

OFFICES AND CARBON EMISSIONS

A CLIMATE SMART™ INDUSTRY BRIEF

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Empowering businesses to reduce carbon emissions and cut costs

Climate Smart Businesses Inc. is a social enterprise providing training, coaching, and software tools for businesses to measure their carbon footprint, identify key opportunities for cost, energy, and carbon reduction, and communicate their efforts internally and externally.

We work not as consultants, but as teachers, utilizing a workgroup-based training curriculum, top-rated software carbon tool, and one-on-one hotline technical support. Participants leave the room with the ability to analyze, measure and reduce their company's impact by themselves: key skills in the green economy of the future.

Climate Smart partners with local governments, helping them link community economic development and emissions reduction. The Climate Smart program builds resilience in local businesses to risks associated with volatile energy prices and costs of climate change impacts, and catalyzes innovation and new business practices. Municipalities are able to engage their local businesses in climate action that will benefit the entire community.

Since 2008, we have worked with over 700 businesses and organizations of all sizes, from every industry sector of our economy. We empower clients to focus their entrepreneurial spirit on reducing the impact of their business. Climate Smart enables to methodically cut unnecessary consumption of energy, fuel, materials and waste, and tie climate action to smart business practice.

Learn more about how Climate Smart can help your organization's move to a new greener, low-carbon economy. Go to www.climatesmartbusiness.com or call 1-888-688-6283.



Climate Smart business training session (photo credit: Climate Smart)

CLIMATE SMART



Reducing emissions can equal money saved and dollars back

Reducing your carbon footprint can take many forms. But what's one action that a select yet diverse mix of businesses and organizations share? They've participated in FortisBC's Energy Efficiency and Conservation programs.

From no-cost energy assessments to rebates on efficient natural gas water heaters, boilers and even cooking equipment, businesses and organizations are reducing their greenhouse gas emissions and, in some cases, experiencing substantial savings.

When Ryan Martin, manager of the Hume Hotel in Nelson, B.C. had to replace a water heater due to a flood, he took the opportunity to reduce their carbon footprint as well. "We decided to go high-efficiency and lessen our impact on the environment at the same time," says Martin. Plus the hotel was rewarded with a \$4,500 rebate from FortisBC.

The one high school in the Rocky Mountain town of Elkford, B.C. can attest to significant energy savings and money back from FortisBC. After the school upgraded insulation and replaced its aging furnaces with three high-efficiency boilers, the energy savings from one year to the next was more than 40 per cent. Plus the school qualified for a \$48,000 boiler rebate from FortisBC.

"Our Energy Efficiency and Conservation Programs help commercial customers incorporate energy efficient measures with rebates for high-efficiency natural gas boilers, water heaters and cooking equipment and even tailored solutions such as building re-commissioning," says Ramsay Cook, commercial and industrial EEC program manager at FortisBC.

For more information on how FortisBC can help your organization save energy and receive money back, visit [fortisbc.com/businessoffers](https://www.fortisbc.com/businessoffers).



Ryan Martin, manager, Hume Hotel (photo credit: FortisBC)

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Vancity partners with Climate Smart to build a green economy

With a little commitment and good advice, any business can reduce its carbon footprint.

Dale Dubberley is the owner of Thai Away, a food business that specializes in authentic Thai cuisine. She wanted to reduce her greenhouse gas emissions but didn't know where to start, so she signed up for Vancity's Climate Smart program.

"I am very clear that in my business I am committed to a healthy platform, both in the food we make and, more broadly, in the world," she says. "I didn't have a concept for how to create a measurable accountability model or a support group to help me implement it. Being able to tap into the Climate Smart network and connect with other Vancity business members helped me bridge the gap between my company's social consciousness and our social action."

Between 2007 and 2012, Vancity supported more than 110 small businesses, co-operatives and not-for-profit organizations to measure and reduce their organizations' greenhouse gas emissions through Climate Smart training.

If you're a Vancity business member and you want to measure and manage your carbon footprint, contact us at greenbusiness@vancity.com to find out about our scholarships for Climate Smart training.



Recycling Alternative, Vancity business member and Climate Smart alumnus (photo credit: Vancity)

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Aiming to make Vancouver the greenest city in the world by 2020

Vancouver's Greenest City 2020 Action Plan aims to double the size of the Green Economy and make Vancouver the greenest city in the world by 2020. These goals seek to grow Vancouver's economy, while increasing competitiveness and innovation of Vancouver businesses through sustainability strategies.

The good news is even small and medium-sized companies can benefit from greener practices. Eight 1/2 Restaurant owner-operator Mike Wiebe does not like to waste anything—time, energy, not even pickle jars. So he made it his goal to reduce or eliminate waste from the restaurant's operations, and to become one of the greenest restaurants around. A Business Energy Advisor went in to talk about energy, and how the business could start saving as well as leverage BC Hydro's Product Incentive Program. The restaurant decided to replace their old dishwasher, which Wiebe says was probably their biggest energy user, with an ENERGYSTAR®, low-water, low-temperature model. Later they changed 50 incandescent lights to LEDs, saving energy and maintenance time. Wiebe says he used to have to replace bulbs every two weeks due to overheating. "With the new lights, we haven't changed any yet."

There are numerous economic advantages to greener business practices, and it all begins with an understanding of how environmental performance relates to your business operations and bottom line.

Data from ClimateSmart can help you understand how your office-based business compares with others in your sector. It also highlights the approaches that other leading office-based businesses from industry associations and consulting firms, to financial services offices and media and marketing houses are using to successfully reduce their costs. These businesses are becoming greener businesses and benefiting from brand lift, employee retention and new clients. The City of Vancouver also supports the Business Energy Advisor program, offering free advice for less than an hour of your time. The program has already assisted dozens of energy saving suggestions and helped over 200 businesses save thousands of dollars.

For more information on programs to help you green your business, visit <http://vancouver.ca/green-vancouver/how-you-can-green-your-business.aspx>.



Mike Wiebe, owner, Eight 1/2 Restaurant
(photo credit: City of Vancouver)

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Sustainability and climate action have long been a part of the City of North Vancouver's core values, policies and programs. To build a community resilient to future challenges, we must not only lead by example, but provide opportunities for residents and businesses to play a role.

