007 (FedCenter - Sustainability, 2012). It states, "It is the policy of the United States that Federal agencies conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner" (Federal Register, Volume 72 No. 17).

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There are a multitude of goals within this executive order meant to implement policy that reduces greenhouse gas emissions, mandates half of the energy federal agencies use must come from renewable sources, reduces water consumption, and ensures that new buildings and re-construction complies with the Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (Strengthening Federal Environmental, Energy, and Transportation Management, 2007).

However, there are only two goals in this executive order which are relevant to our project and the procurement of office supplies at HSU. The first is the addresses the acquisition of goods and services, encouraging the, “use of sustainable environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products, and use of paper of at least 30 percent post-consumer fiber content (Strengthening Federal Environmental, Energy, and Transportation Management, 2007).” The second goal relevant to our project addresses the presence of hazardous and toxic chemicals within products as well as the issues with its post-consumer waste. This goal is broken down into three objectives. The first objective states that procurement should strive to, “reduce the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the agency.” The second objective encourages, “increased diversion of solid waste as appropriate” by the university. The third and final objective encourages the university to, “maintain cost- effective waste prevention and recycling programs in its facilities (Executive Order 13514, Environmental Protection Agency).

The second executive order set forth is the EO 13514: Federal Leadership in Environment, Energy, and Economic Performance, which was made on October 5th 2009. This policy was implemented in order to create a cleaner energy economy that will increase the nation's prosperity, promote energy security as well as eliminate waste, increase participation in recycling programs, and foster markets for environmentally sustainable products and technologies. This executive order enhances

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the efforts of the previously described EO 13423. The procurement policy aspect of the executive order is the most relevant to our project and its goal is to “Ensure 95 percent of new contract actions are energy- and water-efficient, bio based, environmentally preferable, generally non-toxic, and contain recycled content” (Executive Order 13514., Environmental Protection Agency).

The Environmental Protection Agency spends about five million dollars annually on office supplies and both the aforementioned executive orders require federal purchasers to procure environmentally preferable products, with an emphasis on the most frequent purchases like office supplies. They have developed and currently participate in many programs in an effort to meet these criteria. One of these programs is the Federal Strategic Sourcing Initiative (FSSI), which is a government wide collaborate effort to identify, develop and implement effective purchasing of goods for the federal government while saving the taxpayers money. A vendor list created by this initiative is a great tool for use as a guideline when purchasing office supplies. Another helpful program is the EPA’s Environmentally preferable Purchasing (EEP) Program. This program assists government agencies in purchasing environmentally preferable products. It consists of a large Internet database, which can help any purchaser evaluate sustainable product information. It also assists in calculating the costs and benefits of making sustainable purchasing decisions (Environmentally Preferable Purchasing, 2012). One final helpful or influential document is the Comprehensive Procurement Guidelines (CPG), which is part of the government's “buy recycled” program. It is part of the continued effort to promote and purchase materials used from recovered post-consumer waste. This program is so influential that there it has reached the CSU system, which has launched it’s own “Buy Recycled Products Campaign”, which shares the same goal (CSU POLICY, 2011). The General Services Administration which was developed from CPG is an online supply store which offers office supplies which meets the required recycled content of the CPG policies.

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The ISO 14000 Series Standards are international environmental standards specifically catering to the governance of environmental labeling. These standards aim at recognizing the environmental impacts of a product by creating a set of rules and guidelines, to legitimately represent a product with consumer labels. This eliminates green washing to make sure consumers are given valid information. Humboldt State University is a large consumer that has the power to stimulate manufactures to improve environmental performance. It is important for us to be able to distinguish between competing products to evaluate them on environmental performance. These ISO standards are governing rules for eco-labeling to properly accredit these labels. This organization does not minimize the environmental effects but provides a set of generic requirements for what organization must do to manage processes that influence the organizations impact on the environment. It ensures that production procedures are explicitly laid out and documented, and then this can be audited by an independent certification. The ISO 14000 family is a set of standards that relates to environmental management systems and uses these tools to classify products by applications. This ensures that organizations are aware of their environmental impacts and hopefully will improve performance.

Benefits of these standards include:

1. Reducing raw materials and resources used
2. Reducing Energy Consumption
3. Improved process efficiency
4. Reduce waste generation and disposal costs
5. Utilization of recoverable resources.

The ISO 14000 is one of the most nationally and internationally known environmental standards to improve quality of organizational environmental management systems, increase customer satisfaction and transparency between manufacture and consumer and communicate environmental impacts. It is



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important when buying products to see if they follow these standards to help reduce waste, energy and resource use. These standards also take into account whole product life cycle from extraction of resources, manufacturing, distribution, use and disposal. Any business who wants to improve the environmental aspects of their products should participate in ISO standard. It is globally recognized and has legitimacy because a broad range of different stakeholders created their standards (ISO 14000, 2012). It helps create a more level playing field for truthfully portraying environmental information about a product.

