



Corporate Climate Leaders Program

TARGET SUBMISSION

JUNE 12, 2019



**CLARK
BUILDERS**

4703 - 52 AVENUE EDMONTON, AB, CANADA T6B 3R6

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1

BACKGROUND, SCOPE & RATIONALE

The Corporate Climate Leadership Program (CCLP) is an initiative from the City of Edmonton to encourage and empower corporations to achieve Greenhouse Gas (GHG) reduction targets. GHG reduction targets can potentially be in line with the International Panel of Climate Change (IPCC) science-based targets. The results of the work that corporations put toward this program are made public in order to, hopefully, spur a trend for other corporations and people to do their part in reducing climate change.

Importance of GHG Reduction for Clark Builders

This initiative was the critical push we needed to do our part in monitoring and reducing our GHG emissions and helping fight climate change. Clark Builders will see benefits in the form of increased employee morale, increased market competitiveness, utility cost savings, and new business opportunities. Clark Builders is serious about the safety and wellbeing of their employees, and, in order to promote employee wellbeing, Clark Builders must also be serious about sustainability and the environment.

Project Scope

In conjunction with Climate Smart, an organization that provides training and support to reduce

greenhouse gas emissions for businesses, Clark Builders has started collecting and recording emissions data for the energy and resources used in the Edmonton office.

As part of this process, the Clark Builders Corporate Climate Leadership Team has attended training offered by Climate Smart to learn about the different types of emissions created by our operations, what the impacts of those emissions are and how to track and reduce these emissions for our business.

Clark Builders is committed to reducing the GHG emissions related to their operations, and a GHG reduction roadmap has been created. Implementation will begin during the corporate office relocation in July 2019 and reduction strategies will continue to be implemented year by year to reach a reduction target as further described in this document.

While this initiative currently applies only to Clark Builders' Edmonton head office, an expansion of the program to include energy monitoring and emissions reduction strategies for our project sites is currently being planned. For the purpose of this report, all data entered is based on the Edmonton head office only.

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DATA REQUIREMENTS & METHODOLOGY

Clark Builders selected March 1, 2018 to February 28, 2019 as the baseline year for emissions data collection. This aligns with Clark Builders' 2019 Fiscal Year. Assumptions have been listed below to document the methods used to enter emissions data into the Climate Smart portal.

The following categories were used to develop Clark Builders' emissions inventory:

Electricity Usage

Utility bills were obtained for both the east and west buildings, and electricity consumption was extrapolated for the area Clark Builders utilizes in the west building.

Natural Gas Usage

Utility bills were obtained for both the east and west buildings. Since there was only a single gas meter for both buildings, it was assumed the natural gas usage was proportional to the floor area occupied by Clark Builders in both buildings.

Vehicles Owned by Clark Builders: Road

Fuel consumption for vehicles leased by Clark Builders was used for this section. Fuel consumption was calculated using expensed dollar

values and fuel cost data from Statistics Canada for the fiscal year period.

Vehicles Owned by Others: Road

Fuel consumption for Clark Builders' employee vehicles used for work related tasks around Edmonton were used for this section. Calculating back from the total amount expensed and dividing by the amount paid per km expensed resulted in km driven, which could be entered into the Climate Smart portal.

Vehicles Owned by Others: Air

Flights originating from Edmonton were tracked and considered to be round trip. Distances for flights between airports were calculated, and flights were then classified as short, medium, or long haul based on the one way distance from the Edmonton International Airport and the destination airport. Each classification was then summed individually to calculate the emissions for transportation.

Vehicles Owned by Others: Staff Commuting

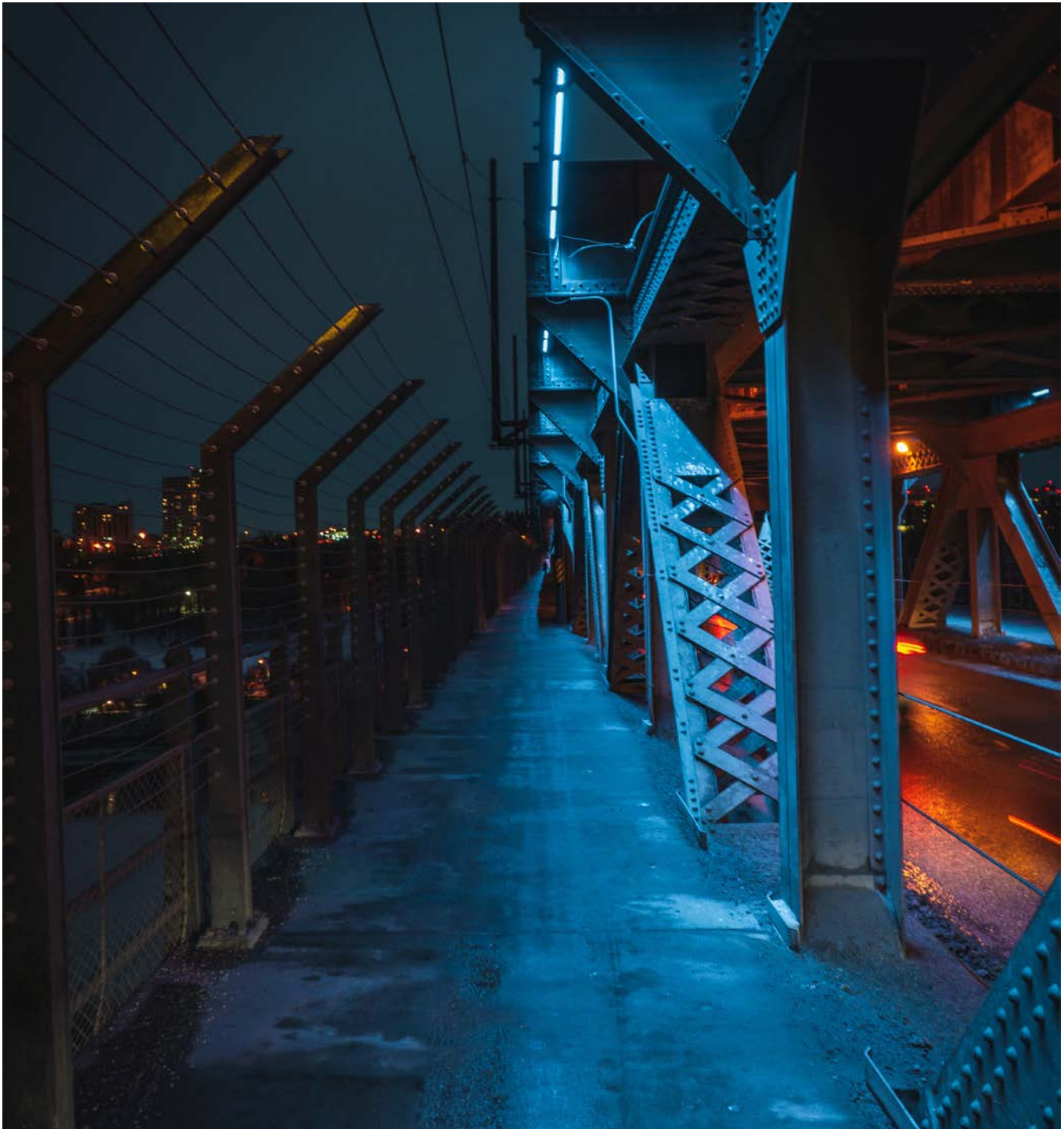
Based on a heat map of employee locations, daily commute distances for the collective of Clark Builders office employees were calculated and used to derive the emissions created by staff commutes.

