Report Preview

Company Details

Name | The University of Western Ontario

Report Details

Report Status: | Submitted - 2020-09-30 4:08:22 PM

Reporting Period: | 2019

Facility Name: | Main Campus

Facility Address: | 1151 Richmond Street Street London (Ontario) N6A 3K7Canada

Report Type: | Report ECCC & ON

Report Update Comments: | Modifications based on issues log identified by Verifier.

Verify Facility Information

Please verify the following information.

Company Information

Legal Name * | The University of Western Ontario

English Trade Name | Western University

French Trade Name |

Business Number | 108162587

DUNS Number | 208469452

Facility Details

Facility Name * | Main Campus

Physical Address * | 1151 Richmond Street Street London (Ontario) N6A 3K7 Canada 43.01300 -81.27400

Primary NAICS Code * | 611310

GHGRP ID | G10644   (Assigned by ECCC)

| ON GHG ID | 1153   (Assigned by Ontario MECP) |
| NPRI ID | 27020 |

Reporter

Name *	Evan Green
Position *	Manager - Energy and Carbon
Mailing Address *	1393 Western Road London (Ontario), N6G 1G9, Canada
Physical Address *	1151 Richmond Street London (Ontario), N6A 3K7, Canada
Email Address *	egreen46@uwo.ca
Telephone Number *	2263785514
Ext.	

Authorized Signing Officer (Certifying Official)

Name *	Elizabeth Krische
Position *	Associate Vice-President Facilities Management
Mailing Address *	1393 Western Rd Road London (Ontario), N6A 3K7, Canada
Physical Address *	1393 Western Rd Road London (Ontario), N6A 3K7, Canada
Email Address *	Ekrische@uwo.ca
Telephone Number *	5196612111
Ext.	84576

Parent Company Information

Empty

Facility Activities

Activities

You must select at least one activity

Electricity or Heat-Steam Generation

Is this facility registered in Ontario's Emissions Performance Standard Program? *

Yes

Output-Based Pricing System

Is this facility subject to federal OBPS reporting and do you choose to use the same emissions quantification methodologies for GHGRP reporting? Important note: The option to use OBPS specific methodologies when quantifying GHG emissions is provided only for activities that are not listed as ON MECP. *

Yes

Industrial Activities

Industrial Activities (Ontario Reg. 241/19, Schedule 2) **

Activities

Generating electricity using fossil fuels.

Industrial activity *

Generating electricity using fossil fuels.

This is the primary activity undertaken at the facility

☐

Date you started the activity (YYYY-MM-DD)

2019-01-01

Date you ended the activity (YYYY-MM-DD)

2019-12-31

Please provide the details of the main technology used to produce your product *

diesel-fired generators

Fuel Combustion

Fuel Combustion

Electricity Generation **

☐   N/A

All back up generators

Unit Name *	All back up generators
Description	

Gross Electricity Generated On-Site(MWh) *

17.5

Fuels **

Press Save after selecting your fuel to populate non-editable fields

Fuel *

Diesel

Fuel Classification

Non-Biomass

Fuel Type

Liquid

Fuel Unit

kilolitres

Fuel Description

**Amount of Fuel Consumed (Default fuel unit or MJ (if selected)) ** **

**Energy Units(MJ) ** **

8.26

☐

Source of Coal (Domestic - by province, Foreign-by Country) **

Measured and Weighted Higher Heating Value (MJ/unit of fuel consumed) **

38.3

Measured and Weighted Carbon Content (kg of C/unit of fuel consumed) **

Measured Temperature (°C) **

Measured Pressure (kPa) **

Moisture Content (mass fraction) **

Emissions

N/A **	Gas	Methodology **	Emissions (t) **	Emissions (t CO2e)
☐	CO_2	Eq 2-2	22.1	22.1
☐	CH_4	Eq 2-13	0.0006	0.0150
☐				

