

CARBON NEUTRAL ACTION REPORT | 2018

2018 CARBON NEUTRAL ACTION REPORT

COLLEGE OF THE ROCKIES

This Carbon Neutral Action Report for the period January 1, 2018 to December 31, 2018 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2018 to reduce our greenhouse gas emissions, and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2018 COLLEGE OF THE ROCKIES' (The College) final *Carbon Neutral Action Report* will be posted to our website at <u>www.cotr.bc.ca</u>.

ACTIONS TAKEN TO REDUCE GREENHOUSE GAS EMISSIONS IN 2018

Stationary Fuel Combustion, Electricity (Buildings)

Continue to change out inefficient fluorescent light fixtures to new LEDs.

Contracted an energy audit. Will take guidance from results/recommendations.

Mobile Fleet Combustion (Fleet & Other Vehicles)

Golden Campus upgraded their van fleet with two 2017 Ford Bus Vans.

Fernie Campus upgraded their fleet with a 2015 Chev 4x4 Express Van, and a 2017 Ford F350.

Supplies (Paper)

2018 Photocopy Paper Purchase:

- White Paper 30% Recycled Content
- Coloured Paper 30% Recycled Content
- Specialty Paper 15% Recycled Content



Other

Dean of Trades and Technology – Jack Moes

College of the Rockies' Carpenter program entered into an agreement with the Community Energy Association to provide our Building Trades students and the building trades in the region access to information and training resources featuring energy efficient building techniques.

Communities in the East Kootenay are working together to elevate the knowledge and expertise of the building sector around energy efficiency and durability in new and existing home construction. As a region that experiences cold, snowy winters, improved energy performance of homes results in lower heating costs, a more comfortable home for occupants, and long-term energy savings. After a year of engaging the local building industry through workshops and surveys several gaps in available training and education were identified and included: durable building envelope construction practices; the required coordination between various parties involved in the construction process; performance verification, and testing.

To address this gap in access to local training and expertise, the Regional District of East Kootenay facilitated, and continues to deliver "Building a Legacy." This initiative aims to increase the energy literacy of five key stakeholder groups through peer-learning, hands-on demonstration and regional-specific training. With a focus on delivering hands-on workshops, this project is improving industry knowledge and awareness around energy efficiency and durability in new and existing homes and prepare the industry for policy adoption (BC Energy Step Code) and compliance with future building code standards. In addition, this project provides an opportunity for trades, contractors, builders and developers to better understand details in improving air tightness and thermal performance, minimizing thermal bridges, and to take a holistic approach to home energy efficiency.

The project, with funding from BC Hydro as well as FortisBC, the Real Estate Foundation, Columbia Basin Trust and the RDEK, is being delivered in several phases. In the first phase, we partnered with Hamid Design Build (HDB) to construct a set of 10 mobile demonstration wall assemblies, as well as wall to window intersections, to assist with hands-on education throughout the East Kootenay. These mobile assemblies, and accompanying booklet, showcase various methods of improving energy efficiency and moisture performance in walls, effective building envelope detailing at window to wall interface, and wall penetrations, as well as steps to improve the long-term performance of the walls.

Since November 2018, CEA has used these 10 mobile assemblies in several professional builders' workshops and public outreach events, around the Kootenays. To date, only one other set exists in the province, belonging to the designer and builder of the assemblies, Hamid Heidarali of Hamid Design Build.

These mobile assemblies and their accompanying colour-photographed, technical booklet are an innovative training resource that can add a tangible, interactive component to teaching accepted envelope building science concepts and designs. Owned by the CEA, Cranbrook Carpentry Program will have access to these mobile assemblies to use as unique teaching tools, in exchange for their care and storage. The College will facilitate easy access to the wall and glazing assemblies when required by CEA for use in external training events.

This is a great opportunity to share use and care of these mobile teaching tools to help elevate the state of the building industry in the East Kootenay and beyond, for both building professionals and students in the East Kootenay.