Waste Collection

Waste collection for the property is tracked by the property owner. Assuming that Clark Builders' waste is proportional to the office area occupied, emissions relative to Clark Builders office waste was calculated.

Paper Consumption

Paper consumption is tracked for all printers at Clark Builders. A report was generated for all Edmonton office printers for the fiscal year.



3

GHG SUMMARY SUBMISSION

Emissions are recorded as Scope 1, 2, or 3 depending on the level of control the organization has over the energy use or emission sources and how direct the emissions are.

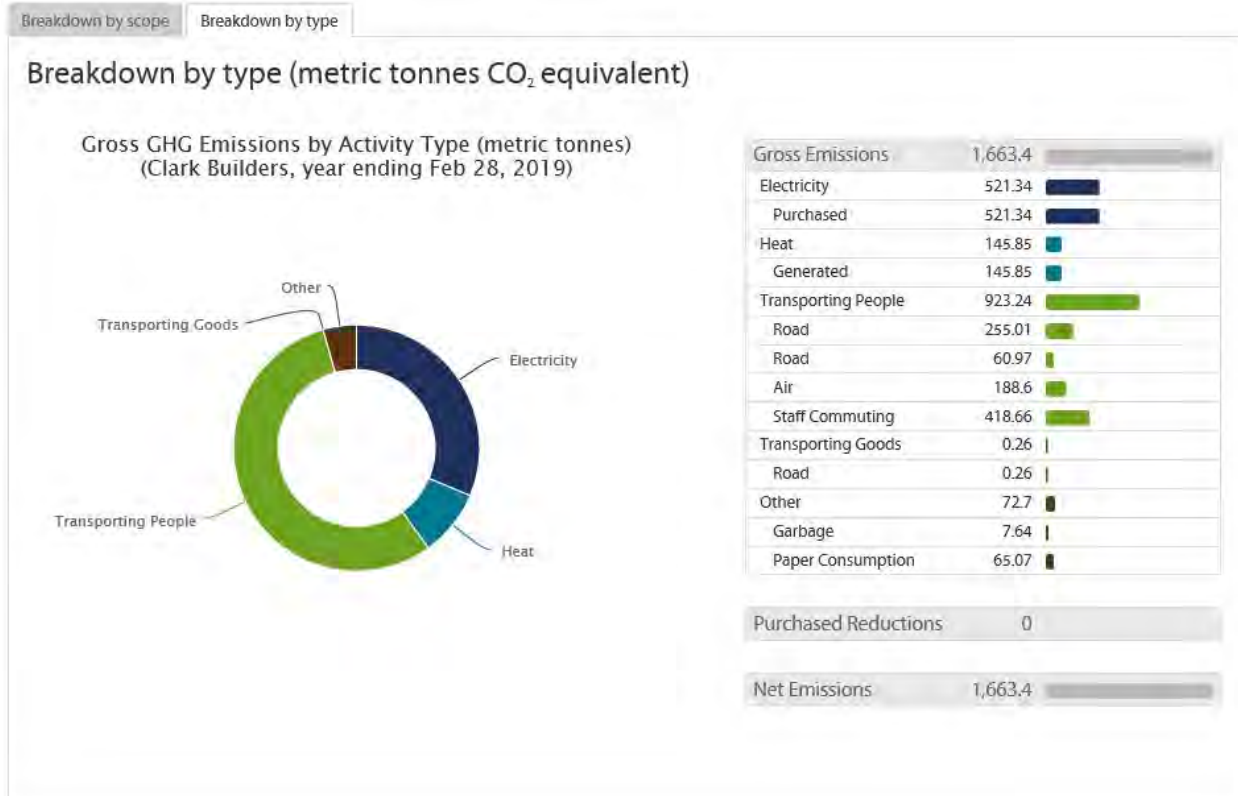
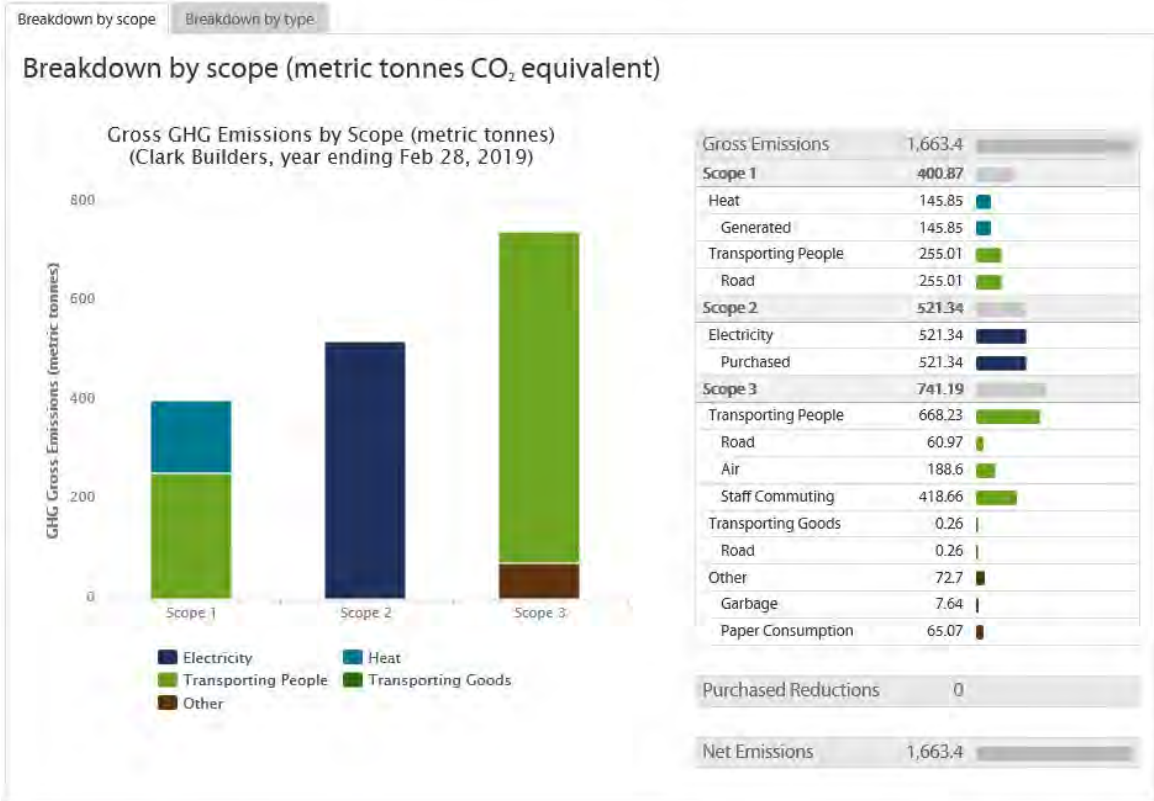
For example, heat creates Scope 1 emissions because natural gas is burned directly at the point of use, contributing to local emissions. There is also control over how much natural gas is used based on the efficiency of the boiler and distribution system, as well as the quality of the building's envelope and internal temperature set point.

