



# Greenhouse Gas Annual Emissions Report

Inventory Report - FY 2015



**NORTHERN**  
CLEARING INC.

## MISSION STATEMENT

**NORTHERN CLEARING IS COMMITTED TO OPERATE IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, LOCAL AND OTHER ENVIRONMENTAL REGULATIONS. WE STRIVE TO CONTINUALLY IMPORVE AND UPDATE OUR OPERATIONS IN AN EFFORT TARGETED AT PROTECTING OUR ENVIRONMENT AND PREVENTING POLLUTION.**



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**To measure our progress against our environmental commitment and better our performance, we have committed to producing an annual greenhouse gas emissions report.**

Although it takes a great amount of time to develop a rigorous and complete greenhouse gas (GHG) emissions inventory, we have taken the appropriate steps to improve our experience in calculating and reporting all necessary data.

In Northern Clearing's first standard report where the control approach has been assessed; we have accounted for 100% of the GHG emissions in which our operations have full control over. Listed under scope 3, are all operations in which we have no control over the emissions associated with fuel combustion. In order to avoid errors and maintain the highest level of accuracy, this scope will provide the necessary data where Northern Clearing is the lessor of an operating lease agreement and therefore has no control over the unit's operations. All emissions where Northern Clearing is the lessee have been accounted for in scopes 1 and 2.

In 2015 we implemented enhanced technology to ensure consistency and accuracy throughout the GHG inventory report. Due to the lack of data for 2014 the completeness of that GHG report

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would not be an appropriate selection to use as our base year. Northern Clearing's year where we have first maintained accurate and reliable data to track our progress towards our GHG target is 2015 (FY2015). This is why we have selected FY2015 as our base year.

Northern Clearing monitors developments not only for our benefit and strategy; but also to allow our clients to better understand and plan for the changes ahead. We are committed to sharing our experience and data to help provide information that can be used to build an effective strategy to manage and reduce GHG emissions.

Northern Clearing's Greenhouse Gas Emissions Inventory is prepared in accordance with the National Carbon Offset Standard (NCOS).

Northern Clearing refers to the following:

- Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard
- ISO 14064 – Greenhouse Gases Part 1
- IPCC Guidelines for National Greenhouse Gas Inventories

## GREENHOUSE GASES

Greenhouse gases covered by the Kyoto Protocol that are included in the GHG emissions inventory.

- » Carbon Dioxide (CO<sub>2</sub>)
- » Methane (CH<sub>4</sub>)
- » Nitrous Oxide (N<sub>2</sub>O)

Not included in the GHG emissions inventory.

- » Hydrofluorocarbons (HFCs)
- » Perfluorocarbons (PFCs)
- » Sulphur Hexafluoride (SF<sub>6</sub>)



### Scope 1: Direct

- Fuels Combustion (e.g. boilers, furnaces or turbines).
- Owned Transport (e.g. trucks, trains, airplanes, or cars).
- Fugitive Emissions (e.g. air conditioning and refrigeration leaks).

### Scope 2: Energy Indirect

- Consumption of purchased electricity, heat, steam and cooling.

### Scope 3: Other Indirect

- Leased assets, franchising and outsourcing.

The proper categorization of emissions from leased assets ensures that our emissions in scopes 1 and 2 are not double-counted.

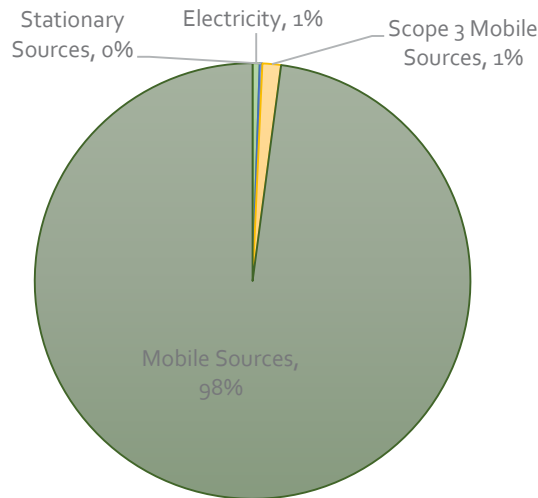
Throughout 2015 units owned by Northern Clearing are leased out to other companies under an operating lease. Once on lease Northern Clearing no longer has operational control therefore; emissions associated with fuel combustion during this time will be accounted for under scope 3.

