GREENUP

OFFICE ASSESSMENTS

CLIENT: COMMUNICATION, CULTURE AND TECHNOLOGY PROGRAM

A GreenUp Initiative

In Partnership with CCTP-619 Sustainability: Theory & Practice

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EXECUTIVE SUMMARY

The goal of GreenUP Recommendations is to assess the current status of internal protocol, acknowledge eco-effective practices and assist in improvements. Recommendations draw from sustainability pedagogy including Life Cycle Assessment, Circular Economics, and Upcycling, but do not serve as an exhaustive or "one-size-fits-all" proclamation. Instead, these recommendations are curated to the specific capacities and constraints of the CCT office, and seek to germinate a culture of sustainability through small achievable organizational measures. This brief is a product of dialogue with staff on current office practices, conversations with CCT students on office use, and research on green workspaces. It is a "living" document, meant to be amended and expanded as the partnership between GreenUP and the CCT program flourishes. We hope these recommendations serve as a guide for best practices and implementation, and sustain discourse on learning, working, and living in an eco-friendly world.

BY THE NUMBERS

ACADEMIC YEAR 2016-2017

39	Staff and faculty
100	Students
2	Core Spaces (Office & Studio)
8	Cartons of recycled paper purchased ($250.64)
500	Indivudal KCups purchased ($222.38)
1,500	Insulated hot cup purchased ($300.00)

OUT OF (YOUR) CONTROL

We understand your limitations:

- The CCT office is a rented (and soon-to-be renovated) space, and therefore infrastructural change is out of your domain.
- Some purchasing is dictated by Georgetown, including printer ink and the coffee machine.
- Recycling measures are also dictated by building protocol, and poor feedback channels with waste management officials instills low trust in recycling implementation.

HOW WE CAN HELP

GreenUP will take meetings with building officials to foster dialogue and create better relationships between management and academic programs.

YOU'VE GOT SOME GREAT SUSTAINABLE PRACTICES ALREADY UNDERWAY!

WELL DONE

- recycled paper used for office printing
- biodegradable cutlery used in kitchenette
- resuable tablecloths used for events
- prominent paper recycling bin
- heavily used public water cooler
- predominently digital marketing proliferation

Bravo team!

You really are operating with an eye for sustainability, chosing reusable and recycable goods where possible and eliminating waste. These may seem like simple moves, but many offices neglect to implement them. The implications on life cycle supply chain and resource management is immense, so we are appreciative of these actions that minimize waste.

PRESENT PIVOT POSSIBILITIES

FOOD FOR THOUGHT, ROOM FOR GROWTH...

1. **KCup Recycling Experiment**
2. **Waste Receptacles: Placement and Signage**
3. **Cups and other purchasing assistance**
4. **Future Flora Project**

1 KCup Recycling Experiment

CURRENT STATE

We understand that coffee fuels the academic soul, and your current single-serve coffee machine was provided by the graduate school.

PROBLEM

KCups in their current state are composed of four separate materials that, unless separated, head straight to the landfill. Americans throw out 20 billion pods per year, enough to circle the earth 12 times*!

OPPORTUNITY AND IMPLEMENTATION

We have to set up a simple KCup recycling station next to the coffee machine to ensure the pod is efficiently recycled. Our team will provide instructional signage and work with the front desk assistants to monitor use. Each component (aluminum, plastic, and coffee grinds) will be allowed to live their best second life as recycled/decomposed goods!

HOW WE CAN HELP

GreenUP will take care of the full experiment, from signage to recycling assistance to disposal. We will track voluntary usage vs assistance to understand if implementation is instituted and measure how much recycled material is saved.

* Data from National Coffee Data Trends 3/22/13; Green Lodging News 8/9/15

2 Waste Receptacles: Placement and Signage

CURRENT STATE

Our paper recycling unit is located in the office near the copy machine, a good central point in the main lounge.

PROBLEM

The office is a village of small spaces, including our satellite studio. Individual rooms and spaces lack their own recycling receptacle, and humans are notoriously too lazy to travel - the paper usually ends up in their main waste basket. There is also a lack of trust regarding the building's actual recycling habits.

OPPORTUNITY AND IMPLEMENTATION

We recommend adding a similar sized paper recycling bin near the color printers. We would like to draft on-brand signage for the bins, to educate users on recycling and direct them to the current plastics/glass recycling area on the third floor. We would also like to ensure the studio has adequate recycling receptacles, especially for electronics (which can be recycled to the Harbin Hall Garage: https://sustainability.georgetown.edu/getinvolved/recycle/materials#electronics)

HOW WE CAN HELP

We will design and monitor signage for the bins. We recommend engaging student front desk assistants and CCT studio managers with these efforts and infusing sustainability into their roles, and we as the GreenUP team are happy to dialogue with students on their role and draft language to assist.

