Preamble:

The University of Alberta is currently using the Campus Carbon Calculator that was developed by Clean Air - Cool Planet, the University of New Hampshire and The Sustainability Institute. Over 600 college and university signatories of the American Colleges and University Presidents Climate Commitment employ this tool. The tool is now available online as CarbonMAP in the US but is still only available in the Excel version for Canadian institutions.

Currently all Scope-1 and Scope-2 elements and some Scope-3 elements of UAlberta have been accounted for. Utility data and building areas are current up to March 31, 2015

UAlberta uses a customized electricity emission factor for the North Campus to reflect the District Energy System's impact due to self generation. Satellite campuses use the published Alberta grid emission factor.

Overview:

GHG accounting and reporting are based on the following principles as defined by the GHG Protocol and guided under the ISO-14000 Environmental series:

RELEVANCE Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.

COMPLETENESS Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.

CONSISTENCY Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

TRANSPARENCY Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

ACCURACY Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

The GHG Protocol defines the Scopes as follows (Figure No.1 is added for clarity):

- **Scope-1** **Mandatory**, Direct Emissions occur from sources that are owned or controlled by the company. This includes On-Campus Combustion, Vehicle Pool, Fertilizers, Refrigerants, Animals.

- **Scope-2** **Mandatory**, Indirect Emissions from Purchased Electricity.

- **Scope-3** **Optional**, Scope 3 emissions are a consequence of the activities of the institution, but occur from sources not owned or controlled by the company. This includes Directly Financed Travel, Student/Staff Commuting, Embodied Carbon in purchased goods/services (e.g. paper), Solid Waste, Wastewater.

- **Offsets** **Optional**, REC's, Forest or Land Holdings

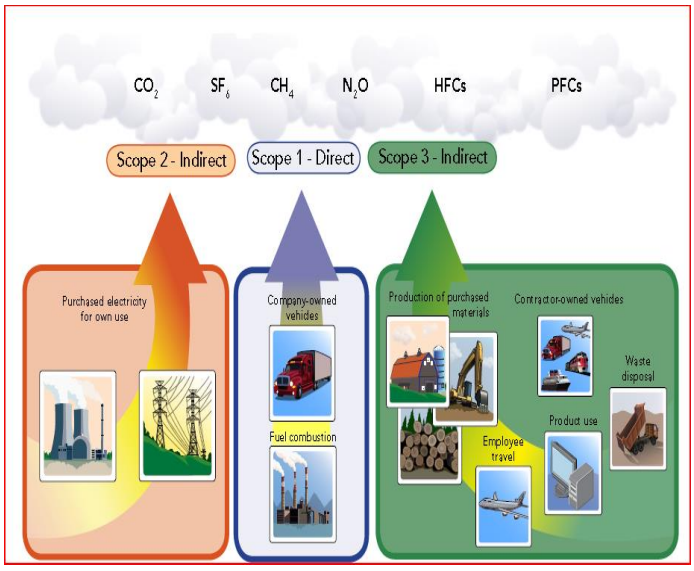

Figure No.1 GHG Scopes.

GHG Inventory Status Summaries

North Campus

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	976,691	289,913.1
2014/15	979,364	287,448.3
2015/16	998,213	267,415.8

Scope-1 and Scope-2 inventory complete from 1990-2015. Refrigerant and fertilizer inventory has been included. Inventory includes fleet. The UAlberta North Campus tree inventory has been quantified and GHG offset has been included for informational purposes.

Scope-3 waste water and solid waste have been included.

Scope-3 Student / Staff Commuting, Direct financed travel, and paper have yet to be accounted for but are being considered.

South Campus (Others + ERS)

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	52,689	21,240.3
2014/15	53,251	20,658.4
2015/16	52,600	24,094.2

Scope-1 and Scope-2 inventory complete from 1990-2015. Between the dates of 1990 and 1996, the data was extrapolated using weather data, utility cost data and engineering best practices. Refrigerant inventories are negligible. Fleet, Animal waste data and fertilizer inventory has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, waste water and solid waste have yet to be accounted for but are being considered.

Augustana Campus

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	26,715	3,268.2
2014/15	28,460	3,446.1
2015/16	31,626	3,681.3

Scope-1 and Scope-2 inventory complete from 2006-2015. Between the date of UAlberta's acquisition of Augustana and 2006, the data was extrapolated using weather data, utility cost data and engineering best practices. Refrigerant inventories are negligible. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Campus St. Jean

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	13,679	2,478.3
2014/15	13,679	2,506.5
2015/16	13,634	2,334.8

Scope-1 and Scope-2 inventory complete from 1990-2015. Between the dates of 1990 and 1996, the data was extrapolated using weather data, utility cost data and engineering best practices. Refrigerant inventories are negligible. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Ellerslie

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	5,979	213.8
2014/15	5,979	174.7
2015/16	5,971	1,135.8

Scope-1 and Scope-2 inventory complete from 1990-2015. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Devon

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	3,536	798.2
2014/15	3,294	700.9
2015/16	3,294	670.6

Scope-1 and Scope-2 inventory complete from 1990-2015. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Kinsella

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	4,526	1,808.3
2014/15	6,674	1,805.7
2015/16	6,674	1,491.0

Scope-1 and Scope-2 inventory complete from 1990-2015. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Others (including George Lake, Breton, Whitemud Drive, and Bard 2)

Fiscal Year	Total Building Space (m^2)	Net Emissions (TCO_2e)
2013/14	18,405	467.9
2014/15	25,952	517.8
2015/16	21,263	514.8

Scope-1 and Scope-2 inventory complete from 1990-2015. Inventory includes fleet.

Scope-3 waste water has been included.

Scope-3 Student / Staff Commuting, Direct financed travel, solid waste and paper have yet to be accounted for but are being considered.

Total FY2015 UAlberta GHG inventory (Operational Boundary) **301,338.3 TCO_2e**