



Companies often undergo significant structural changes such as acquisitions, divestments, and mergers. These changes will alter a company's historical emission profile, making meaningful comparisons over time difficult. In order to maintain consistency over time, or in other words, to keep comparing "like with like", historic emission data will have to be recalculated.

Companies may need to track emissions over time in response to a variety of business goals, including:

- Public reporting
- Establishing GHG targets
- Managing risks and opportunities
- Addressing the needs of investors and other stakeholders

A meaningful and consistent comparison of emissions over time requires that companies set a performance datum with which to compare current emissions. This performance datum is referred to as the base year¹ emissions. For consistent tracking of emissions over time, the base year emissions may need to be recalculated as companies undergo significant structural changes such as acquisitions, divestments, and mergers.

The first step in tracking emissions, however, is the selection of a base year.

Choosing a base year

Companies shall choose and report a base year for which verifiable emissions data are available and specify their reasons for choosing that particular year.

Most companies select a single year as their base year. However, it is also possible to choose an average of annual emissions over several consecutive years. For example, the U.K. ETS specifies an average of 1998–2000 emissions as the reference point for tracking reductions. A multi-year average may help smooth out unusual fluctuations in GHG emissions that would make a single year's data unrepresentative of the company's typical emissions profile.

The inventory base year can also be used as a basis for setting and tracking progress towards a GHG target in which case it is referred to as a target base year (see chapter 11).

Recalculating base year emissions

Companies shall develop a base year emissions recalculation policy, and clearly articulate the basis and context for any recalculations. If applicable, the policy shall state any "significance threshold" applied for deciding on historic emissions recalculation. "Significance threshold" is a qualitative and/or quantitative criterion used to define any significant change to the data, inventory boundary, methods, or any other relevant factors. It is the responsibility of the company to determine the "significance threshold" that triggers base year emissions recalculation and to disclose it. It is the responsibility of the verifier to confirm the company's adherence to its threshold policy. The following cases shall trigger recalculation of base year emissions:

- Structural changes in the reporting organization that have a significant impact on the company's base year emissions. A structural change involves the transfer of ownership or control of emissions-generating activities or operations from one company to another. While a single structural change might not have a significant impact on the base year emissions, the cumulative effect of a number of minor structural changes can result in a significant impact. Structural changes include:
 - Mergers, acquisitions, and divestments
 - Outsourcing and insourcing of emitting activities
- Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data
- Discovery of significant errors, or a number of cumulative errors, that are collectively significant.

In summary, base year emissions shall be retroactively recalculated to reflect changes in the company that would otherwise compromise the consistency and relevance of the reported GHG emissions information. Once a company has determined its policy on how it will recalculate base year emissions, it shall apply this policy in a consistent manner. For example, it shall recalculate for both GHG emissions increases and decreases.

Tracking Emissions Over Time

Selection and recalculation of a base year should relate to the business goals and the particular context of the company:

- For the purpose of reporting progress towards voluntary public GHG targets, companies may follow the standards and guidance in this chapter
- A company subject to an external GHG program may face external rules governing the choice and recalculation of base year emissions
- For internal management goals, the company may follow the rules and guidelines recommended in this document, or it may develop its own approach, which should be followed consistently.

Choosing a base year

Companies should choose as a base year the earliest relevant point in time for which they have reliable data. Some organizations have adopted 1990 as a base year in order to be consistent with the Kyoto Protocol. However, obtaining reliable and verifiable data for historical base years such as 1990 can be very challenging.

If a company continues to grow through acquisitions, it may adopt a policy that shifts or “rolls” the base year forward by a number of years at regular intervals. Chapter 11 contains a description of such a “rolling base year,” including a comparison with the fixed base year approach described in this chapter. A fixed base year has the advantage of allowing emissions data to be compared on a like-with-like basis over a longer time period than a rolling base year approach. Most emissions trading and registry programs require a fixed base year policy to be implemented.

