

Turning the Page

A Behavior Change Toolkit for Reducing Paper Use











The Association for the Advancement of Sustainability in Higher Education



Portland Community College – Rock Creek



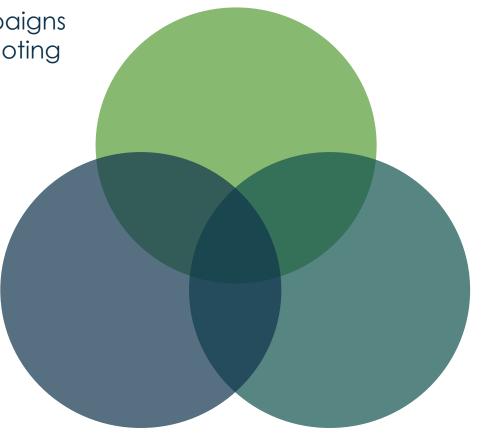
What we do

Root Solutions

Mission:

Help organizations design and implement programs and campaigns that are more effective at promoting environmental action

Trainings



Capacity Building

Intervention Design and Implementation

Who we work with







Carbon Neutrality
Initiative







Webinar Goals

- Discuss what behavior design is & why it matters for higher education institutions
- Share our process and some examples from the Turning the Page on Campus Paper Use Program
- Introduce you to the Turning the Page
 Toolkit and how you can use it to initiate
 and implement behavior-based paper
 reduction campaigns (and other
 sustainability campaigns) on your campus



Why focus on paper and printing?

- Have significant impacts for campuses and environment
- Paper/pulp = Air and water pollution, deforestation, human rights abuses,
- Campuses use large #s of paper, ink, individual desktop printers
 - Millions of sheets of paper per campus, per year!
- Significant cost to universities
 - paper storage, and transport, recycling toner cartridges, lost documents, printer maintenance and support, etc.
 - Hundreds of thousands to millions \$\$\$!

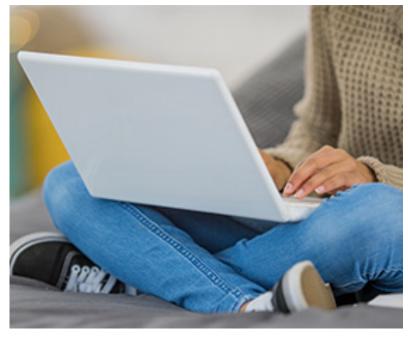


Why behavior change?

- Individual behavior at play
 - Student prints coursework that can be done online
 - Staff print an email or meeting agenda
 - Faculty print lecture slides
- Setting policies
 - Restricting desktop printers
 - Requiring certain documents be printed
- Decisions to pursue and adopt technologies:
 - Using print management software

All comes back to individual behavior and decisions!





What is Behavior Design?

Evidence Based Process to Encourage Behavior Change



Why Behavior Design?



Information is insufficient (and can even backfire)

We haven't always used resources most efficiently

MANY other barriers to and motivators of behavior

Why Behavior Design

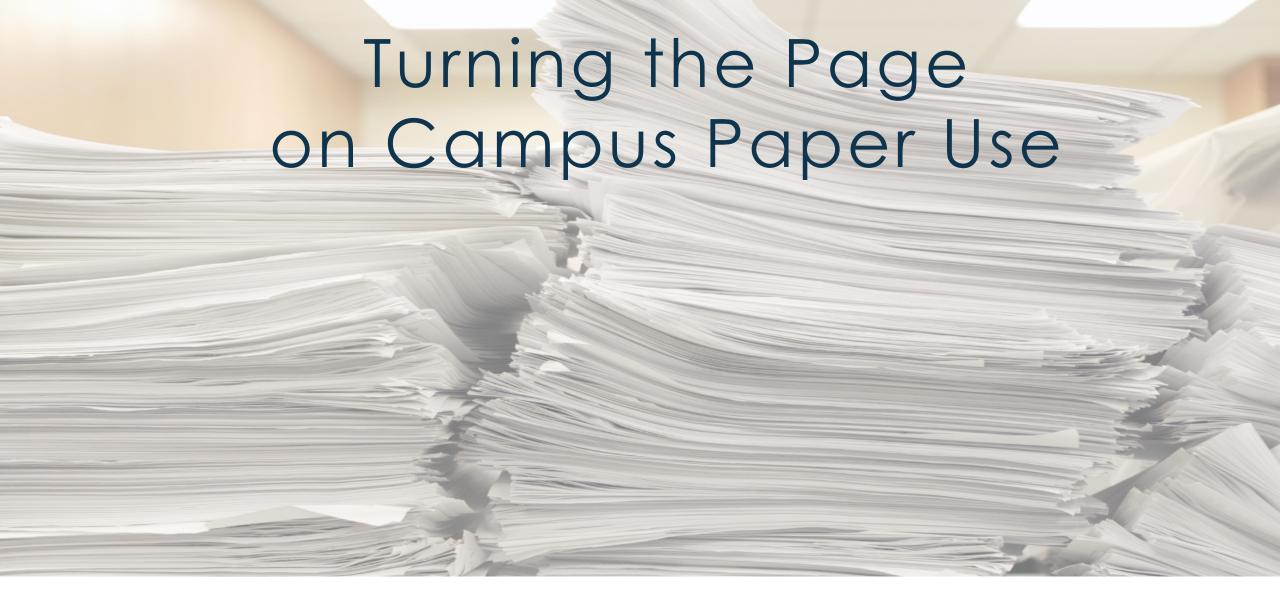
Failed Campaigns

Anti-Drug Campaigns ('98-'04)

