Manufacturing, Construction and Energy Division

Greenhouse Gas Emissions Report

*Ce questionnaire est disponible en français, veuillez téléphoner au 1-800-949-949*1

Reference period:
January 1 - December 31, 2008

OBJECTIVE

Accurate tracking of greenhouse gas (GHG) emissions is an important part of assessing Canada's overall environmental performance. By providing a more precise picture of the sources and amounts of Canada's GHG emissions, the GHG Emissions Reporting program will contribute to the development, implementation, and evaluation of climate change and energy use policies and strategies.

The federal government continues to work in partnership with the provinces and territories to develop an efficient, harmonized, "single-window" domestic reporting system for GHG emissions that supports three complementary objectives:

- to provide Canadians with information on GHG emissions;
- to enhance the level of detail of the National GHG Inventory and;
- to meet provincial and territorial reporting requirements for GHG emissions and related information.

AUTHORITY

This information is collected under the authority of the *Statistics Act*, Revised Statutes of Canada 1985, c.S-19, as well as under the authority of the *Canadian Environmental Protection Act, S.C. 1999, c. 33* (CEPA, 1999) and, in addition for facilities in Alberta, the *Climate Change Emissions Management Act, S.A. 2003, c. C-16.7.* Submission of a report is a legal requirement under these Acts.

DATA SHARING AGREEMENTS

In order to avoid duplication and to ease response burden, Statistics Canada has entered into data sharing agreements, under the provisions of Section 12 of the Statistics Act, whereby the collected information will be provided to Environment Canada and, in addition, to Alberta Environment for facilities in Alberta. This information is being collected by Statistics Canada for statistical and research purposes, by Environment Canada pursuant to CEPA 1999, and by Alberta Environment pursuant to the Climate Change and Emissions Management Act and the Specified Gas Reporting Regulation.

CONFIDENTIALITY

Statistics Canada is prohibited by law from divulging information collected for its own purposes, that relate to any identifiable business, without the previous knowledge or consent of the business. The information being collected for Statistics Canada will be treated in strict confidence, used for statistical purposes and will only be published in aggregate form, in accordance with the *Statistics Act*. The confidentiality provisions of the *Statistics Act* are not affected by either the *Access to Information Act* or any other legislation.
Environment Canada will release the collected information to other government organizations and the public in general, in accordance with the provisions of the *Canadian Environmental Protection Act, S.C. 1999, c. 33* (CEPA). For facilities in Alberta, the information may also be released in accordance with the *Climate Change Emissions Management Act, S.A. 2003, c. C-16.7* and the Specified Gas Reporting Regulation. Reporters can request that their information be treated as confidential by Environment Canada and, if in Alberta, by Alberta Environment (refer to Section VIII of this report for more information).

5-3100-5081.1: 2008-10-17 STC/IND-310-75372

Instructions for completing the report

This Greenhouse Gas Emissions Report collects data at the facility level.

1. **Complete** one report for <u>each</u> facility that emitted 100 kilotonnes or more (in CO_2 equivalent units) of GHGs in 2008.

2. If a third party is completing this report on behalf of the reporting company, their contact information can be recorded in Section VII - Comments.

3. **Return Date:** Please submit the completed report no later than **June 1, 2009.**

4. **Read the instructions** provided on each page.

5. **Definitions** are provided on page 15 for terms marked with an asterisk (*).

6. **Chemical Abstract Service (CAS)** Numbers and **Global Warming Potentials (GWP)** are provided in the glossary on page 24.

SECTION I. REPORTER* INFORMATION

First name

Last name

Position/Title

Telephone number *(Maximum of 5 digits)* ext.

Fax number

E-mail address *(e.g. abcd@efghijk.ca)*

Mailing address

City/District/Municipality

Province/Territory

Postal code

Preferred language of correspondence: English French

Reporting company* legal name*

Reporting company trade name*

Reporting company business number*

SECTION II. FACILITY* INFORMATION

Facility name*

Facility I.D.

Facility location* *(actual location, not mailing address)*
Street or rural address*

City/District/Municipality

Province/Territory

Postal code

NPRI ID* (if applicable)

For Alberta facilities only: It is mandatory for facilities subject to an *Environmental Protection and Enhancement Act* (*EPEA*) approval to include the approval number in this report. Alberta facilities that do not have an *EPEA* approval number may enter 0000 in the field below. Complex facilities that are subject to a single *EPEA* approval but are reporting several operations separately must enter their *EPEA* approval number for each submitted Greenhouse Gas Emissions Report. Additional *EPEA* approval numbers for which a submitting facility is subject to must be listed in Section VII.

AB Approval Number* *(for Alberta facilities only)*

NAICS Code*. *A search tool is available to find a NAICS Code at the website: www.statcan.ca/english/Subjects/Standard/naics/2007/naics07-menu.htm.*

SECTION III. ADDITIONAL CONTACT INFORMATION

Public Contact*

☐ Same as Reporter *(Check this box if Public Contact information is the same as Reporter information)*

First name

Last name

Position/Title

Telephone number

(Maximum of 5 digits)

ext.

Fax number

E-mail address *(e.g. abcd@efghijk.ca)*

Mailing address

City/District/Municipality

Province/Territory

Postal code

Certifying Official*

☐ Same as Reporter *(Check this box if Certifying Official information is the same as Reporter information)*

☐ Same as Public Contact *(Check this box if Certifying Official information is the same as Public Contact information)*

First name

Last name

Position/Title

Telephone number

(Maximum of 5 digits)

ext.