That's why we're launching a new initiative called Living City. It's an opportunity to share what we're doing, connect with others, discuss ideas and help people participate in our climate action efforts. Living City includes a number of programs and initiatives in five areas: Sustainable Energy, Zero Waste, Transportation, Urban Agriculture, and Natural Capital.

It's about each of us doing our part and respecting our environment as we coexist to create a Living City. Go to www.cnv.org/livingcity for more information.



Making a difference...together

The Capital Regional District (CRD) is a "community of communities" committed to working together to create a vibrant, livable and sustainable region for years to come. In practice, this means that our services aim to support a good quality of life as well as a strong, resilient regional economy. It also means that we have a commitment to climate action.

The CRD Climate Action Program philosophy is based on three pillars: engage, reduce and prepare. The program works to support the necessary shifts in policy, infrastructure, behaviour and planning that are required to create a vibrant, healthy and low-carbon capital region.

For more information, go to www.crd.bc.ca/climatechange.

ADDITIONAL SUPPORT

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INTRODUCTION

Welcome to Climate Smart's first Industry Brief. We are thrilled to launch this quarterly series dedicated to showcasing data and trends among small and medium-sized businesses in all sectors. These organizations are making smart moves to reduce their greenhouse gas emissions, while improving their top and bottom lines at the same time.

The series came about as a way of responding to our clients' curiosity: how are we doing, and how do we compare to others in my field? Each Brief will address business sectors with similar operational types, and as such is designed to help businesses benchmark their progress against their peers. It is a forum to share the wealth we have gathered: a trove of ideas generated and tested by Climate Smart businesses aiming to improve the way business is done.

This first issue focusses on office-based businesses, which compose a broad section of the economy: over three-quarters of Canadian businesses are service-producing, with small firms (fewer than 100 employees) making up 98% of those.

Office-based businesses also include some of the most dynamic and fast-growing businesses in Canada: a greater proportion of high-growth firms are professional and administrative service businesses, as compared to many other industries.

If saving the world requires us all to take action, then we at Climate Smart see ourselves as the business recruiters. Not simply because small and medium-sized enterprises form the majority of our economy, but because entrepreneurs can contribute as innovators, calculated risk takers and investors, while bringing a healthy dose of competition to hasten the race towards a better, more sustainable future.

Learn more about how Climate Smart can help your organization transition to the new low-carbon economy.

www.climatesmartbusiness.com
1-888-688-6283

OFFICE-BASED BUSINESSES SPAN MANY INDUSTRIES

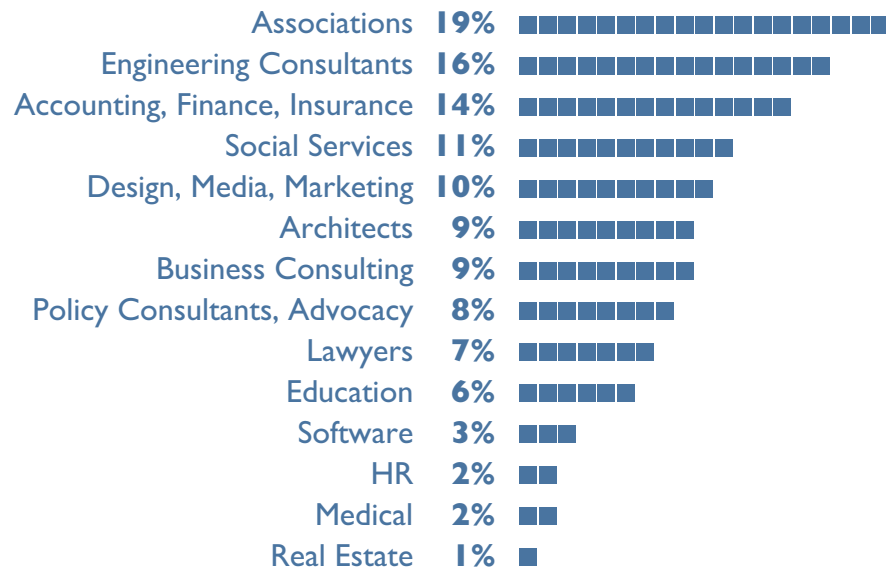


SIZES AND SECTORS

A variety of industries form the Climate Smart office-based poll of 117 companies, with over half of the organizations falling into one of four categories:

- *Associations*: professional associations, unions, chambers of commerce, business networks, and other membership organizations
- *Engineering Consulting*: environmental, geotechnical, structural, and transportation engineering companies.
- *Finance/Insurance*: accounting firms, investment funds, businesses offering leasing services, insurance companies, and financial consultants.
- *Social Services*: community service centres, neighbourhood houses, and community support organizations.

Other well-represented industries that together form over a third of the poll are design/media/marketing, architects, business consultants, policy consultants/advocacy, and law firms.



20 full-time equivalents (FTEs) work at a median Climate Smart office-based business

The majority of participating businesses were a combination of small but high-revenue-generating businesses. Nearly three-quarters of the companies had fewer than 50 full-time equivalents (FTEs), and nearly a quarter (23% of the sample) were micro-businesses with fewer than 5 FTEs. Nearly two thirds (64%) listed annual revenue above \$1,000,000, with 5% generating over \$10,000,000 annually.



FTE count of participants	Percentage
1-5	23%
6-10	16%
11-50	35%
51-200	20%
> 200	6%



annual revenue of participants	Percentage
< \$0.5m	18%
\$0.5m-\$1m	18%
\$1m-\$5m	39%
\$5m-\$10m	20%
> \$10m	5%

LOCATION

The sample organizations operate 236 office locations across Canada (82% in BC, 15% in the rest of Canada), and the US (3%). This averages to 2 office locations per business, with the majority (65%) having only one location.

The majority of the sample businesses were urban-based, with 71% of the offices were located in large urban cores within Census Metropolitan Areas (CMA), such as Vancouver, Toronto, or Calgary.

One in five locations were within the CMAs surrounding these large urban cores.