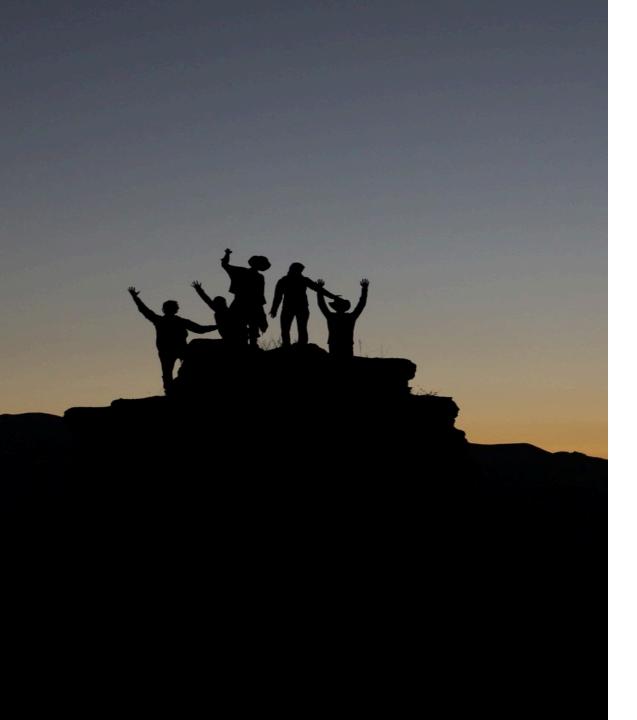
- Spent \$\$\$ mass media campaign
- Backfire effects
 - Ad exposure → belief marijuana use was prevalent (norm) → more likely to start using drugs

Social norms > awareness of negative consequences





Funded by the: LISA & DOUGLAS GOLDMAN FUND



Turning the Page on Campus Paper Use

Coach ~10 campuses in U.S. and Canada through our process for developing a behavior-based paper reduction campaign

- Training at AASHE conference
- Monthly webinars
- Sharing and troubleshooting calls
- 1-1 coaching

POLL: What kinds of paper reduction initiatives have you tried on your campus? (Select all that apply)

- a) Removing desktop printers
- b) Installing print management software
- c) Overall paper reduction
- d) Reduction of specific sources of paper (syllabi, marketing flyers, etc.)
- e) None yet but that's why I'm here!
- f) Other

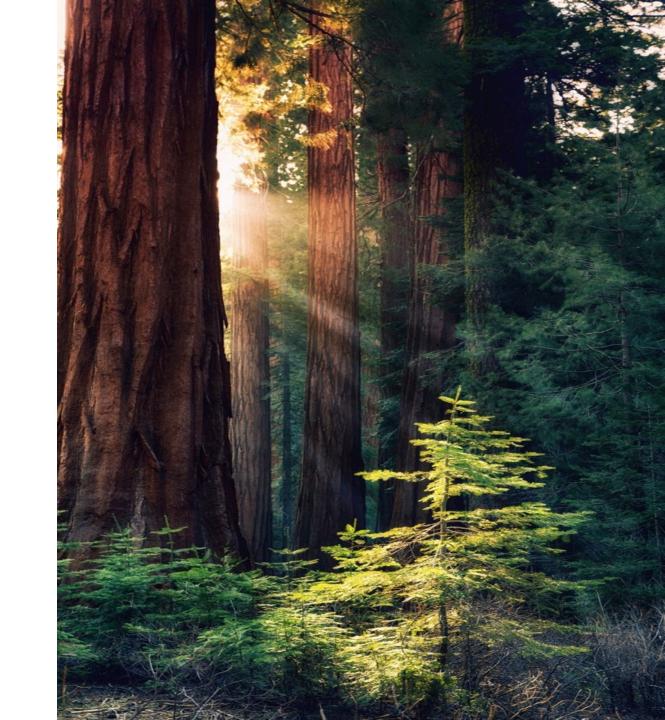
Cohort 1: Audiences and behaviors

- Replacing desktop printers with networked printers (MFD/MFP)
- Faculty/students using online learning platforms (Canvas, etc.) instead of printing
- Moving promotional materials online



Cohort 2: Desktop printer reduction

- Focus on desktop printer relinquishment / moving to networked printers
 - Huge potential for positive environmental and financial impacts
 - → Up to 40% cost savings!



Turning the Page

A Behavior Change Toolkit for Reducing Paper Use







PART 1: SELECTING AND STUDING THE AUDIENCE AND BEHAVIOR

Choosing your target audience and behavior

- Determine potential target audiences
- Identify distinct, outcome-producing, paper-saving behaviors
- Evaluate potential paper-saving behaviors

Uncovering the barriers and motivators of audience behavior

Identify barriers and drivers of behavior

PART 2: USING BEHAVIORAL BUILDING BLOCKSTM TO ACHIEVE PAPER SAVINGS

- Choose & design the interventions
 - 10 Building Blocks of Behavior Change

PART 3: CAMPUS CASE STUDIES

 Berkeley Haas, Portland Community College, Red River College, Fort Lewis College, University of Iowa

POLL: Who is (or would be) your target audience for your paper-saving campaign? (Select all that apply)

- a) Students
- b) Faculty
- c) Staff
- d) Other: Campus visitors?