Fax number

E-mail address *(e.g. abcd@efghijk.ca)*

Mailing address

City/District/Municipality

Province/Territory

Postal code

SECTION IV. PARENT COMPANY INFORMATION

Enter information for each **Canadian** parent company* that owned 10% or more of the Reporting Company* on December 31, 2008.

Parent Company 1

Legal name*

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number* of parent company | DUNS number* of parent company *(if applicable)*

Parent Company 2

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 3

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 4

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 5

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company (if applicable)

SECTION IV. PARENT COMPANY INFORMATION (concluded)

Parent Company 6

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 7

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 8

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 9

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

Parent Company 10

Legal name

% ownership of reporting company %

Mailing address

City/District/Municipality | Province/Territory | Postal code

Business number of parent company | DUNS number of parent company *(if applicable)*

SECTION V. MAIN SECTOR OF ACTIVITY

Please select the main sector of activity for this **facility**.

☐ **Oil & Gas***
- Bitumen production by extraction from mined bituminous sands
- Bitumen production by *in-situ* extraction from bituminous sands
- Conventional heavy crude oil production
- Conventional light/medium crude oil production
- Frontier light/medium oil production
- Natural gas distribution
- Natural gas processing
- Natural gas production
- Natural gas transmission
- Petroleum refining
- Synthetic crude oil production (or upgrading)

☐ **Manufacturing & Mining***
- Aluminium and alumina
- Cement
- Chemical fertilizer
- Chemicals
- Glass
- Lime
- Mining of iron ore
- Mining of other materials
- Pulp & paper
- Smelting and refining
- Steel

☐ **Electricity***
- Thermal electricity generation
- Useful thermal energy for sale generation

☐ **Other**
- Municipality and government
- Other industrial, commercial, and institutional activities
- Other

SECTION VI. GHG EMISSIONS INFORMATION

This section consists of:

PART A. GHG Emissions for 2008

PART B. GHG Emissions Calculation Methods

PART C. Total GHG Emissions

For PART A:

• Report Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O), Emissions by Source:

- Stationary Fuel Combustion Emissions*
- Industrial Process Emissions*
- Venting and Flaring Emissions*
- Other Fugitive Emissions*
- On-site Transportation Emissions*
- Waste and Wastewater Emissions*

• Report CO_2 emissions from biomass* combustion as a separate memo item.

• Alberta facilities may also report geological injection of CO_2.

• Hydrofluorocarbon* (HFC), perfluorocarbon* (PFC) and sulphur hexafluoride* (SF_6) emissions are limited to industrial process and industrial product use only. HFC and PFC emissions are reported by species.

SECTION VI. GHG EMISSIONS INFORMATION (continued)

PART A - GHG Emissions for 2008

INSTRUCTIONS

Report the direct* greenhouse emissions for this facility from January 1 to December 31, 2008.

An entry is required for the total emissions **for each gas type** and **emission category** below.

(1) Enter the appropriate quantity in tonnes.
(You may enter up to 8 digits in front of the decimal point and up to 4 digits after the decimal point);

- Enter a "0" (zero) if the emissions for the gas type were calculated and the result was zero;
- Enter a "1" (one) in the "N/A" (not applicable*) column if the emissions for the gas type are not present at the facility or the emissions are not estimated due to a lack of data.

(2) The quantity in tonnes of CO_2 equivalent units* will be automatically calculated.

The CAS (Chemical Abstract Service) number* for each gas can be viewed on page 24.

Stationary Fuel Combustion Emissions*

	N/A	(1) Tonnes		GWP		(2) Tonnes *(in CO_2e)*
Carbon dioxide (CO_2)			**X**	**1**	=	
Methane (CH_4)			**X**	**21**	=	
Nitrous oxide (N_2O)			**X**	**310**	=	
				Total:		

Industrial Process Emissions*

Carbon dioxide (CO_2)			**X**	**1**	=	
Methane (CH_4)			**X**	**21**	=	
Nitrous oxide (N_2O)			**X**	**310**	=	
				Total:		

Venting & Flaring Emissions*

Carbon dioxide (CO_2)			**X**	**1**	=	
Methane (CH_4)			**X**	**21**	=	
Nitrous oxide (N_2O)			**X**	**310**	=	
				Total:		

Other Fugitive Emissions*

Carbon dioxide (CO_2)			**X**	**1**	=	
Methane (CH_4)			**X**	**21**	=	
Nitrous oxide (N_2O)			**X**	**310**	=	
				Total:		

SECTION VI. GHG EMISSIONS INFORMATION (continued)

On-site Transportation Emissions*

	N/A	(1) Tonnes		GWP		(2) Tonnes *(in CO_2e)*
Carbon dioxide (CO_2)			X	1	=	
Methane (CH_4)			X	21	=	
Nitrous oxide (N_2O)			X	310	=	
				Total:		

Waste and Wastewater Emissions*

Carbon dioxide (CO_2)			X	1	=	
Methane (CH_4)			X	21	=	
Nitrous oxide (N_2O)			X	310	=	
				Total:		

Memo Item
CO_2 Emissions from Biomass* *(Do not include in total)*

Carbon dioxide from biomass combustion* (CO_2)			X	1	=	

For Alberta facilities only *(Do not include in total)*

Geological Injection of CO_2 (not mandatory)			X	1	=	

Note: CO_2 emissions from biomass combustion and from geological injection are not included in the totals.