One in ten locations were located outside CMAs: medium census agglomeration cores; small population centres; and rural areas.

236

office locations covered in this study



location of participants

large urban core	71%
large urban	18%
medium CA core	5%
small CA core	1%
small urban	3%
rural	2%

Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) are areas consisting of one or more neighbouring municipalities situated around a core. A CMA must have a total population >100,000, of which 50,000 or more live in the core. A CA must have a core population >10,000. A population centre is an area with a population >1,000 and a density of >400 people per square kilometre: small population centres have a population of between 1,000 and 29,999; medium population centres have a population of between 30,000 and 99,999; and large urban population centres have a population of 100,000 and over. All areas outside population centres are defined as rural areas.

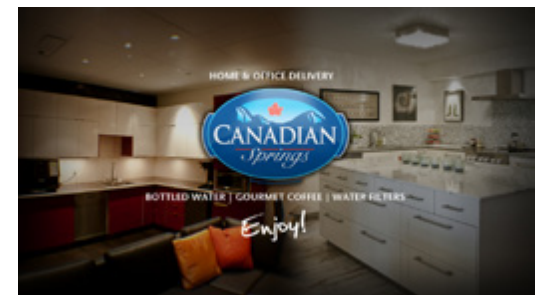
Source: Statistics Canada, 2011 Census Reference Material

Canadian Springs delivers nourishing beverages promoting health and wellness across Canada. No longer just the water cooler company, Canadian Springs has transformed into a beverage delivery company serving home and office customers with top quality water, filtration systems, coffee, tea and other hot beverages.

Our locally sourced and produced spring and demineralized water comes in large format refillable containers that carry 1,000L of water in their useful lives. All 18L refillables are then recycled, including caps, making them distinct from the single use beverage bottle waste problem.

Canadian Springs is also the nation's leading provider of advanced tap water filtration systems with expert knowledge and servicing for addressing varying tap water conditions in each community. Today we supply both homes and offices with a full selection of hot beverages. From local, organic and fair trade brands to the world's best known coffee and tea brands, Canadian Springs has one of the largest selections anywhere.

From hybrid electric delivery trucks to many other initiatives, find out why Canadian Springs is leading sustainable delivery solutions in Canada.



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DRIVING ACTION IN OFFICES

MOTIVATIONS FOR MANAGING CARBON

top five reasons for carbon management, cited by offices

personal interest

community and sector leadership

marketing and brand lift

cost savings

solidifying green practice

In this early majority market, programs such as Climate Smart find personal interest in learning about climate change and acquiring green job skills leads the list of drivers for carbon management. The strong showing for community and industry engagement also points to “progressive” organizations wishing to lead within their sectors and communities. Cost savings motivate one in four businesses to look at reducing expenses through managing their businesses’ emissions.

Motivators are largely similar across industries; however, more nuanced business-case drivers appear that are particular to certain sectors.

Associations

Industry and community engagement was the predominant motivation. These organizations were interested in taking the lead within their community and setting an example for their membership. In some organizations, the members themselves were the driving force in their decision to undertake GHG management.

“ Our members are incorporating green practices into their work and we would like to lead by example.”

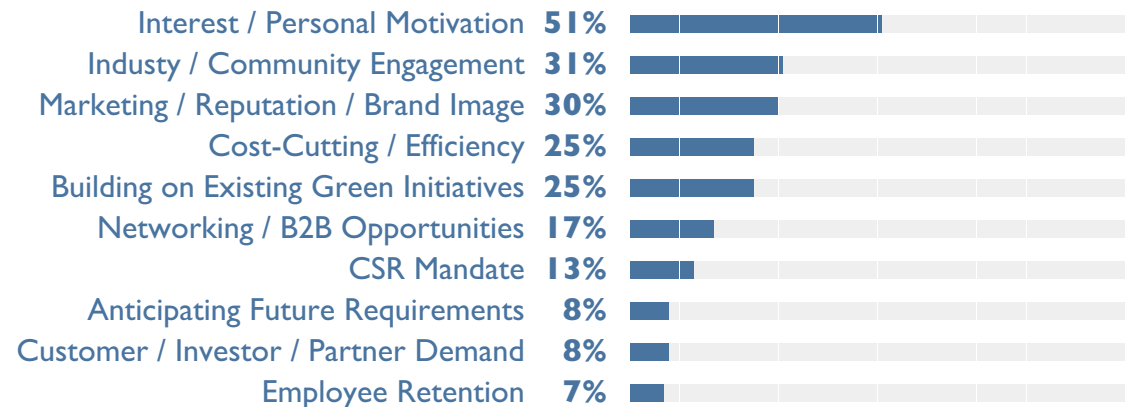
- membership organization

Engineering Consultants

The benefits of GHG management on marketing and improving reputation/brand were important to engineering consultants. In particular, they are seeing an increasing need to remain competitive by showing quantifiable, third-party-validated green initiatives on bids and RFPs. Some also see GHG management as an emerging business opportunity.

Accounting, Finance, Insurance

Marketing/reputation, and networking opportunities, were deemed important, possibly as a strong B2B market exists for companies in this sector. In addition, insurance companies have demonstrated an interest in using GHG management knowledge to identify potential environmental liability in client businesses.



why manage carbon? motivators for offices

Social Services

The larger environmental and sustainability message aligns well with social services looking to effect positive change in their local communities. Organizations with a strong social mandate, especially non-profits, also see GHG management as helping them to deliver their services in a more cost-effective way.

Architects

Building on existing green initiatives, and marketing/reputation, were the top two motivations for architecture firms. As green construction and energy-efficiency projects become more widespread, firms are seeing the need to conduct their own operations sustainably as well (and to demonstrate doing so).

Policy Consultants, Advocacy

As with social services, GHG management aligns with the mandates of many policy and advocacy groups (many in the sample are environmental organizations). This sector is also motivated by industry and community engagement, as well as marketing and reputational lift: “walking the talk” and adding rigour to their existing green practices.

Law Firms

Cost-cutting and marketing/brand image motivated law firms to take up GHG measurement. Mid-level firms may see GHG management as a market differentiator as well. Many firms also had existing green initiatives in place already, and were driven to build upon those efforts.