One of the big traps or easy mistakes the procurement office as well as department purchasing heads needs to watch out for is green washing. Green washing refers to products that claim environmental friendliness, but in fact are not. The movement of sustainability and environmentally friendliness is starting to catch on, but with so many product claiming to be 'green' how can a consumer determine which products to buy to make a real difference? This concept of green washing is used by manufactures that make products out to seem better for the environment than they actually are. These false and misleading environmental claims trick consumers into buying products that have little or no discernible environmental or health improvements. The word "Green" triggers consumers into thinking they are doing something good by purchasing these products but in fact this word is undefined and can be subjectively used to mean completely different things. These sustainable products are constantly on the rise and product offerings have grown by 79% between 2008 and 2009 and the market for these products has continued to grow (Hamed, 2013). According to TerraChoice, in their 'Sins of Green Washing' report of 2010 there are six sins of green washing that consumers can fall victim to.

1. The sin of the hidden trade off: This is attributed to the "green labeling" that most manufactures do which only focus on one attribute of the product which makes it environmentally friendly while ignoring all other issues. EX: paper from a sustainably harvested forest but this excludes

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all the other factors of the process to make paper and the green house gases, air and water pollution associated with the product.

2. Sin of no proof: This is normally a claim by the manufacturing about it being environmentally friendly without evidence or third party certification to back it up.

3. Sin of Vagueness: These are claims which are poorly defined and have no substantial backing behind them. For example eco-friendly, all natural or smiley products with green labels depicting trees or nature.

4. Sin of Irrelevance: These are claims that a company makes that are not relevant to a product. This distracts the consumer from other environmentally friendly options. Some products loudly claim they don't contain certain chemicals in order to gain a competitive advantage, even though they are legally restricted from the practice they are bragging about not doing.

5. Sin Lesser of two evils: This happens when these "green" claims are made but they usually distract the consumer from the more pressing or higher impact environmental issues.

6. Sin of Fibbing: This is simply making false environmental claims, often misinterpreted by a third party and continually portrayed in that light. (Sins of Greenwashing, 2010)

The main office supplies products that can often fall victim to these are; Facial Tissue, Ink Cartridges, paper, writing instruments, and packing material. It is important to look critically at what environmental claim is being made and to look for government standards or third party certifications, which can vouch for their statements. These products should transparently be represented to consumers but it is also our responsibility to be skeptical in our understanding and interpretation of their claims. These general guidelines should be in the back of the minds of HSU purchasers in order to maintain sustainable practices and intentions.

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Green marketing is powerful and plays a substantial role in the consumer market. Consumers expect to use their buying power to express their commitment to the environment but are often misled. More business and manufactures are establishing environmentally friendly product lines because it provides a competitive market and is part of their social responsibility. Businesses, which follow environmental regulations, and true advertising, should be rewarded by the consumer and in the marketplace. This competitive free market is what will push us towards sustainability and the ever-increasing “green” movement. Our hope is to inform the faculty and staff of Humboldt State university of these green washing tactics and to assist them to think about this the next time they purchase office supplies. This should build a platform for dialogue about the environmental impacts of the products the school buys to make more conscience decisions.

There are, however, some very helpful and trustworthy environmental organizations and standard-setting/certifying Eco label institutions, which can help guarantee a consumer that the product they are purchasing is in fact environmentally friendly, or at least more environmentally friendly and sustainable than convention counterparts.

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Legitimate environmental organizations and standard-setting/certifying institutions to be trusted:

Biodegradable Product Institute	Natural Products Association	CFPA	Nordic Swan
CRI Green Label	PEFC	EcoCert	Rainforest Alliance
EcoLogo	SCS	Energy Star	SFI
OKO-TEX	Skai EKO	Fair Trade Certified	Green-E
FSC	UL Environmental Claim Validation	UL environment energy efficiency verification	GreenGuard
Green Seal			

Many other universities are far ahead of HSU in terms of sustainable procurement. In an interdisciplinary effort involving faculty, staff, and students, the Yale University Sustainability Task Force completed the Sustainable Strategic Plan for 2010-2013. This strategic plan establishes goals and objectives to increase the level of sustainability with regard to the purchase of stationery products and other office supplies. One of these universities is Yale, who purchases approximately \$1.5 billion of items ranging from office supplies, lab equipment to construction materials, food, and computers (Lorimer et al., 2010 ). Through this plan the university recognizes the opportunity to reduce the quantity of procured goods, increase efficiency, and adopt sustainable procurement practices to reduce their overall environmental impact. A goal that was accomplished was to finalize a set of University-wide Sustainable Procurement Standards for common used commodities in 2010 (We Are Making Progress, 2011). These standards included a suggestion for 30 percent or greater post-consumer recycled content for multi-use office paper. Another encouraged products that incorporate post-consumer

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recycled content such as toner cartridges, break room supplies, and writing instruments (Sustainable Procurement Standards Guide, 2010). Furthermore, invoices are centralized and filed electronically now.