#### Northern Clearing Corporate Carbon Footprint

#### GHG emissions data for period 1 January 2015 to 31 December 2015

	Tonnes of CO <sub>2</sub> e	
	2015	Base Year
Scope 1	19,959	19,959
Scope 2	106	106
Scope 3 *	280	280
<b>Total gross emissions</b>	<b>20,345</b>	<b>20,345</b>

#### 2015 GHG Emissions Breakdown



■ Electricity ■ Stationary Sources ■ Scope 3 Mobile Sources ■ Mobile Sources

GHG Type	Annual emissions (metric tonnes)
CO <sub>2</sub>	12,326
CH <sub>4</sub>	1
N <sub>2</sub> O	26

# Clearing the way for renewable energy!



**As Northern Clearing** furthers its understanding of the many concerns surrounding greenhouse gas emissions, we will be focusing our attention on our own comprehensive understanding of our annual GHG report. Not only have we developed a consistent annual report; we have also set our focus on eliminating the emission factor uncertainties. We will move forward setting both short and long term targets and strive to ensure that quality assurance and control is at its best. Northern Clearing is committed to providing a work environment free from recognized hazards. We also assure a safe and healthy environment to our employees and the general public. This report will help us not only target Northern Clearing’s GHG concerns; but will also better us as a company and as individuals to become more mindful of these concerns.

## Our approach

Northern Clearing’s approach for reducing our annual net GHG emissions will be through better planning of travel routes and reducing vehicle and equipment idle times. This will not only provide economic incentive, but will reduce our GHG emissions each year.

## Overview of strategy

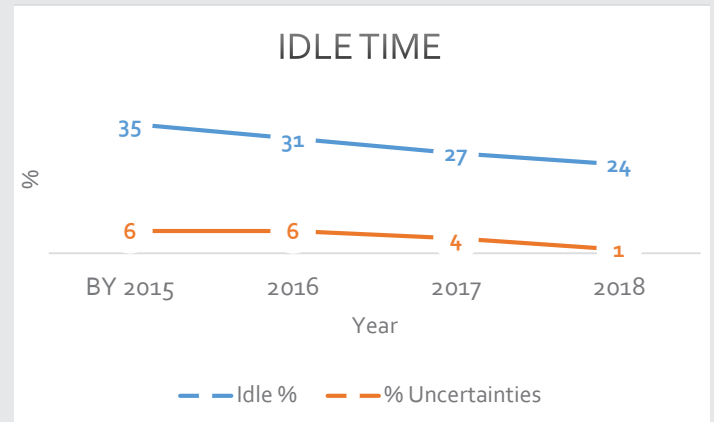
While we focus on reducing our idle and travel time; a second target we hope to achieve is, overall improvement of fuel economy. With new software, we are able to monitor and track areas of previous concern. This allows us to immediately address, correct, and educate the company as a whole.

By implementing an “anti-idling” policy we’ll be targeting both our light and heavy duty vehicles identifying existing idle levels and setting idle restrictions. This will reduce the overall time vehicles idle, and consequently the associated emissions.



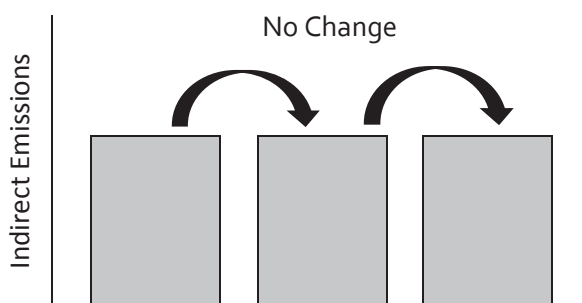
## 99% of Northern Clearing's annual CO2 output

comes from our direct emission sources. Effectively targeting this source will decrease our annual GHG emissions significantly. Over the next three years, we will focus on reducing our idle time by 4% compared to the previous year. Striving to achieve the goals set fourth, we've chosen the rolling base year approach. Using this, we can factor in company growth throughout the years. Although our target completion date is in three years, at that time we can re-evaluate our GHG emissions and set new targets.