Design, Media, Marketing

Industry and community engagement, and marketing/brand were dominant. Attracting and retaining employees also appeared as a significant driver. In creative fields such as these, demonstrating a company’s sustainability may be a good differentiator when recruiting the most talented staff.

Business Consulting

Similar to accounting and financial services, networking, B2B opportunities, and industry/community engagement were the primary drivers for business consultants.

“ We want to improve our operations internally to be more sustainable. This is also a potential vertical/emerging market that we have thought about creating solutions for.”

- business consultancy organization

Education

For educational institutions, community engagement and industry leadership was the dominant motivator. Some cited their CSR mandates as well. Others see this as an emerging field of interest to their clients and students and wish to lead by example.

Met Fine Printers is proud to be one of North America’s sought-after custom printers, recognized not only for stellar craftsmanship and environmental leadership, but also for its commitment to doing the right thing. We believe that the finest print quality resides in the same space as the finest environmental and social attributes: right here at MET. We operate within a social economy, where sustaining great design through creative partnerships and pioneering technology plays an equal role with helping our community. We enhance our client’s ideation process, working with their marketing teams to develop the ideal communication mix, be it digital, print, or unique dimensional solutions.

MET’s innovative zero-waste program takes recycling to a new level. Even our printing blankets are renewed with our partner Enviro Image Solutions. As a Climate Smart alumni, we continually create opportunities to share our ideas with our friends.

Invite MET onto your team.

www.METprinters.com



MET Hard Goods: recycled printing blanket iPad cases

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HOW OFFICES MEASURE UP

AVERAGE GREENHOUSE GAS EMISSIONS

The emissions profile for a typical office encompasses all business activities or product use that results in GHG emissions being counted against its carbon footprint.

Air travel

This is the largest emission source for a typical office. Consulting businesses measured especially high emissions in this activity type, unsurprisingly due to extensive travelling to client's locations.

Staff Commuting

Measured by four out of five businesses, staff commuting is nearly a quarter of the average emissions profile. Businesses in the outskirts of large urban centres were predictably the largest emitters in terms of staff commuting. The lowest observed emissions were in small population centres and in downtown areas of large urban centres that are well serviced by public transit.

Heating

A fifth of an average GHG office emissions profile comes from on-site fuel combustion (primarily natural gas in BC). Higher-emitting offices—heating emissions within the upper two quartiles of the sample—were split evenly between offices in colder and more temperate climates (e.g., Northern/Interior BC vs. the CMA of Vancouver). While local climate impacts heating use, inefficiencies in building stock and heating use are a major factor.

Ground and Water Travel

Although ground and water travel compose only 8% of the profile, this can actually be the largest

emission source for some offices. Engineering consulting and financial services measured the highest emissions from this activity: up to 8 tonnes CO₂e per FTE annually, greatly exceeding emissions even from heating or staff commuting.

Electricity

While the carbon impact of electricity is small in BC (due to relatively low-carbon grid intensity on a provincial scale), emissions from electricity use can be dramatically higher in other jurisdictions. In Alberta, for instance, electrical use equivalent to the BC median per-FTE value of 0.12 tonnes CO₂e translates to over 4 tonnes CO₂e.

Paper

For some companies, emissions from the paper used can be much higher than the median usage measured (for instance, in law firms). The largest values come from individual member associations

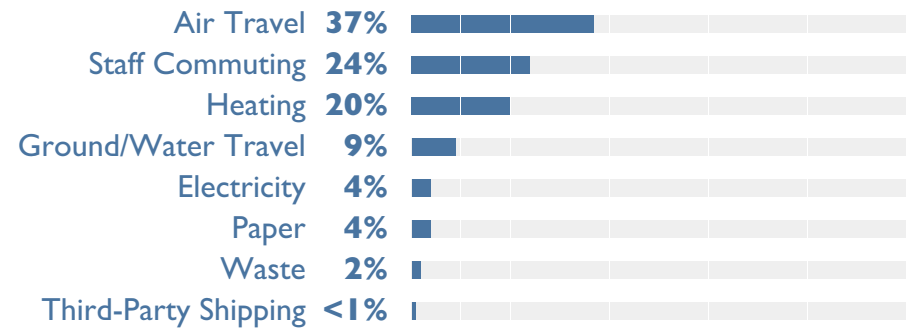
(e.g., unions, and associations), where the amount of paper used for correspondence with their members can dwarf the usage in a normal office.

Landfilled Waste

The emissions from landfilled waste are typically small, although for some businesses that host events or workshops, waste can be a significant source of emissions (see section below on offices with public spaces). Note these emission values account only for carbon emitted by decomposition in landfill; they do not account for the emissions produced in making the disposed items.

Third-Party Shipping

Emissions from third-party shipping are typically quite low in offices. Exceptions include organizations that ship documents or product between office locations and to customers (e.g., software companies; law firms).