Hydrofluorocarbon (HFC) Emissions*

HFC-23 (CHF_3)			X	11700	=	
HFC-32 (CH_2F_2)			X	650	=	
HFC-41 (CH_3F)			X	150	=	
HFC-43-10mee ($C_5H_2F_{10}$)			X	1300	=	
HFC-125 (C_2HF_5)			X	2800	=	
HFC-134 (CHF_2CHF_2)			X	1000	=	
HFC-134a (CH_2FCF_3)			X	1300	=	
HFC-143 (CHF_2CH_2F)			X	300	=	
HFC-143a (CF_3CH_3)			X	3800	=	
HFC-152a (CH_3CHF_2)			X	140	=	
HFC-227ea (C_3HF_7)			X	2900	=	
HFC-236fa ($C_3H_2F_6$)			X	6300	=	
HFC-245ca ($C_3H_3F_5$)			X	560	=	
					Total:	

SECTION VI. GHG EMISSIONS INFORMATION (continued)

Perfluorocarbon (PFC) Emissions*

	N/A	(1) Tonnes		GWP		(2) Tonnes *(in CO_2e)*
Perfluoromethane (CF_4)	☐		**X**	**6500**	=	
Perfluoroethane (C_2F_6)	☐		**X**	**9200**	=	
Perfluoropropane (C_3F_8)	☐		**X**	**7000**	=	
Perfluorobutane (C_4F_{10})	☐		**X**	**7000**	=	
Perfluorocyclobutane (c-C_4F_8)	☐		**X**	**8700**	=	
Perfluoropentane (C_5F_{12})	☐		**X**	**7500**	=	
Perfluorohexane (C_6F_{14})	☐		**X**	**7400**	=	
					Total:	

Sulphur Hexafluoride (SF6) Emissions*

Sulphur hexafluoride (SF_6)	☐		**X**	**23900**	=	
					Total:	

SECTION VI. GHG EMISSIONS INFORMATION (concluded)

PART B - GHG emission calculation methods

Indicate the method(s) used to calculate the emissions reported. *(Check all that apply)*

Monitoring or Direct Measurement*	☐
Mass Balance*	☐
Emission Factors*	☐
Engineering Estimates*	☐

PART C - Total GHG Emissions

(1) No input required, totals are calculated automatically.

(2) No input required, totals are calculated automatically.

(3) No input required, totals are calculated automatically.

Note: CO_2 emissions from biomass combustion and from geological injection are not included in the totals.

Total GHG Emissions for the Facility

Greenhouse Gas	(1) Tonnes		(2) Tonnes *(in CO_2e)*
Carbon dioxide (CO_2)			
Methane (CH_4)			
Nitrous oxide (N_2O)			
Hydrofluorocarbons (HFCs)			
Perfluorocarbons (PFCs)			
Sulphur Hexafluoride (SF_6)			
		(3) **Total:**	
CO_2 emissions from biomass			
Geological Injection			

SECTION VII. COMMENTS

This section is optional.

- Enter any comments you wish to include related to the information you have reported.
- Comments provided are NOT published.
- You may provide additional comments related to the reported GHG emissions data to better explain your information. *(e.g. justification of any large changes in emissions from the previous year.)*
- A third-party completing the report on behalf of the reporting company can enter their contact information in the comments field. *(e.g. name, company, phone numbers, etc.)*
- If you are a reporter in Alberta, you must include any additional EPEA approval numbers to which the submitting facility is subject to. You may also use this comment field to provide information referred to in Section 6 of the Specified Gas Reporting Standard - Additional Specified Gas Emission Information. *(e.g. emission intensity, indirect emissions, further details of emission calculation methods, etc.)*
- Enter your company or facility website if you wish to provide more information. *(e.g. contextual information on environmental activities, etc.)*

Comments:

Website:

SECTION VIII. CONFIDENTIALITY REQUEST

The 2008 Gazette Notice indicated that the Minister of the Environment intends to publish 2008 GHG emission totals by gas, by facility.

Under the Canadian Environmental Protection Act (CEPA 1999) and the Alberta Climate Change and Emissions Management Act, you can request that part or all of the information that you have provided in this report be treated as confidential. You must provide appropriate justification to support this request. (see Confidentiality Request* in the Definitions section (page 23) for more information)

Are you requesting confidentiality of this report under CEPA 1999? . . . . [ ] Yes [ ] No

If yes, you must **submit a written request** with appropriate justification and supporting documentation to Environment Canada. Environment Canada will be in contact with you regarding your request.

Environment Canada
GHG Division
Edifice Fontaine
200 Sacre-Coeur, 10th Floor
Gatineau, Quebec
J8X 4C6
Fax: (819) 953-3006

For Alberta facilities only:

Are you requesting confidentiality of this report under the Alberta Climate Change and Emissions Management Act? . . . . . [ ] Yes [ ] No [x] N/A

If yes, **you must submit a written** request with appropriate justification and supporting documentation by mail to Alberta government with **your report submission**. The Alberta government will be in contact with you regarding your request.

Director
Climate Change Policy Unit
Environmental Assurance Division
Alberta Environment
10th Floor, Oxbridge Place
9820 - 106th Street
Edmonton, Alberta
T5K 2J6

SECTION IX. STATEMENT OF CERTIFICATION

A signed and dated Statement of Certification* (SoC) must be submitted to certify the 2008 GHG report.

This Statement of Certification contains facility information, total GHG emissions (by gas), and the name and contact information for the Certifying Official.

Before completing the Statement of Certification:

1. **Review** the GHG report and make any required corrections.

To complete the Statement of Certification:

1. **Print** the Statement of Certification (SoC) on company letterhead.
2. **Review** the SoC for completeness and accuracy.
3. **Have** the completed SoC signed by the Certifying Official.

   (NOTE: If this facility is in Alberta, prepare and sign 2 copies.)

SECTION X. SUBMIT YOUR REPORT

You have now completed the GHG report.

The GHG report, the Statement of Certification and the request for confidentiality, including justification and supporting documentation (if applicable), are to be submitted no later than **June 1, 2009**.

