Name:	GHG Base Year Recalculation Policy	**Version No.:**	1.0
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1. Purpose

The Greenhouse Gas (GHG) Protocol, an established set of GHG accounting standards used by the majority of corporate GHG reporting programs globally, requires that an organization choose a base year for their carbon inventory. Establishing a base year enables the tracking of emissions and progress towards emission reduction goals over time. APUC has aligned its GHG reporting practices with the GHG Protocol since 2010 when the organization first began publicly disclosing emissions to agencies such as CDP.

As companies undergo certain changes, current year emissions may not always be meaningfully comparable with base year and historic year emissions. Under the GHG Protocol, companies are required to develop a policy governing the circumstances under which retroactive base year recalculation should take place. This Policy covers the circumstances for a base year/historic year's recalculation, as well as the methodologies for recalculating base year/historic year emissions.

This GHG Base Year Recalculation Policy will be reviewed and refined periodically by the Office of Sustainability and our Executive Leadership.

2. Base Year Selection

A base year is selected to allow for the tracking of emissions over time in response to a variety of business goals, including:

- Public reporting;
- Establishing GHG targets;
- Managing Risks and Opportunities; and
- Addressing the needs from investors and other stakeholders.

APUC has selected 2017 as the base year for the company's GHG inventory.

3. Base Year Recalculation Policy

Companies periodically undergo organizational changes, develop new methodologies to calculate their carbon inventory, discover errors in quantification, and include/exclude emission sources from their operational boundary. In order to provide a meaningful and relevant

comparison to current emissions, emissions from historic years must be retroactively recalculated.

A base year recalculation policy is a guideline that defines the circumstances and thresholds that trigger a base year and historic year recalculation, and outlines the methodology for carrying out the recalculation. The process is outlined in Figure 1 and detailed in the following sections.