Scope 2 emissions, such as electricity, are generated away from the point of use, and are, therefore, indirect. Clark Builders still has control over electricity use through the electrical efficiency of the office equipment, responsible electricity use for lighting and the ability to procure electricity from renewable resources, such as on-site solar generation.

Scope 3 emissions are created indirectly through businesses operations, and businesses tend to have less control over these emissions sources, such as employee vehicles and the transportation of goods.

Emissions data for the previously mentioned categories was collected to align with Clark Builders' fiscal year – March 1, 2018 to February 28, 2019. In total for the data recorded in the Baseline Year, it was determined that Clark Builders' corporate headquarters Greenhouse Gas Footprint was 1663.4 tonnes (in units of equivalent Carbon Dioxide).

For subsequent years, emissions data will continually be captured and related to the Baseline Year emissions. As can be seen in the chart below, the largest contributor to the emissions generated by Clark Builders Corporate Headquarters in the Baseline Year was the transportation of people, followed by electricity.



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GHG REDUCTION TARGET SUBMISSION

Reduction Target 2025 (% from baseline): 25%

Reduction Target 2035 (% from baseline): 45%

Clark Builders choose to pursue an absolute target metric, compared to an intensity based target. Based on the data we collected, we were able to interpret which activity type was our largest contributors, as seen in the figures above. Our goal is to reduce our baseline GHG emissions 25% by the year 2025 and 45% by the year 2035. These thresholds were strategically chosen to allow us to expand our innovative design while still aligning with the science-based targets for meaningful impacts on climate change. Our 2035 science-based target reflects emission reductions that will keep climate change under 2 degrees warming on a global scale.

We plan to utilize the Template for Reduction Tracking, *shown in Appendix A*, to track our reductions through real time differentials. The template allows us to enter our chosen targets, calculate our actual inventories in comparison to our projected inventories, and gives us a minimum yearly reduction target required to hit our targets for 2025 and 2035. If the projected inventory is ahead of the actual inventory, we are able to visually estimate the percentage we will need to make up for in order to hit our targets. Additionally it takes into account for potential corporate growth while maintaining our targets.

5

CORPORATE HEADQUARTERS OFFICE RELOCATION

In July 2019, Clark Builders will be relocating their head office. The location was strategically chosen to allow a collaborative working environment, while being in a centralized location with easy access to Edmonton's downtown core. Although the office relocation was not a strategy that was originally part of our reduction plan, the timeline overlap presented an opportunity to incorporate sustainable, energy efficient designs. Our sustainability team heavily influence the senior leadership and project management teams for these designs to be included in our new office space.

The existing building of our new office location was built in 1981, which presents a large opportunity for us to install upgrades to the envelope and HVAC equipment.



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REDUCTION STRATEGIES

Clark Builders has decided to develop reduction strategies for three main areas:

Electricity

Electricity reduction measures aim to reduce the average electricity usage through behavioral changes and equipment selection. The proposed equipment upgrades are only possible because Clark Builders' corporate office is being relocated. When available, all commercial kitchen appliances including fridges and dishwashers will be Energy Star certified.

Natural lighting will play a big role in the new space. Daylight harvesting controls are integrated throughout to take advantage of the natural sunlight and dim the lights when they aren't required. All light fixtures will be Light Emitting Diode (LED) sourced and operated by occupancy sensors. Solar photovoltaic modules are proposed to be installed as a part of the building's exterior cladding adding clean electrical generation on site. Finally, as old office equipment expires, such as desktop PC's and monitors, they will be replaced with energy efficient versions.

Behavioral changes will also be encouraged through the use of signage, reminding employees and visitors to turn off lights and equipment when

they are finished. Computers and other electronic equipment will have settings applied to them such as being put in to a power savings mode or on standby after a short time.

Transportation Reduction Measures

These measures account for all transportation taken on by Clark Builders corporate office including the fleet emissions and staff commuting. A number of GHG reduction measures for travel are planned including reducing the need to travel and making any required travel more efficient. Teleconferencing and videoconferencing will be targeted first to reduce the need to travel altogether. Employees will be encouraged to work from and remain on site to reduce driving between project sites and the office.

When travel is required, employees will be encouraged to car pool or utilize appropriately sized vehicles. Eco-driving documentation will be provided to all employees to encourage efficient driving techniques to use during their typical commutes. Finally, an idle-reduction policy is being examined for implementation for all Clark Builders employees.

