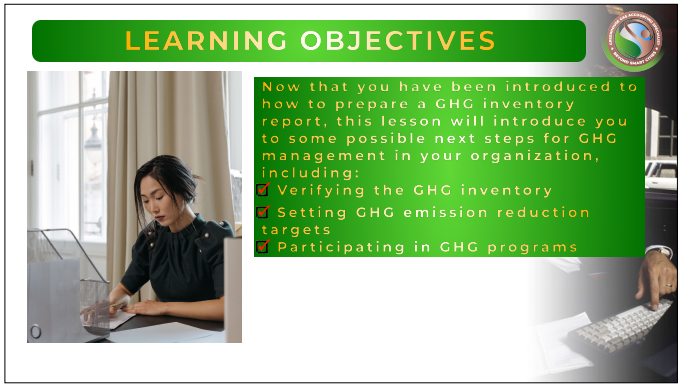
BEYOND
SMART CITIES
FUNDAMENTALS OF ORGANIZATIONAL GHG ACCOUNTING
FOR ENVIRONMENTAL AND GHG SPECIALISTS
KRISHNAJI PAWAR,LEED AP BD+C,GSAS CGP,ISO 14001:2015,GCP
ENVIRONMENTAL SPECIALIST CURRICULUM

VERIFYING THE GHG INVENTORY
FOR ENVIRONMENTAL AND GHG PROFESSIONALS
KRISHNAJI PAWAR,LEED AP BD+C,GSAS CGP,ISO 14001:2015,GCP
ENVIRONMENTAL SPECIALIST CURRICULUM


LEARNING OBJECTIVES
Now that you have been introduced to how to prepare a GHG inventory report, this lesson will introduce you to some possible next steps for GHG management in your organization, including:
Verifying the GHG inventory
Setting GHG emission reduction targets
Participating in GHG programs

VERIFYING THE GHG INVENTORY

Verifying the GHG inventory : Verification is an objective assessment of the accuracy and completeness of reported GHG information and the conformity of this information to pre- established GHG accounting and reporting principles.

Verification: Goals

- Not all companies require an independent verification. Before undertaking one, you should define your goals, which may include:
- Increased credibility of publicly reported GHG information.
- Increased management confidence in reported information on which to base investment and other decisions.
- Improvement of internal accounting and reporting practices.
- Preparation for verification requirements of GHG programs in which the company will participate.

VERIFICATION: GOALS

Your goals, in some situations, may be met by an internal review of the inventory by staff not involved in developing it. Other goals may require the extra credibility (and/or expertise) that an independent third-party verification can provide.

Verification: Materiality

- Verification assesses the risk of "material discrepancies" in reported data. Information is considered material if, by its inclusion or exclusion, it influences decisions or actions taken by the users of the information. A material discrepancy is an error that results in a reported quantity or statement that is significantly different to its true value or meaning as determined by verifiers.
- The point at which a discrepancy becomes material is usually pre-defined. As a general rule, an error in the inventory is generally considered material if its value exceeds 5% of the total inventory for the part of the organization being verified. However, materiality depends on context, and in some cases a smaller error may also be considered material if it can reasonably be expected to influence decisions or actions, or significantly alters the organization's emissions trends.
- GHG programs sometimes specify materiality thresholds for their participants.

VERIFICATION: PROCESS

- Some of the steps involved in the process of verification include the following:

- Selecting a verifier – choose a verifier based on their previous experience and competence in conducting GHG verifications; their understanding of GHG issues, calculation methodologies, and the company's operations and industry; and their objectivity, credibility, and independence.

- Preparing for verification – prepare materials including information about your organization's main activities, GHG emissions, organizational structure, and any changes to these elements; procedures for identifying emission sources; GHG calculation data and methodologies; information gathering process; and quality management plans and implementation.

VERIFICATION: PROCESS +

- Establishing parameters – work with the verifier to pre-determine the specific scope, level, and objective of the verification, including materiality thresholds before the actual verification is performed.
- Conducting site visits – verifiers may need to select sites to visit based on the nature of operations and GHG sources at the sites, the complexity of the data collection and calculation processes, the magnitude of emissions from each site, the risk that data from each site will be misstated, competencies and training of personnel, and the results of previous verifications and analyses.
- Using the verification findings
  - Before verification can be completed, verifiers may require that organizations correct any material errors.
  - Verifiers may issue a report with recommendations for future improvements.