Another university leading the sustainability charge is the University of Durham, which introduced the Corporate Social and Environmental Responsibility (CSER) Policy in March of 2013. It embodies the University's sustainability values, dictating practices meant to shape the individual behavior and accountability of faculty, all the while working within the university framework continuing its relationship with suppliers to meet its needs. It summatively states that University staff will consider the environmental, social, and economic implications of their actions. Procurement staff will where applicable: ensure small and local businesses can bid for business, encourage suppliers develop proactive approaches to environmental and social improvements captured through the use of contract improvement plan, and consider social and environmental credentials of products (CSER Policy, 2012).

Another college that is at the forefront of sustainable practices is Goucher College. Goucher College is a sustainability minded university that has many environmental initiatives. The organization they created uses a lifecycle approach to ensure all environmental impacts are taken into account. They created a Green Seal standard that attempts to minimize the impact of cleaning products and reduce their indoor air quality and health risks. They also participate in a voluntary program with the EPA, that has a goal to increase purchasing of renewable energy through their green power partnership in order to reduce environmental impacts of electricity use. (Goucher Environmental Initiatives, 2013)

Currently HSU procurement is regulated or defined by the HSU Procedure Manual for Contracting & Procurement. If there is any action or policy undefined or un-described in this manual, then the default action is decided by the CSU Policy Manual for Contracting and Procurement, which is far more comprehensive as it sets the baseline for all CSU procurement policies. Before HSU can purchase any product, it must first attempt to purchase it through a state contracted source. Only if a

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comparable product is not offered through one of these state contracted sources, is HSU allowed to make purchases outside of these predetermined contracts. The biggest and most monopolized contracted sources are OfficeMax for office supplies and Dell for computers. It is difficult for a department who wants to purchase the same or similar items performing the same function, especially at a greater price, through an alternate source to the contracted ones. The only way to make this happen is to submit a written justification signed by the university department chairperson with the purchase request (Procedures Manual: For Purchasing Commodities, Services, and Contracting, 2009). In this way the university has made it extremely difficult to make sustainable purchases outside of the product-limited contracted vendors.

In the CSU manual, policy number 5235 sets forth a “Buy Recycled Products Campaign,” which encourages the procurement of products that incorporate recycled materials. However, it makes this encouragement fairly weakly, because it adds the caveat that purchasing recycled product instead of conventional ones is only necessary if it costs less than the conventional product (Procedures Manual: For Purchasing Commodities, Services, and Contracting, 2009). This removes all teeth from this policy, because most recycled products are slightly more expensive and so virtually no recycled alternatives fall into the described category. Therefore purchasing recycled products is encouraged but not mandated by any sense.

### **Environmentally Preferred Product Procurement Suggestion List:**

**Pencils:** OfficeMax Paper Mate® Earth Write® 100% Recycled Pencils, No. 2 Lead, Green Finish, Item #: 21920094 Manufacturer #: 1750843

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- This pen is a better alternative for your non-mechanical pencil, with 100% pre-consumer recycled content made from reclaimed cedar from the United States. . It is a certified AP approved product that is nontoxic. This means the product is evaluated for California's proposition 65 that evaluates known carcinogens and reproductive toxins. These AP labeled products avoid toxic levels of known potentially harmful chemicals under the EPA and National Institute of Health. This pen also received accreditation from the Art and Creative Materials Institute Inc. (ACMI), which is dedicated to ensuring art supplies in this pen are non toxic and can be used by children. This pen is durable and a #2 soft pencil. This pen can be purchased through OfficeMax in packs of 10 for \$2.99 at <http://www.OfficeMax.com/office-supplies/environmentally-preferable/environmentally-preferable-writing-instruments/product-prod2850670>
  
- BIC® eolutions™ Recycled Mechanical Pencils. Item # 901-MPE11 Model # 42089/MPE11. Lead Size: 0.7 mm Hardness: #2 Soft Barrel Color: Black
  - This mechanical pencil is made from 76% pre consumer recycled content and the paper used in packaging is made from 100% recycled fibers. Its colors come in red, blue, green and yellow.
  
- Pilot® Recycled RexGrip BeGreen® Mechanical Pencils, .5mm. Item number: 752334 Model: 51220
  - These mechanical pencils are made from 71.9% recycled content and are refillable. They can be purchased through staples for \$16.49. This pen also meets the ISO 14001 and 14021 standards.