Employee Engagement

Clark Builders recognizes that successfully reducing GHG emissions starts with employee engagement. Communicating our reduction strategy to employees is a fundamental step to our overall sustainability agenda.

Clark Builders has established a Sustainability Working Group, led by our Vice President of Wellness & Sustainability, to build employee engagement within the organization.

As part of Clark Builders' employee engagement strategy, we plan to highlight our GHG reduction targets and rationale for participating in the CCLP.

Supporting information for Clark Builders GHG baseline and reduction plan can be found in *Appendix C: Climate Smart GHG Reduction Report*.

Scope 3 Initiatives

Paper Consumption

While completing our GHG inventory for our baseline consumption, we realized that there were several reduction strategies already in place to combat our paper consumption GHG emissions. Paper consumption is a Scope 3 emission and accounts for roughly 4% of our total GHG emissions during the Baseline Year. However, we are already in the transition to move towards becoming primarily a digital company. For example, in 2018 we calculated that switching to a primarily digital version of our internal newsletter (The Buzz) saved roughly 21,000 sheets of paper and cut down on our paper consumption for this initiative by 87%.

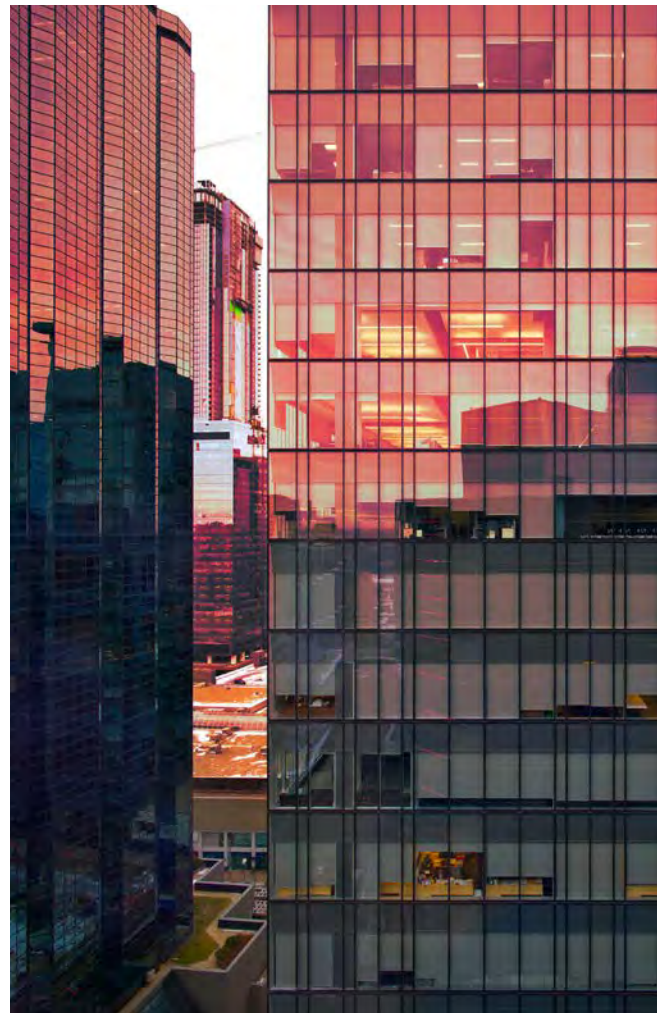
Additionally, our Information Technology (IT) department has set the default printer settings as Print to PDF, rather than connecting to a printer automatically. This helps employees become aware of their behaviour and make a conscience shift towards becoming primarily paperless. These small reduction initiatives, although not our core focus, will continue to help us reach our larger GHG reduction targets.



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FUTURE REDUCTION OPPORTUNITIES

Jobsite energy monitoring is the next initiative for us to further reduce our GHG emissions. Our focus currently is to establish a baseline for our jobsites, which we can then use to monitor the GHG reductions and establish protocols moving forward. There is the potential to reduce energy waste and GHG emissions through introducing energy efficient measures such as: LED lighting, appropriate equipment sizing (generators, heavy equipment), building temperature control, material selection (CO2 sequestering concrete, efficient piling design), anti-idling measures, electricity generation supplementation through alternative measures such as solar, and more.





This Target Submission is prepared by Clark Builders and submitted by:



