

WHAT IS A BASE YEAR?

- ✓ A base year is the year in history against which a company's emissions are tracked over time. It can be either one year or a series of consecutive years.
- ✓ Typically, greenhouse gas emission inventories are summarized on a calendar year (i.e., January 1 through December 31) basis, although other annual periods are acceptable (e.g., fiscal budgeting year).
- ✓ The GHG Protocol Corporate Standard requires that organizations:
 - Choose and report a base year for which verifiable emissions data are available.
 - Specify their reasons for choosing that particular year.
 - Develop a base year emissions recalculation policy and apply it in a consistent manner.
 - Clearly articulate the basis and context for any recalculations to historical emissions estimates for the organization.

CHOOSING A BASE YEAR

- ✓ You should choose as a base year the earliest relevant point in time for which your company has reliable data.
- ✓ Some organizations adopt 1990 as a base year to be consistent with the Kyoto Protocol; however, many companies find it challenging to obtain the necessary data from so far in the past.
- ✓ Most companies choose a single year as their base year. However, if your organization's emissions fluctuate dramatically from year to year, you should consider averaging emissions over a series of consecutive years and using that value as your base year datum.
- ✓ Some GHG reporting, target-setting, or trading programs have specific base year requirements; if your organization is participating or plans to participate in such a program, check the program guidelines when determining your base year.

RECALCULATING BASE YEAR EMISSIONS

- ✓ When tracking your organization's emissions over time, it is important to compare like with like. This means that in the event of structural changes or certain other circumstances, you will need to recalculate your base year emissions in order to continue making consistent and relevant comparisons over time.
 - For example, if your company merges with another, you will need to recalculate your base year emissions to incorporate those of the other company. Otherwise, it would look as though your emissions had increased dramatically, when in fact they probably had not.

RECALCULATING BASE YEAR EMISSIONS +



- ✓ The GHG Protocol Corporate Standard specifies that base year recalculation should occur in the event of:
 - Structural changes that impact base year emissions:
 - Mergers, acquisitions, and divestments
 - Outsourcing and in-sourcing of emitting activities
 - Changes in calculation methodology or improvements in the accuracy of emissions factors or activity data that result in a significant impact on historical, and especially base year, emissions data.
 - Discovery of significant errors that are collectively significant.

RECALCULATING BASE YEAR EMISSIONS +



- ✓ Some GHG programs have additional requirements. For example, the California Climate Action Registry requires base year recalculation when emitting activities move into or out of the company's geographic boundary. Again, when developing your base year recalculation policy, check the requirements of any program in which your organization participates.

CONCEPT OF SIGNIFICANCE THRESHOLD



- ✓ As part of its base year recalculation policy, an organization may choose to define a "significance threshold" – that is, a qualitative and/or quantitative criteria used to define what degree of change to the data, inventory boundary, methods, or any relevant factors shall be considered significant enough to trigger a base year recalculation.
- ✓ The GHG Protocol does not specify a particular significance threshold, but many programs do, such as the California Climate Action Registry which specifies a significance threshold of a 10 percent change to an organization's entire inventory resulting from one or more changes.
- ✓ In the absence of specific policy provided by a governing program, it is the responsibility of each organization to determine and disclose what significance threshold shall trigger base year recalculation.

CONCEPT OF SIGNIFICANCE THRESHOLD +

✓Any verifiers examining your inventory will wish to confirm your organization's adherence to its threshold policy.

✓Note, that while a single structural change, methodological change or error may not trigger the significance threshold, the cumulative change resulting from multiple factors or errors can be significant. The significance threshold should apply to cumulative changes, not single ones.

Recalculating for structural changes

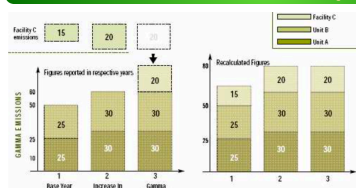
✓As noted earlier, the GHG Protocol requires base year recalculation in the event of structural changes. A structural change involves the transfer of ownership or control of emitting activities from one company to another, and includes:

- Mergers, acquisitions, and divestments
- Outsourcing and in-sourcing of emitting activities

✓The following section will use examples to demonstrate how this recalculation works. Mergers, acquisitions, and divestments

- Outsourcing and in-sourcing of emitting activities

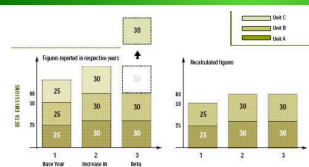
RECALCULATION: ACQUISITIONS



✓The emissions from Gamma Inc., consisting of units A and B, grew in year 2 due to organic growth. This growth in emissions does not trigger a recalculation. However, in year 3 Gamma acquires facility C.

✓The annual emissions of facility C in year 1 were 15 tonnes CO2, and 20 tonnes in years 2 and 3. The total emissions of Gamma in year 3, including facility C, are therefore 80 tonnes CO2. To maintain consistency over time the company recalculates its base year emissions to take into account the acquisition of facility C. The base year emissions increase by 15 tonnes CO2—the quantity of emissions produced by facility C in Gamma's base year. Gamma also (optionally) reports 80 tonnes CO2 as the recalculated emissions for year 2.

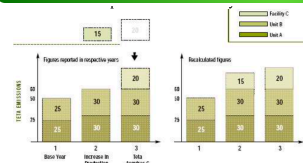
RECALCULATION: DIVESTMENTS



✓Earth Council: any way to animate this would be great, so that trainees step into the diagram step by step.