1. **Retain** a copy of all information submitted and all other information upon which this report is based.
2. **Send** the report by mail to Statistics Canada.

   GHG Reporting
   Statistics Canada
   Manufacturing and Energy Division
   Jean Talon Building, 11th floor 22
   170 Tunney's Pasture Driveway
   Ottawa, Ontario
   K1A 0T6

3. **Send** the signed Statement of Certification to Environment Canada. If the facility is located in Alberta, send a second signed Statement of Certification to Alberta Environment.

   Environment Canada
   GHG Division
   Edifice Fontaine
   200 Sacre-Coeur, 10th Floor
   Gatineau, Quebec
   J8X 4C6
   Fax: (819) 953-3006

   Director
   Environmental Monitoring and Evaluation Branch
   Environmental Assurance
   Alberta Environment
   10th Floor, Oxbridge Place
   9820-106 Street
   Edmonton, Alberta
   T5K 2J6

DEFINITIONS / EXPLANATORY INFORMATION

SECTION I. REPORTER INFORMATION

Reporter
The individual who will serve as the main contact for the reporting company or reporting facility. This individual will receive all information, mailings, e-mails and inquiries regarding this reporting requirement.

Please note if a third-party completes this report on behalf of the reporting company, their contact information can be recorded in Section VII – Comments.

Reporting Company
A person who operates one or more facilities that meet the reporting threshold as set out in Schedule 2 of the Canada Gazette notice (i.e. required to submit a GHG report.) If your company operates more than one reporting facility, ensure that the company name is used consistently for all facilities. In Alberta, the reporting company is the person responsible for the facility.

Legal Name
For corporations, it is the corporate name appearing on either the Articles or Certificate of Incorporation, or the Memorandum of Association. The legal name for partnerships may vary, depending on the province in which the partnership is based. Provincial statutory requirements may exist for the legal names of both limited partnerships and limited liability partnerships. If there is no provincial statutory requirement, the legal name of the partnership may require the inclusion of every name belonging to the partnership. For individuals operating a business that is neither a corporation nor a partnership, it is the individual's first and last name. Enter the legal name effective on December 31 of the year the emissions took place.

Trade Name
The name under which an individual, partnership or corporation chooses to operate. It is synonymous with "Operating Name". The operating name is the name by which the company may be known to its customers or clients. It may be the same as the Legal Name but this is not always the case. Enter the trade name effective on December 31 of the year the emissions took place.

Business Number (BN)
A nine-digit registration number issued by the Canada Revenue Agency (CRA) to Canadian businesses that register for one or more of the following: corporate income tax, importer/exporter account number; payroll (source) deductions (trust accounts); or good and services tax. This number can be found on all forms issued to a business by the CRA. The first nine digits that appear on these forms is the Business Number. This registration number will stay the same no matter how many or what types of accounts a business has.

SECTION II. FACILITY INFORMATION

Facility
A contiguous facility, a pipeline transportation system or an offshore installation.

Contiguous Facility
All buildings, equipment, structures and stationary items that are located on a single site or on contiguous or adjacent sites and that are owned or operated by the same person and that function as a single integrated site and includes wastewater collection systems that discharge treated or untreated wastewater into surface waters.

Equipment
Transportation machinery integral to the production process carried on at the facility.

Pipeline Transportation System
All pipelines that are owned or operated by the same person within a province or territory and that transport processed natural gas and their associated installations including storage installations but excluding straddle plants or other processing installations. For example, a natural gas transmission company that has several pipeline operations or networks within and across several provinces is to use the provincial boundaries to identify its ''pipeline transportation systems''.

Offshore Installation
An offshore drilling unit, production platform or ship, or sub-sea installation attached or anchored to the continental shelf of Canada in connection with the exploitation of oil or gas.

DEFINITIONS / EXPLANATORY INFORMATION (continued)

Facility pursuant to Alberta's Specified Gas Reporting Regulation

(i) any plant, structure or thing where an activity listed in section 2 of the Schedule of Activities to the Environmental Protection and Enhancement Act occurs, and
(ii) a site or one or more contiguous or adjacent sites that are operated and function in an integrated fashion where an activity listed in any of sections 3 to 11 of the Schedule of Activities to the Environmental Protection and Enhancement Act occurs, including all the buildings, equipment, structures, machinery and vehicles that are an integral part of the activity.

Facility Name

The name of the facility or any other information which, in addition to the "Reporting Company" name, completely identifies the facility. For example:

REPORTING COMPANY NAME	FACILITY NAME
Specialty Pharmaceuticals	Liquids Plant
XYZ Airlines	Calgary
ABC Refineries	Alberta Processing Plant
International Manufacturing	ABC Manufacturing Division

Facility Location
The site address of the facility (i.e. where the facility is physically located). Enter the street address (street number, street name and other identifiers such as suite number or building designation) or rural address for the facility. **Do not use** a mailing address (e.g. post office box). If a street or rural address is not available, enter latitude and longitude information (using the format: degrees, minutes, seconds) See the Technical Guidance document (questions 22 and 23 in Appendix A) for additional details.

Rural Address
Information that describes the land on which the facility is located. For example:

- Quarter, Section, Township, Range, Meridian or
- Lot, Concession, Township, County or
- Lot, Range, Parish, County or
- Land descriptions used in the region.

Alberta (AB) Approval Number
The number of the approval or registration given to your facility in the province of Alberta if it is subject to an *Environmental Protection and Enhancement Act* (EPEA) approval or registration. This is only applicable to facilities located in the province of Alberta. This number will consist of a family approval number (up to 8 digits), followed by the renewal number (2 digits if you have had a renewal of your approval), followed by an amendment number (2 digits if you have had amendments) (e.g. 12345678-12-12). **Only enter the family approval number.** From the above example, this would be: 12345678.