Determine Target Audience Worksheet

Contribution to the problem?

Potential target audiences

Most receptive and willing to engage?

Fit for pilot program?



GOAL: Determine The Target Audience

Answer the following questions to help identify your target audience:

- 1. What are ALL of the groups of people at your organization that contribute to the problem?
- 2. To what degree do these audiences contribute to the problem?
- 3. Are any of these audiences unlikely to be receptive to a campaign at this time?
- 4. On the other hand, which audiences do you think would be most willing to engage with you? Are there certain audiences that have successfully engaged in past behavior change efforts?
- Does one audience stand out as a preferred option for a "pilot" program to test-run your initiative and demonstrate success?

Now write down at least THREE target audiences that you could work with for on a campaign

- 2
- 2

Stakeholders: For each target audience you've brainstormed, also list who the relevant "stakeholders" are that might need to be involved in the project, either at the beginning, middle, or end.

Brainstorm Behaviors

Brainstorm actions that – if taken – would help you reach your goal

Reminder:

- Goals are <u>not</u> behaviors
- "Is aware of," "understands,"
 "cares about," and "believes in"
 are not behaviors

Categories of Paper-Saving Behaviors

Choose electronic alternatives

- Use electronic signatures
- Conduct paperless meetings

Say "no" to paper

- •Unsubscribe from paper mailing lists
- •Ask people to NOT print documents for you

Print less

- Print only one copy of flyers and ask people to take a picture instead
- Print letterhead and envelopes on an as-needed basis only

Slow down

- Preview and edit documents before printing
- Ask yourself, "Do I need to print this?

Change printing systems

- Set up default double-sided printing
- Switch form individual desktop printers to multifunction printers

Change purchasing habits and policies

- Enact a policy that no new desktop printers can be purchased
- Centralize purchasing to eliminate unnecessary paper and printer purchases

Evaluating Priority Behaviors Worksheet

Impact

- Level of impact, Saturation
- Likelihood of success
 - Probability of adoption?
 - Controversial?
 - Past success
 - Level of organizational effort required

Future impact

- Potential to scale? Proof of concept?
- Evaluation
 - Ability to observe behavior?
 - Ability to collect data and evaluate success?

	Potential Outcome-Producing Behaviors:	1	2	3	4	5	6	7	8
	Behavior Description →								
Impact	Impact Potential of Behavior Change (Greatest impact = 4, Least = 1)								
	Saturation of Behavior (Least saturation = 4, GREATEST= 1)								
Likelihood of Success	Probability of Adoption (Greatest probability = 4, Least = 1)								
	Success of Past Behavior Change Efforts (Greatest success = 4, Least = 1)								
	Organizational Effort Required (Least effort = 4, GREATEST= 1)								
	Controversial (Least controversial = 4, GREATEST= 1)								
Future Impact	Potential to Scale (Greatest potential = 4, Least = 1)								
	Potential to Serve as Proof of Concept (Greatest potential = 4, Least = 1)								
Evaluation	Ability to Collect Data & Evaluate Success (Greatest ability = 4, Least = 1)								
	Ability to Observe Behavior (Greatest ability = 4, Least = 1)								
	Total:								

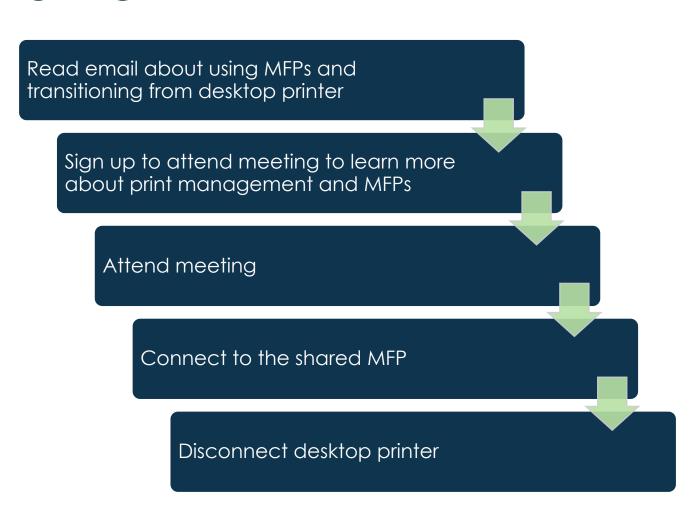
Which two behaviors have the highest score?

PCC - Audience & Behavior Selection



Uncovering audience's barriers and motivators of behavior

Each step leading to the outcomeproducing behavior has its own barriers we will need to address!



POLL: What has been (or do you think will be) the biggest barrier for your paper reduction initiatives? (Pick one)

- a) People don't think paper is an **important** issue
- b) People don't know how to save paper
- c) People are too busy to save paper
- d) People don't think it is their responsibility to save paper
- e) People have trouble remembering to save paper

Why a Determinants Analysis?

- Evidence-based tool to reveal what is motivating or deterring our audience
 - *From the audience's perspective*
- Cannot assume we know why behaviors are /are not performed

Brainstorm: What are

some potential barriers to

and benefits of desktop

printer removal?