Andrew Ross, President
June 12, 2019

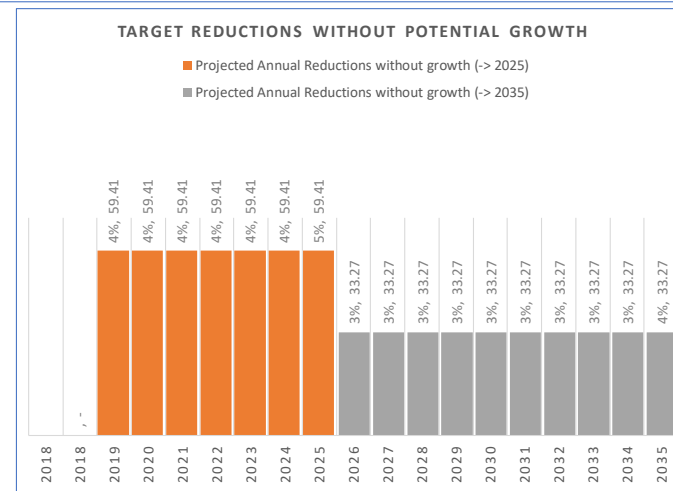
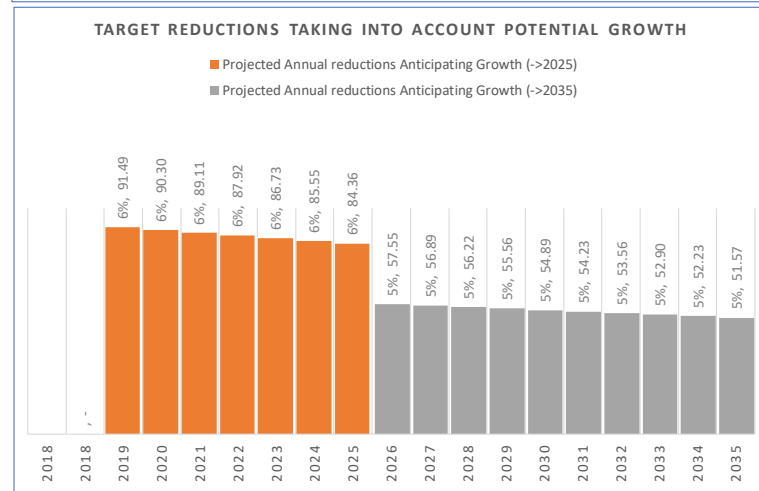
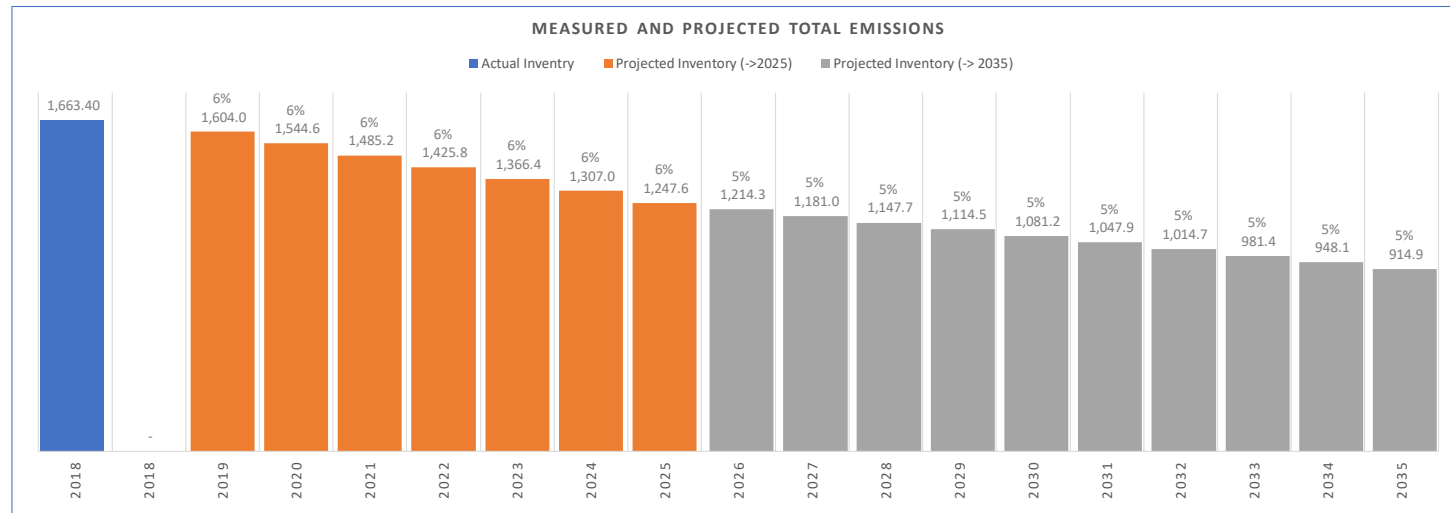


A

**APPENDIX A: TEMPLATE
FOR REDUCTION TRACKING**

Instructions: Only YELLOW cells should be edited

0. Enter baseline data in "Baseline Data & Scenarios" tab	1. Enter baseline Year	2. Enter first year when you will start to see reductions	3. Enter Target for 2025	4. Enter Target for 2035	5. Enter Expected Annual Growth	Total to be reduced by 2025	Total to be reduced by 2035
Baseline	2018	2019	25%	45%	2%	415.85	748.53



Add measured inventories beside the baseline in this column



When measured add the total inventory

Year	Actual Inventory	2025 Target				2035 Target						
		Projected Inventory (->2025)	Projected Annual Reductions without growth (->2025)	% Projected Annual Reductions without growth (->2025)	Projected Annual reductions Anticipating Growth (->2025)	% Projected Annual reductions Anticipating Growth (->2025)	Projected Inventory (->2035)	Projected Annual Reductions without growth (->2035)	% Projected Annual reductions without growth (->2035)	Projected Annual reductions Anticipating Growth (->2035)	% Projected Annual reductions Anticipating Growth (->2035)	
Baseline	2018	1,663.40	-	-	-	-	-	-	-	-	-	
First Year	2018	-	-	-	-	-	-	-	-	-	-	
	2019	-	1,604.0	59.41	4%	91.49	6%	-	-	-	-	
	2020	-	1,544.6	59.41	4%	90.30	6%	-	-	-	-	
	2021	-	1,485.2	59.41	4%	89.11	6%	-	-	-	-	
	2022	-	1,425.8	59.41	4%	87.92	6%	-	-	-	-	
	2023	-	1,366.4	59.41	4%	86.73	6%	-	-	-	-	
	2024	-	1,307.0	59.41	4%	85.55	6%	-	-	-	-	
	2025	-	1,247.6	59.41	5%	84.36	6%	-	-	-	-	
	2026	-	-	-	-	-	-	1,214.3	33.27	3%	57.55	5%
	2027	-	-	-	-	-	-	1,181.0	33.27	3%	56.89	5%
2028	-	-	-	-	-	-	1,147.7	33.27	3%	56.22	5%	
2029	-	-	-	-	-	-	1,114.5	33.27	3%	55.56	5%	
2030	-	-	-	-	-	-	1,081.2	33.27	3%	54.89	5%	
2031	-	-	-	-	-	-	1,047.9	33.27	3%	54.23	5%	
2032	-	-	-	-	-	-	1,014.7	33.27	3%	53.56	5%	
2033	-	-	-	-	-	-	981.4	33.27	3%	52.90	5%	
2034	-	-	-	-	-	-	948.1	33.27	3%	52.23	5%	
2035	-	-	-	-	-	-	914.9	33.27	4%	51.57	5%	

DON'T MODIFY _ INTERNAL CALCULATIONS

Projected 2025	1247.551
Projected 2035	914.871
Reduction per year until	4.17%
Reduction per year from	2.00%
Latest reported year or	2018
Latest reported invento	1663.402
Max first year and last r	2019
ratio 2025	-59.4072
Max 2025 and last repo	2025
ratio 2035	-33.268
Latest reported or targ	1247.551
Count Actual years	0



B

APPENDIX B: CORPORATE CLIMATE LEADERS PROGRAM – TARGET SUBMISSION



Corporate Climate Leaders Program – Target Submission

As members of Edmonton’s *Corporate Climate Leader Program (CCLP)*, Clark Builders is submitting the following GHG reduction target in compliance with commitment 2. “to develop plans and targets for reducing GHG emissions” as outlined in the CCLP Information Sheet [available here](#).

