introduction

With the concern of limited fossil fuel resources and climate change, the need and demand of sustainability has increased. On a regional level, Texas ranks number one in power plant emissions of nitrogen oxide and carbon dioxide (Environmental Protection Agency eGRID 2000 database) and roughly 50 percent of Texan citizens breathe air that does not meet federal standards.

At the “Creating a Sustainable Energy Policy” conference, organized by the Memorial Student Center, Petroleum Engineering professor Dr. Thomas Blasingame stated that “the 21st century will be defined by our ability to access and consume energy.” So knowing this, how can we retool our habits to conserve energy and to promote energy efficiency? What can our university do in the face of this challenge?

Many student organizations, such as the Residence Hall Association, recognize this need to retool the built environment, in addition to our lifestyle and habits. Several students in the Residence Hall Association created this document, with an intention to change the current university office, into an office that encourages fiscal, environmental, and social responsibility.

We encourage you to take the time to read through this document and consider the potential that this simple guide has to offer. Students recognize the profound changes, both individually and collectively, needed to transition into a more sustainable, a more positive, and a more necessary world. We hope the Division of Student Affairs will recognize the need to make these changes too.

“Our goal is a delightfully diverse, safe, healthy and just world, with clean air, water soil and power- economically, equitably, ecologically and elegantly enjoyed.”
-William McDonough

Jonathan Luu ’12
Vice President of Policy & Advocacy
Residence Hall Association
Texas A&M University

Jared Fuller ’10
Walton Hall President, Senate Liaison
Residence Hall Association
Texas A&M University

Sajjad Ali ’08
Environmental Liaison
Residence Hall Association
Texas A&M University

Michael Kent’11
Environmental Co-Chair
Residence Hall Association
Texas A&M University
what exactly is a green office?

(1) In a green office, consumption of materials and energy is reduced.

(2) In a green office, less waste is produced.

(3) In a green office, possible health problems are reduced.

(4) In a green office, many financial savings are made.
I. Identifying Problems, Players, and Expected Outcomes
II. Sustainable Product Alternatives
III. (Future) Energy Conservation Considerations
IV. Recycling
V. Resources
VI. Fightin' Texas Aggie Support for Sustainability!

“Treat the Earth well. It was not given to you by your parents. It was loaned to you by your children”
- Kenyan Proverb
problems in the office

With the number of hours university employees and student workers spend in the office workplace, work itself seems to be the culprit of many health problems. However, it is also important to consider the environmental problems involved in the office:

(1) Harmful materials such as glues, corrective fluids, photocopiers, furniture, air conditioning, detergents, etc.

(2) Noise produced in the workplace may be difficult for concentration and may decrease office efficiency.

(3) Bad lighting, electro-magnetic radiation.

(4) High energy/material consumption

sustainability players

In promoting sustainability and reducing environmental problems within the office workplace, there are a number of players:

(1) The University President, The Vice President of Student Affairs, Directors

(2) Producers and Suppliers of materials.

(3) Staff, who consume supplies and materials.

expected outcomes

If the proper changes are made within the Division of Student Affairs, offices will see:

(1) A significant amount of savings in energy costs and material/supply purchases.

(2) Better working conditions that promote efficiency and employees’ well-being.

(3) Reduction in negative environmental and social impacts.
Sustainable Product Alternatives

So, we have said it: Our goal is to reduce monetary costs in the office while being environmentally friendly. So, how do we do that with our product purchases?

To select environmentally friendly products, we must differentiate products in terms of the products’ impact on the environment. These ecological products, in comparison with others:

1. Saves resources, energy or water. (low energy light bulbs)
2. Use renewable resources. (solar calculators)
3. Possess a minimal number of problem substances (dry text highlighters, water based glues and markers)
4. Reduce waste (Refillable products)
5. Made from recycled materials (Recycled Paper)
6. Long-lasting (High quality staplers)
7. Easy to repair
8. Reusable (Coffee mugs in lieu of disposable cups)

The list above are the principles of green materials that our offices must supply. However, **we must also consider the necessity of the product before purchasing.** In addition, we must take advantage of environmentally friendly aspects of products: it is no good buying refillable markers if we aren’t going to get used to using and ordering refills. We must engrave sustainable habits within all office functions and habits.

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Paper

While our university has made great strides to use electronic media as the primary form of communication, paper is still remains a medium for the large majority of our work.

Paper poses a large environmental problem as it consumes a high amount of resources (wood, water, and energy) and it has been linked to the contamination of water and atmospheric emissions, such as sulphur compounds and organichlorine. An important aspect of paper production that causes contamination and emissions, is the use of chlorine in the bleaching process.