National Pollutant Release Inventory Identification (NPRI ID)
A permanent number that was assigned to your facility if an NPRI report was previously submitted for your facility. The NPRI ID is specific to the facility, at a particular location, and does not change even if ownership or the name of the facility does.

North American Industry Classification System (NAICS) Code
A six-digit code that was developed by Statistics Canada, the U.S. Office of Management and Budget and Mexico's Instituto Nacional de Estadistica Geografia e Informatica, to enable the respective national agencies to collect comparable statistical data. The NAICS code in Canada consists of 20 sectors, 102 subsectors, 324 industry groups, 718 industries and 928 national industries. Industries within these sectors are grouped according to their production processes. Enter the classification code that best describes the primary activity at the facility by using the NAICS code search tool.

SECTION III. ADDITIONAL CONTACT INFORMATION

Public Contact
The Public Contact does not have to be the same person who prepares the report or signs the Statement of Certification and does not necessarily need to be someone at the reporting facility. However, this person should be able to answer questions from the public about the report. The public contact will be identified in the GHG report that is released to the public.

Certifying Official
The person who is the authorized signing officer for the reporting company. This person will sign the required Statement of Certification to be submitted with the GHG report. This person must have delegated powers to accept legal responsibility for the information provided. Some facilities may choose the CEO, the environmental coordinator or the plant manager. The name of the certifying official will not appear in the public report.

SECTION IV. PARENT COMPANY INFORMATION

Parent Company
The person or highest level company or group of companies that owns the reporting company.

Business Number
A nine-digit registration number issued by the Canada Revenue Agency (CRA) to Canadian businesses that register for one or more of the following: corporate income tax; importer/exporter account number; payroll (source) deductions (trust accounts); or good and services tax. This number can be found on all forms issued to a business by the CRA. The first nine digits that appear on these forms is the Business Number. This registration number will stay the same no matter how many or what types of accounts a business has.

DUNS Number
A unique nine-digit number that D&B (formerly Dun and Bradstreet) uses to identify companies in its financial database. The internationally recognized numbering system is developed and maintained by the private firm of D&B. This information will help to identify the corporate structures relating reporting companies to their parent companies. Enter the D-U-N-S number for your parent company if available. This number may be available from your company's treasurer or financial officer.

SECTION V. MAIN SECTOR OF ACTIVITY

Oil & Gas

Conventional Light/Medium Crude Oil Production
The production of crude oil that has a density of less than 900 kg/m3 (greater than 25º API) obtained via "conventional" recovery methods (i.e., normal primary, secondary or tertiary processes) from a "conventional" source (i.e., not from bituminous sands, shales or carbonates) in a "conventional" location (i.e., not from the frontier, including the offshore).

Frontier Light/Medium Oil Production
The production of crude oil that has a density of less than 900 kg/m ^{3} (greater than 25º API) obtained via "conventional" recovery methods (i.e., normal primary, secondary or tertiary processes) from a "conventional" source (i.e., not from bituminous sands, shales or carbonates) in a frontier (including an offshore) location.

Conventional Heavy Crude Oil Production
The production of crude oil that has a density of greater than 900 kg/m3 (less than 25º API) but less than 1,000 kg/m3 (more than 10º API) obtained via "conventional" recovery methods (i.e., normal primary, secondary or tertiary processes) from a "conventional" source (i.e., not from bituminous sands, shales or carbonates) in a "conventional" location (i.e., not from the frontier, including the offshore).

Bitumen production by extraction from mined bituminous sands
The production of bitumen that has a density of 1,000 kg/m3 or greater (10º API or less) and a viscosity of 10,000 centipoises or greater by extraction from mined bituminous sands.

Bitumen production by in-situ extraction from bituminous sands
The production of bitumen (a very heavy form of crude oil) that has a density of 1,000 kg/m3 or greater (10º API or less) and a viscosity of 10,000 centipoises or greater by "in-situ" extraction from bituminous sands.

Synthetic crude oil production (or upgrading)
The production of synthetic crude oil ("SCO") obtained via the upgrading of heavy oil, including but not limited to, bitumen.

Natural gas production
The production of natural gas ("NGProd") encompasses the collection of the natural gas, as it comes from the ground, into field batteries, which begin the process of separating out the impurities and heavier hydrocarbon components.

Natural gas processing
The processing of natural gas encompasses the facilities (processing plants) located between the field batteries and the beginning of the long-haul transmission pipelines, which separate out more of the impurities and heavier hydrocarbon components until the transmission pipeline specifications are met.

Petroleum refining
The production of refined petroleum products ("RPPs") from natural gas liquids and a mixture of various types of crude oil using any of a wide variety of particular refining equipment and installations.

Natural gas transmission
Natural gas transmission comprises the transport and ancillary storage of marketable natural gas from a natural gas battery or natural gas plant to the head of a natural gas local distribution system.

Natural gas distribution
Natural gas distribution comprises the transport and ancillary storage of marketable natural gas from the terminus of a natural gas transmission system to the end-use consumers of the marketable natural gas.

DEFINITIONS / EXPLANATORY INFORMATION (continued)

Manufacturing & Mining

Aluminum and alumina
The production of alumina from bauxite or primary aluminum from alumina. This includes the anode making process and excludes secondary activities such as rolling, drawing, casting or extruding aluminum into basic shapes.

Cement
Production of cement from limestone. The activity of quarrying limestone and shipping this to the kiln is excluded .