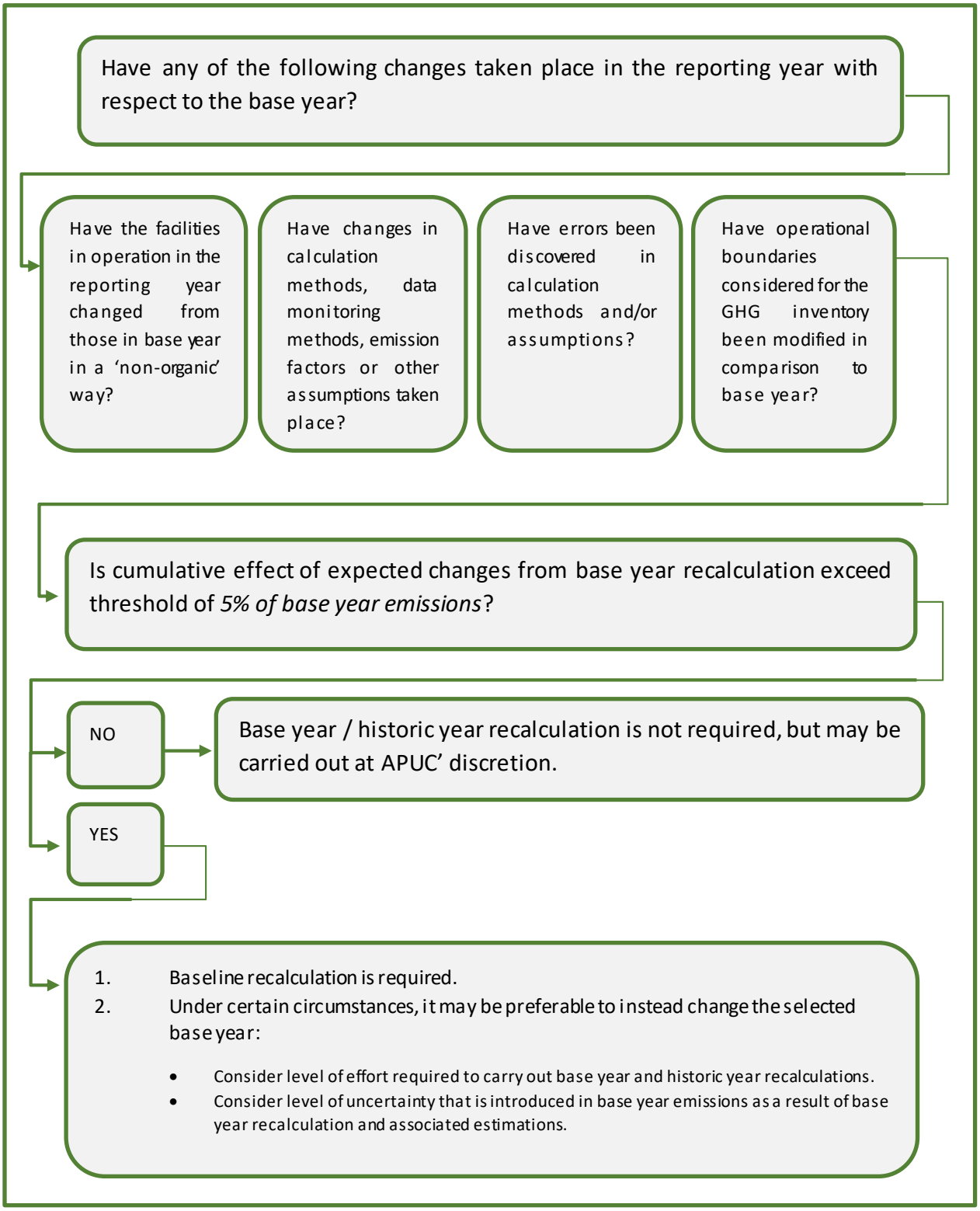

Figure 1 Process for base year and historic year recalculation

3.1 Recalculation circumstances

The following circumstances could trigger the recalculation of base year and historic year emissions:

1. **Structural changes to organizational boundaries**
2. **Changes in calculation methods, data monitoring, emission factors or other assumptions**
3. **Discovery of significant errors**
4. **Adjustment of operational boundaries**

These circumstances and the methodologies for recalculation are presented below.

3.1.1 Structural changes to organizational boundaries

A structural change occurs where there is a transfer in control of emission-generating activities included within the boundary. In APUC's case, the facilities that APUC owns and operates change through acquisition of existing facilities, new builds, permanent closures or facility divestments. The approach for historic year recalculations for structural changes is presented below and summarized in Table 1.

Table 1 - Method for recalculation of base year and historic year emissions for structural changes

	Facility emissions in base year and historic years	Examples
New Builds	Base year and historic year emissions are NOT recalculated for new builds.	A newly built facility starts its operations in March 2019. The GHG inventories in 2019 and onwards will include data from this facility, however base year and historic years emissions will not be affected.
Acquired Facilities	Emissions from acquired facilities should be added to the base year and all previous years' (historic) emissions only after one full calendar year of data is available for the facility.	A facility acquired in March 2019 will have a full calendar year of data (12 months Jan – Dec) in 2020. Historic emissions will be calculated / estimated and retroactively added to the company's base year and all historic GHG emissions in the 2020 year.
Permanent closures	Base year and historic year emissions are NOT recalculated for permanently closed facilities.	A facility is closed in May 2019. Base year and historic years will not be adjusted to account for this closure.
Divested Facilities	Emissions will be reported up until the last day of the previous full month prior to operation end.	A facility is divested in July 2019. The 2019 GHG inventory includes the facility's partial year data for 2019 and full year data in the base year and historic years. In 2020, the facility is removed from the GHG inventory and all previous years.

Facility Acquisitions:

A 'year-after, all year' approach is selected for the recalculation of historic year emissions for acquired facilities. Under this approach, emissions from facilities should be added to the base year and all intermediate years' (historic) emissions only after one full calendar year of data is available for the facility. In the first year a new facility is under APUC's operational control (and only partial year data exists), base year and historic year emissions are **not** recalculated to reflect the partial year. An explanation should be provided in the GHG inventory report to account for the difference between the current and historic emissions (note: this is done to avoid the need to recalculate historic emissions in two consecutive years for the same facility).

GHG emissions calculated for a newly acquired facility will be retroactively added to the base year and all subsequent years, either based on actual historic data from the facility (if available), or otherwise as an estimate (e.g., based on current emissions or other assumptions).

Example: A facility acquired in March 2019 will have a full year of Jan – Dec data for the 2020 reporting year. The 2019 GHG inventory results will include the partial year's data for the facility,

*but base year and other historic emissions will **not** be recalculated to include this partial year. Instead, the base year would be recalculated in the 2020 year once a full year of operational data is available for the facility.*

Facility Divestments:

Similar to acquisitions, the 'year-after, all-year' approach is recommended for the historic years' recalculation of emissions from divested facilities. The GHG emissions for the facility in question will be removed from the base year and all subsequent years the first full calendar year after a facility is sold.

In the year a facility is divested (and partial data exists), the base year and historic emissions are not recalculated.

Example: A facility is divested in July 2019. The 2019 GHG inventory includes the facility's partial year data for 2019 and full year data in the base year and historic years. In 2020, the facility is removed from the GHG inventory and all previous years.