N2O	Eq 2-13	0.002	0.596

Carbon Dioxide Emission Factor **

2681

Units (for example, kg/kl, g/MJ) **

kg/kl

Methane Emission Factor **

0.073

Units (for example, kg/kl, g/MJ) **

kg/kl

Nitrous Oxide Emission Factor **

0.23

Units (for example, kg/kl, g/MJ) **

kg/kl

Oxidation Factor (0.0~1.0) if used **

Steam Produced (t) **

Boiler Measured Temperature (°C) **

Boiler Measured Pressure (kPa) **

Ratio of Boiler's Design Rated Heat Input, Capacity to Design Rated Steam Output Capacity (kJ/t of steam) **

Steam Generation **

☒   N/A

Empty

Flaring **

☒   N/A

Empty

All Other Stationary Fuel Combustion **

☐   N/A

Press Save after selecting your fuel to populate non-editable fields

Fuel *

Natural Gas

Fuel Classification

Non-Biomass

Fuel Type

	Gas
Fuel Unit	m3
Fuel Description	

Amount of Fuel Consumed (Default fuel unit or MJ (if selected)) **	**Energy Units(MJ) ****
27381116	☐

Source of Coal (Domestic - by province, Foreign-by Country) **	
Measured and Weighted Higher Heating Value (MJ/unit of fuel consumed) **	39.05
Measured and Weighted Carbon Content (kg of C/unit of fuel consumed) **	
Measured Temperature (°C) **	18
Measured Pressure (kPa) **	100
Moisture Content (mass fraction) **	

Emissions

N/A **	Gas	Methodology **	Emissions (t) **	Emissions (t CO2e)
☐	CO2	Eq 2-11	53680.2	53680.2
☐	CH4	Eq 2-14	1.01	25.25
☐	N2O	Eq 2-14	0.96	286.08

Carbon Dioxide Emission Factor **	1950.4
Units (for example, kg/kl, g/MJ) **	g/m3
Methane Emission Factor **	0.037
Units (for example, kg/kl, g/MJ) **	g/m3
Nitrous Oxide Emission Factor **	0.035

Units (for example, kg/kl, g/MJ) **

g/m3

Oxidation Factor (0.0~1.0) if used **

Steam Produced (t) **

Boiler Measured Temperature (°C) **

Boiler Measured Pressure (kPa) **

Ratio of Boiler's Design Rated Heat Input, Capacity to Design Rated Steam Output Capacity (kJ/t of steam) **

Press Save after selecting your fuel to populate non-editable fields

Fuel *

Diesel

Fuel Classification

Non-Biomass

Fuel Type

Liquid

Fuel Unit

kilolitres

Fuel Description

Amount of Fuel Consumed (Default fuel unit or MJ (if selected)) *

Energy Units(MJ) *

54.45

☐

Source of Coal (Domestic - by province, Foreign-by Country) **

Measured and Weighted Higher Heating Value (MJ/unit of fuel consumed) **

38.03

Measured and Weighted Carbon Content (kg of C/unit of fuel consumed) **

Measured Temperature (°C) **

Measured Pressure (kPa) **

Moisture Content (mass fraction) **

Emissions

N/A **	Gas	Methodology **	Emissions (t) **	Emissions (t CO2e)
☐	CO2	Eq 2-2	146	146
☐	CH4	Eq 2-14	0.004	0.100
☐	N2O	Eq 2-14	0.013	3.874

Carbon Dioxide Emission Factor **	2681
Units (for example, kg/kl, g/MJ) **	kg/kl
Methane Emission Factor **	0.073
Units (for example, kg/kl, g/MJ) **	kg/kl
Nitrous Oxide Emission Factor **	0.23
Units (for example, kg/kl, g/MJ) **	kg/kl
Oxidation Factor (0.0~1.0) if used **	
Steam Produced (t) **	
Boiler Measured Temperature (°C) **	
Boiler Measured Pressure (kPa) **	
Ratio of Boiler's Design Rated Heat Input, Capacity to Design Rated Steam Output Capacity (kJ/t of steam) **	

Annual emissions from the use of sorbent (ON MECP)