Chemicals
The production of ethylene, propylene, benzene, toluene, xylene and other petrochemicals. Also includes the production of alpha olefins, terephthalic acid, styrene, ethylene glycol, methanol, adipic acid, diamine, TiO2 pigment, carbon black, chlorine, iso-butane, linear alkyl benzene, methylamine, hydrogen. Emissions related to the production of resins, pharmaceuticals, adhesives and other chemicals not defined above are excluded.

Chemical Fertilizer
The production of nitrogenous fertilizer materials. Also includes the production of nitric acid, whether or not for use as a fertilizer material.

Glass
Production of glass from sand and cullet.

Lime
The production of lime from limestone. The activity of quarrying limestone and shipping this to the kiln is excluded.

Mining of Iron Ore
The production of iron ore pellets including the processing and agglomeration of iron ore concentrate into iron ore pellets (both flux and acid pellets).

Mining of Other Materials
Mining of other materials.

Pulp and Paper
The production of newsprint, pulp, paperboard and other paper products. This does not include any emissions associated with the production of wood products, paper converting activities; wastewater effluent treatment equipment or landfill sites.

Smelting and Refining
The smelting of non-ferrous metals, except aluminium, from ores or recycled materials; and refining these metals by electrolytic or other processes. Emissions from secondary activities, such as rolling or extruding basic shapes, from metal are not included.

Steel
The production of steel from iron ore and/or scrap iron. This includes production from blast furnaces, electric arc furnaces and direct reduced iron furnaces and any related coke or lime making operations. This does not include emissions associated with the production of cold rolled steel products.

Electricity Production

Thermal Electricity Generation
The generation of electricity from fossil fuels or fuels derived from fossil fuels.

Useful Thermal Energy for Sale Generation
Useful thermal energy means thermal energy, including, but not limited to, steam, used in any heating or cooling application, or in any industrial or commercial process, with the exception of on-site electricity production.

SECTION VI. GREENHOUSE GAS EMISSION INFORMATION

Direct emissions
Releases from sources that are located at the facility.

Carbon dioxide equivalent (CO_2 eq.)
A unit of measure used to allow the addition of or the comparison between gases that have different global warming potentials (GWPs). Since many greenhouse gases (GHGs) exist and their GWPs vary, the emissions are added in a common unit, CO 2 equivalent. To express GHG emissions in units of CO2 equivalent, the quantity of a given GHG (expressed in units of mass) is multiplied by its GWP.

Global Warming Potential (GWP)
A relative measure of the warming effect that the emission of a GHG might have on the Earth's atmosphere. Calculated as the ratio of the time-integrated radiative forcing (i.e. the amount of heat-trapping potential) that would result from the emission of 1 kg of a given GHG to that from the emission of 1 kg of carbon dioxide. For example, the GWP for nitrous oxide (N_2O) is 310, which means that 1 kg of N_2O emissions is equivalent to 310 kg of CO_2 emissions.

CAS number (or CAS registry number)
Refers to the Chemical Abstracts Service Registry Number, a unique numerical identifier that is given to every chemical that has been described in the literature. The Chemical Abstracts Service, a division of the American Chemical Society, assigns these identifiers.

Not Applicable (N/A)
You may only select the N/A box in those cases where:

- the emission source or emission type does not occur at your facility; or
- the emissions from a given source are not estimated due to the unavailability of data.

Enter the digit "0" in the numeric field if you have calculated the emissions and they are zero.

Stationary Fuel Combustion Emissions
Releases from non-vehicular combustion sources, in which fuel is burned for the purpose of producing energy (e.g. to generate electricity, heat or steam). This includes on-site waste incineration if the waste is combusted for energy. Emissions from waste incineration used as a disposal method are included under the Waste and Wastewater Emissions category. (See Memo Item - CO2 Emissions from Biomass for special consideration of CO2 emissions from the combustion of biomass).

Industrial Process Emissions
Releases from an industrial process that involves chemical or physical reactions other than combustion, and the purpose of which is not to supply energy. Examples of industrial processes that represent sources of this category of emissions include mineral production (e.g. cement, lime), metal production (e.g. iron & steel, aluminium) and chemical production (e.g. adipic acid, nitric acid). See Technical Guidance document for further details.

DEFINITIONS / EXPLANATORY INFORMATION (continued)

Venting and Flaring Emissions
Venting emissions are defined as intentional releases to the atmosphere of a waste gas. These emissions include releases of casing gas, a gas associated with a liquid (or solution gas), treater, stabilizer or dehydrator off-gas, blanket gas, and releases from pneumatic devices which use natural gas as a driver, and from compressor start-ups, pipelines and blowdowns, and metering and regulation station control loops.

Flaring emissions are defined as intentional releases of gases from industrial activities, from the controlled combustion of a gas and or liquid stream produced at the facility not for the purpose of producing energy. These include releases from waste petroleum incineration, hazardous emission prevention systems (whether in pilot or active mode), well testing, natural gas gathering system, natural gas processing plant operations, crude oil production, pipeline operations, petroleum refining and chemical fertilizer and steel production. ***Note:*** Flaring of landfill gas is to be accounted for under the Waste and Wastewater Emissions category.

Other Fugitive Emissions
Unintentional releases of gases from industrial activities, other than releases that are venting and flaring emissions. Other fugitive emissions include those releases resulting from the production, processing, transmission, storage and use of solid, liquid or gaseous fuels. Examples include leakage from natural gas transmission lines and processing plants, accidental release from oil and gas wells, and releases from the mining and handling of coal.