**Pens:** OfficeMax Pilot Precise V5 BeGreen Extra Fine Point Rollerball Pens. Item #: 21675554

Manufacturer #: 26302

- This pen is made from 89.2% recycled content. Its ink is refillable which helps offset the cost. This pen also meets the ISO 14001 and 14002 Standards. They can be purchased in packs of 12 for \$18.49 from OfficeMax at <http://www.OfficeMax.com/office-supplies/environmentally-preferable/environmentally-preferable-writing-instruments/product-prod2041226>

**Sharpies:** OfficeMax The current Sharpie Fine Point Permanent marker Item #: 10017242 Manufacturer #: 30653PP has no better environmentally preferred through OfficeMax. They have an AP non toxic seal certified. This product can be purchased through OfficeMax in pack of five, each a different color for \$4.89. <http://www.OfficeMax.com/office-supplies/shop-by-brand/shop-by-brand-pens-pencils-markers/sharpie/sharpie-markers/product-prod3770149?R=10017242&ssp=true>

- DBA Pen. Black 0.5mm.
  - These dba pens are one of the most environmentally sustainable pens you will ever write with. They are made from bio-plastics and sustainable crop material. The ink reservoir is made of biodegradable natural fibers and their ink is non toxic and meets high environmental safety standards. Most conventional pens are made from raw material that uses oil and a mix of steel, polyester, polypropylene and many chemicals which prevents them from being recycled. Most ink in these pens are made with biosides usually synthetic chemicals which are highly toxic and used to kill micro-organisms. These DBA



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pens have low carbon emissions and have partnered with Harbec a sustainable factory that uses wind power and is cooled by rainwater. Unlike most conventional pens the manufacturing process is energy intensive and it is outsourced to factories in developing countries with poor environmental regulations and standards. The factory which produces DBA pens exceeds the ISO 1400 standard which focuses on all aspects of environmental management which regulates operations and harmful effects to air, water and natural resources. This standard measures how a product is produced. This pen is also 98% biodegradable within 180 days and unlike any pen of its kind. Its packaging is made from 100% FSC certified paper and printed with vegetable based ink. All of its packaging is 100% recyclable. Most pens packaging are made non-recyclable PVC and contain chlorine and other metals and toxic glue, all of which is harmful and non-recyclable. These pens come in packs of 3 for 8.98 and can be ordered on their website [www.dba-co.com](http://www.dba-co.com).

- Pilot B2P Ball Point Pen. 1.0mm.
  - Pilot has a be green program for pens. One of their pens B2P (bottle to pen) is made cheaper than the DBA pens and made from recycled plastic bottles. The pen is a retractable ballpoint pen made from 83% post-consumer recycled bottles with a total of 86% total recycled content. They come in a variety of colors with medium and fine point and can be purchased in packs of 12 for \$15.60.  
<http://www.pilotpen.us/ProductGroup/1247-B2P-Ball-Point.aspx>
  -
- Tiggerwood Pen Item: GKP67300.

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- The tiggerwood pen is a sustainable pen made from 100% post industrial materials. This means that the pen is made out of materials collected that were originally used for other products. Its ink is non toxic and is a vegetable based ink. This pen is also certified by the forest stewardship council, Green American Business of approval. It is a ballpoint retractable pen that is also refillable and can be purchased for \$6.69 per pen from.  
<http://www.thegreenoffice.com/office-supplies/GKP67300>
- RexGrip Ball Point Pen
  - The RexGrip BeGreen Ballpoint Retractable Pen, is manufactured by pilot. It is 77% post consumer recyclable. This pen also meets the ISO 14001 standard. These pens can be bought in packs of twelve in black, blue and red for \$13.86 and \$14.08 for the red ink. These pens are a great cheaper alternative while still providing some environmental benefit. Then can be purchased at <http://www.pilotpen.us/ProductGroup/68-RexGrip-BeGreenN-BallPoint.aspx?ProductId=652> in a pack of 12 for \$19.80.
- Sharpie stainless steel fine black pen.
  - This traditional fine point sharpie marker ink has been AP certified nontoxic formula by the Art and Creative Material Institute. Its ink cartridge is replaceable with a sharpie ink refill cartridge item number: 1751000. Sharpie has also partnered with TerraCycle to dispose of these writing instruments properly. They can be purchased for \$8.99 per pen from  
[http://theconsumerlink.com/product\\_detail.asp?BID=Sharpie&T1=TCL+1747388&navSt&art=101&](http://theconsumerlink.com/product_detail.asp?BID=Sharpie&T1=TCL+1747388&navSt&art=101&).

**Post-its:** OfficeMax Post-Its: Greener Notes Sunwash Pier Collection. Catalog Number: 654-RP-

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- These post it notes are made with 100% recycled paper and 67% plant-based adhesive by weight. This means each post it can be recycled. This product is also certified by the Sustainable Forest Initiative Chain of Custody Program. In order to receive this certification companies must prove that their wood comes from well managed forests and their product is made from post-consumer recycled content. Additionally, to receive this certification they must show that their source of fiber comes from legal logging operations. These post its can be purchased from office max at <http://www.OfficeMax.com/office-supplies/sticky-notes-flags/post-it-notes-flags/post-it-notes/product-prod2940353?R=21516799&ssp=true> in packs of 24 for \$26.99.