average GHG emissions profile
office-based businesses

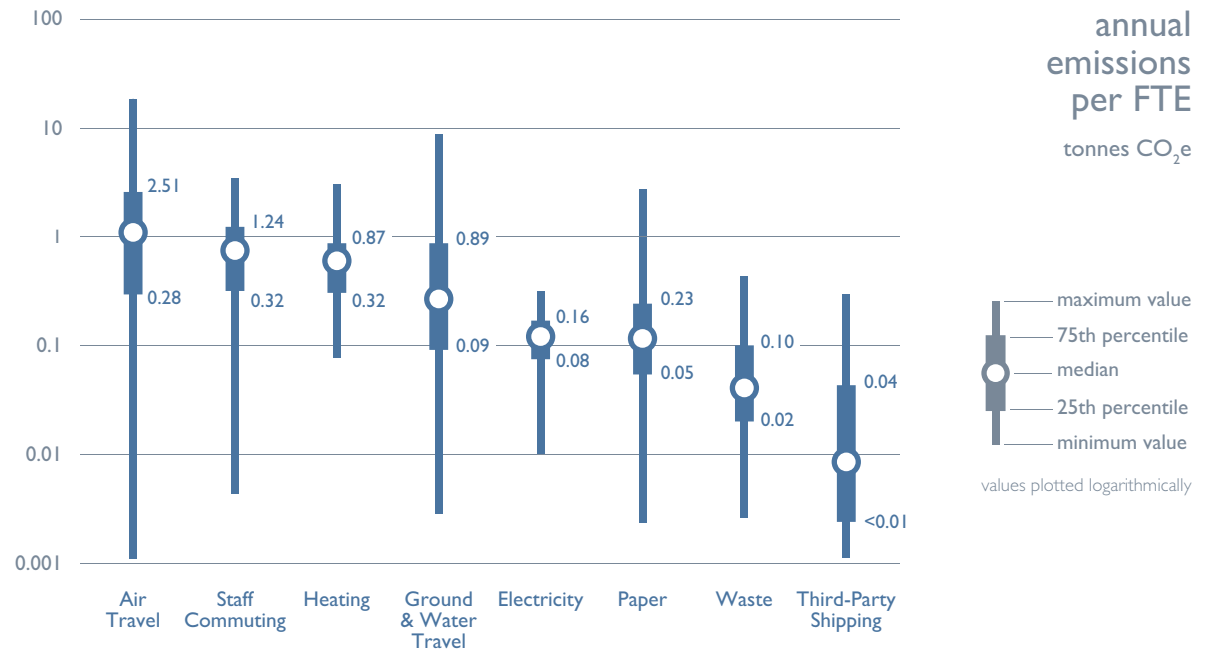
BENCHMARKING AGAINST OTHER OFFICES

Unsurprisingly, even “typical” emissions

within a single sector can vary greatly. To remove size of organization as a factor, Climate Smart measures emissions across organizations of different sizes using GHGs per full-time-equivalent employee (FTE). Within a sector, FTEs serve as a proxy for size and productivity, given the basic premise that offices typically have similar numbers of employees in similar roles, effecting and impacting operations in similar ways.

Using this graph to benchmark offices

This graph shows the emissions per FTE measured across Climate Smart’s office-based client organizations. The circles indicate medians: half the businesses measured above those values; half measured below. Most importantly, values are given for the thick band in each column, which represents the range of emissions measured by the middle 50% of the sample.



If an office’s emissions are known

Dividing an office’s emissions in a particular activity type by number of FTEs gives a metric to compare against the values in this graph.

If emissions fall **above** the upper value, significant opportunities to reduce those emissions may exist.

If emissions fall **below** the lower value, it is possible that effective reduction programs are already in place, or that the organization in question is inherently efficient in that particular business-activity type: for instance, a web design company may naturally use less paper than a law firm. Note this graph only gives a rough indication of performance relative to all other businesses in offices.

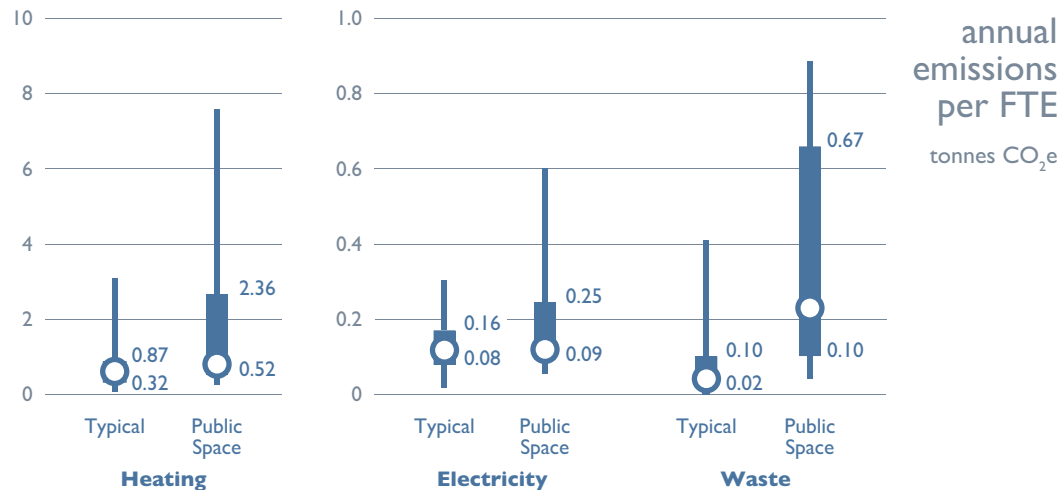
If an office’s emissions are unknown

Multiplying an office’s FTE count by the upper and lower values in this graph will give an indication of what range that office’s emissions will possibly fall within. This will not give an accurate value of actual emissions: only an indication of likelihood.

It also shows that offices can have significant impacts: an office of 50 employees can emit as much as 125 tonnes CO₂e from air travel alone: equivalent to operating 24 cars for a year.

Measuring an organization’s emissions accurately is a rigorous process, but not a difficult one. Contact Climate Smart for more information.

OFFICES WITH PUBLIC SPACES



15%
office-based businesses had a public space that resulted in additional energy use and waste

Offices with public spaces include educational institutions (e.g., colleges, and professional schools) and social service organizations (e.g., community centres, neighbourhood houses). They are characterized by the need to maintain larger, periodically occupied spaces, which require additional electricity and heating use. The typical emissions ranges due to energy use are higher than offices without public spaces; in the case of heating, over two times higher (2.36 tonnes CO₂e per FTE vs. 0.87).

Transient occupants—students, clients, the public—can greatly outnumber an office's employees. This results in far more waste than a typical office would generate: over 6 times the waste measured by offices without public spaces. Even the maximum waste measured by an office without public space in the businesses polled (~0.4 tonnes CO₂e per FTE) is exceeded by many public-space offices.

Certified General Accountants have served and advanced the interests of businesses, government and the general public in B.C. for more than 60 years. Today, the Certified General Accountants Association of British Columbia's 15,000 CGA members and students continue to bring a reasoned and intelligent voice to the public debate concerning important economic and environmental issues. CGA-BC is striving to be one of BC's most progressive professional associations in terms of reducing its environmental footprint. In fact, the Certified General Accountants Association of B.C. is very proud to be Climate Smart accredited, the first accounting body to achieve that distinction.

