

# Competencies of Life Cycle Carbon Certified Practitioners

The following areas of competency are assessed by the LCCCP examination:

## 1. Life Cycle Assessment

- Understand the complete life cycle assessment framework including:
  - The concepts of functional units and alternative derivatives such as reference units and declared units.
  - System boundaries including boundary between ecosphere and technosphere.
  - Inventory analysis and the propagation of life cycle impacts along a supply chain.
  - Impact assessment structure and processes.
  - Interpretation including data quality analysis, sensitivity and uncertainty assessment.
- Understand the relationship of LCA to CFP and the benefits and limitations of both.
- Be familiar with the overarching LCA standards ISO 14040 and ISO 14044.

## 2. Greenhouse gas emissions

- Understand different terminology and definitions of greenhouse gases, global warming, global warming potentials, climate change and carbon footprints.
- Understand the basic science of global warming including radiative forcing, and carbon fluxes between atmosphere, oceans and terrestrial systems.
- Understand the temporal aspects of global warming potentials including cumulative and non-cumulative metrics.

## 3. Standards

- Understand the general concepts and contents of the following standards:
  - ISO 14064
  - ISO 14067
  - GHG Protocol - Corporate Standard
  - GHG Protocol - Product Life Cycle Standard
  - GHG Protocol - Corporate Value Chain (Scope 3) Standard
  - PAS 2050
  - Climate Active Standard

## 4. Data Management

- Understand the types, sources and relevance of data used in CFP.
- Understand how emission factors are calculated from:
  - Bottom-up unit process LCA models.

- Top-down environmentally extended input output models.
  - Hybridised models containing both unit process and input output data.
- Understand the benefits and limitations of different data sources.
- Understand data suitability and how to assess it.
- Understand how to manage data quality and uncertainty, including its identification, documentation, and management.
- Understand how to cross-check and reference EFs, activity data and other forms of data to confirm data accuracy.

## 5. Auditing and Verification

- Understand different levels of assurance provided in audits including:
  - Absolute assurance
  - Reasonable assurance
  - Limited assurance.
- Have a working knowledge of the requirements under ISO 14065:2013.
- Understand the difference between certification, verification and accreditation.
- Understand procedures for verification of organisational activity data and how this differs in nature from verification of emission factors.
- Understand how to identify the influence of allocation on CFP results.
- Be able to identify the representativeness of selective emission factors.
- Be familiar with audit documentation procedures including maintenance of audit dialogue.

## 6. Communication

- Understand how to communicate and document results from CFP studies.
- Be able to link the conclusions from a CFP study to the original goal and scope.
- Be able to communicate the data quality and limitations of a CFP study.

## Exam Structure:

- 90 minutes will be allowed for the completion of the exam, which will consist of 45 multiple-choice questions.
- For each multiple-choice question, the candidate selects the correct answer from four or five possible answers.
- The exam is closed book, with verification methods used by the online testing software (MapleLMS) to verify compliance.
- 3 points are awarded for each correct answer.
- 0 points are awarded for each unanswered question.
- 1 point is deducted for each incorrect answer.
- To pass the exam, the applicant must score at least 100 points out of a possible 135.