**Note Cards:** OfficeMax Blank Index Cards Item #: 20740227

- These blank index cards are the best that OfficeMax offers and contain 10% post consumer content. They come in packs of 300 and are only ruled one side. They can be purchased through office max for \$2.49 per packet at: <http://www.OfficeMax.com/office-supplies/file-folders-accessories/index-cards-files/index-cards/product-ARS24359>

Highlighters:

- Humboldt State University currently purchases the brand Hi-liters and this is the most environmentally preferred alternative through OfficeMax. (<http://www.OfficeMax.com/office-supplies/pens-pencils-markers/highlighters/product-ARS19741?R=20570482&ssp=true>) These highlighters have a precautionary standard which is the ASTM D 4236. These standards are set from the American Society of Testing and Materials (ASTM) which is a label specifically for art materials. This statement is present on products which in this specific physical form or concentration has the potential to produce chronic adverse health effects.

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(<http://www.astm.org/Standards/D4236.htm>) We have suggested other alternatives outside of the OfficeMax contract that sustainable and non toxic.

- Eco Highlighters:
  - The Stubby Pencil Studio, which creates eco-friendly products has done away with the traditional plastic highlighter and created the pencil inspired Eco Highlighter. This product is CE certified, meaning it has met safety standards set by the European Union in order to sell products in the European Economic Area. The eco highlighter does not use any plastic, chemicals. or volatile organic compounds which makes it biodegradable. Although it still requires trees this product is long lasting and works as well as the traditional highlighter. These highlighters which come in yellow, green, orange, pink and blue can be purchased from <http://www.stubbypencilstudio.com/category/EHLT/eco-highlighters/1.html> in packs of five for \$9.95.
- 140/72 Stabilo Green Boss from Stabilo.
  - This highlighter is made from 83% recycled plastic and is refillable. This product comes in green, pink, orange and yellow and can be bought in large quantities in packages of 500. They can be purchased online at: <http://www.stabilo-promotion.com/hp5864/GREEN-BOSS-140-72.htm?ITServ=C4c76e354X13e7679d298XY6f60>

### Facial Tissues:

- Sustainable Earth Facial Tissues. Item number: 887833 Model: SEB20193-CC
  - These tissues are whitened without chlorine bleaching, and contain no dye or fragrance. They are made form 100% recycled fiber with a minimum of 40% post consumer content. They come in a case with six boxes and can be purchased from staples for \$9.99 for a

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case at [http://www.staples.com/Sustainable-Earth-by-Staples-Facial-Tissues-Cube-Box-2-Ply-6-Case/product\\_887833](http://www.staples.com/Sustainable-Earth-by-Staples-Facial-Tissues-Cube-Box-2-Ply-6-Case/product_887833)

- Facial Tissue form Marcal Small Steps.
  - This facial tissue is 100% recycled and manufactured without chlorine bleach. The facial tissue is free of dye and fragrances. The box is made from 100% recycled paper. These Facial tissues can be purchased in a pack of six for \$12.99 from [http://www.staples.com/Marcal-Small-Steps-100-Recycled-Facial-Tissues-Cube-Box-6-Pack/product\\_497985](http://www.staples.com/Marcal-Small-Steps-100-Recycled-Facial-Tissues-Cube-Box-6-Pack/product_497985)

### Filing Cabinet:

- This is a great four drawer lateral filing cabinet made from 70 percent recycled material. This product meets the American National Standard Institute and Business Institutional Furniture Manufacture's Association for products that meet safety health standards for consumers and to enhance protection of the environment. This product can be purchased from <http://www.shoplet.com/Best-Four-Drawer-Lateral-File-Cabinet/BEF9118415/spdv> fro \$364.53 dollars but it is cheaper then the office max alternative.

### Dry Erase Markers:

- Humboldt State University uses dry erase markers in almost every classroom. The conventional EXPO dry erase markers that are currently purchased by HSU are used up quickly, and un-refillable and therefore we go through many of them. If they are left open they dry out quickly and are not usable. These EXPO pens also contain the chemical Xylene that is an indoor air pollutant and when used in non-ventilated areas in high concentration can be detrimental to your health. For most people on a daily basis they can cause headaches. Xylene can cause irritation to

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the skin, eyes, nose and throat. It is classified by the NOHSC as a harmful by inhalation and when it comes in contact with skin. Xylenes may cause stomach problems, drowsiness, and loss of memory and poor concentration, nausea, vomiting, abdominal pain and loss of coordination. High levels of this chemical can cause severe dizziness, passing out and even death in extreme cases. Repeated exposure may cause damage to bone marrow that causes a low blood cell count. This chemical also may damage developing fetus. (Australian Government Department of Sustainability, Water, Population and Communities. Since we are around this product every day we ignore the harmful effects and think they are safe.