N/A **	Gas	Methodology *	Emissions (t) **	Emissions (t CO2e)
☒	CO2			

Electricity Information

N/A	Description	Value **
☐	Gross Electricity Generated On-site (MWh)	17.5

☐	Additional electricity generated on-site	0
☐	Electricity Sold Off-site (MWh)	0
☐	Electricity Lost On-site (MWh)	0
☐	Electricity Purchased (MWh)	141502

Steam/Heat Information

N/A	Description	Value **
☒	Gross Steam and Heat Generated On-Site (MJ)	
☒	Gross Steam and Heat used to Generate Electricity On-Site (MJ)	
☒	Steam and Heat Sold Off-site (MJ)	
☒	Steam and Heat Purchased (MJ)	
☒	Steam or Heat Lost On-Site (MJ)	

Facility/Source-specific Documentation *

Where applicable, please attach supplier or fuel sampling, analysis and consumption measurement documentation related to fuel quantity, carbon content, high heat value and/or emission factor used.

File Name	Date
Diesel 2019 Summary v0.xlsx	2020-09-18 11:30:33 AM
2019 NG Consumption - GHGRP and OBPS - v2.xlsx	2020-09-18 11:31:40 AM
2019 Generator Electrical Production.xlsx	2020-09-18 11:33:23 AM
2019 GHG Quantification - OBPS methodology - Full Year.xlsx	2020-09-18 11:45:49 AM

On-Site Transportation

On-Site Transportation

Emissions by Fuel Type **

☒   N/A

Empty

Facility/Source-specific Documentation

Where applicable, please attach supplier or fuel sampling, analysis and consumption measurement documentation related to fuel quantity, carbon content, high heat value and/or emission factor used.

Documents **

☒   N/A

Empty

Electricity or Heat-Steam Generation

Emissions from acid gas scrubbers and acid gas reagent

N/A **	Gas	Methodology **	Emissions (t) **	Emissions (t CO2e)
☒	CO2 nonbio			

Sorbent **

Empty

Additional Information

Files **

Empty

De Minimis Emissions (ON MECP)

De minimis emissions quantified using methods other than the quantification methodologies set out in the Guidelines for Greenhouse Gas Emissions Reporting.

Emissions

Empty

Total De Minimis Emissions by activity (t CO2e)

Empty

Section A

Report the direct greenhouse gas emissions for this facility for the period identified above.

Click Validate to check for errors and Save/Continue to save the information. If there are any errors, they will be flagged. If there are no errors, the page will be Complete.

N/A = Not ApplicableMDM = Monitoring or Direct MeasurementMB = Mass BalanceEF = Emission FactorsEE = Engineering Estimates

Stationary Fuel Combustion Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☐	Carbon Dioxide (CO2)	☐	☐	☒	☐	53848	53848
☐	Methane (CH4)	☐	☐	☒	☐	1.02	25.50
☐	Nitrous Oxide (N2O)	☐	☐	☒	☐	0.97	289.06
Sub-total				54162.56			

Industrial Process Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		
Sub-total							

Venting Emissions (including vented Formation CO2)

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions (t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

Flaring Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

Leakage Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

On-site Transportation Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

Waste Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒	Methane (CH4)	☐	☐	☐	☐		
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

Wastewater Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		
☒		☐	☐	☐	☐		

	Methane (CH4)						
☒	Nitrous Oxide (N2O)	☐	☐	☐	☐		

Sub-total

Section B

Report the direct greenhouse gas emissions for this facility for the period identified above.Click Validate to check for errors and Save/Continue to save the information. If there are any errors, they will be flagged. If there are no errors, the page will be Complete.

Note: CO2 emissions from biomass combustion are not included in the total reported to Environment and Climate Change Canada.

N/A = Not ApplicableMDM = Monitoring or Direct MeasurementMB = Mass BalanceEF = Emission FactorsEE = Engineering Estimates

Biomass Combustion Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Carbon Dioxide (CO2)	☐	☐	☐	☐		

Section C

Report the direct emissions of HFCs, PFCs and SF6 from industrial processes and industrial product use only for this facility for the period identified above.