If "leading truly begins with learning", the Association's efforts to date have inspired individual action and can serve as the foundation to influence changes beyond just our members and students. By placing environmental responsibility at the centre of the organization, CGAs will not only continue to find ways to make sustainability part of the everyday way they do business, but can provide motivation for change with other people.



Certified General Accountants Association of British Columbia

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GHG EMISSIONS: MONEY UP IN SMOKE



CARBON = COST

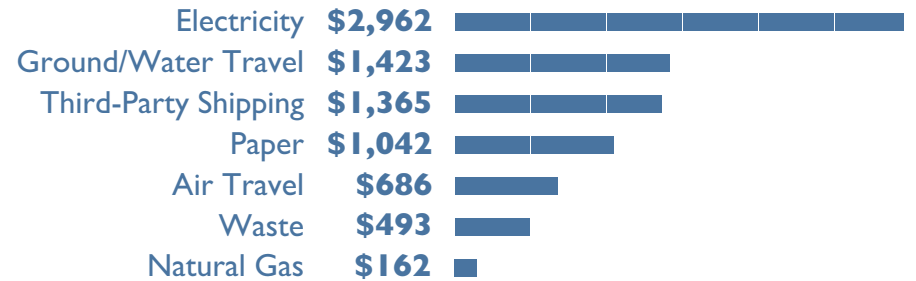
Business activities generate carbon emissions, and they therefore have associated expenses: facilities require energy for light and heat; transporting goods and people consumes fuel; tipping fees are charged on landfilled waste. While GHG emissions in some activity areas may seem insignificant, they can be associated with high business costs. In looking at the “carbon cost” of these activities, the business case for reductions quickly becomes clear.

The cost per tonne CO₂e for each activity, shown at right, was calculated using the exact associated costs reported by businesses, divided by corresponding emissions. The single most expensive emission source is electricity: emitting 1 tonne CO₂e through electricity use costs a business on average almost \$3,000 (assuming BC grid-intensity and energy tariffs).

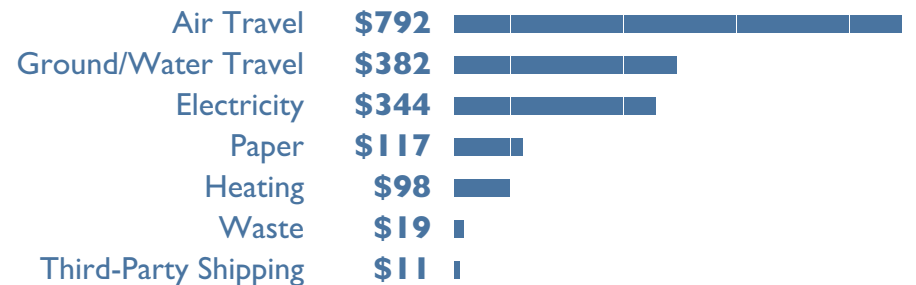
Factoring in the average emissions profile for office-based businesses, these amounts translate into approximate annual costs to offices per FTE. For instance, offices spend nearly \$350 per FTE on electricity annually.

Annually, air travel costs businesses over \$750 per FTE; by comparison, ground and water travel costs offices over \$380 per FTE. Paper consumption is also a substantial cost (\$117 per FTE), more than natural gas use for heating (\$98). Waste generated by offices and use of third-party shipping is minimal compared to other sectors, costing offices \$19 and \$11 per FTE per year, respectively.

Taken together, carbon-emitting activities cost offices nearly \$1,800 per FTE per year. For a median office in this sample, this equates to \$36,000 annually.



“cost of carbon”:
cost per tonne CO₂e by activity



annual carbon cost of activity per FTE

all figures are in Canadian dollars

\$1,800 per FTE

approximate cost of
carbon-emitting activities
to an office-based business, in
Canadian dollars

HOW OFFICES ARE CUTTING CARBON

Offices are devising carbon reduction strategies that work for their individual businesses, focussing on a blend of behaviour-change programs and technological upgrades.

Travel: business and staff

Popular strategies focus on staff commuting and and business trips:

- teleconferencing for out-of-town meetings (e.g., using programs like GoToMeeting and Skype)
- consolidating travel by scheduling multiple out-of-office meetings on the same day
- replacing leased/owned fleets with memberships in corporate carshare programs
- introducing telecommuting policies; implementing remote-desktop software
- setting up rideshare programs and carpooling for commuters and to/from company events

top five priorities if reducing

GHG emissions

air travel
staff commuting
heating
ground/water travel
electricity use

Energy: Heating and Electricity

Behaviour-change campaigns are inexpensive to implement and help motivate other best practices. Simple equipment upgrades are also common.

- unplugging equipment at night to reduce standby power consumption
- programming thermostats: off when vacant
- fun, memorable turn-it-off campaigns to engage staff (e.g., department competitions)
- installing energy-efficient lighting, occupancy and daylight sensors (often making use of utility or government incentives)
- improving access to natural light when possible (e.g., repainting darker areas to improve reflectance; moving desks to windowed areas)

costs related to emissions

air travel
ground/water travel
electricity use
paper use
heating

Paper Use

All staff can participate in reducing paper use.

- switching printer defaults to print double-sided
- reusing single-sided sheets as notebooks
- engaging clients in switching to electronic correspondence, catalogues and invoices
- reconciling mailing lists to reduce wastage
- cancelling unnecessary magazine subscriptions

A new way to measure your world

EcoTaxFile is the first online accounting and tax service to make a direct connection between your accounting information and your carbon footprint. We know that you're concerned about climate change and want to make a difference. EcoTaxFile gives you the information and tools you need to make your life—and your business—easier on the planet.

Visit us at www.ecotaxfile.com.