3 Cups and Purchasing Assistance

CURRENT STATE

While the majority of office purchases are eco-conscious, we do stock an unsustainable insulated cup and are often faced with other purchases made at the request of faculty.

PROBLEM

In analyzing purchasing data and user trends, we notice that not many CCT community members use the cups at the water station, and when they do, it is for cold water. Our current cups are meant for hot water, and as such are more expensive and lined with an unrecyclable plastic. They are also too big: our current users generally do not fill the full cup and dispose of unnecessary waste when throwing out.

OPPORTUNITY AND IMPLEMENTATION

Purchase smaller capacity cold and hot cups from ECO PRODUCT STORE, which specializes in renewable and compostable goods. We'd also love to discuss building reusable cup station!

HOT: www.ecoproductsstore.com/world_art_hot_cups.html

COLD: www.ecoproductsstore.com/greenstripe_cold_cups.html

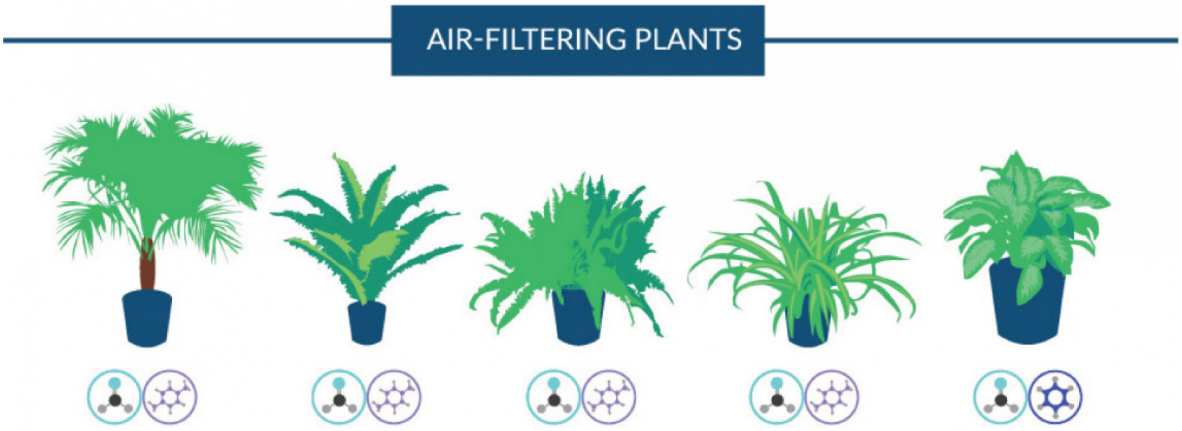
HOW WE CAN HELP

We discussed if the office was considering any new purchases, and you are currently not. Please do not hesitate to reach out to GreenUP for green buying consulting and research, should you need to purchase new products in the future.

4 Future Flora Project

Green is good, let's breathe it in…

In keeping with the "Cs" of CCT, we want to begin communicating a culture of sustainability through office measures. One of the easiest ways to begin is through literal green: office plants! We know this piqued your interest, and we're excited to shrub up the office, simultaneously purifying the air and educating all who enter.



PLAN

1. test air quality
2. fundraise and purchase plants
3. create opportunities for community engagement and education through plant procurement
4. blossom, retest air quality, and enjoy!

4 Future Flora Project (continued)

CURRENT STATE

We spend a lot of time inside the office, and it's important to ensure air quality is of the highest standard possible. Wouldn't hurt for the office to be pretty and community-friendly office too!

PROBLEM

Unfortunately, the combination of synthetic materials associated with office infrastructure and a lack of open window access means air quality is often compromised in offices. In 1989, NASA conducted a Clean Air Study in association with Associated Landscape Contractors of America and found a surprisingly simple solution: ***"the answer to these problems is obvious. If man is to move into closed environments, on Earth or in space, he must take along nature's life support system."*** The study examined the most common volatile organic compounds found indoors and researched the most effective indoor plants for filtering harmful toxins and pollutants from the air.*

OPPORTUNITY AND IMPLEMENTATION

We're buying plants! But more importantly, we're using the physical presence of flora to clean air and engage community action and conversation. Finally, we believe there is a community engagement and branding opportunity with our Future Flora project.

Indoor plants have been studied for their psychological impact, notable findings show that interaction with plants reduce stress by suppressing autonomic nervous system and promoting "comfortable, soothed, and natural feelings." Who doesn't want that in an office!?

* A summary of pollutants and plants can be found in the infographic appendix.

4 Future Flora Project (continued)

THE PLAN

- Our beta ***indoor GroGarden*** is up and running, growing mint, arugula and lemon balm for spring consumption. We plan to continue growing edible plants in the fall and place the garden in a more prominent location.