Usage of products that are ecologically certified is one such alternative. These certifications deem the products as environmentally friendly, either in the terms of their production or their raw materials. Another preferable alternative is the usage of recycled paper that is bleach-free.

Regardless of the type of paper, it won't be environmentally friendly if it is improperly used. You can reduce paper consumption by:

1. Using both sides of the paper.
2. Making only those prints and copies that are necessary.
3. Reducing page sizes.
4. Proofing documents before printing them.
5. Sending documents via e-mail or the intranet.

Management of paper products after use:

1. Making use of papers used on one side only for printers and photocopiers.
2. Collecting paper separately from other trash; provide collection points.
3. Providing of logistical support for collection after use.

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Classification and filing

Files and folders, binding material, clip files, page cover sheets, dossiers and other filing materials are often made of a mixture of plastic materials with polyvinyl chloride (PVC) being the most widely used. These tend to increase the amount of non-recyclable waste.
Suppliers are now beginning to offer alternative products made from non-chlorinated polypropylene (PP) that is free of heavy metals.

Recommended Usage of classification and filing:

(1) An efficient documentation and filing system.
(2) Purchase of quality products that are highly reusable.

Recommended Management of classification and filing materials:

(1) Avoid products made from mixed materials so that separation of worn-out products for collection and recycling can become easier.

Writing material

A single pen, pencil, or highlighter may not seem to a significant impact on the environment. However, these products are produced in a very large quantity which requires their attention.

**Pens:** There are many varieties for purchase that are made of a mixture of materials like metal, plastic, wood, and cardboard. These are either refillable or disposable most of which end up thrown away. PVC plastic is commonly used to produce the pens. The ink contains thickeners, organic solvents, and colors with heavy metals.

**Pencils:** Generally made of wood and graphite lead, the wood is usually lacquered with paint that may contain organic solvents and heavy metals. Every time we bite on our pencils, we expose ourselves to carcinogenic heavy metals.

**Highlighters:** These are used as plastic disposable products. Their waste still contains pigments of heavy metals. Their ink can be either water-based or organic-based. The latter may contain formaldehyde.

As such, we suggest to consider these alternatives:

(1) Pens that are refillable and made of recycled materials.
(2) Pencils with non-lacquered wood. If possible, try to use mechanical pencils that use refillable graphite leads.

(3) Refillable highlighters made of PP plastics. Water based ink is more preferable.

Usage of Writing Materials:

(1) Using writing materials economically to promote efficient use.
(2) Do not leave highlighters without lids when not in use to drying them out.

Management of Writing Materials:

(1) Avoid purchasing products with individual packaging.
(2) We recommend that product be reused as much as possible.
(3) Do not mix used material and waste with paper.

If good-quality and long-life products are chosen, they will be more effectively used in the long run as we will become less prone to replace them.

Adhesives

In administration work, the most frequently consumed adhesive products are:

**Adhesive sticks:** made of a plastic cover (that may be PVC) and an adhesive substance that, according to the product, may contain organic solvents or be water-based. They may also contain preservatives. According to the size and type (refillable or not), a large volume of waste may be produced.

**Transparent adhesive tape:** Different qualities exist, and adhesive tapes are mainly made from PVC, and may contain other substances that pose a risk for health such as plastic coating, stabilizers and organic solvents. The use of adhesive tapes may make the recycling paper more difficult.

Most glues contain up to 70% solvents, such as benzene, toluene, xylene, ethanol, acetone, and others. These solvents cause health problems, as they possess a highly toxic effect if inhaled.

Therefore, it is advisable to purchase:

(1) Water-based adhesive sticks (glue sticks) rather than those that contain
Lighting

Poor lighting in the workplace can lead to various health issues such as fatigue, headaches, and problems concentrating. During building designs, decisions have to be made to make most of the available natural lighting and reduce energy consumption from artificial lighting.

In some places, natural lighting can brighten up a room. If reflections on the computer screen are a problem, then anti-reflective sheets can attached to the glass. As a result, this may reduce the need for artificial lighting in rooms or corridors. Additionally, the older incandescent bulbs can be replaced with more energy-efficient fluorescent bulbs.

Usage of Lighting:

(1) Efficient tubes like the triphosphorous fluorescents can increase lighting
(2) Unplug or turn off lights when not in use or leaving a room.
(3) Try to use natural lighting whenever possible.

