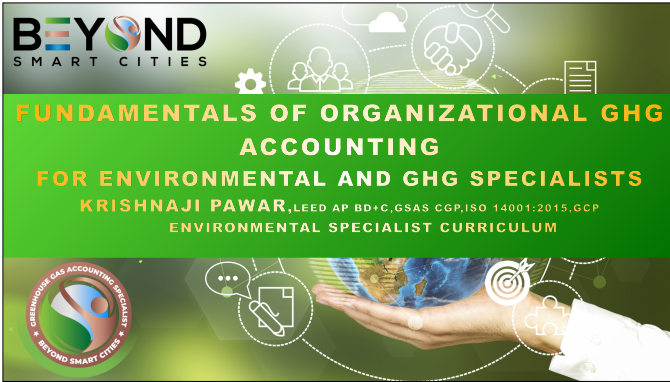








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ONLINE TRAINING COURSE

**FUNDAMENTALS OF
ORGANIZATIONAL
GHG ACCOUNTING
TRAINING PROGRAM**

ENVIRONMENTAL SPECIALIST CURRICULUM

WWW.KRISHNAJIPAWAR.IN

LEARNING OBJECTIVES



- GHG emission sources in the context of entity-level operations.
- Business Applications of Corporate GHG Inventories
- Establishing GHG boundaries for an organization
- Tracking, calculating, reporting, & managing GHG emissions
- Data Collection & Calculation
- Greenhouse gas emission offsets
- Inventory Quality Management
- Elements of GHG Inventory Reports
- Verifying the GHG inventory
- Preparing for verification



WHO IS THIS COURSE FOR?

Anyone with an interest in carbon management, in particular GHG inventory managers, corporate environmental and sustainability managers, investors and auditors.

For example, a client says he wants his company to be "carbon neutral" and you are asked to help them understand their carbon footprint.

This course will enable you to intelligently address the issues necessary to assess this organization's GHG emissions.



KEY TAKEAWAYS

- GHG accounting principles
- Defining applications for GHG inventories
- Design and development of GHG inventories
- Establishing GHG boundaries for an organization
- Identifying emission sources
- Tracking emissions over time, recalculations and establishing a base year
- Setting GHG reduction targets
- Inventory quality management
- Preparing a GHG inventory report





GET READY TO LEARN FUNDAMENTALS OF ORGANIZATIONAL GHG ACCOUNTING KNOWLEDGE AND ENROL NOW!



THE GHG PROTOCOL

The GHG Protocol is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions.

Convened in 1998 by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

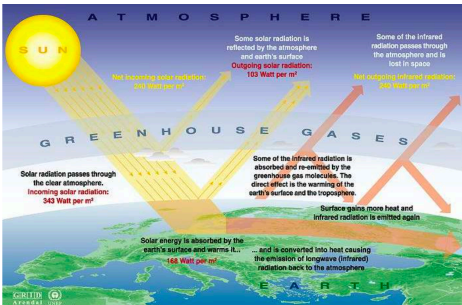
With ISO 14064 adoption, the GHG Protocol became the international standard for corporate GHG accounting and reporting.

The India GHG Program is a voluntary initiative to standardize measurement and management of GHG emissions in India.

The program aims to help companies in India monitor their progress towards voluntary reduction goals in a consistent and credible manner. It will provide the companies with tools and technical assistance to build inventories, identify reduction opportunities, establish both annual and long-term reduction goals and track their progress based on the GHG Protocol.



THE GHG PROTOCOL +



Science: GHGs and climate change

Indicators of human influence on the atmosphere during the industrial era. Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of the Earth's climate system.



THE GHG PROTOCOL +

Natural processes such as solar-irradiance variations, variations in the Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect the Earth's absorption of radiation.

The Earth naturally absorbs and reflects incoming solar radiation and emits longer wavelength terrestrial (thermal) radiation back into space. On average, the absorbed solar radiation is balanced by the outgoing terrestrial radiation emitted to space. A portion of this terrestrial radiation, though, is itself absorbed by gases in the atmosphere.