Bookstore: Uses an online Text Request System for faculty to order textbooks. This has eliminated paper requests.

Financial Services: Continuing to increase payment by EFT and reduce payments by cheque, to reduce our paper / printing usage.

Human Resources / Payroll:

- Consolidated the application approval document and payment-approval document on one page, saving two copies for every application, approximately 50 pages per year.
- Dramatically reduced the amount of paper used to check payrolls. These reports are now saved and checked electronically.
- Payroll forms are now scanned and sent to staff who support the payroll function, eliminating paper copies.
- Utilize internal online functions to provide forms and resource materials to staff.

IT Services: New photocopier /printer fleet installed. More energy efficient models. All devices are set to sleep when not in use. New print management system, users now login to device to retrieve jobs. In order to make logging in effortless, system utilizes staff and student ID cards and a scanning system to login. This allows for unwanted jobs to be deleted by the users from Print queue before being printed. Additionally, jobs that are not picked up within 2 hours are removed from the queue and not printed. Implementing this feature resulted in in the reduction of 20,909 Sheets of paper. These savings meant that the College saved 2.51 trees and reduced our CO2 emissions by: 265.5 kg. This new print system allows staff and students to see the true effect of their printing on the environment. The College is looking at bringing this awareness to the forefront in the next year in an effort to further reduce our paper use and to reduce our environmental impact.

All toner is ordered in a larger size to reduce waste. All cartridges are recycled where facilities are available.

All electronics equipment from IT services are recycled properly through local electronics recycle depot.

Communications and Marketing:

- Recruitment Officers utilize the College's Prius, a hybrid vehicle, for their recruiting trips whenever possible, reducing the use of gas-only powered vehicles by approximately 50%.
- Moved from a paper-based marketing requisition system to a fillable-form pdf that can be emailed.
- Distributes a monthly emailed newsletter rather than a printed version.
- Dramatically reduced the amount of printed material (i.e. posters, brochures) that we produce, and have moved the majority of information online.
- Requests 30% or greater recycled content when producing printed marketing material, and use Forestry Stewardship Certified
 paper and vegetable dyes whenever possible.

College staff/student online message portal and College social media platforms post information about upcoming programs and courses.

Student Services/ Student and Enrolment Services: All Education Advisors, Disability Service Coordinators, Learning Assistance staff and Aboriginal Coordinator desks have cameras and video conferencing software, making meetings with students at regional Campuses possible without having to travel.

Continuing Education & Contract Training:

- Scan and use electronic file system, rather than photocopying all invoices, quotes, contracts, and correspondence.
- Purchase of mugs to use (as often as possible) at Cranbrook Campus training programs, rather than paper or plastic coffee cups.
- Use of document planning and editing on MS Teams for collaborative projects, instead of having everything photocopied for meetings.
- Elimination of plastic water jugs ordered on a weekly basis for both Cranbrook offices and the Gold Creek Campus. Refillable stations at both campuses are now used (recently installed at Gold Creek Campus during the renovation).

Cafeteria / Culinary Program: Cranbrook Campus' Cafeteria contractors use compostable or bio-degradable products exclusively. They utilize glass wear and reusable small wears for all internal catering available. Newly purchased plates, glasses and small wears in the last two years have made this possible. The Cafeteria contractors and the College's Culinary Program have been working closely with the College in regards to the composting program that will be coming soon. The College has been consulting the Cafeteria and Culinary Program to help determine what size of composter will be needed.

Faculty Teleconferencing/Webinars/Web Conferencing: Faculty members video conference with students rather than travel to placement sites. All regional campuses further than 50km from Cranbrook have been equipped with full video conferencing suites. Video-recorded assignments for practicum students cut down on faculty travel for site visits. YouTube is used for posting video assignments. Staff, faculty, and Board Members are encouraged to attend meetings virtually via teleconference, webinars and web conferencing whenever possible ie: BC Net. Advanced network to increase bandwidth at all campuses.