New Builds, or permanent shutdowns:

The building of new facilities or the decommissioning of old facilities is considered 'organic business growth / decline'. According to the GHG Protocol, recalculation is not to be conducted where the size of a company's operations grows or declines "organically". The rationale for this is that organic growth / decline results in an actual change in emissions to the atmosphere, rather than acquisitions / divestments that simply transfer emitting facilities between companies. As a result, historic year emissions are not recalculated for organic growth / decline.

3.1.2 Changes in calculation methods, data monitoring, emission factors or other assumptions

Changes to calculation methodologies (e.g. equations, factors, etc. used) have the potential to introduce inconsistencies in emissions reporting between years and would be a basis for recalculating historic emissions (using the updated methodologies) if the anticipated impacts exceeded the recalculation significance threshold.

Grid Electricity emission factors – Annual updates to grid electricity emission factors can have an impact on reported GHG emissions in the base year and historic emissions because there is a time lag between the reporting of grid emission factors and the year that the factors apply to (in Canada and US there is a 2-year delay). Historic years should be updated once the appropriate factors are published, where the changes are significant.

Example: when preparing the 2019 inventory report, it may be necessary to use a 2017 grid emission factor for Canadian jurisdictions as this would be the most recent factor published by Environment Canada at the time. However, in 2021, the 2019 factor will become available. Should the difference in grid emission factors used for 2019 inventory calculations between 2019 and

2021 be large enough to result in a significant change in overall emissions, then the historic 2019 results should be updated by using the newly published 2019 grid emission factor; otherwise, the grid factors should be updated at any later time when another change triggers a recalculation.

3.1.3 Discovery of significant errors

Recalculation would be required should errors be discovered with respect to calculation methodologies and assumptions, etc., consistent with the approach that would be taken for changes to calculation methodologies described above.

3.1.4 Adjustment of operational boundaries

Should the scope of the GHG operational boundary change in the reporting year to include or exclude certain types of emission sources, a base year/historic year recalculation is triggered.

The approach for recalculating historic year emissions due to the adjustment of organizational or operational boundaries is a year after, all-year approach, similar to the procedures presented previously in this section under structural changes.

Example: If some facilities are added into the 2019 inventory whereas historically they have not been included, base year and historic year emissions are to be recalculated once these facilities are added to the inventory.

3.2 Significance threshold

The GHG Protocol Standard makes no specific recommendation with regards to the point at which changes are deemed significant enough to warrant a recalculation – this is up to individual reporting companies based on consideration of stakeholder needs and effort required to recalculate. In order to avoid the constant need for recalculation, it is recommended that base year recalculation based on the circumstances described above be performed whenever the cumulative change in emissions would represent **5% or greater of the current base year emissions estimate**. Recalculation may be performed where changes represent less than 5% of base year emissions, at APUC' discretion.

3.3 Changing the selected base year

Companies that have frequent changes in facilities where they operate may find it difficult to maintain a fixed base year. Through gradual turnover in the facilities, the facilities reflected in the base year (and historic years) may become considerably different from the facilities actually operating during those years. New facilities would require obtaining and maintaining reliable and verifiable data for all years previous to operation under APUC, up to the base year, or alternatively estimating data for all years previous to the acquisition. Such estimations will result in a degree of uncertainty in base year and historic year results that will increase over time. On the other hand, in some circumstances (such as a change in calculation methodology), it may be

possible to maintain accuracy but APUC may find base year and historic years recalculations too tedious.

In cases where the level of uncertainty in base year results could greatly affect the reliability of comparisons, or the level of effort associated with base year recalculation is considered too high, APUC may decide to change its base year to a later year than it had initially selected, or to the current reporting year. This will, of course, have implications for the historic comparisons that APUC can make in its reporting (especially if reduction targets have been set relative to a particular base year), and may not be acceptable to stakeholders.

Below are some hypothetical examples of when re-selecting a base year is more practical for a company:

- *A company merges with another similarly sized company that used a different base year for its GHG inventory. Rather than spending the time to attempt to acquire the missing historic data, the company decides to set a new base year that both parts of the company can buy into.*
- *A company wants to establish a GHG emissions intensity reduction target, but realizes that it does not have high quality data available for the intensity denominator for the company's current inventory base year. So, the base year is advanced to the 1st year where high-quality data are available.*
- *A company set a base year a number of years ago as part of setting a GHG emission reduction target to be achieved in 2020. It is now 2020 and the company is looking to set a new, more ambitious target that focuses on reductions compared to 2020 levels.*
- *A company has signed onto an industry association-led initiative to reduce emissions by a certain percentage from a base year defined by the industry association. This base year differs from the company's current base year, so the company decides to change their base year for consistency and simplicity.*

Version History

Version No.	Revision Date	Revised By	Description of Revisions
1.0	09/15/2020	Momina Sumbal	Policy created.
1.0	09/16/2020	Carter Eady-Kissau	Policy transferred to new template.