- This product is a key component to switch for a more environmentally friendly alternative for the frequency and duration that dry erase markers are used everyday. There are great sustainable dry erase markers that are alternatives to the current EXPO pens purchased.
  - Auspen is a sustainable dry erase marker that is refillable and can be continuously. This reduces waste and while saving money because the liquid ink comes in containers enough for 20 refills and does not contain xylene. The marker barrels are made from recycled aluminum. The only part that needs to be replaced is the tips because they eventually wear out but these can be bought so the dry erase markers last perpetuity. This saves hundreds of markers a year from HSU that would otherwise end up in a landfill. These pens are also made from recycled material, have ultra-low odor and nontoxic ink. They are also ISO 9000 certified. These pens can be purchased in a kit with six markers with 6 refillable ink markers each one a different color. This kit is equal to 246 disposable dry erase markers, and this reduces cost about 28 cents per marker. The tips they call nibs

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come in packs of 10 or 20 and are double sided. This kit costs \$49.95 and can be ordered by phone at 1-866-328-7736 or online at

<http://www.ecosmartworld.com/order-auspens/>

- Neither the Office Max catalogue or the environmentally preferable section at its website (<http://www.OfficeMax.com/office-supplies/environmentally-preferable>) have a greener alternative to whiteboard marker. Currently the school purchases EXPO™ low odor dry erase markers and Office Max™ low odor dry erase markers. Both claim to be non-toxic, but only the EXPO brand has been certified AP non-toxic. The two adhere to standards by the American Society for Testing and Materials (ASTM) D-4236. Acknowledging some hazards with the use of the product, but they can be minimized and prevented with open windows and short interval uses.

### Binders:

- Naked Binders
  - Naked binders are a great alternative to the current binders purchased at school. These sustainable binders minimize waste, are safe for the environment and don't use vinyl or plastics. They are also made with 100% Forest Stewardship Council recycled board, which is 100% post-consumer waste. They can be purchased from <http://www.nakedbinder.com> for \$7.00 per binder.
  - These naked binders limit the students and teacher's exposure to polyvinyl chloride which has health effects. (<http://www.nakedbinder.com/Articles.asp?ID=267> ) The manufacture of polyvinyl chloride releases many chemicals including dioxins, vinyl chloride, lead, cadmium and organotins. PVC is the third widely produced plastic and has

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many uses. The production of PVC is linked to cancer in workers who work in the industry in a plant near Louisville Kentucky. Workers of the plant were diagnosed with a liver disease, and since then cancer links were found in Australia, Italy, Germany, and the UK due to exposures of vinyl chloride and it is now considered a carcinogen. PVC is not easy to dispose of and many binders get thrown away every year. PVC bio-accumulates in our environment because it does not break down rapidly and is found all around the globe in fatty tissue of marine mammals and found in breast milk. Concentrations of PVC in breast milk leads to infants getting higher doses magnitudes more than the average adult. (<http://www.epa.gov/ttn/atw/hlthef/vinylchl.html>) The exposure to PVC is also a risk for the average American, and has a calculate risk of 1 and 1000 for cancer, magnitudes greater than the acceptable risk. The additives required to make PVC make it so it can't be recycled. On average the United States throws away seven billion pounds of PVC per year and less than .5% of that is recycled. The association of post-consumer plastics declared PVC a contaminant in 1988 as no recycling efforts were successful. Although Vinyl could be recycled, there are no programs currently available that do so, so the majority of PVC ends up in a landfill or in incinerated. Currently about 1.5 % of vinyl is recycled mostly from industrial waste. Currently about 3 billion pounds of PVC is incinerated in the US every year. Before PVC ignites it releases hydrogen chloride which turns into hydrochloric acid when inhaled, and when burned in landfills is the single largest source of dioxins released to the environment.



## Objectives:

Our original objective for this project was to implement significant change in the procurement of office supplies and other frequently purchased school items by cross-analyzing currently purchased products with their environmentally friendly or sustainable counterparts. Unfortunately, we have hit some pretty serious roadblocks and constraints in the way of purchase order information specifics. It seems that maybe the reason that there is so much resistance in this area is that there is so little accountability and lack of accurate records. So we are adjusting our objectives somewhat. Our objective remains to implement significant changes in the procurement of office supplies and other frequently purchased school items, but our method of implementation has been refocused. We will now strive to achieve this goal by way of suggestion for future purchases and purchasing practices. We will analyze the most commonly purchased office supply products at HSU and suggest an environmentally preferable option both inside and outside of the OfficeMax contract.

Largely we are going to stop wasting our time trying to battle the tide of bureaucracy of this university and of the California State University system as it's getting us nowhere fast and probably deserves more time than can be allotted in a single semester. We are going to do some extensive research and decide which products we would endorse on the basis of their sustainable aspects as well as their economic, social, and health benefits. Ultimately, we will be doing product analyses rather the product cross analyses.

