

Course Overview & Suggested Study Pace

Organizational GHG Accounting: Measuring an Organization's Carbon Footprint

Mastering the GHG Protocol / ISO 14064-1 Fundamentals

Week 1 – Introduction to Key Concepts

- Video Duration 2:19
- Course Introduction
 - A Corporate Accounting and Reporting Standard
 - Design Principles – USEPA Climate Leaders
 - General Reporting Protocol – Climate Registry
 - 2006 IPCC Guidelines for National Greenhouse Gas Inventories

It is estimated the above documents should take 2 to 3 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Week 1 – Reasons for GHG Accounting

- Video Duration 2:19
- Compliance
- Managing Risks and Identifying Opportunities
- Voluntary Reporting Programs
- Recognition for Early Voluntary Action
- Participating in Carbon Markets
 - Business Goals and Inventory Design
 - Bottom Line on Corporate GHG Inventories

It is estimated the above documents should take 1 to 2 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 1 – Reasons for GHG Accounting (10 Questions)

Week 1 – Standards and Protocols

- Video Duration 6:31
- GHG Protocol
- ISO Standards
- Additional Guidance
 - A comprehensive list of GHG Protocol publications
 - ISO-14064-1 Standards
 - Technical guidance provided by US EPA

It is estimated the above documents should take 3 to 4 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 2 – Standards and Protocols (6 Questions)

Week 1 – Sources of GHG Emissions

- Video Duration 6:29
- GHG Sources
- Global Emissions by Sector
 - Background information on Carbon Dioxide (CO₂)
 - Background information on Methane (CH₄)
 - Background information on Nitrous Oxide (N₂O)
 - Background information on Fluorinated, high GWP gases
 - Overview of US GHG emission by sector and gas (page 8 ~ 13)

It is estimated the above documents should take 2 to 3 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 3 – Sources of GHG Emissions (11 Questions)

Week 1 – Greenhouse Effect, GWP and CO₂e

- Video Duration 8:20
- Greenhouse Effect
- Global Warming Potentials
- Carbon Dioxide Equivalents

- Carbon vs. CO2
 - Greenhouse Gases, Climate Change & Energy
 - Global Warming Potentials – explanation and examples (page 6/16)
 - Carbon content of motor fuels – average emissions

It is estimated the above documents should take 3 to 4 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 4 – Greenhouse Effect, GWP and CO2e (9 Questions)

Week 1 – Assignment 1 – Article Review

Find and read an article online that is relevant to the topics discussed in week one. Summarize your article and explain how you think it relates to week one's topics.

Week 2 – Organizational Boundaries

- Video Duration 14:59
- Setting Inventory Boundaries
- Organizational Boundaries
- Equity Share Approach
- Control Approach
- Financial Control
- Operational Control
- Maintaining Consistency
- Which Approach to Use
 - Design Principles of Organizational Boundaries - EPA Climate Leaders
 - ICF GHG Inventory Summary
 - UN GHG Inventory – page 1 & 2
 - Drexel GHG Inventory – page 9 & 10

It is estimated the above documents should take 3 to 4 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 5 – Organizational Boundaries (10 Questions)

Week 2 – Operational Boundaries

- Video Duration 16:47
- Intro to Operational Boundaries
- Identifying Emissions
- Categorizing Emissions
- Scopes
- ISO vs. GHG Protocol
- Reporting Requirements
- Reporting Scope 3 Emissions
 - SW Airlines GHG Inventory
 - UNC GHG Inventory – page 4
 - Wustel GHG Inventory – page 8 ~ 10
 - BP GHG Data

It is estimated the above documents should take 3 to 4 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 6 – Operational Boundaries (10 Questions)

Week 2 – Tracking Emissions over Time

- Video Duration 13:28
- Intro to Tracking Emissions
- Single Year vs. Multiyear Average
- Recalculating Base Year Emissions
- Base Year Recalculation Policy
- Events that Trigger Recalculation
- Structural Changes
- Outsourcing and Insourcing

Tracking Emissions over Time – Additional Notes

- Video Duration 5:30
- Recalculation for Structural Changes
- Recalculation for Changes in Calculation Methods or Improved Data Accuracy

- Fixed Year vs. Rolling Year
- Summary
 - Eugene Water and Electric Board GHG Inventory
 - Bay Area Rapid Transit GHG Inventory
 - Vanderbilt Updated Baseline
 - National Grid Baseline Changes for 2007 and 2008

It is estimated the above documents should take 3 to 4 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 7 – Tracking Emissions over Time (5 Questions)

Week 2 – Assignment 2 – Video Review

Find one or two videos online that are relevant to the topics discussed in week two. Then post the video's link in the forum. Check out your classmates' videos to see what they found online. Feel free to comment and start a discussion.

Week 3 – Overview of the Quantification Process

- Video Duration 9:24
- Key Concepts
- Steps to Calculating Emissions
- Identifying and Categorizing Emissions
- Selecting a Calculation Approach
- Activity Data Overview
 - Bay Area GHG Plan Quantification Guidance
 - Nashville GHG Inventory

It is estimated the above documents should take 1 to 2 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 8 – Overview of the Quantification Process (7 Questions)

Week 3 – Collecting Data – Part 1

- Video Duration 12:17
- Extrapolation
- Collecting Data Efficiently
- Collecting Data for Scope 1 Emissions
- Collecting Data for Purchased Emissions (Scope 2)
 - Quantifying GHG Mitigation Measures
 - GHG Inventory Management Plan Checklist
 - UNEP GHG Inventory Approach

It is estimated the above documents should take 1 to 2 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 9 – Collecting Data – Part 1 (7 Questions)

Week 3 – Collecting Data – Part 2

- Video Duration 12:03
- Collecting Data for Other Indirect Emissions (Scope 3)
- Assembling Emission Factors
- Emission Factors for Fossil Fuel Combustion
- Emission Factors for Electricity

Quiz 10 – Collecting Data – Part 2 (2 Questions)

Week 3 – Calculating Emissions

- Video Duration 7:34
- Example – Automobile Travel
- Example – Energy Efficiency Project
 - UK GHG Conversion Factors
 - NZ Emission Factors
 - US Fuel Emission Coefficients
- CA Emission Factors
- IPCC Emission Factors Database (EFDB)

It is estimated the above documents should take 1 to 2 hours to peruse. Please create a folder structure on your computer to save these resources for future use.

Quiz 11 – Calculating Emissions (6 Questions)

Week 3 – Examples 1 and 2

- Video Duration 11:57
- Example – Corporate Vehicle Fleet
- Example – Multiple Fuel Types

Quiz 12 – Exercises 1 and 2 (2 Questions)

Week 3 – Examples 3 and 4

- Video Duration 12:32
- Example – Water Treatment Plant
- Example – Power Plant

Quiz 13 – Exercises 3 and 4 (2 Questions)

Week 3 – Examples 5 and 6

- Video Duration 6:47
- Example – International Air Travel
- Example – Landfill Emissions

Quiz 14 – Exercises 5 and 6 (2 Questions)

Week 3 – Example 7

- Video Duration 7:19
- Example – International NGO

Quiz 15 – Exercise 7 (1 Question)

Week 3 – Examples 8

- Video Duration 12:50
- Example – Production of Cement

Quiz 16 – Exercise 8 (1 Question)

Week 4 – Final Exam (44 Questions)