COTROnline:

- The Production Support Centre staff is trained in supporting faculty in moving toward more online instruction through COTROnline (formerly Moodle).
- Student Services/Registration and Institutional Research Stores training documentation on COTROnline.
- Faculty emails or posts handouts on COTROnline rather than make copies for class distribution.
- Learning Resource Centre uses electronic document library.
- Faculty requests that students upload their assignments to COTROnline sites. Faculty then marks the assignments virtually rather than making paper copies.
- The College encourages electronic submissions from our students.

AssetPlanner:

All faculty and staff requests to the Production Support Centre, IT Technology Department, and Facilities Maintenance Department are submitted electronically through the AssetPlanner (formerly FAME) system, eliminating all paper requests for those departments.

SharePoint:

- Student Services/ Student and Enrolment Services, and Institutional Research Created a SharePoint site.
- All media monitoring/clipping done and filed electronically in SharePoint, replacing weekly photocopy circulation.
- Use SharePoint for Nursing Program to jointly edit and create accreditation documents.
- Learning Resource Centre uses SharePoint technology for electronic editing.
- HR/Payroll uses SharePoint for all payroll handout documents. Most of this department's information is now electronic.
- Electronic records of training (ROT) have been set up on SharePoint so that Office Administration faculty can enter grades electronically. ABE Directed Studies is grading online using AccessCOTR to submit grades rather than on paper copies, saving many reams of paper.

Cranbrook Campus - Battery recycling collection bin located in Shipping & Receiving shop. Facilities Department staff then bring the batteries to the local collection depot for recycling.

Regional Campuses:

- Regional campuses scan and email receipts and registration forms to Continuing Education and Contract Training registrants, saving the cost and paper involved in mailing these documents.
- Supply re-usable mugs, cups instead of plastic/paper cups and dishware, use real cutlery when possible instead of plastic/paper.
- Encourage walking/biking to work/school.
- Buses/carpooling for fieldtrips.
- Resources are usually emailed or a link to materials/resources sent to students instead of printing.
- Encourage e-text course books instead of printed copies for most HOSP Diploma courses.
- Limit the use of flipcharts. Use whiteboards instead.
- Carpooling between campuses, or to conferences.

Traveling:

Carpooling is mandatory whenever the President, Board of Governors and the President's Council are involved in common meetings off site. Exceptions to this are approved by the President or Board Chair under exceptional circumstances only. Meetings are piggybacked for efficiency of travel. Dean's meetings are scheduled consecutively as many have multiple portfolios.

All Campuses deliver documents and packages by way of already planned travel in an effort to avoid scheduling unnecessary deliveries.

Staff and Faculty at various campuses participated in BC Bike to Work Week 2018.

Bicycle parking is available at most campuses. Invermere Campus hopes to have new bicycle racks installed in 2019.

Window blinds are utilized to reduce heating and cooling costs, as well as energy costs.

All campuses provide courses to staff and the community on various topics related to climate change, conservation and sustainability.

- For example, ...
 - Cranbrook Campus
 - Bachelor of Business Administration (BBA) in Sustainable Business Practices
 - Associate of Science (ASCES) Environmental Sciences Associate Degree
 - Environmental Studies Certificate
 - o Golden Campus Delivers courses in cultural sustainability and stewardship in the Adventure Tourism Business Operations Program. ATBO students teach sustainability in the local elementary schools.
 - o Invermere Campus
 - Field & Forest Plant and Herb Walk
 - Permaculture Design Certification Course

The Deans Department circulates agendas and minutes electronically and encourages use of e-readers rather than printed documents.

Board of Governors meeting packages are sent to Board members electronically.



Faculty in Business and University Arts and Science programs review BC Campus Open Education Resources when selecting their textbooks. Many courses at the College have adopted these textbooks as free downloadable resources under a Creative Commons license.