FIGURE 6. Base year emissions recalculation for an acquisition

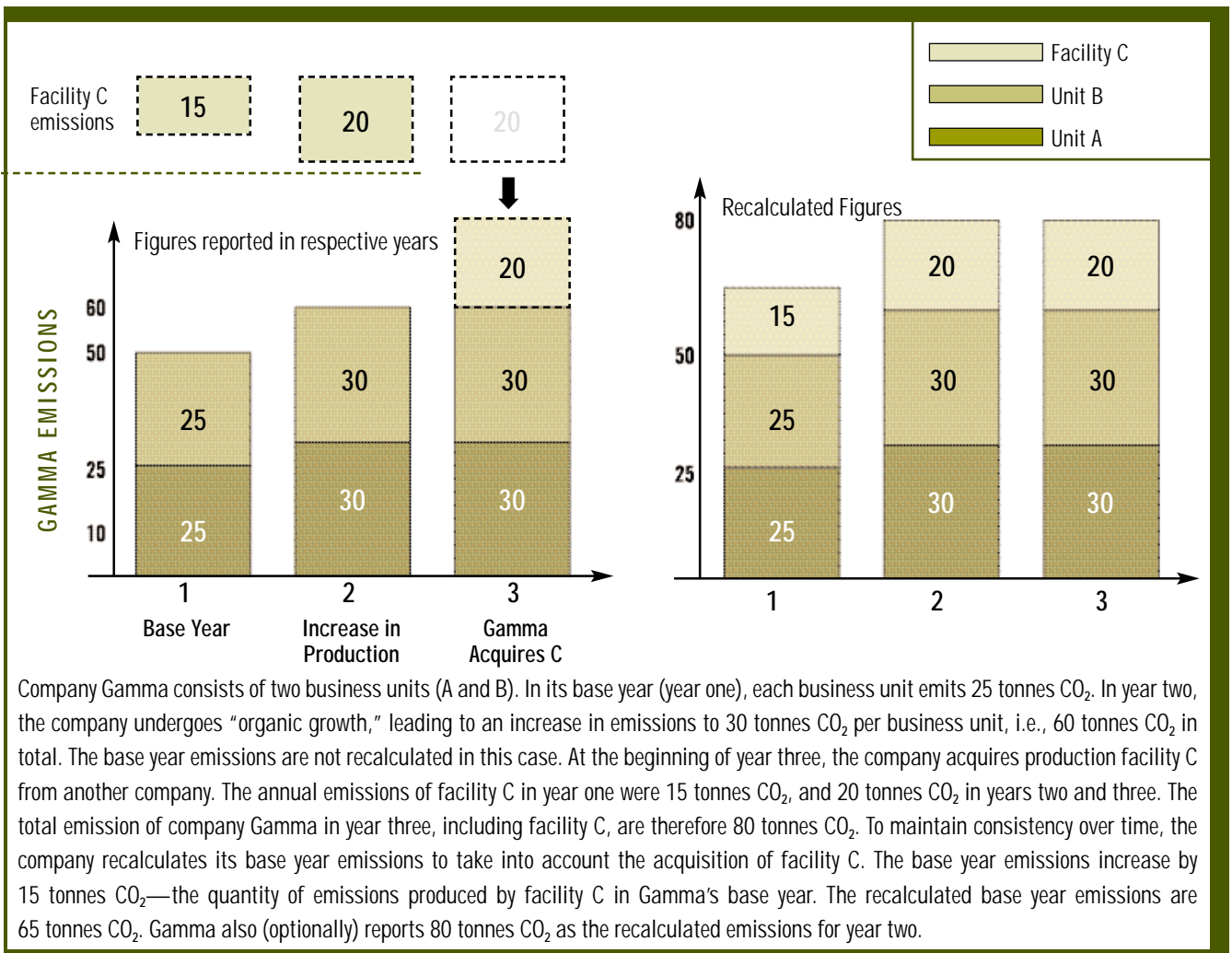
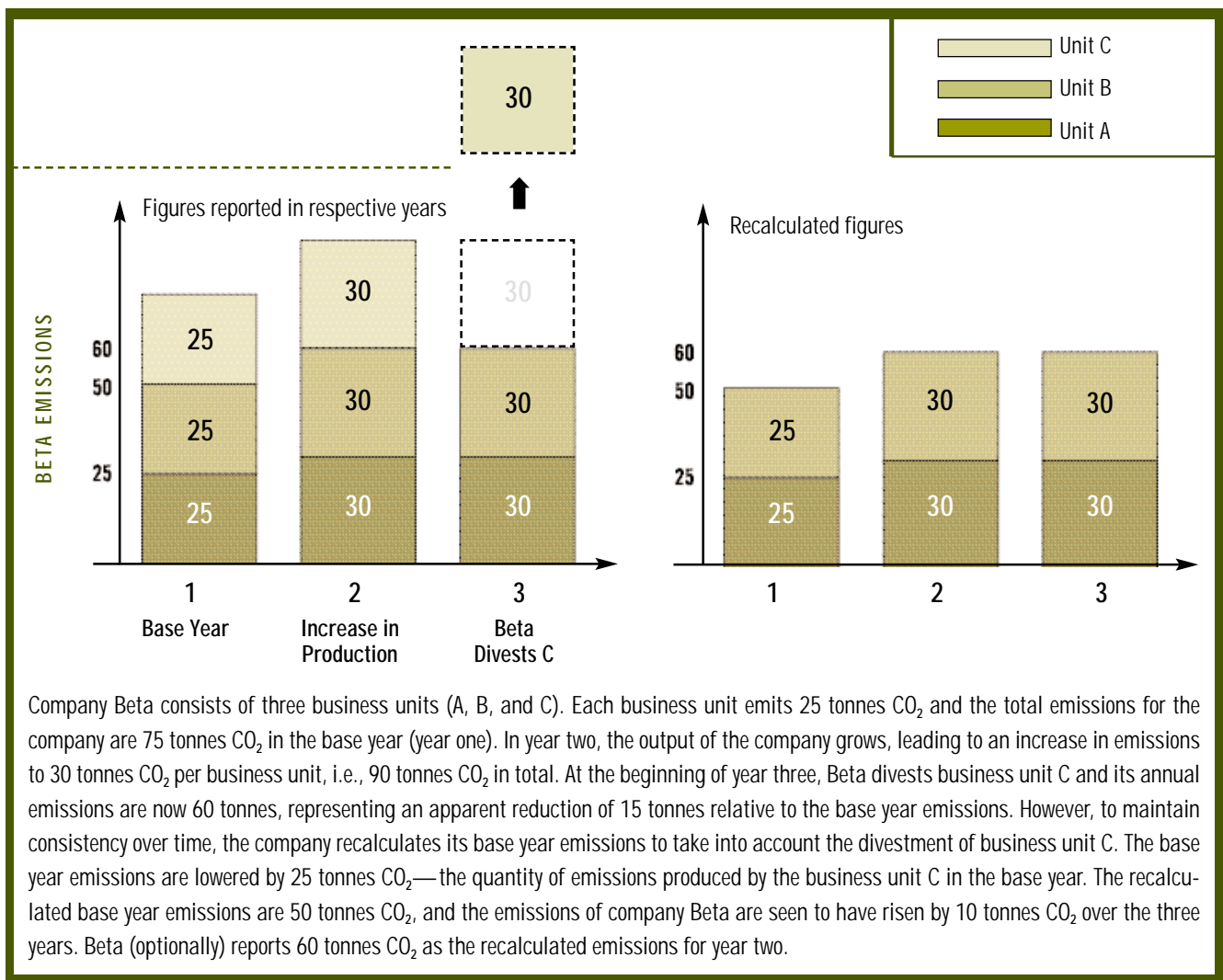