On-site Transportation Emissions
Any direct releases from machinery used for the on-site transportation of substances, materials or products used in the production process (transportation of raw or intermediate products and materials within the production process). Examples of such activities may include:

- equipment used at a steel mill to move molten metal to different stages in the steel production process;
- equipment used at oil sands operations to mine and/or move oil sand or other materials to subsequent on-site processes (e.g. crushing, extraction); and
- equipment used at above- or below-ground mining operations to mine and/or move mined materials or other intermediate products or materials to different on-site production processes.

Waste and Wastewater Emissions
Releases that result from waste disposal sources, and waste treatment or wastewater treatment that are located at a facility. The sources include landfilling of solid waste, flaring of landfill gas and waste incineration; waste and wastewater treatment includes treatment of wastewater effluents and of liquid waste. Emissions from waste-to-energy conversion, where waste material is used directly as fuel or converted into fuel, must be calculated and reported under Stationary Fuel Combustion Emissions. With respect to the emissions of CO 2, CH4 and N2O from waste disposal, special consideration is necessary for CO2 emissions originating from biomass materials in waste (see Memo Item – CO2 Emissions from Biomass).

DEFINITIONS / EXPLANATORY INFORMATION (continued)

Biomass
Plant materials, animal waste or any product made of either of these. Biomass includes wood and wood products, charcoal and agricultural residues and wastes (including organic matter such as trees, crops, grasses, tree litter, or roots); that portion of biologically derived organic matter in, municipal and industrial wastes; landfill gas; bio-alcohols; black liquor; sludge gas; and animal- or plant-derived oils.

Memo Item - CO2 Emissions from Biomass
CO_2 emissions from the combustion of biomass are to be reported separately as a "Memo Item" and are not included in the facility's emission total. Enter in this field CO_2 emissions from:

- combustion of biomass fuels
- incineration of the biomass portion of waste (CO_2 emissions from incineration of the fossil-based portion of waste are reported under Waste and Wastewater Emissions)
- flaring of landfill gas

Please note that CH_4 and N_2O emissions from the combustion of biomass are included in the facility's emission total. Enter these emissions either under Stationary Fuel Combustion (if the biomass is burned for energy purposes), or under Waste and Wastewater (if it is burned as a disposal method).

Geologically Injected CO_2
Refers to CO_2 captured at a facility and injected into geological formations. Geologically injected CO_2 is not a direct emission. (Only Alberta facilities to voluntarily provide this information.)

Hydrofluorocarbon (HFC) Emissions
HFCs are a series of synthetic gases containing carbon, hydrogen and fluorine. The main sources of HFC emissions from industrial processes and industrial product use include emissions arising from foam blowing and the use of HFCs as a cover gas in metal production.

Emissions of HFCs from other applications, such as refrigeration, air conditioning, propellants in aerosols, fire extinguishers and solvents, are not considered industrial process or industrial product use emissions under the GHG emissions reporting program and therefore are not to be reported.

Perfluorocarbon (PFC) Emissions

PFCs are a family of industrial gases, and they are to be reported by individual PFC gas. The main sources of PFC emissions from industrial processes and industrial product use are attributed to two areas — aluminium production and foam blowing. PFC emissions are an undesirable byproduct of aluminium production, while PFCs are purchased and used as foam-blowing agents.

Emissions of PFCs from other applications, such as refrigeration, air conditioning, semiconductor manufacturing, solvents, aerosols and fire extinguishing, are not considered industrial process or industrial product use emissions under the GHG emissions reporting program and therefore are not to be reported.

Sulphur Hexafluoride (SF_6) Emissions
SF_6 is a synthetic gas with chemical properties that render it relatively inert, which makes it a preferred choice in various industrial applications. The main sources of SF_6 emissions from industrial processes and industrial product use include SF_6 used as a cover gas in magnesium smelting and casting as well as for special foundry products in the aluminium industry. Use of SF_6 as an insulating gas in electrical equipment (e.g. gas-insulated switchgear, circuit breakers) is also considered as an industrial product use.

Emissions of SF_6 from other applications, such as fire suppression and explosion protection, leak detection and various electronic applications, are not considered industrial process or industrial product use emissions under the GHG emissions reporting program and therefore are not to be reported.

Monitoring or Direct Measurement
This type of method may involve continuous emission monitoring systems (CEMS) (emissions recorded over an extended and uninterrupted period), predictive emission monitoring (correlations developed between measured emission rates and process parameters) or source testing (e.g. stack sampling).

DEFINITIONS / EXPLANATORY INFORMATION (concluded)

Mass Balance
This type of method involves the application of the law of conservation of mass to a facility, process or piece of equipment. Emissions are determined from the difference in the input and output of a unit operation where the accumulation and depletion of a substance are included in the calculations.

Emission Factors
This method uses emission factors (EF) to estimate the rate at which a pollutant is released into the atmosphere (or captured) as a result of some process activity or unit throughput. The EFs used may be average or general EFs, or technology-specific EFs.

Engineering Estimates
This type of method may involve estimating emissions from engineering principles and judgement, using knowledge of the chemical and physical processes involved, the design features of the source, and an understanding of the applicable physical and chemical laws.

SECTION VIII. CONFIDENTIALITY REQUEST

Confidentiality Request
A reporter may submit a written request (along with supporting information for justification) that part, or all, of the submission be treated as confidential, based on the reasons set out in Section 52 of the CEPA 1999. A request for confidentiality must be submitted each year since a request for confidentiality only applies to the reporting year in which the request was made.

CEPA Section 52 states the basis on which a confidentiality request can be made:

- the information constitutes a trade secret;
- public disclosure may cause material financial loss to, or prejudice to the competitive position of the company; or
- interfere with contractual or other negotiations between the company and others.