EcoTaxFile

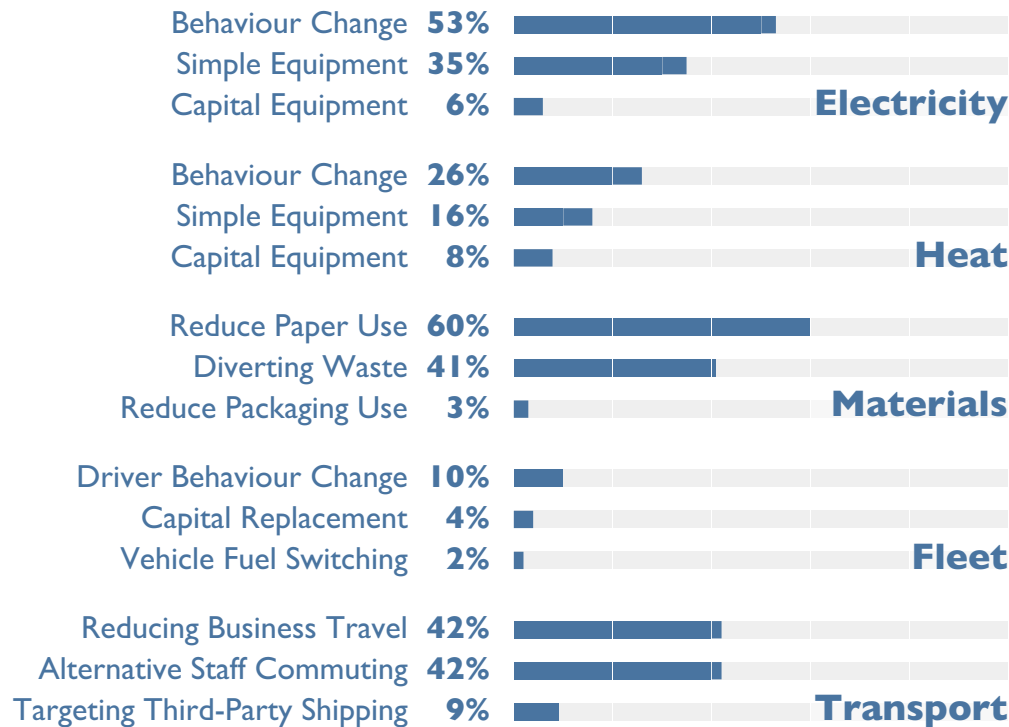
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BIG SAVINGS TO BE MADE

average net reduction in emissions achieved in the first year of active GHG management (as measured by Climate Smart client businesses)

10.5%
office-based businesses

4.0%
all sectors



chosen reduction strategies: office-based businesses

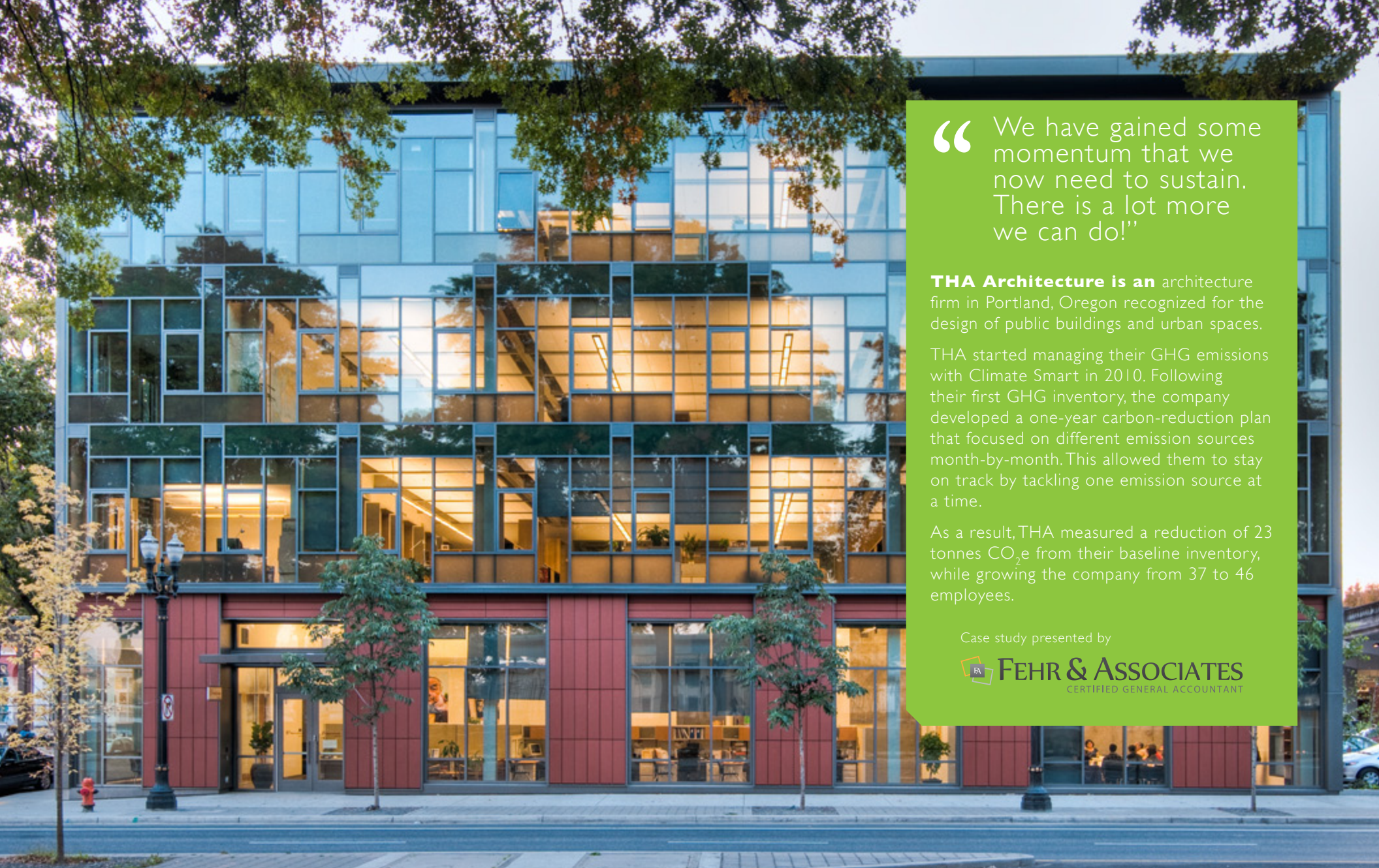
Offices have measured more reductions in emissions than the larger pool of Climate Smart businesses, on a percentage basis.