Common Drivers of Environmental Behavior



BENEFITS / POSITIVE ATTRIBUTES



NEGATIVE ATTRIBUTES



SUSCEPTIBILITY



IMPORTANCE
/ SEVERITY



ACTION EFFICACY









RESPONSIBILITY



MEMORY & CUES FOR ACTION



IDEOLOGIES & VALUES



PERSONALITY TRAITS

Perceived Negative Consequences/Attributes

The negative things a person thinks will happen (or has experienced) as a result of performing the behavior

- "I dislike having to walk to the printer."
- "I prefer to read documents on paper because staring at the computer hurts my eyes."
- "The shared printer always breaks down."

Perceived Benefits

Perception that something positive may (or will) happen as a result of performing the behavior.

What are the positive reasons to act? What are the negative things caused by inaction?

- "I like getting exercise by walking to the shared printer."
- "I feel good knowing I am saving trees when I use less paper."
- "Using a multifunction printer saves me time."

Perceived Susceptibility

Perception that the problem impacts them or people they care about (or could in the future)

- "I am not directly impacted by deforestation."
- "Printing contributes to climate change, which impacts us all."

Perceived Severity and Importance

Perception of how serious the problem is compared to other issues

 "The university should be worrying about things bigger than paper."

Perceived Ability and Self-Efficacy

Perception that a person can identify the appropriate course of action and has the knowledge, skills, and judgement to succeed at the action.

- "I don't know how to use the multifunction printer."
- "I am confident in my ability to use online learning platforms to teach my courses."

Memory / Cues for Action

Inability to remember to perform a behavior (or the steps involved in the behavior). The person may have the skills and know how, but simply cannot remember to do the behavior, or cannot remember the steps involved.

- "I always forget to print double-sided."
- "I never remember to put scrap paper in the multifunction printer."

Perceived Action Efficacy

Perception that the behavior with solve or mitigate the problem. If I do act, how much of a difference will it make?

- "Me printing double-sided isn't going to make a big impact."
- "Giving up my desktop printer will have a big environmental impact."

Perceived Responsibility

Perception that it is a person's responsibility to address the problem.

- "I see paper reduction as my responsibility, because it is the right thing to do."
- "It's not my responsibility to make sure the shared printer is working."

Perceived Access & Resources

Perception that the person has the access and resources (services, products, time, money) required to adopt the behavior.

- "I don't have time to set up my course online."
- "I am satisfied with the level of support I receive from IT when I need help with the shared printer."

Perceived Social Acceptability

Perception that the action is performed and/or accepted by one's social reference network (peers or others whose opinion matters to them).

- "People will think I am unprofessional if I print on scrap paper."
- "Most of my colleagues do not have desktop printers, so it would be weird if I had one."

Perceived Alignment with Ideologies and Values

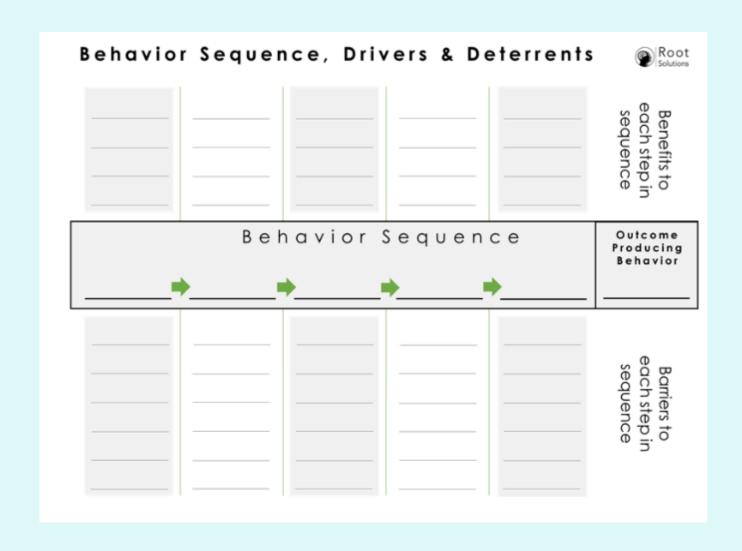
Perception that the behavior aligns (or doesn't align) with the person's values, political identity, or their views on religion and divine will.

- "As an environmentalist, I strongly believe in reducing paper use."
- "I don't believe the university should try to influence anyone's behavior. The bureaucracy is too big."

*We can tap into these existing ideologies and values, but changing them requires much longer-term interventions

Behavior Sequence + Determinants Worksheet

- What are some steps in the sequence leading to the outcome-producing behavior you want to promote?
- What are some potential deterrents to and drivers of those behaviors?