Over the next three years we will also work to eliminate idling uncertainties. This will include installing sensors in specific units. Installing sensors in these units will tell us when if unit is in operation or is true idle time.

Reducing idle time by 4% each year will eliminate fuel consumption by 5,000 gallons per year. This is equivalent to 49 tons of Carbon Dioxide.



**As we move forward** tracking and stabilizing our atmospheric greenhouse gas concentration, we have set a target that aims to keep our indirect emissions constant over the next 3 years. Setting this target and achieving it each year will help us focus on targets and areas that effect our carbon footprint.

Setting goals is the first step in turning the invisible into the visible. – Tony Robbins



# GLOSSARY

<b>Absolute target</b>	A Target defined by reduction in absolute emissions over time e.g., reduces CO2 emissions by 15% below 2015 levels by 2020.
<b>Base year</b>	A specific year against which a company's emissions are tracked over time.
<b>Base year emissions</b>	GHG emissions in the base year.
<b>CO<sub>2</sub> equivalent (CO<sub>2</sub>-e)</b>	the universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing different greenhouse gases against a common basis.
<b>Direct GHG emissions</b>	Emissions from sources that are owned or controlled by the reporting company e.g., trucks, trains, ships, boilers, furnaces, or turbines.
<b>Double counting</b>	Two or more reporting companies take ownership of the same emission or reductions.
<b>Emissions</b>	The release of GHG into the atmosphere.
<b>Emission factor</b>	A factor allowing GHG emissions to be estimated from a unit of available activity data.
<b>Greenhouse gasses (GHG)</b>	For the purposes of this standard, GHG are six gasses listed in the Kyoto. Protocol: carbon dioxide (CO <sub>2</sub> ); methane (CH <sub>4</sub> ); nitrous oxide (N <sub>2</sub> O); hydrofluorocarbons (HRCs); perfluorocarbons (PFCs); and Sulphur hexafluoride (SF <sub>6</sub> ).
<b>Indirect GHG emissions</b>	Emissions that are consequence of operations of the reporting company, but occur at sources owned or controlled by another company E.g., leased assets, franchising and outsourcing.
<b>Inventory</b>	A quantified list of organization's GHG emissions and sources.
<b>Kyoto protocol</b>	A protocol to the United Nations Framework Convention on Climate Change.
<b>Mobile combustion</b>	Burning of fuels by transportation devices such as cars, trucks, trains, airplanes, ships etc.

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# Glossary

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- Operating lease** A lease which does not transfer the risks and rewards of ownership to the lessee and is not recorded as an asset in the balance sheet of the lessee.
- Operational boundaries** The boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting company. This assessment allows a company to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations.
- Rolling base year** The process of shifting or rolling the base year forward by a certain number of years at regular intervals of time.
- Scope** Defines the operational boundaries in relation to indirect and direct GHG emissions.
- Scope 1 inventory** Reporting an organization's direct GHG emissions.
- Scope 2 inventory** Reporting an organization's emissions associated with the generation of electricity, heating/cooling, or steam purchased for own consumption.
- Scope 3 inventory** Reporting an organization's indirect emissions other than those covered in scope 2.
- Stationary combustion** Burning of fuels to generate electricity, steam, heat or power in stationary equipment such as boilers, furnaces etc.



# Reference/ Credits

**iccbe - 2010 Proceedings of the international conference on computing in Civil and Building Engineering**

**IPCC - 2006 Guidelines for National Greenhouse Gas Inventories**

**United States Environmental Protection Agency - 2008 Office of Transportation and Air Quality**

**World Resources Institute – 2006**

**The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)**

**The Greenhouse Gas Protocol: Designing a Customized Greenhouse Gas Calculation Tool**

**US EPA Climate Leaders: Direct Emissions from Mobile Combustion Sources**

**US EPA Climate Leaders: Direct Emissions from Stationary Combustion**



**NORTHERN**  
CLEARING INC.

1805 MAIN STREET WEST, ASHLAND, WI 54806

TOLL FREE 800-573-6688 / FAX 715-682-9405

[WWW.NORTHERNCLEARING.COM](http://WWW.NORTHERNCLEARING.COM)