Drinks vending machines

Automatic vending machines provide soft drinks in cans, water in plastic bottles, and hot drinks in disposable utensils. All of these are dispensable and generate much waste in metals and plastics.

There could be in place a collection system at the vending machines to gather plastic and glass bottles and aluminum cans once they have been used. Drink dispensers that serve drinks in a cup can provide options for the user to bring their own cup to use. Another alternative to the cold drinks machine can be the installation of a cold water fountain that allows workers to fill up their bottles with water.
Cleaning

It is generally implied that a greater consumption of cleaning products leads to better cleaning service to promote a hygienic workplace. However, the intensive usage of cleaning products contaminates wastewater with chorine and other aggressive cleaning substances. These cleaning products are made from substances that kill pathogens. If ingested, they can also become harmful to our health. As such, these products may also be affecting the health of the cleaning staff and others at the workplace.

More environmentally friendly products try to do without unnecessary products such as air fresheners, conditioners, disinfectants, etc. They control the consumption of chemical products and their dosage. They replace problem products like bleach with more natural cleaners like baking soda or acetic acid.

Hygiene articles can also be effectively used:

1. Hand soap dispenser systems allow a reduction in consumption.
2. Toilet paper can be made with bleach-free recycled paper.
3. With electric hand dryers, it is advisable to install a cotton towel dispenser system to dry hands.

Batteries

Batteries may contain toxic heavy metals like mercury, lead, or cadmium. If dumped in a landfill, it may contaminate the surrounding soil and water. Batteries are special waste that needs to be collected separately.

As an alternative, rechargeable batteries can be used for the electronic products. If possible, try to use electronic products that come with an adapter. Also, solar calculators may be considered as an alternative for usage instead of battery-powered ones.

As mentioned before, batteries are special waste that should be collected separately to prevent contamination. For collection purposes, the contracted waste management company should be contacted.

“Everyone who considers themselves a realist will be forced to justify their behavior in light of their contribution toward the preservation of the environment.”
- Ernst von Weizacker
Energy conservation is a vital part of a green office. This helps us be fiscally sound while being socially and environmentally responsible.

Our green office provides us with numerous opportunities to be energy conscious. In this section we provide possible future implementations for the Division of Student Affairs, if not the University.

**Lighting**

Office lighting compromises up to some 29% of office energy consumption, according to the 1995 US Department of Energy. In addition to providing illumination to office spaces, lighting plays a role in psychological health. We would like to offer a list of supplemental options and alternatives to traditional lighting:

(1) **Occupancy Sensors**
Occupancy sensors are automated devices that turn off lighting in vacant rooms. This helps cut energy costs when rooms are not in use. Low traffic areas such as conference rooms, closets, restroom facilities, and etc.. Some of these devices have currently been implemented in the Wehner building.

(2) **“Daylighting” Ballasts**
These devices adjust the amount of illumination from fluorescent lighting in the room with respect to ambient lighting.

(3) **Super Efficient Signage and Emergency Lighting**
Offices and buildings of today are filled with various illuminated signs. We can greatly cut the cost and replacement intervals for these devices by using Light Emitting Diodes (LED) and electroluminescent signs.
Equipment

The average office contains more than a dozen electrical appliances. These appliances all consume energy from the power grid. Many of these appliances still use energy even when they are not in use. While these devices are essential to productivity we can minimize the effect they have on our budget and the carbon footprint of our office.

One of the most simple ways we can cut our office energy consumption is to purchase Energy Star Compliant devices. Energy Star is a government-backed label that is given to an electrical appliance that falls within the E-Star guidelines of energy efficiency. Anything from computers to refrigerators can receive the Energy Star label. An office can find what appliances fall within these guidelines on the Energy Star website or by asking their appliance retailer in person.

One of the most common sources of energy consumption in the 21st century office is the personal computer. These devices can rack up quite a large cost if not properly addressed. When a computer is not in immediate use we can put the computer in to sleep mode. This mode allows for active recall of the computer’s information, while putting the device in a minimal energy use mode. We can help our office do this by setting the sleep modes on the computer and telling our employees when to apply this setting. At night when the computer sees no use we should shut down the computer entirely because even though sleep mode is helpful, it still consumes electricity.

On the same note, many of our other devices in the office such as televisions, fax machines, copiers, and printers still use electricity. When not in use we should turn these devices completely off. This may require unplugging a devices or shutting off a power strip. This does not require the purchasing of any new equipment in most cases and is the most simple solution to cutting costs and energy consumption.