PCC Determinants Analysis

Staff and Faculty, N=102

Barriers to print reduction

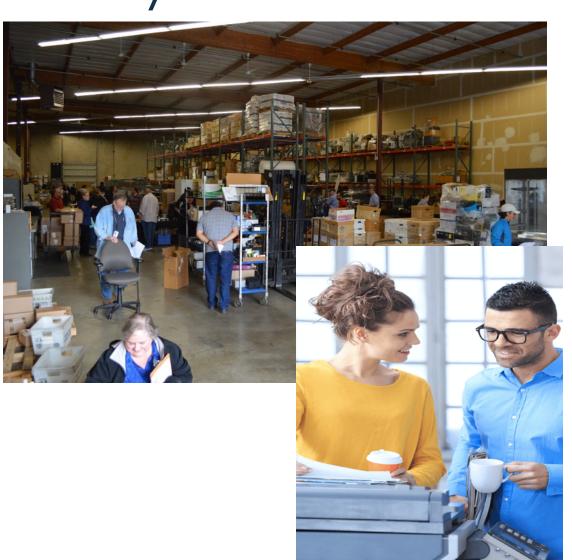
- Perceived expense
- Confidentiality
- Don't know about secure printing



PCC Determinants Analysis

Benefits

- Health
 - "It makes me get up from my desk and walk
- Sustainability
 - "It's more environmentally sustainable than a personal printer."
- Efficiency
- Prospect of donating used printer



Determinants to Interventions

- Interventions should amplify benefits and reduce barriers of the desired behavior
 - (and reduce the benefits and increase the barriers of the undesirable behavior!)

- Match drivers/determinants to most relevant interventions
 - "Determinants-to-Interventions" Roadmap



















LASTING

Utilize BENEFITS

Use benefits (incentives) and/or disincentives to kickstart change

- Incentivizing behaviors vs. outcomes
- Intrinsic motivators
 - Competence, personal growth, progress, autonomy
- Vs. Extrinsic rewards
 - Financial, tangible, reputational, competition

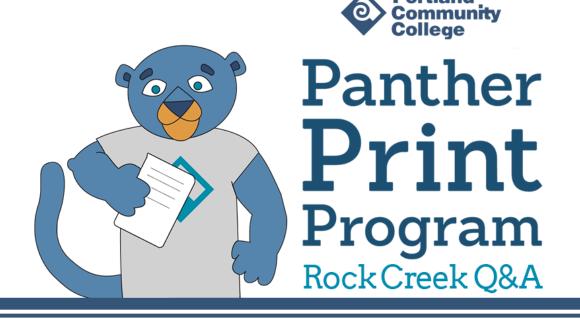


Make it EASY

Bridge the gap between intention and action by making the desired behavior as easy as possible

- Convenience
- Supportive environment and infrastructure
- Reduce steps, information
- Choice architecture
 - Defaults
- Erect barriers to undesirable behaviors





Haas students conserve paper.



- 1 Think to yourself: Do I need to print this?
- 2 If yes → check the back of this card for tips on how to use less paper & ink!

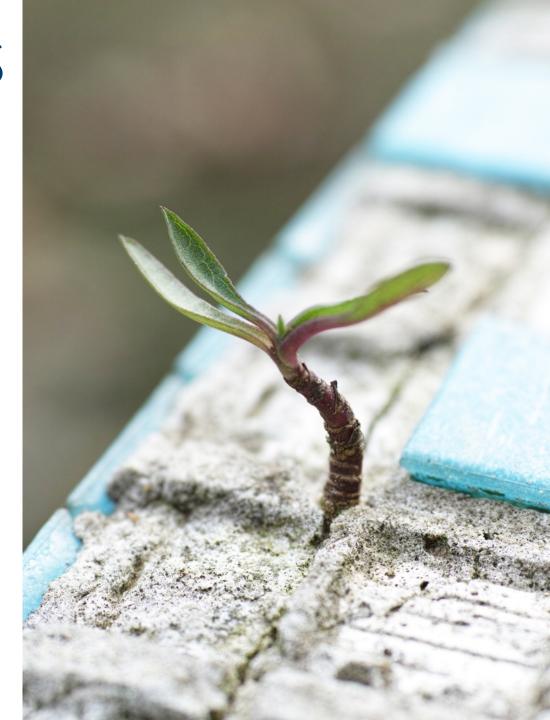
- Print double-sided & in black & white
- Reformat: Use smaller margins, fonts & styles
- Use eco fonts like Century Gothic and Garamond
- Double check before printing Use print preview
- Print multiple slides/pages per page

Berkeley**Haas**

Emphasize HOPEFULNESS

Replace paralyzing "doom and gloom" messages with action-inspiring positive messages

- Highlight solutions and positive impacts
- Cultivate conditions for increased self-efficacy
- Make it a collective endeavor
 - Green Teams
- Demonstrate and celebrate progress and momentum





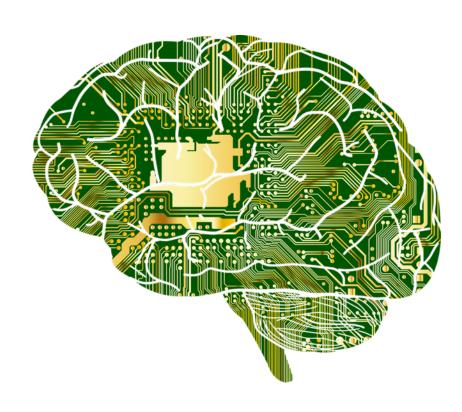
Turns off tap when brushing teeth.	FREE	Hasa Vegie garden.	Uses Greenpower athome.	Always turns off the lights.
ls Vegetarian.	Has 1 meat free day a week.	Lets it mellow if it's yellow	Hasa vainwater tankat home.	Locks up their pets at night.
Is wearing something second hand	Always picks up their dogs poo.	→ FREE	Neveruses plastic bags.	Picks up other peoples rubbish.
Has a nojunkmail sticker at home.	Tums off standby at home.	Almays recycles.	Has a plastic-free lunch box.	Walks or rides to School.
Don't have a MP3 player organieboy.	Hasa small car.	Takes shout showers.	★ FREE	Uses gveywater athome.