We've gotten a lot of positive feedback from Tall Chief, who seems to share our desire for a more sustainable HSU. We will send him our information with the hopes that he can use it to implement change in the HSU procurement plan in the future and propagate our work. We will give this information to the procurement office with the hope that they will endorse our suggestion to create an

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online centralized aggregate procurement model for analyzable accounting. Unfortunately, we don't know how effective this will prove due their office's overburdened level of work. Our last and potentially most effective option for implementing change will be to distribute our suggestion lists to department purchasing heads so maybe next time they fill out an order they will look at our suggestions and choose one of the environmentally preferable suggested products.

Our other suggestion is directed at the actual system of procurement at HSU. Department purchasing heads compile a group invoice for office supplies when either teachers request certain office supplies of their department or the purchasing head identifies products that need replacement in public areas. This invoice does not require detailed or any product identification but simply a price total before it is sent to the procurement office to be aggregated in an excel file. This conglomeration serves as a means to attain simple totals, but zero opportunity to do analysis due to lack of detail and invoice separation. This creates a serious lack of accountability within the purchasing system at HSU.

### **Constraints:**

The biggest constraints to sustainable procurement are cost and availability. The market for sustainable products is an emerging one and so the availability of those products often doesn't reach the big retailers, which became a large constraint. Environmentally preferred products often cost more to manufacture for one of two reasons. The first is due to the process being more intensive and refined, requiring greater capital investment in infrastructure. The second is because the use of natural chemicals or material replacements are more expensive than conventional ones that can cause human and environmental health risks. Another way cost constrains sustainable procurement is due to greater initial investment. Sustainable products often last longer than their conventional counterparts and may cost less

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in the long run, but the initial capital cost is greater. Thus, the initial capital cost can be a great deterrent and discouragement to making sustainable purchasing decisions for purchasers at HSU.

This project has encountered many road bumps along the way. When dealing with sustainable procurement you have to follow the schools current regulations and guidelines. We had to meet with the university budget office, head of procurement and office of sustainability. We are supposed to stay within the HSU and CSU procurement guidelines by always obtaining products from the same companies like OfficeMax and Dell because they have contracts with Humboldt State University. These statewide contracts award savings percentages based on the spending bracket your university falls into. Thus, there is an incentive for HSU to purchase as much as it can through the companies with contracts in order to receive greater savings.

After our meeting talking with Tall Chief Comet we decided to constrain our project to the procurement of office supplies. We did this because efforts have not been made to make them more sustainable in the past, as has been done in other areas of procurement at HSU, and because they are products which the university goes through on a regular basis with great frequency. In this way our project will hopefully be more effective in making changes at HSU as it will affect a greater number of purchases and has the greatest room for improvement.

### **Implementation Plan:**

This sustainable procurement guide is meant to help Humboldt State University strengthen their commitment to sustainability by purchasing more environmentally friendly products. Our objective is to help Humboldt State University support the 3R's of sustainability Reduce, Reuse, and Recycle through their purchasing of office supplies, while also taking into consideration the conservation of energy and water in a product's production. Although we will not be able to implement a plan for specific product

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swaps in the present, we have identified key problems in the procurement system and have provided possible solutions. We have put forth sustainable procurement guidelines as well as a manner in which to implement them once these barriers are addressed and solved in the future. In the meantime we are distributing sustainable product suggestion lists to department procurement heads in order to implement small-scale options for immediate action.

We will provide our sustainable product suggestion lists with descriptive justifications to the head of purchasing for each department. We will also provide this list to the HSU procurement office so that they will know why and how some of their purchase orders might change. Hopefully the justifications will be convincing enough to sway reservations against the changes from conventional purchases. This allows staff to start to focus the development of green purchasing goals, and assess their baseline purchasing in order to measure future success. Hopefully in the future this will expand past office supplies. It is important to gain support from the staff, professors, and others in charge that will be involved in the decision process of implementing our suggestions in the future. Their suggestions and support are critical if changes are to be made then the purchasing and the accounting of purchasing at HSU.

We will also send these suggestion lists to all HSU faculty in order to raise awareness for the suggestions and hopefully get them on board. Then the teachers and other faculty might put some pressure, by way of demand, on the department purchasers. These changes are so significant the timeframe with which to implement these changes is lengthy and needs longer than a single semester. In this way, Tall Chief will be a key recipient of this sustainable product suggestion list and hopefully will further the cause and implementation of said suggestions in the future when we are gone.

## Actionable Recommendations for Humboldt State University:

The first step of sustainable purchasing is self-evaluation of current universities products. The purchasing at HSU is done by multiple people from each department and the records of said transactions are not well kept so specific product analysis is not possible. The vast majority of purchasing done by HSU is not broken down into the basic information of product code, quantity, and price, but instead allows department heads to purchase grouped ‘office-supply’ orders that are only described by the general products purchased and sometimes not even that. Without the ability to assess what we have or what we are doing in the present, there is no way to measure success or potential changes in procurement practice. We are strongly suggesting that an aggregate list, preferably compiled online in Excel format, of all purchases be compiled so that the purchasing at HSU can become accountable and analyzable. We understand that there might be reservations against complete transparency to the public, although as a government institution it should be, but this information needs to at least be available to influential purchasing faculty and aggregated somewhere.

