

BRIGHTSPOT
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2018 Greenhouse Gas Inventory Report

From our Director

Brightspot Climate is proud to publish this report, which provides a transparent accounting of the greenhouse gas emissions released in 2018 that are attributable to our business operations.

The vast majority of our emissions result from business travel to conduct site visits and client meetings. Our efforts to reduce emissions include deploying local staff and scheduling meetings in a sequence that also reduces overall travel. Additionally, we use connectivity technologies to work and meet remotely whenever practical.

Since 2016, we have voluntarily retired emission offsets in recognition of our contribution to global emissions. We believe offsets are an efficient way to reduce emissions in a cost-effective manner, provided these offsets adhere to government and international standards. A significant amount of work we perform on a daily basis is testing the environmental integrity of offsets in greenhouse gas programs in North America.

Quantitatively, our efforts not be significant, but we believe the leadership leverage we are attempting to achieve can be measured in megatonnes.



About Brightspot Climate

Mission: We believe in protecting our world for all species and for future generations. We focus on delivering innovative and practical solutions to environmental challenges. Our team connects the dots between business, government, and ordinary people to achieve shared sustainability goals.

Vision To lead the creation of a prosperous and sustainable future for our planet and for future generations.

Values We strive to lead with:

- Integrity
- Courage
- Innovation
- Passion
- Sustainability



Our team (left to right):
Rodrigo Cubedo, Jeanna Brown,
Melanie Schroeder, Sheldon Fernandes,
Aaron Schroeder, Roberta Nunes, Michelle Stelmach



Our Carbon Neutral Commitment

Brightspot Climate is committed to be a carbon neutral company. We have quantified our annual emissions and have purchased carbon offsets to ensure carbon neutrality since 2016.

Carbon neutrality refers to having a net zero carbon footprint – not adding greenhouse gases to the atmosphere. This can be achieved through a combination of actions – reducing our carbon footprint as much as is reasonably possible within financial constraints and purchasing carbon offsets to neutralize the remaining emissions.

Carbon Offsets

The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must reduce the emission of greenhouse gases (GHG) into the atmosphere. There are some business activities, such as air travel, where it is not possible to reduce emissions to zero. Instead of reducing emissions we can develop projects elsewhere that reduce emissions.

For example, we can apply the emissions reduction achieved by a renewable electricity project to offset the emissions of our air travel. This “transferring” of an emission reduction is commonly known as “offsetting”.

Offset projects are generally associated with improved technology or better practices, such as renewable energy generation.

Offset projects must meet the following criteria:

Additionality: GHG reductions must be developed in projects that would not have happened without the incentive of carbon offsets.

Quantifiable and Measurable: emission reductions must be reviewed by an independent verifier that confirms the methods and data used to calculate and support the emission reduction.

No leakage: The implementation of a project must not result in an increase in emissions elsewhere.

Carbon offsets are an important tool to help reduce GHG emissions worldwide. It is often very difficult to achieve zero-emission lifestyles or operations. Carbon offsets help fill in that gap as we work towards developing a low carbon economy.

Calculating our greenhouse gas inventory



Most of our emissions are related to air travel to client sites during verifications and for client meetings. Our travel by air composed more than 75% of our 2018 emissions.

We monitor the distance traveled on each flight and apply published emission factors that disaggregate air travel emissions by domestic, short-haul and long-haul flights.



Local travel to site visits and client meetings in rental vehicles or personal vehicles contributed approximately 15% to our 2018 inventory.

We monitor the distance traveled on each trip and apply published emission factors to calculate vehicle emissions.



Electricity and natural gas consumption in our offices contributes approximately 10% to our emissions inventory.

We estimate the natural gas and electricity consumption for our offices using average energy intensities, which are published by Natural Resources Canada. We apply the consumption to published emission factors to calculate emissions from our offices.

Organizational boundary: Operational control – emissions sources that are directly or indirectly within our control are included in the inventory.

Greenhouse gases: CO₂, CH₄, N₂O

Reporting period: 2018

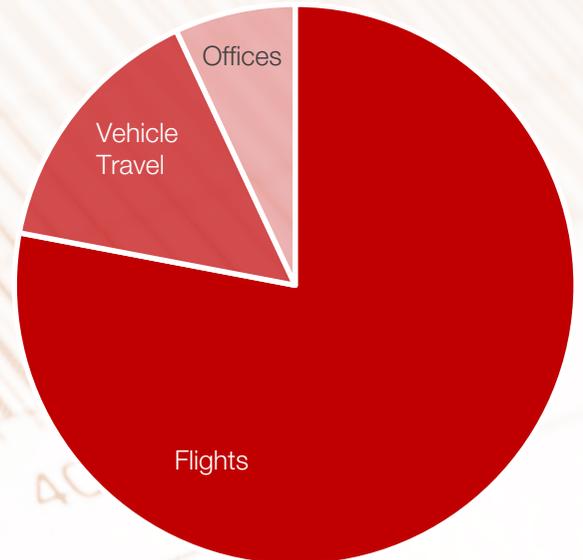
Total emissions: 24.9 tonnes CO₂e

References:

Environment Canada National Inventory Report on Greenhouse Gases and Sinks, 1990 – 2016

Natural Resources Canada: Secondary Energy Use and GHG Emissions by Energy Source.

DEFRA, Government of the United Kingdom, Greenhouse Gas Reporting – Conversion factors 2018.



Brightspot Climate
2018 GHG Emissions

Offsetting our emissions – Conservation Cropping

We purchased 25 tonnes of CO₂e emission offset credits to offset our 2018 emissions.

These credits were generated from a “Conservation Cropping” project registered under the Alberta Offset System.

Conservation Cropping

Rattan Lal, director of Ohio State University’s Carbon Management and Sequestration Center, estimates that cultivated soils worldwide have lost 50 to 70 percent of their original carbon stock¹. This loss of carbon occurs through oxidation when soil is disturbed for agriculture and land development. Conservation cropping techniques present an opportunity to replenish some of the lost carbon. When plant material decomposes, especially underground root mass, but also above ground plant mass, carbon is sequestered in the soil.

The Government of Alberta has approved and published a “protocol” document that defines the calculations and eligibility criteria required for registering emission reductions (offsets) from the practice of reduced soil disturbance for annual cropping.

The protocol², states the following in its introduction:

Shifting from conventional farming to conservation cropping can increase carbon sequestered in the soil. This results in reduced carbon dioxide (CO₂) emissions to the atmosphere and lower nitrous oxide (N₂O) emissions resulting from less soil disturbance. Fewer passes on a farm field reduces fossil fuel emissions from farm equipment further helping to lower greenhouse gas footprint for the farm.



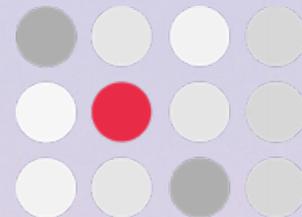
A typical air seeder used for direct seeding with minimal soil disturbance. This implement is capable of seeding directly into the previous crop stubble without any intermediate cultivation.

Photo credit: Deere & Company

References:

¹ “Soil Carbon Storehouse: New Weapon in Climate Change Fight?”, Yale Environment 360, March 4, 2014.

² Quantification Protocol for Conservation Cropping, Government of Alberta, April 2012.



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www.instagram.com/amund.d