- **Members may choose to set absolute or intensity targets in terms of tonnes of CO2 per unit of output, with a target to reduce those intensities by a defined percentage compared to either: a) the intensity that existed in a baseline year the organization is currently referencing, or b) their average annual GHG intensity in the most recent three-year period**
- **It is expected that the targets set by corporations will represent a significant *stretch* as determined by each corporation**
- **Members are expected to establish evidence-based GHG reduction plans detailing the actions they intend to take and explaining how these actions will achieve targets, and formally approved by the corporation’s senior management team and/or board of directors**
- **It is expected that targets and reduction plans will be actively monitored**

Please note that as part of the Corporate Climate Leaders program, you additionally agree to share publicly and on an annual basis, total tonnes of CO2 (equivalent), emissions produced, boundaries set, baseline year and targets. If you choose to submit your GHG Protocol compliant report, the City of Edmonton will only make public the details to which you have consented to share.

GHG SUMMARY SUBMISSION

Please complete this section OR submit your GHG Protocol compliant report along with this form:

I will submit my GHG Protocol compliant report with this document (mark with X): Yes X No _____

Inventory year: _____

Baseline year: _____

Absolute emissions for inventory year: _____

Operational boundaries: _____

Target type being submitted (mark with “x”)

Absolute Target _____ Intensity Target _____



GHG REDUCTION TARGET SUBMISSION

Target

Intensity metric (if applicable): _____

Baseline (CO2e): 1,663.4 tonnes

Reduction Target 2025 (% from baseline): 25%

Reduction Target 2035 (% from baseline): 45%

Comments (where to find evidence-based reduction plan, intention for active monitoring of targets and emissions, comment on 'stretch' goals, etc):

See Appendix C for Climate Smart GHG reduction report that highlights Clark Builders' reduction targets for 2025 and 2035.

Active Monitoring:

As part of Clark Builders' commitment to meet their GHG reduction targets, a Sustainability Working Group has been established. This working group spans multiple departments with diverse knowledge on renewable energy, energy efficiency, sustainability and wellbeing. Through this group, there is shared accountability and passion to continually gather data on Clark Builders' use of energy and resources as it relates to corporate emissions. With the help of Climate Smart, the data and related emissions will be tracked year over year.

Future Goals:

As an organization we have chosen to focus our reduction efforts on electricity consumption, and transportation emissions, which accounted for 31% and 40% of our total emissions, respectively. Our strategy for reducing transportation emissions promotes a change in behavior along with new technology and protocols. This includes the proposal for an idling policy, increased videoconferencing and reduced travel between office and jobsites. Additionally, one of our biggest proposals to reduce our electricity consumption is to install a 187 kW solar array and building façade retrofit to our office tower, which will offset the site grid electricity usage

Another long term goal is to incorporate job site energy monitoring to create a holistic GHG inventory that represents Clark Builders' total emissions. We anticipate this to include electricity, waste, and heating emission scopes on project sites.

Submitted by: Andrew Ross, President

Date: June 12, 2019



C

APPENDIX C: CLIMATE SMART GHG REDUCTION REPORT

Clark Builders

Greenhouse Gas Emissions Report for the 2019 Fiscal Year

February 28, 2018 – February 28, 2019



climatesmart

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Key terms

For further terms, see Climate Smart's [online glossary](#).

Baseline GHG Emissions Inventory: A comprehensive, quantified list of an organization's greenhouse gas emissions and sources for the initial reporting year (base year). The baseline GHG inventory is the level of greenhouse gas emissions against which future GHG inventories are compared.

Biologically sequestered carbon: Long-term carbon stored in biomass, such as forests, soils and peatland. Carbon is "locked" into organic matter through biological processes. This carbon can be released through e.g. burning of biomass as fuel or change in land use.

Carbon Dioxide Equivalent (CO₂e): The universal unit for comparing the emissions from various greenhouse gases. The carbon dioxide equivalent for a gas is derived by multiplying the mass of the gas by the associated global warming potential (GWP). For example, the GWP for methane is 21. This means that emissions of one metric tonne of methane are equivalent to the emissions of 21 metric tonnes of carbon dioxide.

Carbon Offset: A project or activity that results in a given amount of greenhouse gases being avoided or reduced in one place, that is used to 'balance out' another's total GHG emissions. Emission reductions that are real, additional (beyond business as usual), measurable, permanent, and verified can generate offset credits. Credits are tradable certificates.

Emission Factor: A factor that converts activity data to GHG emission values, e.g. lbs of carbon dioxide emitted per barrel of fossil fuel consumed.

Renewable energy certificates (RECs): RECs are tradable energy certificates representing proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource (e.g. solar or wind) and was fed into the electricity grid.

Climate Smart at a glance

Climate Smart is an award-winning certified B - corp that has developed a practical and solutions-based program for SMEs to **profitably track and reduce GHG emissions**. Climate Smart emphasizes the business case for GHG reduction: **operational efficiencies, cost savings, and competitive advantage**.

Using an SME tailored approach, Climate Smart provides **innovative tools and programming** for our "host partners" on the front lines—cities, ports, airports, chambers, and financial institutions—to disrupt old economic trajectories and invest in more efficient technologies to deliver cleaner products and services.

Since 2007, Climate Smart has worked with 40+ host partners to engage close to 1000 businesses to prepare for and participate in the low-carbon economy. [Case studies](#) from a sampling of 78 Climate Smart businesses show a total **annual cost savings of \$2.6 million**.

Climate Smart also links SMEs to global impacts through harnessing the power of SME derived data to inform estimates of emissions from SMEs at different geographical scales, through our [Business Energy and Emissions Profiles \(BEEPs\)](#). Climate Smart was awarded the Grand Prize in the [2016 MIT Climate CoLab contest](#) and was judges' choice in 2018 for our BEEPs. We have produced BEEPs for cities across Canada and the US. Our goal is to produce 100 BEEPs across North America.