In 2018, College of the Rockies participated in Fuel Management Treatment Activities - Cranbrook Community Forest, College of the Rockies – Wildfire Hazard Reduction Project. The treatment program is designed to reduce the available fuels in the case of a catastrophic wildfire, which could threaten the College as well as homes in the surrounding neighborhoods.



College of the Rockies Sustainability Committee Meetings 2018

April 2018

Earth week

Committee organized a Campus Clean-up event to have students and staff pick up litter on the College grounds.

Sustainability Committee Assistant set up a display during Earth Week showcasing the College's sustainability efforts with regard to:

- Solar panels
- Geothermal Heating at the Residence
- LEED design
- Collection Pods
- Composting
- Bring your own coffee mug
- Water bottle refill stations

September 2018

Kootenay Ride Share Initiative

Committee wrote a letter of support for Sustainable Kootenays' initiative to create a One-stop Transportation App for the Columbia Basin.

October 2018

Community Based Social Marketing Training

Sustainability Committee members attended a two day training session at St. Eugene Resort offered by the Columbia Basin Trust's Climate Action Committee. The training was to introduce Community Based Social Marketing. Community-Based Social Marketing (CBSM) is an approach to achieving broad sustainable behavior in our communities. It combines the knowledge from psychology and social marketing to leverage community members' action to change behavior. The Committee will use the knowledge gained from this training to reduce barriers in advance of implementing an organic waste collection program at the College.

November 2018

Organic Waste Collection Program

The committee continued work with Allan Knibbs, Director Facilities, researching the best possible industrial composter for the Cranbrook Main Campus. The current plan is to have the unit located in a Sea-Can outside of the cafeteria loading dock. This should be implemented in August 2019. The Columbia Basin Trust has granted the College \$30,000 for this program.

A BBA Capstone student conducted interviews with the Chefs in the Culinary Program as well as the Cafeteria to identify challenges and opportunities for collecting organic waste.

College of the Rockies is proud to be a member of the Association for Advancement of Sustainability in Higher Education. AASHE is an association of colleges and universities that are working to create a sustainable future.

PLANS TO CONTINUE TO REDUCE GREENHOUSE GAS EMISSIONS IN 2019 AND BEYOND

The College will implement a method for the students to print from their own devices, this will reduce our electricity consumption as students will not need to start a desktop computer to print but can use a lower power laptop device to print.

The College will reduce the number of desktop computers in use by staff, moving them to laptops which use less power and generate less heat for their operation.

IT services will double the videoconferencing / web conferencing capabilities at each of the regional campuses.

Identifying opportunities to use digital learning resources. One of the potential benefits being the reduction of paper consumption.

Change out aging MAUs to newer models with variable frequency drives.

Continue to change out inefficient light fixtures to LEDs.

Continue to replace aging vehicles with more efficient models.

Continue to change out water fountains with water bottle filling stations where applicable.

College of the Rockies Launching Campus-Wide Food Composting Program This Fall (2019)

Wednesday, April 17th, 2019 1:55pm

http://www.summit107.com/news/east-kootenay-news/College-of-the-rockies-launching-campus-wide-food-composting-program-this-fall/

The College of the Rockies hopes to take organic food waste from across their Cranbrook campus and put it to good use.

During a Chamber of Commerce panel discussion about sustainability in business this week, the College's (COTR) Business Program Coordinator Greg McCallum talked about the efforts their school has and will be taking to promote sustainability for the "people, planet, and profitability".

Thanks to a recent \$30,000 grant from Columbia Basin Trust and a matching contribution from COTR itself, McCallum says they are planning to buy a new industrial composting machine.

"The idea being that all the waste produced from our culinary programs, from our cafeteria, from our staff offices and lunchrooms will all go into this industrial composter."

During a typical school day, he estimates that this will reduce the amount of food going into the landfill by around 60 lbs per day. The compost will then be spread around the College's fields and be used as a form of fertilizer.