Click Validate to check for errors and Save/Continue to save the information. If there are any errors, they will be flagged. If there are no errors, the page will be Complete.

N/A = Not ApplicableMDM = Monitoring or Direct MeasurementMB = Mass BalanceEF = Emission FactorsEE = Engineering Estimates

Hydrofluorocarbon (HFC) Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	HFC-23 (CHF3)	☐	☐	☐	☐		
☒	HFC-32 (CH2F2)	☐	☐	☐	☐		
☒		☐	☐	☐	☐		

	HFC-41 (CH3F)						
☒	HFC-43-10mee (C5H2F10)	☐	☐	☐	☐		
☒	HFC-125 (C2HF5)	☐	☐	☐	☐		
☒	HFC-134 (C2H2F4)	☐	☐	☐	☐		
☒	HFC-134a (C2H2F4)	☐	☐	☐	☐		
☒	HFC-143 (C2H3F3)	☐	☐	☐	☐		
☒	HFC-143a (C2H3F3)	☐	☐	☐	☐		
☒	HFC-152 (C2H4F2)	☐	☐	☐	☐		
☒	HFC-152a (C2H4F2)	☐	☐	☐	☐		
☒	HFC-161 (C2H5F)	☐	☐	☐	☐		
☒	HFC-227ea (C3HF7)	☐	☐	☐	☐		
☒	HFC-236cb (C3H2F6)	☐	☐	☐	☐		
☒	HFC-236ea	☐	☐	☐	☐		

(C3H2F6)

N/A	Substance Name	MDM	MB	EF	EE	Emissions (t)	Emissions (t CO2e)
☒	HFC-236fa (C3H2F6)	☐	☐	☐	☐		
☒	HFC-245ca (C3H3F5)	☐	☐	☐	☐		
☒	HFC-245fa (C3H3F5)	☐	☐	☐	☐		
☒	HFC-365mfc (C4H5F5)	☐	☐	☐	☐		

Total

Perfluorocarbon (PFC) Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions (t CO2e)
☒	Perfluoromethane (CF4)	☐	☐	☐	☐		
☒	Perfluoroethane (C2F6)	☐	☐	☐	☐		
☒	Perfluoropropane (C3F8)	☐	☐	☐	☐		
☒	Perfluorobutane (C4F10)	☐	☐	☐	☐		
☒	Perfluorocyclobutane (c-C4F8)	☐	☐	☐	☐		

☒	Perfluorop entane (C5F12)	☐	☐	☐	☐		
☒	Perfluoroh exane (C6F14)	☐	☐	☐	☐		
☒	Perfluorod ecalin (C10F18)	☐	☐	☐	☐		
☒	Perfluoroc yclopropa ne (c-C3F6)	☐	☐	☐	☐		

Total

Sulphur Hexafluoride (SF6) Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Sulphur hexafluori de (SF6)	☐	☐	☐	☐		

Nitrogen Trifluoride (NF3) Emissions

N/A	Substance Name	MDM **	MB **	EF **	EE **	Emissions (t) **	Emissions(t CO2e)
☒	Nitrogen Trifluoride (NF3)	☐	☐	☐	☐		

Ontario's EPS Production Parameters

Electricity Generation, Thermal Energy, and Cogeneration Standards Production Parameters

55) a. GWh   0.02

Ontario's EPS Annual Emissions Limits

Total Annual Emissions Limit

Total Annual Emissions Limit (tCO2e)   81

Annual Activity Emissions Limits (AAEL)

AAELa (tCO2e)

AAELb (tCO2e)   81

AAELc (tCO2e)

AAELd (tCO2e)

AAELe (tCO2e)

AAELf (tCO2e)

AAELg (tCO2e)

AAELh (tCO2e)

Supporting Calculations

File Name	Date
AAELb.xlsx	2020-05-28 9:38:49 PM

Summary

No input required - GHG totals are calculated automatically.