Frame for the appropriate ASSOCIATIONS

Frame messages to speak to your audience's mental models and values

- Leverage cognitive biases
 - Loss aversion "Don't lose precious time! Go digital and never lose a piece of paper again!"
- Frame around mental models
 - Emphasize cost savings vs. environmental benefits
- Use metaphors for the big picture
 - "Forests are air purifiers"
- Change frames over time
 - don't repeat the negative



Design it to be VIVID

Overcome informational overload by capturing attention with the unexpected

- Make the desired behavior obvious
- Prompt people at the point of behavior
 - At the computer, at the desk, at the printer/copier
- Make the problem stand out
 - Use relatable metrics
 - Physically show the problem through real-world displays

833,333 sheets of paper That weighs as much as 1 ELEPHANT. Think before you print.

concordia.edu/print



ABOUT TO PRINT?



• PLEASE •

CHECK THE PREVIEW FIRST!

THANK YOU FOR SAVING PAPER

DID YOU KNOW?

The amount of paper Haas students use in one school year weighs as much as 13 grizzly bears

"SAY TREES!"

Take a picture,
save a flyer!

PRINT LESS. WIN PRIZES.

Visit HTTPS://HBSASUSTAINABILITY.WIXSITE.COM/PAPER

Environmental impact estimates were made using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit www.papercalculator.org.

@Haas_Sustainability





Encourage Consistent IDENTITY

Leverage the human desire for consistency to motivate positive action

- Draw on the appropriate identity
 - Positive identity statements
- Set and meet goals with implementation intentions
- Plan a powerful pledge
 - Specific, realistic, written, public
 - Use reminders and feedback
- Help your audience move up the ladder of engagement



What you got printing there?

Did you choose to print double-sided?

Did you try to reformat your document to print fewer pages?

Do you really have to print this?

Cal Bears are paper savers!

Berkeley**Haas**

(your name here)

I pledge to take digital notes this week.

(your name here)

I pledge to print less than 20 sheets of paper this week.

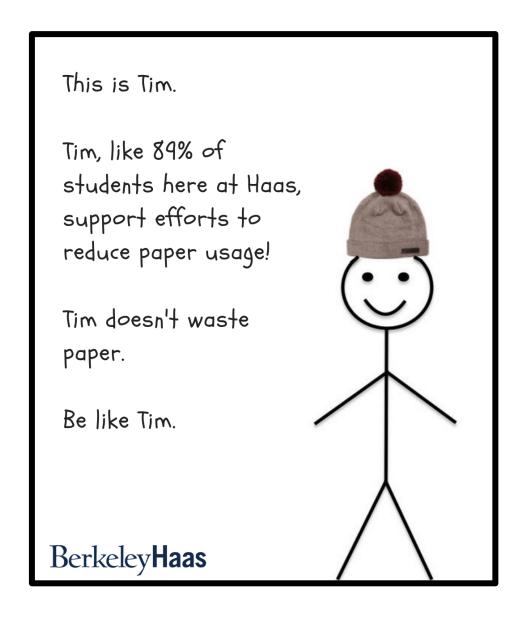
(your name here)

I pledge to take notes without slides.

Demonstrate what is ORDINARY

Invoke the power of social norms by demonstrating that pro-environmental behaviors are "ordinary"

- Provide positive social proof
- Address misconceptions about the norm
- Call attention to society's expectations
- Strengthen the norm through social networks





71% of Haas students don't print lecture slides!

ASK YOUR FRIENDS ABOUT HOW TO SAVE PAPER!



Craft it to be RELATABLE

Reduce the perceived gap between the audience and the problem to inspire action

- Relate your message to what the audience already cares about most
 - Budget, environment, efficiency, local issues, health
 - Connect to personal experiences
 - Focus on individuals to foster empathy
- Choose appropriate messengers
- Make the call to action personal









Foster AWARENESS

Cultivate a mindful awareness of human thought patterns (of our audiences as well as ourselves) to better align actions with intentions and be better stewards of our planet.

- Pause with mindfulness practices
 - Prompts can help!
- Notice and overcome cognitive biases
 - Moral licensing, Status quo bias, ostrich effect, projection bias, etc.



WAIT! CAN YOU RECYCLE THAT?

- MIXED OFFICE PAPER (ENVELOPES, POST-ITS, FILE FOLDERS)
- CANS & SCRAP METAL
- PHONE BOOKS
- MAGAZINES & CATALOGS
- CARDBOARD
- NEWSPAPER
- MILK & JUICE CARTONS
- PLASTIC BOTTLES & JUGS



QUESTIONS ABOUT COMMINGLED RECYCLING?

Call Laura Fieselman, Environmental Sustainability Educator, at x2854.

5 Paper Tips

THINK BEFORE YOU PRINT!



1. Be selective about what you print.

- 2. Use recycled content paper.
- 3. Use both sides of the paper.
- 4. Go digital- read, send, and save soft copies of your documents.
- 5. Recycle or reuse for scrap paper.