SETTING A GHG REDUCTION TARGET

- Setting a GHG reduction target can be a logical follow-up to conducting a GHG inventory. GHG targets can help:
  - Minimize and manage GHG risks
  - Achieve cost savings and stimulate innovation
  - Prepare for future regulations
  - Demonstrate leadership and corporate responsibility
  - Facilitate participation in voluntary GHG programs
- Steps for setting a GHG target
- The key steps in setting a GHG target are as follows:
  - Decide on a target type
  - Determine target boundaries
  - Choose a target base year
  - Define the target completion date and commitment period
  - Decide on the target level

GHG TARGET TYPE

- In general, there are two kinds of GHG reduction targets:
  - Absolute targets define a pure level of GHG reduction and are not framed in terms of other factors, such as an organization's growth.
    Example: Reduce GHG emissions by 10 percent from 2000 levels, by 2010.
  - Intensity targets, also known as normalized targets, define a reduction in GHG emissions relative to some other measure or indicator, such as an organization's growth or a unit of production.
    Example: Reduce GHG emissions by 10 percent per ton of product produced from 2000 levels, by 2010.

COMPARISON OF GHG TARGET TYPES

	Advantages	Disadvantages
Absolute targets	Designed to reduce a specified quantity of GHG emissions into the atmosphere, so more environmentally robust Not necessary to identify and track an additional indicator data Easier to communicate to stakeholders Easier for third party to evaluate progress	Do not allow comparisons of GHG intensity or efficiency Can be difficult to achieve if company grows more than expected (and if growth is linked to GHG emissions)
Intensity targets	Reflect GHG performance improvements independent of organic growth or decline Facilitate comparability of GHG performance among companies within a given sector (if the same measure of business activity is used)	Do not guarantee that GHG emissions into the atmosphere will be reduced Companies with diverse operations may find it difficult to define a meaningful common business activity measure If a monetary variable is used for the business activity measure, it must be recalculated for changes in product prices, product mix, and inflation Make comparability of GHG performance among companies difficult, if different business activity measures are used

GHG TARGET BOUNDARIES

- The target boundary defines which GHGs, geographic locations, sources, and activities are covered by the target. The target boundary and the inventory boundary may be the same, or the target may address a subset of the GHG inventory.
- Boundary decisions include:
  - Which GHGs?
  - Which geographic boundaries? A key consideration is whether companies operating in locations where GHGs are regulated, and/or participate in GHG trading, will include regulated sources or sources covered by trading programs in their target. They will need to determine how to address any double counting resulting from the trading of their GHG reductions.
  - Which sources? Including indirect sources can create more opportunities for cost-effective reductions, but can (especially in the case of Scope 3) be more difficult to track and can raise questions as to ownership and double- counting of reductions.

GHG TARGET BASE YEAR

- Just as when you developed your GHG inventory, your GHG reduction target will need to define a base year in order to track progress toward your target over time. For GHG reduction targets, there are two types of base years: Which GHGs?
  - "Fixed base year" approach: fixed historical reference with which to compare current emissions. This is the same type of base year that you will have selected for your inventory. Normally, it makes sense to use the same base year for your target as you did for your inventory.
  - "Rolling base year" approach: base year rolls forward at regular time intervals (usually 1 year) so that emissions of any given time period are compared against those from the prior time period. This can be useful if, for example, your company experiences frequent acquisitions.

COMPLETION DATE & COMMITMENT PERIOD

- To determine the target completion date, you will need to decide whether you want a long-term or a short-term target. Long-term targets (10+ years) are more useful for long-term planning of large investments; however, they might encourage later phase-outs of inefficient equipment than might shorter-term targets. Long-term targets are also subject to greater uncertainty regarding future risks and opportunities.
- The target commitment period is the period of time during which emissions performance will be measured against the target. Most companies use a single- year commitment period, but others (as does the Kyoto Protocol) define a multi- year commitment period. Longer commitment periods can be used to mitigate against the risk of unpredictable events in a particular year causing you to miss your target.
  For companies using a rolling base year, the commitment period is continuous and applies throughout the lifetime of the target.

GHG TARGET LEVEL

- Key considerations in setting a target level include the following:
  - Understanding major drivers of GHG emissions in the company's inventory by examining the relationship of GHG emissions to other business metrics
  - Developing reduction strategies based on opportunities identified and examining how each strategy would affect emissions
  - Factoring in relevant growth factors
  - Considering existing plans, investments, product/ service changes, or targets that will affect emissions
  - Benchmarking GHG emissions with similar organizations

PARTICIPATING IN GHG PROGRAMS

- Participating in GHG programs can facilitate your inventory development, verification, and target-setting processes; publicize your companies engagement in the issue of climate change; and provide peer-learning opportunities.
- Types of GHG programs include:
  - GHG accounting and reporting programs – e.g. The Climate Registry, the Mexico GHG Program, the World Economic Forum GHG Register
  - GHG reduction target programs – e.g. USEPA Climate Leaders, WWF Climate Savers
  - GHG trading programs – e.g. the EU ETS, Chicago Climate Exchange

SUMMARY

- ☑ Verification provides a third-party assessment of the risk of material discrepancy in your inventory.
- ☑ GHG reduction targets can build on your GHG inventory to establish a concrete goal. Key steps include defining the target type, boundaries, base year, completion date, commitment period, and level.
- ☑ GHG programs can facilitate the development and implementation of your corporate GHG strategy, and include accounting and reporting programs, target-setting programs, and trading programs.