Total GHG Emissions for the Facility

	Emissions (t)	Emissions (t CO2e)
Carbon Dioxide (CO2)	53848	53848
Methane (CH4)	1.02	25.50
Nitrous Oxide (N2O)	0.97	289.06
Hydrofluorocarbons (HFCs)		
Perfluorocarbons (PFCs)		
Sulphur hexafluoride (SF6)		

Nitrogen Trifluoride (NF3)

Facility Total reported to Environment and Climate Change Canada:

54162.56

Carbon dioxide (CO2) from biomass combustion:

Facility Total reported to Ontario Ministry of Environment, Conservation and Parks:

54162.56

De Minimis Emissions

Reporting Amount

54163

Verification Amount

54165

Comments

This section is optional.

Enter any comments you wish to include related to the information you have reported.

General Comments will not be published.

General Comments

Comments: (max 4000 characters)

Reasons for Changes in GHG Emissions from Previous Year

Select the applicable reason or reasons

Additional Information: **

File Name

Date

Confidentiality Request

Environment and Climate Change Canada Confidentiality Request

The Canada Gazette Notice indicated that the Minister of the Environment intends to publish GHG emission totals by gas, by facility. Under the Canadian Environmental Protection Act, 1999 (CEPA 1999), 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 Help for more information).

Are you requesting confidentiality of this report under CEPA 1999? *

No

If yes, you must upload a document containing your written request to Environment and Climate Change Canada with your report submission that includes:
- Identification of the specific information that you wish to keep confidential
- Appropriate justification and supporting documentation

An Environment and Climate Change Canada representative will be in contact with you regarding your request.

Click on the icon located to the right of your screen to upload your Environment and Climate Change Canada Confidentiality Request.

File Name	Date

Ontario Confidentiality Request

Information submitted in this form may be subject to public release in whole or in part without further notice to you pursuant to the Freedom of Information and Protection of Privacy Act (FIPPA), R.S.O. 1990, c. F.31. However, some the information submitted in this form may be prevented from release due to exemptions or exclusions to the right of access to certain records under FIPPA. Should you wish to state explicitly that certain information is supplied in confidence to the Ontario Ministry of the Environment, Conservation and Parks, please upload your request below. Note that while such a request will be considered in any decision on the release of information, the request will not guarantee that the information identified in the request is prevented from release. For more information please see Chapter 5 of the Freedom of Information and Protection of Privacy Manual available online: https://www.ontario.ca/document/freedom-information-and-protection-privacy-manual

Are you explicitly stating that certain information in this report is supplied in confidence and that the disclosure of the information is likely to be expected to lead to harm? *

No

If yes, please upload a document containing your written request to Ontario Ministry of the Environment, Conservation and Parks with your report submission that includes:

- Identification of the information that you wish to be identified as supplied in confidence

- A detailed explanation of any expected harms resulting from the release of the information

File Name	**Date**

Report Submission and Electronic Certification

Please note that the Authorized Signing Officer retains ultimate responsibility for all data entered into the system, including the certification and the submission of the report.

Statement of Certification

Company Name	
Facility Name	
Facility Address	
Reporting Period	
Facility Total Emissions reported to Environment and Climate Change Canada (t CO2e)	
Reporting Amount (t CO2e)	54163
Verification Amount	54165
Report ID	
Report Type	
GHGRP ID	
ON GHG ID	1153 (Assigned by Ontario MECP)

Authorized Signing Officer (Certifying Official)

Authorized Signing Officer (Certifying Official)

Elizabeth Krische

I hereby certify that I have exercised due diligence to ensure that the submitted information is true and complete. The amounts and values for the facility are accurate, based on reasonable estimates using available data. The data for the facility that I represent are hereby submitted using the Environment and Climate Change Canada Single Window system.

I have the authority to bind the reporting company.

Signature: _____

Date:_____

File Name **	Date **
StatementOfCertification-Environment_Climate_Change_Canada.pdf	2020-09-30 4:07:10 PM

Submit Report

Submitted By

Evan Green

Date

2020-09-30 4:08:22 PM