Achieve LASTING Change

Turn actions into long-term, pro-environmental habits

- Capitalize on periods of change
- Build upon a tiny behavior
 - Meet people where they are; influence the first choice
- Determine the schedule of benefits
 - Variable vs. continuous, "weaning"
 - No reward at all!
- Provide feedback
 - Specific, real-time, change over time

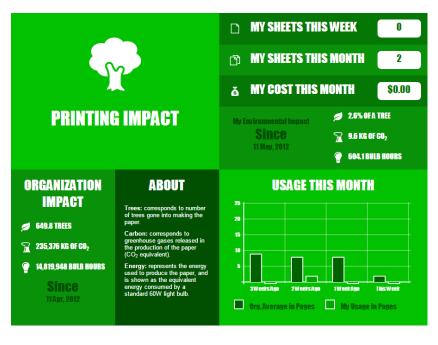


How to be a paper saver

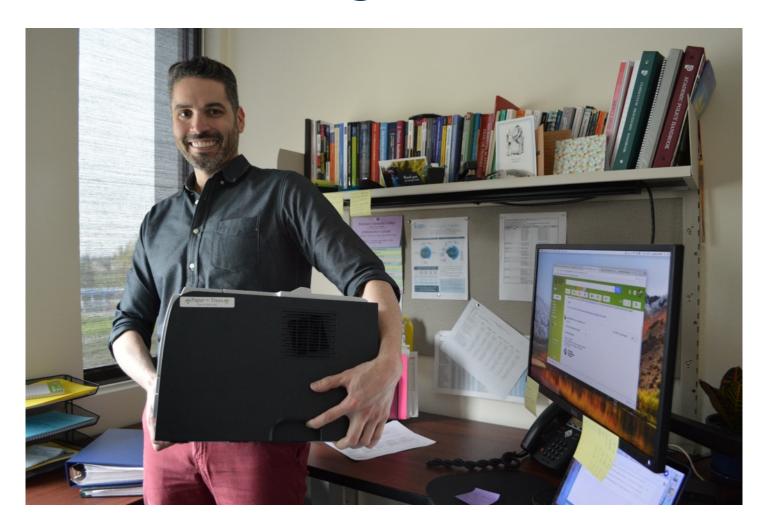
Pause and think: Do I really need to print this? If yes:

- Use scrap paper for notes
- Ask your professors if you can take notes on an electronic device
- Format documents to use less paper
 - "Condensed fonts", reduce font size
 - Green fonts like Century Gothic
 - Smaller margins
 - Print multiple slides per page
- Use online tools instead of printing
- Check print preview before pressing print!
- Print only the pages you need (avoid printing blank pages or citations, appendices)





PCC – highlight early adopters, influential messengers



PCC – share positive examples



PCC – Use vivid displays



PCC - Tie to complementary efforts



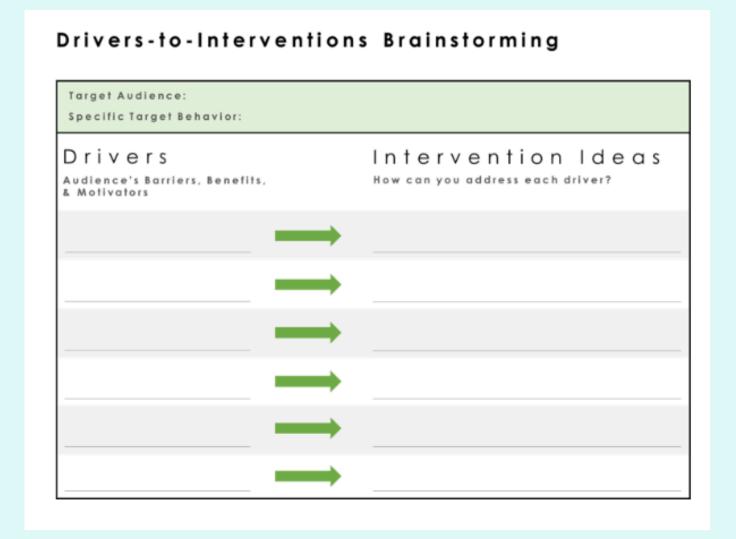


Table 8: Solutions based on barriers and motivators

Table 8: Solutions based on barriers and motivators					
Barrier/benefit category	Solutions				
MEMORY	Remind the audience what to do and how through prompts, how-to information, skill-building, feedback, and action bundling: <u>EASY</u> , <u>VIVID</u> , <u>LASTING</u> .				
BENEFITS	Highlight and amplify benefits by using any building block.				
NEGATIVE ATTRIBUTES	Address the audience's concerns by eliminating hassle factors and providing incentives: BENEFITS, EASY.				
SUSCEPTIBILITY	Show the audience how the problem impacts them by making it salient, connecting to their concerns, and creating opportunities to connect with nature: VIVID , RELATABLE , AWARENESS .				
SEVERITY & IMPORTANCE	Help the audience recognize the severity of the problem by demonstrating scale and immediacy, connecting to their existing "pool of worry", highlighting relevant personal experiences, using frames and metaphors, and creating opportunities to connect with nature: VIVID , RELATABLE , AMARENESS , ASSOCIATIONS .				
ABILITY / SELF- EFFICACY	Boost the audience's confidence by making it easier to do the behavior, walking them through it, showing that others have successfully done it, and using commitments that encourage positive self-perception: EASY , HOPEFUL , IDENTITY .				
ACTION EFFICACY	Show the audience how their actions will make a difference by providing feedback, highlighting solutions, sharing positive social proof, and connecting action to impact: LASTING , HOPEFUL , VIVID , ORDINARY .				
SOCIAL ACCEPTABILITY	Use positive social proof to show how the behavior is accepted or socially desirable, correct mistaken assumptions, and tap into group identity: <a href="https://orange.com/ora</td></tr><tr><td>RESPONSIBILITY</td><td>Help people recognize their responsibility by tying actions to impact, tapping into relevant identities, highlighting consequences, and using framing and metaphors: VIVID , IDENTITY, BENEFITS, ASSOCIATIONS.				
ACCESS & RESOURCES	Provide greater access to resources and help people find and utilize the resources: EASY, BENEFITS.				
IDEOLOGIES & VALUES	Create opportunities for the audience to be in nature, adjust messaging to tap into the audience's existing values and ideology, and create unifying messages across departments and issue areas, and repeat these messages often: IDENTITY , AWARENESS , ASSOCIATIONS .				