FIGURE 7. Base year emissions recalculation for a divestment



Significance thresholds for recalculations

Whether base year emissions are recalculated depends on the significance of the changes. The determination of a significant change may require taking into account the cumulative effect on base year emissions of a number of small acquisitions or divestments. The *GHG Protocol Corporate Standard* makes no specific recommendations as to what constitutes “significant.” However, some GHG programs do specify numerical significance thresholds, e.g., the California Climate Action Registry, where the change threshold is 10 percent of the base year emissions, determined on a cumulative basis from the time the base year is established.

Base year emissions recalculation for structural changes

Structural changes trigger recalculation because they merely transfer emissions from one company to another without any change of emissions released to the atmos-

phere, for example, an acquisition or divestment only transfers existing GHG emissions from one company’s inventory to another.

Figures 6 and 7 illustrate the effect of structural changes and the application of this standard on recalculation of base year emissions.

Timing of recalculations for structural changes

When significant structural changes occur during the middle of the year, the base year emissions should be recalculated for the entire year, rather than only for the remainder of the reporting period after the structural change occurred. This avoids having to recalculate base year emissions again in the succeeding year. Similarly, current year emissions should be recalculated for the entire year to maintain consistency with the base year recalculation. If it is not possible to make a recalculation in the year of the structural change (e.g., due to

lack of data for an acquired company), the recalculation may be carried out in the following year.²

Recalculations for changes in calculation methodology or improvements in data accuracy

A company might report the same sources of GHG emissions as in previous years, but measure or calculate them differently. For example, a company might have used a national electric power generation emissions factor to estimate scope 2 emissions in year one of reporting. In later years, it may obtain more accurate utility-specific emission factors (for the current as well as past years) that better reflect the GHG emissions associated with the electricity that it has purchased. If the differences in emissions resulting from such a change are significant, historic data is recalculated applying the new data and/or methodology.

Sometimes the more accurate data input may not reasonably be applied to all past years or new data points may not be available for past years. The company may then have to backcast these data points, or the change in data source may simply be acknowledged without recalculation. This acknowledgement should be made in the report each year in order to enhance transparency; otherwise, new users of the report in the two or three years after the change may make incorrect assumptions about the performance of the company.

Any changes in emission factor or activity data that reflect real changes in emissions (i.e., changes in fuel type or technology) do not trigger a recalculation.

Optional reporting for recalculations

Optional information that companies may report on recalculations includes:

- The recalculated GHG emissions data for all years between the base year and the reporting year
- All actual emissions as reported in respective years in the past, i.e., the figures that have not been recalculated. Reporting the original figures in addition to the recalculated figures contributes to transparency since it illustrates the evolution of the company's structure over time.

No base year emissions recalculations for facilities that did not exist in the base year

Base year emissions are not recalculated if the company makes an acquisition of (or insources) operations that did not exist in its base year. There may only be a recalculation of historic data back to the year in which the acquired company came into existence. The same applies to cases where the company makes a divestment of (or outsources) operations that did not exist in the base year.

Figure 8 illustrates a situation where no recalculation of base year emissions is required, since the acquired facility came into existence after the base year was set.

No recalculation for "outsourcing/insourcing" if reported under scope 2 and/or scope 3

