

CEP1014: Understanding Emissions Module Outline “Self-directed” Online Training

Prerequisites

None

Recommended prior learning/experience

None

Description

This “Self-directed” training module on "Understanding Emissions" covers the carbon cycle, emissions sources, carbon footprint calculations, natural and artificial sequestration, and scoping emissions.

It includes categorising emissions and international standards. Learning objectives encompass understanding the carbon cycle, sequestration methods, emission scopes and categories, carbon footprint examples, and international standards like ISO 14064 and the GHG Protocol.

These objectives are achieved through lessons and quizzes, covering topics such as the carbon cycle, natural and artificial sequestration, emission scopes, carbon footprint calculations, the relationship between energy and carbon, and monitoring and reporting emissions.

Position and pathway

This module has an associated assessment which takes the form of an online examination. Success in the associated assessment is an element of CEP’s Certified Professional in Carbon professional qualifications.

Delivery mode

The training module consists of nine (9) videos, four (4) progression quizzes and one (1) completion quiz. The progression quizzes serve as gatekeeper steps, requiring successful completion before participants can advance to the next lesson.

Hours

This module is split into nine (9) lessons and totals approximately two and a half (2.5) hours of viewing time.

Students will be required to undertake four (4) progression quizzes, which should take around five (5) minutes each.

Learning outcomes

By the end of the module, students should:

1. Have a comprehensive understanding of the carbon cycle
2. Have an understanding of natural and artificial carbon sequestration techniques
3. Be able to fit different emissions categories into scopes and categories
4. Be able to perform carbon footprint calculations
5. Have an understanding of how to conduct an emissions inventory, compliant with international regulations such as ISO 14064 and GHG protocol

Module Structure and Progression

Lesson Outlines	
Lesson 1	The Carbon Cycle
	Video duration: 20 minutes approximately. Content relates to learning outcomes 1: • Significance of the carbon cycle • Components and processes within the carbon cycle • Human impacts on the carbon cycle
Lesson 2	Sequestration - Part 1
	Video duration: 15 minutes approximately. Content relates to learning outcomes 2: • Types of natural sequestration and carbon sinks • How different kinds of natural carbon sinks work • Enhancing natural sequestration • Advantages and challenges of natural sequestration
Progression Quiz 1	
Lesson 3	Sequestration - Part 2
	Video duration: 10 minutes approximately. Content relates to learning outcomes 2: • Understanding artificial sequestration • Types and technologies of artificial sequestration and how they operate • Application of artificial sequestration/carbon capture in storage • Case studies
Lesson 4	Understanding Emission Scopes

	Video duration: 15 minutes approximately. Content relates to learning outcomes 3: • Scope 1, 2 and 3 emissions • Intro to measuring and reporting emissions • Strategies for reducing emissions for different scopes
Progression Quiz 2	
Lesson 5	Carbon Footprint Calculation Process and Examples
	Video duration: 15 minutes approximately. Content relates to learning outcomes 4: • Ministry for the Environment's Guide to Measuring Emissions • GHG Inventories vs Reports • Understanding emissions factors • Calculating emissions using raw data and emissions factors (calculation examples for a range of scopes)
Lesson 6	The Relationship between Energy and Carbon
	Video duration: 20 minutes approximately. Content relates to learning outcomes 4: • GHG emissions in NZ vs the world • Industrial processes contribution in New Zealand • Understanding key energy users and emissions sources for large industries • Energy, transport and waste sector emissions understanding
Progression Quiz 3	
Lesson 7	Monitoring and Reporting Emissions - Part 1
	Video duration: 15 minutes approximately. Content relates to learning outcomes 5: • Introduction to audit and emissions reporting standards • ISO greenhouse gas standards • Stages for developing an emissions inventory • Uses and users of inventory • Parties involved and selecting the team
Lesson 8	Monitoring and Reporting Emissions - Part 2
	Video duration: 15 minutes approximately

	Content relates to learning outcomes 5: • Planning an emissions inventory compliant with ISO 14064 • Risk assessment • Gathering evidence • Types of testing • Appropriate sample sizes • Reductions and removals • Successful site visits
Lesson 9	Monitoring and Reporting Emissions - Part 3
	Video duration: 17 minutes approximately Content relates to learning outcome 6: • Reviewing scope and boundaries of emissions inventory • Reviewing calculations and report for emissions inventory • How to reach a conclusion using an emissions inventory • Opinions and Auditor's role in the review process
Progression Quiz 4	
Completion Quiz	CEP1014: Understanding Emissions

Assessment

This training module does not have a formal assessment. CEP runs a credential, assessed by examination for CEP1014: Understanding Emissions, which operates independently of this training module. Completion of this module is not a pre-requisite for the formal assessment.

Completion

The module will be considered completed and a digital "Completion" certificate will be available when the student has achieved a score of 75% or above in the Completion Quiz.