(1) Proper Operation & Maintenance

Turning the HVAC system off when it is not needed is a simple way to save energy, especially with an automatic setback thermostat. These setback thermostats do not cost much and automatically adjust the settings, up or down, during off-hours.

It is also advisable to adjust the temperature settings to avoid overheating or over-cooling. An adjustment of one or two degrees can cut heating or cooling by 2-3 percent. Even more, extending that to three or four degrees can increase savings of 10 percent of more. This being said, try making small changes to find the optimal settings that is comfortable yet energy efficient. In addition, encourage staff to dress accordingly to the season so that they can appreciate the temperature changes.

As for all equipment, maintenance allows for continued reliability and reduces operation costs. A simple way to reduce energy costs is to change filters on a regular basis.

(1) Economizers & Solar Shading

Many commercial HVAC systems have an economizer feature which brings in outside air for cooling when the internal temperature is warmer. This is ideal for many offices that do not have operable windows. And ultimately, these economizers save energy and allows staff to get fresh air inside.

In addition, it would be wise for the university to adopt solar shading techniques with:

(a) Reflective roof coatings. Implementing a reflective roof coating (such as painting a roof white) can cut some of the sun’s heat.

(b) Window films and shading. Windows allow light and heat into and office. To combat any excessive heat, staff can utilize interior blinds/shades. In addition, the division may consider awnings, solar shade screens, or tinted window film.

(c) Trees and Vegetation. Trees and vegetation provides shade for buildings, minimizing the effects of heat while providing natural aesthetics. This technique has become very popular among architects and sustainable urbanists.

Heating & Cooling

Heating, cooling, and ventilaton accounts for 39 percent of a typical office. This being said, heating, ventilation and air conditioning (HVAC) make up a large proportion of the energy bill. However, it is possible to maintain comfort while consuming less energy:
Recycling at the Workplace

This practice is increasingly becoming popular in the workplace often being implied as an important move in “going green.” Before making decisions in this regard, some critical issues will need to be addressed:

(1) Is this move feasible?
(2) Is the program affordable?
(3) Will the program be appreciated and properly utilized?

These and other questions will be definitely brought up during decision-making that will determine the implementation of the program. Overall, a recycling program will be beneficial in the workplace for waste management. However, the eventual focus should be placed on the actual reduction of waste and reuse of office products.

Collection

Finding a collection system that works best for the particular office space will determine the success of your recycling program. You may place individual collectors at workstations/areas or place centralized collectors at each area. We recommend that recycling containers be placed next to trash collectors for consistency.

Accessibility

Make sure that the recycling containers can be efficiently collected. It’s not productive to have too many collection stations with too few people to handle them. Likewise, the vice versa is true as well.

The recycling container:

(1) Should hold some aesthetic value that signifies its purpose.
(2) Must be easily visible to everyone.
(3) Provides collection for paper/plastic/aluminum/glass.
(4) Should be durable enough to be long-lasting.
(5) Must be handled by user with ease.

Recyclable Collection

It is important to know beforehand what recyclables are collected by the contracted company. Contact the contracted company before sending recyclables. Once the information is verified, it can be displayed as recycling guidelines in the workplace.

There is also the question of deciding if collection should be voluntary or executed by a paid staff. You may hire student workers, extra custodial staff, or delegate responsibility to the office workers to take turns to take out the recyclables.

As mentioned before, recycling should not be considered as a last resort in handling waste. The workplace can simultaneously look into ways to reduce waste and reusing products.
Resources & Contact Info

Faculty & Staff Contacts

The Vice President for Facilities Sustainability Office

**Kelly Wellman**, Sustainability Officer
(979) 845 1911
kwellman@tamu.edu

Texas A&M Recycling

**Thomas Marshall**, Recycling Coordinator
(979) 862 2069
t-marshall1@tamu.edu

College of Architecture

**Dr. Michael Neuman**, Associate Professor (Sustainable Urbanism)
(979) 845 7062
neuman@tamu.edu

Environmental Planning and Sustainability Research Unit

**Dr. Sam Brody**, Associate Professor
(979) 458 4623
sbrody@archmail.tamu.edu

Organizational Contacts

Residence Hall Association

**Jonathan Luu**, Vice President of Policy & Advocacy
(512) 228 4075
jonathanv.luu@tamu.edu

SGA Environmental Issues Committee

**Amanda Grosgebauer**, Chair
a.grosgebauer@gmail.com
(817) 307 3518

Graduate Student Council

**Tracey Wellington**, President
gsc@tamu.edu
(979) 862 1974

Student Government Association

**Mark Gold**, President
sbp@tamu.edu

Resources & References

**Association for the Advancement of Sustainability in Higher Education**
213 ½ N. Limestone
Lexington, KY 40507
t: (859) 258-2551
info@aashe.org