McCallum says the COTR hopes to be a community leader through this effort and inspire similar initiatives.

"We really needed to look at the psychology of people and how people reward and recognize good practices and how they emulate that if they have a good example. We at the College hope to be that example and other businesses in the community will emulate what we're doing."

After an initial trial phase in August, McCallum hopes to have the new composting initiative up and running across the Cranbrook campus this September.

COLLEGE OF THE ROCKIES GHG Emissions and Offset for 2018 (tCO ₂ e) GHG Emissions created in Calendar Year 2018	
Total BioCO ₂	1.25
Total Offsets (tCO₂e)	781
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	0
Total Offsets (tCO₂e)	0
Grand Total Offsets for the 2018 Reporting Year	
Grand Total Offsets Required (tCO₂e)	935
Total Offset Investment (<i>Grand Total Offsets Required X \$25/tCO₂e</i>)	935 X \$25 = \$23,375.00

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, *COLLEGE OF THE ROCKIES* (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2018 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

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Executive sign-off:	Aure 5, 2019.
Signature	Date
Diagne Teslat. Name (please print)	Vice President - Finance + Corporate Services

1. General Information

Name: Allan Knibbs

Contact Email: aknibbs@cotr.bc.ca

Organization Name: College of the Rockies

Sector: Post Secondary

Role - Please select your role(s) below.

If more than one individual completed the survey, multiple categories may be selected:

Energy Manager: No

Sustainability Coordinator: No Administrative Assistant: No

Facilities/Operations Manager/Coordinator: Yes

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

Other - Please Specify: Wendy Roberts, Administrative Assistant wroberts@cotr.bc.ca

A. Stationary Sources (e.g. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

- Actions taken by your organization in 2018 to support emissions reductions from buildings.
- a) Do you have a strategy to reduce emissions from stationary sources?

No

- b) Whether you have a strategy or not (1.a), briefly describe your organization's plans to continue reducing emissions from stationary sources:
- I. Over the medium-term term (1-5 years)

Monitor DDCs. Make sure temperatures remain constant. Replace inefficient equipment as it ages out.

II. Over the long term (6-10 years)

Same as above.

c) Please describe your strategy's goals (if any) related to energy audits.

Initiate an energy audit/

- I. What % on average of your building portfolio has an energy audit completed each year (if any)?: 0
- d) Please describe your strategy's goals (if any) related to building retrofits.

Try to do retrofits each year. ie: MAUs.

2019 - Gold Creek Campus Administrative and old Electrical Buildings.

I. What % on average of your building portfolio is retrofitted each year in the following categories (if any) - click <u>here</u> for further information:

Minor retrofits (e.g., low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.) (%): 15

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 20

Deep retrofits (e.g., replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.) (%): 5

e) Please describe your strategy's re/retro-commissioning goals (if any)?

We include commissioning as a part of retrofitting projects with each new piece of equipment replaced/installed.

I. What % on average of your building portfolio do you recommission each year?: 20

f) Do you keep records of Refrigerant gases category and refilling volumes?

Yes

I. If yes, have you included the associated emissions in your reporting?

No

- g) How many newly constructed buildings received at least LEED Gold certification in 2018:0
- I. How many newly constructed buildings did not receive LEED Gold certification?: 1
- II. Please explain why LEED Gold certification was not obtained.

Other parameters outside of building scope prevented us from receiving LEED Gold certification. ie: Only one bus stop within required distance from College. Needed to have two.

B. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

- 3. Actions taken by your organization in 2018 to support emissions reductions from mobile sources.
- a) Do you have a strategy to reduce emissions from mobile sources?

No

- b) Whether you have a strategy or not (3.a), briefly describe your organization's plans to continue reducing emissions from mobile sources:
- I. Over the medium-term term (1-5 years)

Replace vehicles with more fuel efficient models as they age out.