To be treated as confidential, the reporter must demonstrate that they treat the information as confidential and wish to continue to do so. They must also demonstrate that this information is not available to the general public through legal means.
A request for confidentiality is not determinative. A determination of whether the information is confidential will be based on an objective analysis of the facts (information provided by the reporter in support of its confidentiality request).

Under the Alberta Regulation 251/2004, Climate Change and Emissions Management Act (CCEMA), Specified Gas Reporting Regulation, a report may include a written request that portions of the report be kept confidential, for a period of up to 5 years, on the basis that the information is commercial, financial, scientific or technical information that would reveal proprietary business, competitive or trade secret information about a specific facility, technology or corporative initiative.

SECTION IX. STATEMENT OF CERTIFICATION

Statement of Certification
A document signed by an authorized signing officer of the reporting company indicating that the information submitted is true, accurate and complete.

GLOSSARY

Chemical Abstract Service (CAS) number and Global Warming Potential (GWP) for the GHGs or GHG species

Greenhouse Gas	Formula	CAS number	GWP
Carbon dioxide	CO_2	124-38-9	1
Methane	CH_4	74-82-8	21
Nitrous oxide	N_2O	10024-97-2	310
Sulphur hexafluoride	SF_6	2551-62-4	23 900
Hydrofluorocarbons (HFC):			
HFC-23 (trifluoromethane)	CHF_3	75-46-7	11 700
HFC-32 (difluoromethane)	CH_2F_2	75-10-5	650
HFC-41 (fluoromethane)	CH_3F	593-53-3	150
HFC-43-10mee (1,1,1,2,3,4,4,5,5,5-decafluoropentane)	$C_5H_2F_{10}$	138495-42-8	1 300
HFC-125 (pentafluoroethane)	C_2HF_5	354-33-6	2 800
HFC-134	CHF_2CHF_2	359-35-3	1 000
HFC-134a (1,1,1,2-tetrafluoroethane)	CH_2FCF_3	811-97-2	1 300
HFC-143 (1,1,2-trifluoroethane)	CHF_2CH_2F	430-66-0	300
HFC-143a (1,1,1-trifluoroethane)	CF_3CH_3	420-46-2	3 800
HFC-152a (1,1-difluoroethane)	CH_3CHF_2	75-37-6	140
HFC-227ea (1,1,1,2,3,3,3-heptafluoropropane)	C_3HF_7	431-89-0	2 900
HFC-236fa (1,1,1,3,3,3-hexafluoropropane)	$C_3H_2F_6$	690-39-1	6 300
HFC-245ca (1,1,2,2,3-pentafluoropropane)	$C_3H_3F_5$	679-86-7	560
Perfluorocarbons (PFC):			
Perfluoromethane (tetrafluoromethane)	CF_4	75-73-0	6 500
Perfluoroethane (hexafluoroethane)	C_2F_6	76-16-4	9 200
Perfluoropropane (octafluoropropane)	C_3F_8	76-19-7	7 000
Perfluorobutane (decafluorobutane)	C_4F_{10}	355-25-9	7 000
Perfluorocyclobutane (octafluorocyclobutane)	$c\text{-}C_4F_8$	115-25-3	8 700
Perfluoropentane (dodecafluoropentane)	C_5F_{12}	678-26-2	7 500
Perfluorohexane (tetradecafluorohexane)	C_6F_{14}	355-42-0	7 400

Instructions for Statement of Certification

INSTRUCTIONS

You are required to send the attached Statement of Certification (completed and signed) for the 2008 Greenhouse Gas (GHG) report to Environment Canada no later than June 1, 2009 (see mailing address listed below).

If this facility is in Alberta, you must also send a second completed and signed statement to Alberta Environment.

To complete the Statement of Certification:

1. **Print** the Statement of Certification (SoC) (next page) on company letterhead.
2. **Review** the SoC for completeness and accuracy.
3. **Have** the SoC **signed** by the certifying official (identified in Section 1, Additional Contact Information, of the reporting form).

Mailing Addresses:

Environment Canada
GHG Division
Edifice Fontaine
200 Sacre-Coeur, 10th Floor
Gatineau, QC
J8X 4C6
Fax: (819) 953-3006

Director
Climate Change Policy Unit
Environmental Assurance Division
Alberta Environment
10th Floor, Oxbridge Place
9820 - 106th Street
Edmonton, Alberta
T5K 2J6

Facility I.D.

0

Statement of Certification

Reporting company legal name

0

Facility name

0

Facility location

0

City/District/Municipality

0

Province/Territory

0

Postal code

0

NPRI ID

0

AB Approval Number

0

I hereby certify that I have reviewed the Greenhouse Gas report submitted, and have exercised due diligence to ensure that the submitted information is true and complete. The amounts and values (presented below) are accurate, based on reasonable estimates using available data.

SUMMARY OF THE DATA SUBMITTED – 2008 EMISSIONS

Greenhouse Gas	*Total Tonnes*		*Total Tonnes (in CO_2 e)*	
Carbon dioxide		CO_2		CO_2e
Methane		CH_4		CO_2e
Nitrous oxide		N_2O		CO_2e
Hydrofluorocarbons (HFC)				CO_2e
Perfluorocarbons (PFC)				CO_2e
Sulphur hexafluoride		SF_6		CO_2e
Total Emissions				CO_2e
Carbon dioxide from biomass combustion		CO_2		CO_2e

Certifying Official

I _____ *(Certifying Official)* , **have the authority to bind the reporting company.**

Signature of Certifying Official

Date

First name

0

Last name

0

Position/Title

0

Telephone number

0 0 ext. 0

(Maximum of 5 digits)

Fax number

0 0

E-mail address *(e-mail of certifying official)*

0

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26/11/2009