**Portland Green Office Guide**
www.portlandonline.com/shared/cfm/image.cfm?id=111253
Texas A&M University Sustainability and Environmental Policy

In line with our mission of teaching, research, and service, Texas A&M University is committed to conducting our activities as responsible stewards of the environment. Therefore, we commit to sustainable practices that protect our assets, respect the health, safety and well-being of our community, maintain strict accountability for the natural resources entrusted to Texas A&M and promote educational activities to enhance environmental awareness, safety, and action.

In accordance with this commitment, we will conduct our affairs in a manner that complies with applicable laws and regulations and:

- Conserves, protects, and maintains our natural resources;
- Minimizes adverse environmental impacts;
- Safeguards our community's environmental health, safety and well-being;
- Encourages the purchase of renewable, reusable, recyclable and recycled materials;
- Reduces risks associated with the use and storage of hazardous substances;
- Promotes strategies to minimize the generation of wastes and encourage reuse and recycling;
- Supports environmentally responsible teaching, research and outreach;
- Inspires environmental research and assessment;
- Encourages individuals to be aware of environmental and sustainability issues; and
- Provides open communication about the environment and sustainability.

Approved: 

President, Texas A&M University Date
The Residence Hall Association
36th Chapter
Texas A&M University

Resolution S.R. 09 (S) 1

Introduced By: Jared Fuller, Walton Hall

Action Taken PASSED

Certified By: Dustin Grabsch
President

Office Sustainability Guide Endorsement

Whereas(1): The Residence Hall Association has taken interest in the social, environmental, and economic forces of our university, and;

Whereas(2): The Residence Hall Association recognizes the profound changes, both individually and collectively, needed to transition into a more sustainable, a more positive, and a more necessary world, and;

Whereas(3): The Residence Hall Association commends President Elsa Murano’s Sustainability and Environmental Policy as signed on November 5th, 2008.

Therefore Let it be Resolved(1): The Texas A&M University Residence Hall Association endorses the “Office Sustainability Guide” authored by Jonathan Luu, Sajjad Ali, Michael Kent, and Jared Fuller.

Let it be Further Resolved(2): The Texas A&M University Residence Hall Association strongly recommends the Division of Student Affairs to consider the adoption of the “Office Sustainability Guide” or a document similar in its purpose.
The Texas A&M University Residence Hall Association is the voice of all residence hall students, making policy recommendations to the housing department, and working with the Department of Residence Life and the University to make student concerns heard. Additionally, RHA provides leadership and programming support to make the residence halls the best place to live in Bryan/College Station.

Organizational Overview:

The purpose of the Residence Hall Association (RHA) is to build community and develop leadership among on-campus residents. RHA serves as an “umbrella organization” to Hall Councils and other on-campus engagement organizations. Hall Councils include: Appelt, Aston, Clements, Crocker, Davis-Gary, Dunn, Eppright, Fowler-Hughes-Keithley, Haas, Hart, Hobby, Krueger, Lechner, Legett, McFadden, McInnis, Moore, Moses, Mosher, Neeley, Rudder, Schuhmacher, Spence-Briggs-Kiest, Underwood, Walton, and Wells. As the umbrella organization, RHA provides financial support, developmental opportunities, and activities for all halls across campus. RHA believes in providing opportunities that challenge and supports all facets of its membership. In addition, RHA thrives on the diversity within its organization because of its known and experienced benefits. This means reaching beyond stereotypical views of individuals and using the strengths and different perspectives that each person offers as a result of his or her culture, religion, ethnicity, gender, race, national origin, disability, sexual orientation, and age. RHA’s teams will reflect the individual diversity of the campus. Even more important, they will embrace and derive value from the diverse views that each individual brings to any task.

Vision Statement:

The Texas A&M University Residence Hall Association strives to represent the concerns of on-campus students, seeks to preserve the spirit and traditions of on-campus housing through building community in and among the residence halls by providing opportunity for intellectual, cultural, social and leadership development.

Mission Statement:

The Texas A&M University Residence Hall Association is a representative organization that empowers on-campus residents to play an active role in residence halls through service, educational and social programming, and leadership opportunities. RHA also enacts change through legislation and advocates the issues and concerns of residents with the ultimate goal of making the residence halls of Texas A&M University a more respectful and united community.