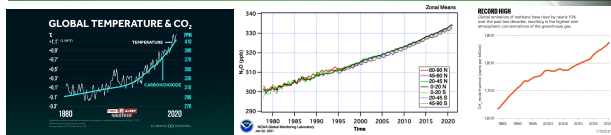
These "greenhouse" gases absorb infrared radiation (i.e., heat) as it is reflected from the earth's surface, acting like a blanket, and keeping the earth warm. The energy from this absorbed terrestrial radiation warms the Earth's surface and atmosphere, creating what is known as the "natural greenhouse effect." Without the natural heat-trapping properties of these atmospheric gases, the average surface temperature of the Earth would be about 33 degrees C (59 degrees F) lower (IPCC 2001).

THE GHG PROTOCOL +

Human-induced climate change is the destabilization of the earth's climate system caused by an increase in the concentration of greenhouse gases in the atmosphere.

The earth's atmosphere has always contained GHGs; however, since the beginning of the Industrial Revolution, the levels of GHGs in the atmosphere have grown rapidly as a result of human activities, particularly the burning of fossil fuels like coal, oil, and natural gas as an energy source.

The current concentrations of GHGs in the atmosphere are at levels unprecedented in the last 650,000 years and as a result, the earth's climate is warming.



THE GREENHOUSE GASES

The six main greenhouse gas categories are:

- ✓Carbon dioxide (CO₂)
- ✓Methane (CH₄)
- ✓Nitrous oxide (N₂O)
- ✓Hydrofluorocarbons (HFCs)
- ✓Perfluorocarbons (PFCs)
- ✓Sulfur hexafluoride (SF₆)

Although the Earth's atmosphere consists mainly of oxygen and nitrogen, neither plays a significant role in enhancing the greenhouse effect because both are essentially transparent to terrestrial radiation.

Although the Earth's atmosphere consists mainly of oxygen and nitrogen, neither plays a significant role in enhancing the greenhouse effect. The greenhouse effect is primarily a function of the concentration of water vapor, carbon dioxide, and other trace gases in the atmosphere that absorb the terrestrial radiation leaving the surface of the Earth (IPCC 1996). Holding everything else constant, increases in greenhouse gas concentrations in the atmosphere will produce a net increase in the absorption of energy, in the form of heat, by the Earth.

THE GREENHOUSE GASES

We have unequivocal empirical evidence that human activities have affected concentrations, distributions and life cycles of these gases (IPCC 1996).

Naturally occurring greenhouse gases include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃).

Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities.

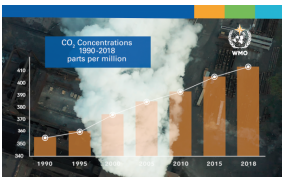
Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons). CFCs, HCFCs, and halons are stratospheric ozone depleting substances. Because of this they are being phased-out under an international treaty (i.e., the Montreal Protocol on Substances that Deplete the Ozone Layer) and are not included in greenhouse gas inventories.

THE GREENHOUSE GASES

Some other fluorine containing substances—hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—do not deplete stratospheric ozone but are potent greenhouse gases. These latter substances are included in greenhouse gas inventories.

Carbon dioxide, methane, and nitrous oxide are continuously emitted to and removed from the atmosphere by natural processes on Earth. Anthropogenic activities, however, can cause additional quantities of these and other greenhouse gases to be emitted or sequestered, thereby changing their global average atmospheric concentrations. Natural activities such as respiration by plants or animals and seasonal cycles of plant growth and decay are examples of processes that only cycle carbon or nitrogen between the atmosphere and organic biomass. Such processes—except when directly or indirectly perturbed out of equilibrium by human activities—generally do not alter average atmospheric greenhouse gas concentrations over decadal timeframes.

THE GREENHOUSE GASES



Overall, the most abundant and dominant greenhouse gas in the atmosphere is water vapor. Water vapor is neither long-lived nor well mixed in the atmosphere, varying spatially from 0 to 2 percent (IPCC 1996). Human activities are not believed to directly affect the average global concentration of water vapor; however, the global warming produced by the increased concentrations of other greenhouse gases may indirectly affect the hydrologic cycle. A warmer atmosphere has an increased water holding capacity; yet, increased concentrations of water vapor affects the formation of clouds, which can both absorb and reflect solar and terrestrial radiation.