- We promoted the project at MediaFest with a fundraising initative and pot painting station, and began conversations with the community on GreenUP initatives.

- Preliminary inquiries from student groups show interest in contributing financially to the project in return for plant "sponsorship" through naming and/or pot decoration: CCTechtour has already bought in. We are exploring the concept of offering ***plant naming opportunities*** to graduating students, who would collectively sponsor a larger plant in honor of their cohort.

- The GreenUP team will work with office staff to determine plant placement and diversification; we'll be in touch to help you pick your plant!

- The flora does not require significant care, but we will include instructions in the front desk student handbook.

- The GreenUP team will conduct a second air quality test in a few months to assess change.

* A summary of pollutants and plants can be found in the infographic appendix.

4 Future Flora Project (updates)

- The ***indoor GroGarden*** has sprouted greens, and started great conversations amongst students and staff. We hope to add herbs and build a salad in the fall!
- We promoted the project at MediaFest with a fundraising initative and pot painting station, raising money towards more plants
- The front desk student handbook has been updated to include instructional material on plant maintenance.
- Air tests for formaldehyde returned within healthy limits

JUST THE BEGINING OF A WONDERFUL FRIENDSHIP...

We look forward to a continued relationship between CCT and The GreenUP team as we expand our initiative into next year! We hope you are as excited by this partnership as we are, and come to rely on us for sustainability related issues as they face our program. As our team grows, we would love to explore further opportunities, including:

- Introduce GreenUP initative at New Student Orientation
- Provide new students with the HoneyGuide (our Greenguide to Georgetown living) in their summer pre-orientation materials
- Build reusable cup storage space near water station to reduce disposable cup usage
- Foster dialogue with faculty, staff and students through sustainability workshop sessions

THE NASA Guide TO Air-filtering Houseplants

It won't surprise you to hear that the majority of people spend the bulk of their time indoors, whether it's at home or working in an office environment. As such, it's important to ensure that air quality is of a high standard, something that regular houseplants can help achieve. Back in 1989, NASA conducted a Clean Air Study in association with Associated Landscape Contractors of America, in an effort to find the most effective common indoor plants for filtering harmful toxins and pollutants from the air. Their results have stood the test of time, and the most effective air filtering plants can be found below.

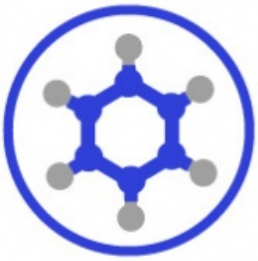
WHAT'S IN OUR AIR?

TRICHLOROETHYLENE

Found in printing inks, paints, lacquers, varnishes, adhesives and paint remover/stripper.

FORMALDEHYDE

Found in paper bags, waxed papers, facial tissues, paper towels, table napkins, particle board, plywood panelling, and synthetic fabrics



BENZENE

Used to make plastics, resins, synthetic fibres, rubber lubricants, dyes, detergents, drugs and pesticides. Can also be found in tobacco smoke

XYLENE

Found in printing, rubber, leather and paint industries, tobacco smoke and vehicle exhausts.

AMMONIA

Found in window cleaners, floor waxes, smelling salts and fertilizers.

and synthetic fabrics.

found in tobacco smoke, vehicle exhausts, glue, paint and furniture wax.

WHAT ARE THE EFFECTS ON HUMANS?

Like most chemicals, the adverse health effects you may encounter depend on several factors, including the amount to which you are exposed, the way you are exposed, the duration of exposure and the form of the chemical. Below are common symptoms associated with each toxic agent.

TRICHLOROETHYLENE

Symptoms associated with short term exposure include excitement, dizziness, headache, nausea and vomiting followed by drowsiness and coma.

XYLENE

Symptoms associated with short term exposure include irritation to mouth and throat, dizziness, headache, confusion, heart problems, liver and kidney damage and coma.

FORMALDEHYDE

Symptoms associated with short term exposure include irritation to nose, mouth and throat, and in severe cases, swelling of the larynx and lungs.

AMMONIA

Symptoms associated with short term exposure include eye irritation, coughing and sore throat.

BENZENE

Symptoms associated with short term exposure include irritation to eyes, drowsiness, dizziness, increase in heart rate, headaches, confusion and in some cases can result in unconsciousness.

PLEASE NOTE

Several of these plants are known to be toxic to cats, dogs and other pets. If you are a pet owner, please do check the toxicity of plants before introducing them to your home.