II. Over the long term (6-10 years)

Same as above.

c) How many fleet vehicles did you purchase from the following categories:

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Electric Vehicle - EV - (e.g., Nissan Leaf, Chevy Bolt): 0
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"Plug In" Electric Vehicle - PHEV (e.g., plug-in Prius, Chevy Volt): 0

Hybrid vehicle – HEV – non "Plug In"- (e.g., Toyota Highlander Hybrid): 0

Hydrogen fuel cell vehicle: 0 Natural gas/propane: 0 Gas/diesel vehicle: 4

I. If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

No options available for program/campus needs. Only gas options available (passenger vans/pick up trucks).

d) How many existing EV charging stations does your organization have in each category:

level 2:0

level 3:0

How many level 2 stations (if any) are specifically for your fleet vehicles: 0 How many level 3 stations (if any) are specifically for your fleet vehicles: 0

e) How many EV charging station(s) did you install in 2018 in each category:

level 2:0

level 3:0

How many level 2 stations (if any) were installed specifically for your fleet vehicles: 0 How many level 3 stations (if any) were installed specifically for your fleet vehicles: 0

4. Please indicate the number of the vehicles in the following vehicle classes that are in your current fleet (including any purchased in 2018):

Definitions:

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR <3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg)
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

a) Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt): 0

"Plug In" Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt): 0

Hybrid vehicles – HEV – (e.g., non "Plug In"- older Toyota Prius, Toyota Camry hybrid): 2

Hydrogen fuel cell vehicles: 0

Natural gas/propane: 0

Gas/diesel: 0

b) Light duty trucks (LDTs)

Electric Vehicles - EV: 0

"Plug In" Electric Vehicle - PHEV: 0

Hybrid vehicles – HEV – (e.g., non "Plug In"- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid etc): 0

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 18

c) Heavy duty vehicles (HDV)

Electric Vehicles - EV: 0

"Plug In" Electric Vehicle - PHEV: 0

Hybrid vehicles - HEV - (e.g., non "Plug In"): 0

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 8

5. Please indicate the number of the vehicles you plan to replace in your fleet:

How much do you budget per LDV?: 0

How many LDVs do you plan to procure annually over the next 5 years?: 0

How much do you budget per LDT?: 0

How many LDTs do you plan to replace annually over the next 5 years?: 3

How much do you plan to spend per HDV?: 0

How many HDVs do you plan to replace annually over the next 5 years?: 0

C. Office Paper: Indicate which actions your PSO took in 2018:

6. Actions taken by your organization in 2018 to support emissions reductions from paper supplies.

a) Do you have an Office Paper strategy?

No

b) Whether you have a strategy or not (6.a), briefly describe your organization's plans to continue reducing emissions from paper use:

I. Over the medium-term (1-5 years)

2018 - New photocopier / printer fleet installed. More energy efficient models. All devices set to sleep when not in use. New print management system, users now login to device to retrieve jobs. In order to make logging in effortless, system utilizes staff and student ID cards and a scanning system to login. This allows for unwanted jobs to be deleted by the users from Print queue before being printed. Additionally, jobs that are not picked up within 2 hours are removed from the queue and not printed. Implementing this feature resulted in in the reduction of 20,909 Sheets of paper. These savings meant that the College saved 2.51 trees and reduced our CO2 emissions by: 265.5 kg. This new print system allows staff and students to see the true effect of their printing on the environment. The College is looking at bringing this awareness to the forefront in the next year in an effort to further reduce our paper use and to reduce our environmental impact.

II. Over the long term (6-10 years)

Continue to increase payment by EFT and reduce payments by cheque, to reduce our paper / printing usage.

College identifying opportunities to use digital learning resources. One of the potential benefits being the reduction of paper consumption.

c) Have an awareness campaign focused on reducing office paper use

No

d) Purchased alternate source paper (bamboo, hemp, wheat, etc.)

No