Interventions Brainstorming Worksheet

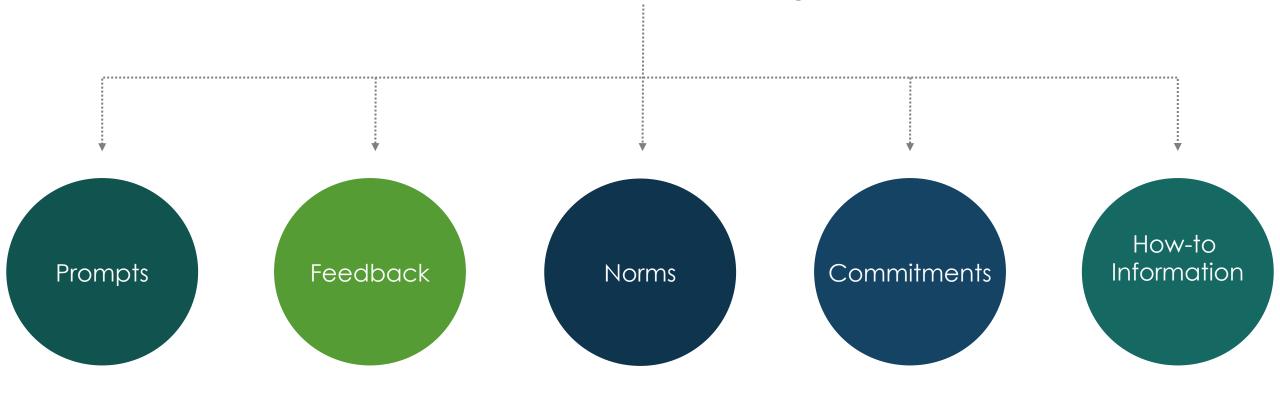
 Brainstorm behaviorbased interventions to address the barriers and amplify motivators

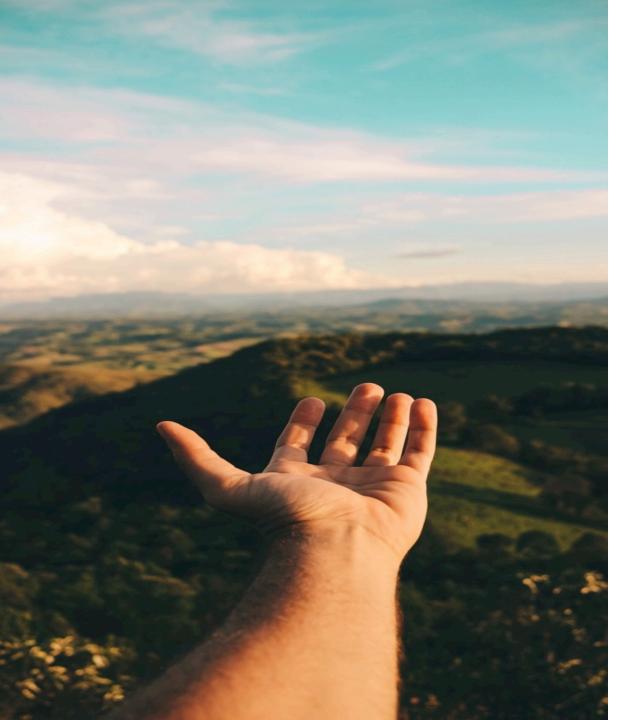


Combining Interventions

Most often, we use a suite of complementary interventions

Common interventions combined in campaigns:





Resources

Publications

- Turning the Page: A Behavior Change Toolkit for Reducing Paper Use
 - Appendix: Worksheets
 - Appendix: Steps for Designing a Competition
- Designing for Environmental Action: A Practitioner's Guide (Book) – '20

Additional Resources

- Case for desktop printer removal
 - with campus case studies

Desktop Printer Drivers Metaanalysis

Meta-analysis



Questions?

Discussion

- What specific behaviors might you target / have you targeted?
- Previous successes using behavioral insights?
 What worked? What didn't?
- Challenges -
 - What do you think may be the barriers for your audiences?
 - Or challenge for you in implementing these practices?
- Brainstorm intervention ideas



Identify Outcome-Producing Behaviors