AIR-FILTERING PLANTS

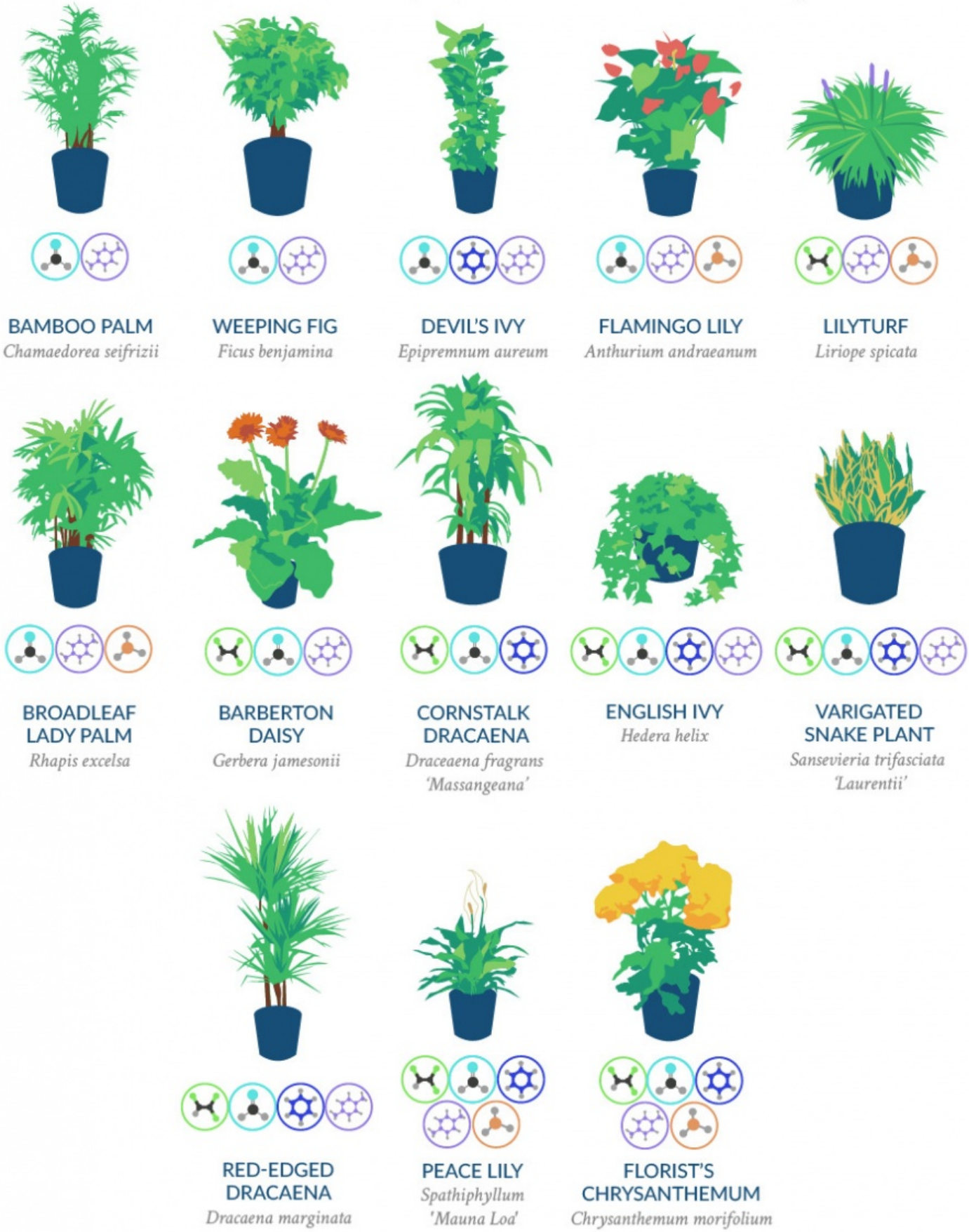
DWARF DATE PALM
Phoenix robelenii

BOSTON FERN
Nephrolepis exaltata

KIMBERLEY QUEEN FERN
Nephrolepis obliterata

SPIDER PLANT
Chlorophytum comosum

CHINESE EVERGREEN
Aglaonema modestum


BAMBOO PALM
Chamaedorea seifrizii
WEEPING FIG
Ficus benjamina
DEVIL'S IVY
Epipremnum aureum
FLAMINGO LILY
Anthurium andraeanum
LILYTURF
Liriope spicata
BROADLEAF LADY PALM
Rhapis excelsa
BARBERTON DAISY
Gerbera jamesonii
CORNSTALK DRACAENA
Draceaena fragrans 'Massangeana'
ENGLISH IVY
Hedera helix
VARIGATED SNAKE PLANT
Sansevieria trifasciata 'Laurentii'
RED-EDGED DRACAENA
Dracaena marginata
PEACE LILY
Spathiphyllum 'Mauna Loa'
FLORIST'S CHRYSANTHEMUM
Chrysanthemum morifolium

lovethegarden.com

SOURCES + REFERENCES

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