✓Beta Inc., consisting of business units A, B, and C, increases output in year 2 to 90 tonnes CO2 in total. At the beginning of year 3, Beta divests business unit C. To maintain consistency over time, the company recalculates its base year emissions to take into account the divestment of business unit C. The base year emissions are lowered by 25 tonnes CO2—the quantity of emissions produced by the business unit C in the base year. The recalculated base year emissions are 50 tonnes CO2, and the emissions of Beta are seen to have risen by 10 tonnes CO2 over the three years. Beta (optionally) reports 60 tonnes CO2 as the recalculated emissions for year 2.

RECALCULATION: ACQUISITION AFTER SET BASE YEAR



✓[Earth Council: any way to animate this would be great, so that trainees step into the diagram step by step.]

✓Teta Inc., consisting of business units A and B, undergoes organic growth in year 2 and acquires facility C at the beginning of year 3. Facility C came into existence in year 2, its emissions being 15 tonnes CO2 in year 2 and 20 tonnes CO2 in year 3. The total emissions of Teta in year 3, including facility C, are therefore 80 tonnes CO2. In this acquisition case, the base year emissions of company Teta do not change because the acquired facility C did not exist in year one when the base year of Teta was set. The base year emissions of Teta therefore remain at 50 tonnes CO2. Teta (optionally) reports 75 tonnes as the recalculated figure for year 2 emissions.

RECALCULATION FOR STRUCTURAL CHANGES

A company that acquires another company should include the emission sources from the acquired company in the acquiring company's base year inventory (prior to the acquiring company owning them) and in its current year inventory.

✓Similarly, a company that divests of another company should exclude the emission sources from the divested company from the divesting company's base year and current year inventories.

TIMING OF RECALCULATION

When a structural change occurs in the middle of the reporting year, one can imagine two options for how the recalculation could occur:

✓The "all-year" option: Under this option, the recalculation would be applied to the full base year and the full reporting year, and would not be pro-rated to reflect the fact that the change occurred partway through the year.

✓The "pro-rata" option: Under this option, the recalculation would be applied on a step-by-step basis. For the year during which the structural change occurred, the reporting company would pro-rate its emissions in that year and in the base year.

The GHG Protocol recommends the "all-year" option, because it has the same result as the "pro-rata" option, but is less complicated, as demonstrated in the following table.

COMPARISON OF BASE YEAR RECALCULATION OPTIONS

Mid-year acquisition of Beta, Inc. by Alpha, Inc.

Company / recalculation approach	Emissions			
	Base Year	Year 2	Year 3	Year 4
Alpha's emissions (Using original boundaries in Year 1)	10	10	10	10
Beta's emissions (Using original boundaries in Year 1)	1	2	3	3
Pro-rata approach				
Alpha's Year 2 report	10.5	11		
Alpha's Year 3 report	11	12	13	
All-year approach				
Alpha's Year 2 report	11	12		
Alpha's Year 3 report	11	12	13	

Under the all-year approach, Alpha avoids having to re-calculate its base year twice by applying all of Beta's base year emissions to its base year re-calculation starting in Year 2, and likewise applying all of Beta's Year 2 emissions to its Year 2 report. Then in Year 3, Alpha does not have to make any re-calculations. As the table shows, Alpha's Year 3 report will turn out the same either way, so it is best to apply the all-year approach.

In this example, Alpha Inc. acquires Beta Inc. half-way through Year 2. Under the pro-rata approach, in Year 2, Alpha re-calculates its base year emissions (formerly 10) to include half of Beta's base year emissions, reflecting the fact that Beta was acquired half-way through the year, and reports base year emissions of 10.5. Alpha also reports its Year 2 emissions as all of Alpha's Year 2 emissions (10), plus half of Beta's Year 2 emissions (1), for a total of 11. However, in the next year, Year 3, Alpha will report all of Beta's Year 3 emissions, so it must again re-calculate its base year to include all of Beta's base year emissions.

CHANGES THAT DO NOT TRIGGER RECALCULATION

Not all types of changes trigger base year recalculation. The following circumstances do not call for recalculation:

- ✓ **Changes involving facilities that did not exist in the base year** – In cases where such facilities are acquired or divested, or where activities are out-sourced to or in-sourced from them, there may only need to be recalculation of historic data back to the year in which the acquired/in-sourced company came into existence.
- ✓ **Out-sourcing/in-sourcing of activities previously reported under Scope 2 or 3** – Structural changes due to out-sourcing/in-sourcing do not trigger recalculation if the company is already reporting its indirect emissions from the relevant out-sourced or in-sourced activities under Scope 2 or 3. For example, out-sourcing or in-sourcing production of electricity would not trigger recalculation because the relevant emissions would in either case be reported under Scope 1 (in-sourced) or 2 (out-sourced).

CHANGES THAT DO NOT TRIGGER RECALCULATION +

- ✓ **Organic growth or decline** – This refers to increases or decreases in production output, changes in product mix, and closures/openings of operating units that are owned/controlled by a company. No recalculation is necessary because organic growth or decline results in a net change of emissions to the atmosphere, and therefore should be counted as an increase or decrease in a company's emissions profile over time.

TRACKING EMISSIONS ACTIVITY	
Situation	Base year recalculation?
Omega, Inc. acquires Alpha, Inc.	Yes
Production of electricity, heat, and steam is out-sourced	No, because only Scope 2 emissions are impacted
Beta, Inc. increases production output	No

TRACKING EMISSIONS SUMMARY
<ul style="list-style-type: none"> ✓ A base year is a historic datum against which an organization's emissions are tracked over time. ✓ Organizations should follow a recalculation policy, which may involve a significance threshold used to determine when it is appropriate to trigger a base year recalculation. ✓ Recalculation should occur in the case of structural changes in the company, changes in calculation methodology, discovery of significant errors and not for organic growth or decline.






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