According to National Association of Education Procurement, many schools use what is called a PCARD. It is a card which directly routes purchases and procurement forms to a set database. A centralized online procurement model would allow for improvements in efficiency and buying of alternative products. This would allow analyzing of the spending by category and helps support bidding along with contract management. More importantly, this centralized online database would allow someone to conduct sustainability analyses on purchased products. University of Colorado has found this very helpful and even has a training program for the PCARD. If the California State University System would allow Humboldt State to voluntarily opt out of state purchasing contracts, we could create

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new contracts which better fit the universities small size and mission of our faculty and students. If our university were to adopt or consider some of these policy and procedure changes we can better understand the cost and benefits relevant to each purchase. These cards usually have a set amount is put on the cards each month which expires at the end of each month. By the end of the next month each account should be reconciled to make sure it matches the transaction log. An online centralized procurement model such as the PCARD ensures that each transaction or purchase made by HSU will include and compile as much of this information as is available.

1. A receipt from the merchant with product code
2. Name of vendor
3. Date of purchase
4. Brief description of the purchase
5. Specific item costs and quantities
6. Total cost of the order
7. Which department or faculty member made the purchase

The procurement offices as well as the department offices, teachers and office of sustainability should assess the best way to introduce this new vision and guide into the relationships with OfficeMax and other vendors to allow this sustainable purchasing to continue to grow and expand. Meetings should be set up with campus departments to discuss and explore the opportunity to utilize products outside of the university's contact with OfficeMax and take advantage of products with greatest amount of recycled, recyclable and post-consumer content. An effort should be made to collaborate with OfficeMax and existing vendors to highlight their portfolio of environmentally friendly products and create a push to make them carry more environmentally friendly, sustainable products. Humboldt State

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University and the CSU system as a whole has a lot of weight and could greatly influence the products that these big businesses carry if the university's only purchased sustainable products.

Some states have made improvements and reforms to the procurement laws which help them tailor these rules to specific school systems. University of Colorado and other schools in Virginia and Kansas are prime examples of how changes in procurement policies can greatly increase the effectiveness of procurement programs. According the American Association of State Colleges and Universities National Association of Educational Procurement they used state procurement rules as a foundation but altered them to better fit the university's needs. This newfound flexibility has saved the university an average of 800,000 the first year on office supplies alone. They no longer have to participate in group purchasing and can find vendors that better fit their needs (Public College and University Procurement, 2011).

Another suggestion, which could help HSU reduce its environmental impact and increase its sustainability profile would be to participate in waste programs such as the Terracycle up-cycling programs. Terracycle is a company who collects specific post-consumer wastes and recycles or up-cycles them into new products. The collection programs, or 'brigades,' are run through the postal system and often Terracycle pays for the shipping or even pays the consumer a small amount for their waste in the form of a donation to a school or non-profit organization. Rarely, a waste brigade will require payment for the collection of waste products that do not have as great an economic incentive. Setting up collections on campus for specific kinds of waste is a common practice, the responsibilities of which could easily be delegated to a student group or club. The donations from Terracycle would be able to go directly to HSU and the small cost of collection bins and signage would be quickly offset.

## Monitoring and Evaluation

Humboldt State needs to create a campus of procurement accountability and transparency. This begins with creating a campus culture that recognizes the importance and value of a procurement policy. The current system needs to be reviewed to develop goals that create a cohesive system that augments current procedures. By improving and implementing institutional policies to streamline record keeping, HSU can become accountable while maintaining the established contracts with OfficeMax. Accountability relies on good record keeping, which is the foremost goal for any sustainable procurement plan, because without it nothing can be changed. Transparency is the second most important factor in this sustainable procurement plan so the staff at HSU can apply appropriate scrutiny to their purchasing activity and can further analyze improvement, or not, it in the future.

Since there is no way to monitor or evaluate a system without transparency and accountability, our monitoring and evaluation plan will instead be a push for better accounting, as described above, of the purchasing performed at HSU. Once this is accomplished, then there can be a system in place for department purchasers and school-wide purchasers to measure the success of this effort and if a change in procurement practices has occurred. The department purchasers will be able to assess their own purchasing habits and might be more likely to change their purchasing decisions for the better if their purchases are made more accessible and thus comparable to the suggested list of environmentally preferable products.



**Conclusion:**

Humboldt State University is renowned for its investment sustainability and eco-friendliness. This needs to translate to the procurement office, so we have set forth guidelines for a more sustainable procurement model. We've suggested that the accounting and process of procurement at HSU must begin transition into an online aggregate procurement model, which will allow for product sustainability analysis and for procurement changes to be made. We've identified the most commonly purchased office supplies and have developed an environmentally preferable suggestion list, with options both inside and outside of the OfficeMax CSU contracts. We've distributed this list to department purchasing heads and to influential procurement policy makers at the school in order to most effectively implement our suggestions.

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