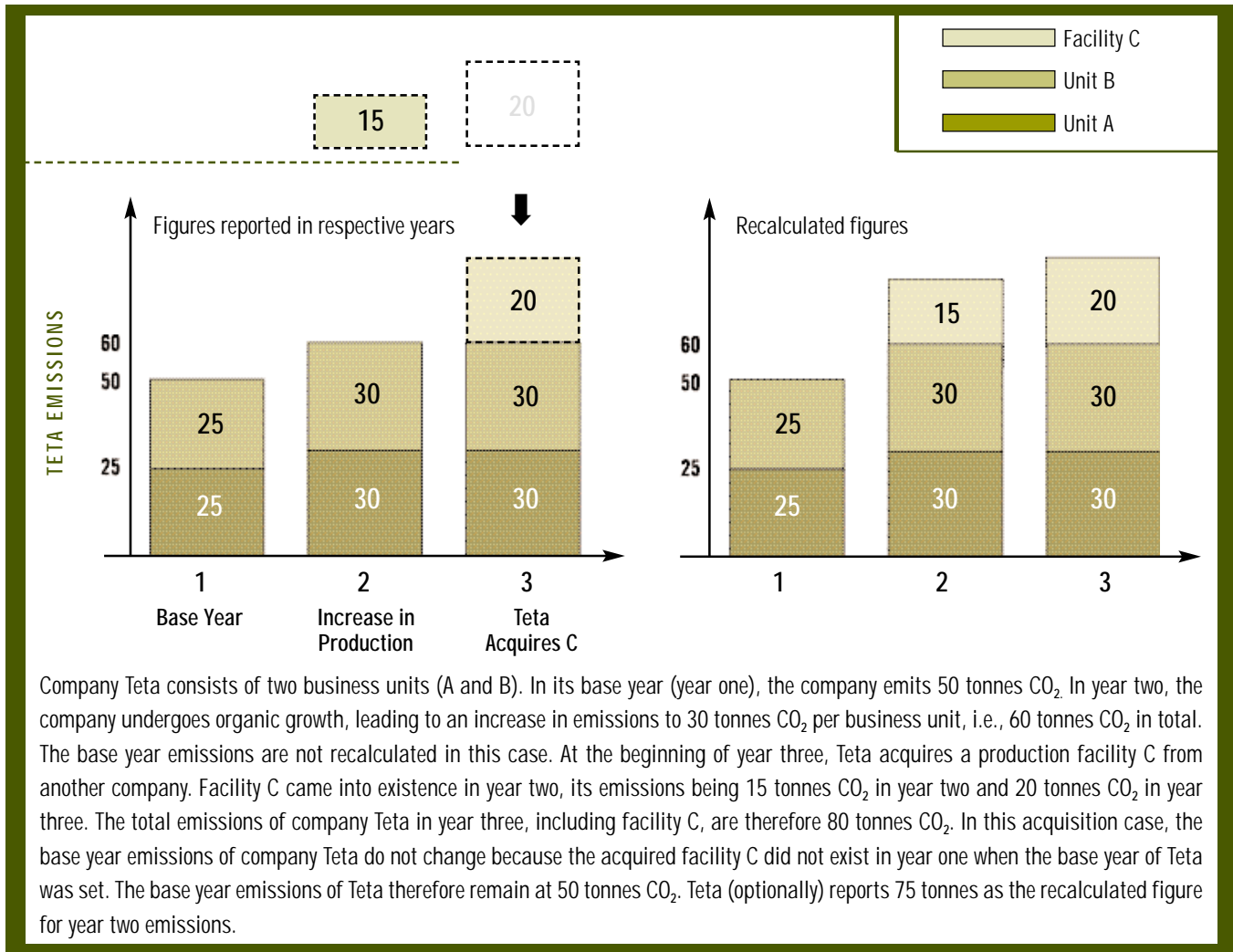
Structural changes due to "outsourcing" or "insourcing" do not trigger base year emissions recalculation if the company is reporting its indirect emissions from relevant outsourced or insourced activities. For example, outsourcing production of electricity, heat, or steam does not trigger base year emissions recalculation, since the *GHG Protocol Corporate Standard* requires scope 2 reporting. However, outsourcing/insourcing that shifts significant emissions between scope 1 and scope 3 when scope 3 is not reported does trigger a base year emissions recalculation (e.g., when a company outsources the transportation of products).

In case a company decides to track emissions over time separately for different scopes, and has separate base years for each scope, base year emissions recalculation for outsourcing or insourcing is made.

ENDESA: Recalculation of base year emissions because of structural changes

The *GHG Protocol Corporate Standard* requires setting a base year for comparing emissions over time. To be able to compare over time, the base year emissions must be recalculated if any structural changes occur in the company. In a deal completed January 2002, the ENDESA Group, a power generation company based in Spain, sold its 87.5 percent holding in Viesgo, a part of its Spanish power generation business, to ENEL, an Italian power company. To account for this structural change, historical emissions from the six power plants included in the sale were no longer accounted for in the Endesa GHG inventory and therefore removed from its base year emissions. This recalculation provides ENDESA with a complete and comparable picture of its historical emissions.

FIGURE 8. Acquisition of a facility that came into existence after the base year was set



No recalculation for organic growth or decline

Base year emissions and any historic data are not recalculated for organic growth or decline. Organic growth/decline refers to increases or decreases in production output, changes in product mix, and closures and openings of operating units that are owned or controlled by the company. The rationale for this is that organic growth or decline results in a change of emissions to the atmosphere and therefore needs to be counted as an increase or decrease in the company's emissions profile over time.

NOTES

¹ Terminology on this topic can be confusing. Base year emissions should be differentiated from the term "baseline," which is mostly used in the context of project-based accounting. The term base year focuses on a comparison of emissions over time, while a baseline is a hypothetical scenario for what GHG emissions would have been in the absence of a GHG reduction project or activity.

² For more information on the timing of base year emissions recalculations, see the guidance document "Base year recalculation methodologies for structural changes" on the GHG Protocol website (www.ghgprotocol.org).