900+

Climate Smart certified businesses to date (trained or in training)

5,098,000+

Total emissions measured by Climate Smart to date, in tonnes (t) CO₂e

11%

Average reduction achieved after 3 years of Climate Smart certification

\$397

Projected cost savings to a business, per tonne CO₂e reduced

1

measure

2

reduce

3

leverage



climatesmart

Clark Builders' 2019 fiscal year carbon footprint

This report details the greenhouse gas emissions footprint for Clark Builders during the 2019 fiscal year, including the breakdown of emissions by source activity and Clark Builders' plan to reduce their emissions going forwards. This report and inventory were compiled in compliance with the Greenhouse Gas Protocol [Corporate Accounting and Reporting Standard](#), Revised Edition.

Clark Builders are working to reduce their GHG emissions from:

Electricity
Fleet emissions
&
Staff Commuting

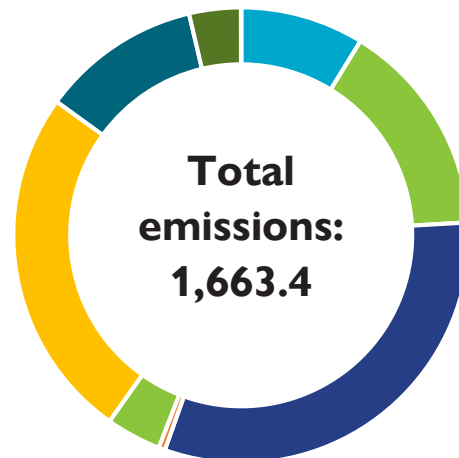
Clark Builder's GHG emissions in their 2019 baseline year are equivalent to more than 65,000,000 km driven by a passenger car¹.

65,000,000



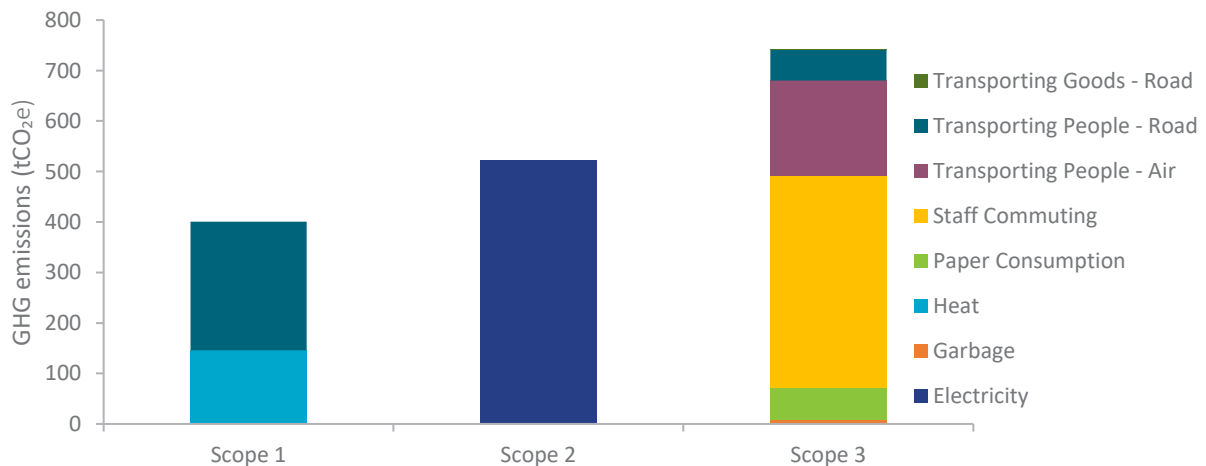
¹Source: EPA Greenhouse Gas Equivalencies Calculator

Total emissions for the 2019 fiscal year by activity



- Scope 1 Heat
- Scope 1 Transporting People - Road
- Scope 2 Electricity
- Scope 3 Garbage
- Scope 3 Paper Consumption
- Scope 3 Staff Commuting
- Scope 3 Transporting People - Air
- Scope 3 Transporting People - Road
- Scope 3 Transporting Goods - Road

Total emissions by scope



Analysis

Clark Builders measured its first greenhouse gas inventory with Climate Smart for the 2019 fiscal year (February 28, 2018 – February 28, 2019) and recorded emissions of 1,663.40 tonnes of carbon dioxide equivalent (tCO₂e). Overall, Clark Builders' largest emissions sources were **transporting people** (55%) and **electricity** (31%). Clark Builders is Climate Smart certified for 2019.

The following sections present the breakdown of Clark Builders' emissions for their 2019 fiscal year inventory by scope, as well as details of any emissions of CO₂ from combustion of biologically sequestered carbon and purchased offsets and renewable energy certificates (RECs).

Scope 1

Scope 1 emissions totalled 400.87 tCO₂e in Clark Builders' 2019 fiscal year:

Activity	Baseline Fiscal Year 2019	% of emissions
Scope 1		
Heat	145.85	9%
Transporting People - Road	255.01	15%
Grand Total	400.87	24%

Scope 2

Scope 2 emissions totalled 521.34 tCO₂e in Clark Builders' 2019 fiscal year:

Activity	Baseline Fiscal Year 2019	% of emissions
Scope 2		
Electricity	521.34	31%
Grand Total	521.34	31%

Market based emission factors

The 2015 [GHG Protocol Scope 2 guidance](#) requires companies to report their Scope 2 emissions in two ways: **location-based** (reflecting grid emission factors), and **market-based** (using supplier specific emissions factors and/or those from contractual instruments such as renewable energy certificates - RECs). The table below shows emissions from purchased electricity calculated using these two methods. Note that market-based values are shown on the emissions summary charts presented in this report.

	Total kWh	Category of instruments	kWh	Total tCO ₂ e
Location-based Calculation ¹	568,737	Provincial average	568,737	521.34
Supplier Specific Market-based Calculation ²		Edmonton Specific	568,737	403.80

¹ Emission Factor based on Environment and Climate Change Canada: National Inventory Report, 2016.

² Emission Factor based on EF as supplied by the City of Edmonton, 2018.

Scope 3

Scope 3 emissions totalled 741.19 tCO₂e in Clark Builders' 2019 fiscal year:

Activity	Baseline Fiscal Year 2019	% of emissions
Scope 3		
Paper Consumption	65.07	4%
Garbage	7.64	0%
Staff Commuting	418.66	25%
Transporting People - Air	188.60	0.11
Transporting People - Road	60.97	0.04
Transporting Goods - Road	0.26	0.00
Grand Total	741.19	45%

Release of sequestered carbon

There was no reported release of sequestered carbon.