The average office-based business has achieved a 10.5% reduction in GHG emissions after one year of acting to measure and reduce their emissions. By way of comparison, this is more than double the reductions measured in the larger pool of organizations engaged in Climate Smart GHG management (4.0%). This may highlight the effectiveness of reduction strategies chosen by office-based businesses. Normal environmental practice in offices may also be such that simple changes in behaviour can have quick results.

Offices are mainly choosing strategies that involve staff engagement and behaviour change: electrical and heating turn-it-off campaigns; increasing recycling and cutting paper use; and new policies and driver training around vehicle use. Many are targeting business travel and staff commuting; both identified as high-GHG-impact activities for offices.

Many offices operate in leased spaces, reducing their ability to directly control building stock (short of moving offices), and capital upgrades such as boiler and substantial electrical retrofits. Still, over one in three offices are choosing to pursue simple electrical equipment projects such as installing more energy-efficient lights and occupancy sensors. One in six are simple heating projects: investigating programmable thermostats; inexpensive, easily installed weatherproofing; etc.

The ultimate success of these behaviour-change programs depends heavily on implementation: how management or green teams roll out environmental initiatives to its workforce.



“ We have gained some momentum that we now need to sustain. There is a lot more we can do!”

THA Architecture is an architecture firm in Portland, Oregon recognized for the design of public buildings and urban spaces.

THA started managing their GHG emissions with Climate Smart in 2010. Following their first GHG inventory, the company developed a one-year carbon-reduction plan that focused on different emission sources month-by-month. This allowed them to stay on track by tackling one emission source at a time.

As a result, THA measured a reduction of 23 tonnes CO₂e from their baseline inventory, while growing the company from 37 to 46 employees.

Case study presented by

 **FEHR & ASSOCIATES**
CERTIFIED GENERAL ACCOUNTANT

THA ARCHITECTURE

A month-by-month reduction plan pays off

July 2010: Launch

The plan took off in July 2010 with participation in Portland's Carefree Commuter Challenge. The company's employees logged their alternative transportation trips for a month; THA won the challenge in their category. The company also launched an innovative incentive program: employees who commuted 60% of the month by alternative transportation modes got a bonus. The program was a hit: over half the employees used the incentives.

August: Waste Reduction

The company provided reusable "to-go" containers for their employees' lunches labeled with the company name, and created a list of all food carts and restaurants that accepted the containers. An office composting program was established.

September: Staff Commuting

September was spent maintaining momentum on the staff commuting initiatives: the company organized group happy-hour bike rides, supplied a bike tune-up kit, purchased a new valve pump and installed a full-length mirror in the locker room to support employees biking to work. The efforts to reduce emissions related to staff commuting paid off: they dropped by over 15%.

October: Electricity and Heating

The company's lease for their photocopiers was ending and THA decided to lease a newer, more efficient model. They also focused on turning off

computers at night, achieving a per-employee reduction in their electricity use of nearly a quarter. Turning the thermostat one degree up in summer and one down in winter combined with turning heating off when the office was unoccupied allowed THA to achieve a 17% reduction in their heating emissions.

November: Paper Use

THA sent out a survey to understand how their employees used paper and to see if those needs could be met electronically. This resulted in installing a PDF viewer program that allowed editing. "Print to PDF" was set as the default option on the company's printers. Screens and smartboards were installed in conference rooms to avoid using printed materials at meetings. THA also started to collect one-sided prints and turned them into company sketchbooks. Consequently, THA measured a 50% reduction in their paper emissions.

December: Office Supplies

To reduce purchasing and waste, THA organized an office-supply "amnesty day": accumulated but unused office supplies were liberated from desk drawers and redistributed to other employees.

January 2011: Waste Reduction

THA revisited their waste initiatives, creating an "unknown objects" bin to identify the items that the employees were unsure of how to dispose of and started a plastic recycling program for plastics not accepted by the city's recycling program. THA also removed all trash cans from employees' desks: a subtle change that forced staff to think before they threw something away. THA has been able to reduce their landfilled waste by over 50%.

March: Business Travel

Business travel is one of THA's largest emission sources. THA sold three older company station wagons and replaced them with a hybrid car and a fuel-efficient diesel station wagon. Emissions from the company's fleet decreased by over 40%. The company also committed to using video conferencing instead of travel whenever possible and joined a car-sharing program. As a result, their air travel emissions were cut by nearly 10%.

Going Forward

"That first year of reduction was important for us and so we put a lot of effort into it," said Annie Mahoney, an associate at THA. Inspired by the impressive reductions measured in their second inventory, THA has since developed and implemented a new 2012 reduction plan and is currently measuring their third year with Climate Smart to see the results of their new initiatives. "We have gained some momentum that we now need to sustain. There is a lot more we can do!"

Reductions achieved:

50% waste and paper

17% heating

15% staff commuting

40% company fleet

Annual savings:

23 tonnes CO₂e

\$29,000+

CASE STUDY

CALL TO ACTION

At Climate Smart, we are continually inspired by our local entrepreneurs and businesses. They are essential partners in any plan to overcome the challenges we face today, and help create resilient, regenerative communities that we can proudly call home.

If you are a business, we need your help to change the way business is done.

Find out where you stand

If your operation spends **more** on energy, waste, or travel than your peers, we welcome the opportunity to help find creative, more efficient ways to deliver your product or service with less environmental impact.

Share your story

Your leadership matters. Be generous with what does and doesn't work. Tell your staff, clients, suppliers and community. If you spend **less** on energy, waste, or travel than your peers, you may have a story to share with the world, and we can help you tell it.

A special thank you to our office-based clients, for working with us to collectively develop and share the business practices of tomorrow.

Abbotsford Community Services
Agency for Co-operative Housing
APEGBC
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Atticus Financial Group
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Vancouver Society of Children's Centres
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OFFICES AND CARBON EMISSIONS

A CLIMATE SMART™ INDUSTRY BRIEF

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