Offsets & renewable energy certificates

Clark Builders did not purchase offsets or renewable energy certificates in 2019.

1

measure

2

reduce

3

leverage



climatesmart

Clark Builders' emissions reduction plan

Based on their 2019 fiscal year inventory, Clark Builders will work to minimize their emissions by focusing on strategies aimed at electricity, fleet fuel use, and staff commuting. Clark Builders' current reduction plan is shown below.

Category	Strategy	Considering	Planned	Implemented
Electricity	Make use of natural lighting as much as possible			
	Use standby settings on electronics			
	Set computers to power saving mode			
	Put up signage to help people remember to turn off lights and equipment			
	Regularly monitor your usage through your online account with your utility provider to identify inefficiencies			
	Implement a policy that all office-based equipment and lighting is turned off when not in use			
	Energy Star appliances, including fridges and dishwashers, will be installed in all the kitchens.			
	Adding solar photovoltaic panels to the existing exterior façade.			
	Replace incandescent lightbulbs with light-emitting diodes			
	Replace fluorescent tube lighting with LED tubes			
Heat	Purchase/install energy efficient office equipment as old ones expire			
	Replace desktop computers with laptops at their end of life			
	Install occupancy sensors in common areas			
	Conduct a commercial energy assessment			
Transportation	Assess condition of weather stripping and install new as needed			
	Install energy efficient windows			
	Install or upgrade building insulation			
	Engage employees to consider lower carbon modes of travel where possible for business trips			
	Promote carpooling to work by installing a ride share board or facilitating participating in local carpooling program			
	Reduce business travel through the use of teleconferencing / videoconferencing			
	Participate in Ride-to-Work Week or similar programs			
	Provide bicycle parking			
	Provide EV charging stations			
	Provide shower facilities			
Provide change room(s)				
Provide eco-driver training to vehicle operators				
Implement a regular vehicle maintenance program				
Implement an idle-reduction policy				
Implement a route optimization strategy				
Install route optimization software, including GPS and engine idling monitoring				
Assess whether size of vehicles is appropriate for their use				

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Category	Strategy	Considering	Planned	Implemented
Employee engagement	Ops staff located onsite to reduce driving between office and sites.			
	Communicate to staff why your company is getting Climate Smart certified and how they can get involved			
	Solicit ideas for greening operations from staff			
	Install a green board to communicate GHG emissions reduction initiatives and other sustainability-related activities			
	Establish an employee green team to help develop and coordinate GHG emissions reduction initiatives			
	Develop and include sustainability policy in operations and/or employee manual			
	Regularly report to staff on GHG emissions reduction initiatives and progress			
Build sustainability into employees' performance metrics				



Methodology

As a Climate Smart certified business, Clark Builders conducted its GHG emissions inventory according to the Greenhouse Gas Protocol [Corporate Accounting and Reporting Standard](#), Revised Edition. The GHG Protocol is an internationally recognized standard published by the World Resources Institute and the World Business Council on Sustainable Development.

Organizational Boundaries

Clark Builders used the operational control approach to determine its organizational boundary and included in its inventory Edmonton head office operations only. All job sites and other facilities were excluded from this inventory. However, efforts are being made to improve data collection methods to include these sites in future inventories.

Inventory Boundaries

The GHG Protocol requires the inclusion of Scope 1 and 2 emissions, and suggests including Scope 3 emissions from activities relevant to an organization's business and goals, and for which reliable data can be obtained. Clark Builders included emissions from the following activities under Scopes 1, 2 and 3:

- **Scope 1:** includes direct GHG emissions from sources that are owned or controlled by the reporting company or organization
 - natural gas heating in office buildings
 - fuel consumed by company owned vehicles
- **Scope 2:** includes indirect GHG emissions from purchased electricity and purchased heat
 - purchased electricity
- **Scope 3:** includes indirect GHG emissions that are consequences of the reporting company's operations but occur at sources owned by another company
 - business travel;
 - third party courier shipping;
 - staff commuting
 - waste, and;
 - paper consumption.

Emission factors

This inventory was conducted using the emissions factors from the Climate Smart web-based greenhouse gas management tool. The Climate Smart GHG management tool was designed for adherence to the GHG Protocol. Climate Smart's emission factors come from a variety of sources, such as Environment Canada, the GHG Protocol Initiative, the US Environmental Protection Agency and the Intergovernmental Panel on Climate Change. Climate Smart reviews its emission factors annually to update them based on refined industry methodology and changing electricity grids.

Climate Smart also acknowledges that complete adherence to the Protocol requires the six major greenhouse gases to be accounted for separately, and is working towards adding this feature at a future date. Further details on Climate Smart's emission factors, their sources, and methodology for updating them are available upon request to info@climatesmartbusiness.com.



Sources of data included

Clark Builders used the following sources of data to estimate their greenhouse gas emissions for the 2019 fiscal year:

Activity	Data source
Electricity > Purchased	The total kilowatt-hours of electricity used, based on a percentage calculation of utility bills, were entered into the Climate Smart software tool.
Heat > Generated	The total giga-joules of natural gas, based on a percentage calculation of utility bills, used were entered based on utility bills.
Transporting People > Vehicles you own > Road	The total litres of fuel used were entered as extrapolated by average cost/litre data published by NRCan and expense reports for fuel purchases.
Transporting People > Vehicles owned by others > Air	The total kilometers travelled were entered by type of flight (short-, medium-, or long-haul).
Transporting People > Vehicles owned by others > Road	The total kilometers travelled were entered based on expensed staff mileage reports.
Staff Commuting	The distance commuted by each mode of transport was entered based on estimates of average commute distances and vehicle types estimated by Clark Builders.
Transporting Goods > Vehicles owned by others > Road	Distance travelled and weight for each parcel were entered based extrapolations from a four-month data collection period.
Garbage	The total estimated weight of garbage was entered into the Climate Smart tool.
Paper Consumption	The paper type, paper bond weight, number of reams used and post-consumer recycled content were entered. The paperweight and paper type were entered into the paper calculator (http://papercalculator.org) to calculate emissions.

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