



Life Cycle Carbon Certified Practitioner Program Framework

On behalf of the Australian LCA Society Inc.

Document Control

Version number	Date	Author	Comments
Draft 1	31/10/22	Tim Grant, Rob Rouwette, Tim Harding, Richard Haynes.	First draft for comment developed from consultation document and feedback.
Draft 2	28/5/2023	Tim Grant	Mix of refinements overall.
Version 3	14 June 2023	Tim Grant	Updates for organisational requirements and other refinements.
Version 4	17 July 2023	Tim Grant	Refining pre-requisites.
Version 5	29 November 2023	Amelia Bright	Updates to fee structure and admin process.
Version 6	6 March 2024	Amelia Bright	Exam assessment procedure updates.

Contents

Contents

1 Introduction	5
2 Program Description	6
2.1 Structure.....	6
2.2 Prerequisites	7
2.3 Code of conduct.....	9
2.4 Examination	9
2.5 Review Process for Provisional Certifications.....	10
2.6 Awarding certification	11
2.7 Continuing professional development	11
2.8 Applications administration procedure	11
3 Competencies of Certified Practitioners	12
3.1 Life Cycle Assessment	12
3.2 Greenhouse gas emissions.....	12
3.3 Standards	12
3.4 Data Management.....	13
3.5 Auditing and Verification.....	13
3.6 Communication	13
4 Fee structure.....	14
4.1 Application Fee.....	14
4.2 Exam Fee.....	14
5 Program Governance Structure.....	15
Appendix I: Terms of Reference LCCCP Management Committee	16
Appendix II: Terms of Reference LCCCP Technical Advisory Group.....	18
Appendix III Code of Conduct.....	19
Appendix IV: Review Requirements.....	20
Appendix V Continuing professional development options.	21

Acknowledgement

Program development is supported by the Department of Climate Change, Energy, the Environment and Water

1 Introduction

This document provides the framework for the establishment and operation of the Life Cycle Carbon Certification Program. The program is owned and administered by the Australian Life Cycle Assessment Society.

The Australian Life Cycle Assessment Society (ALCAS) is Australia's peak professional organisation for individuals involved in the use and development of life cycle assessment (LCA), management and thinking. ALCAS was established in 2001 as a not-for-profit organisation to promote life cycle practices and sustainable development, and to coordinate the rapidly growing professional community in Australia.

The goal of the certification is:

1. To expand the pool of suitably qualified lifecycle-based carbon footprint practitioners
2. To support and deliver carbon emissions reduction programs using a whole of life perspective.
3. To improve the life cycle carbon literacy of the carbon accounting community
4. To educate practitioners on the broader implications of choices in assessment methods, models, and scope setting, among other areas.

2 Program Description

2.1 Structure

The LCCCP program is designed to be accessible by a broad range of professionals while maintaining sufficient rigour and standards of practice with regard to the use of life cycle assessment and how it is applied to modelling and reporting carbon footprints.

Figure 1 shows the program design which consists of:

1. a prerequisite check to ensure that candidates meet minimum education and experience requirements.
2. candidate acceptance of a code of conduct on ethical practices
3. an exam to test candidate understanding of life cycle assessment as it relates to climate change and carbon footprints
4. for candidates with less than 5 years' experience candidates are provisionally certified subject to two successful reviews of life cycle carbon studies by a certified LCCCP professional.
5. awarding certification
6. ongoing continuing professional development (CPD) requirements for maintaining certification.

Each of these elements are now discussed in more detail below.

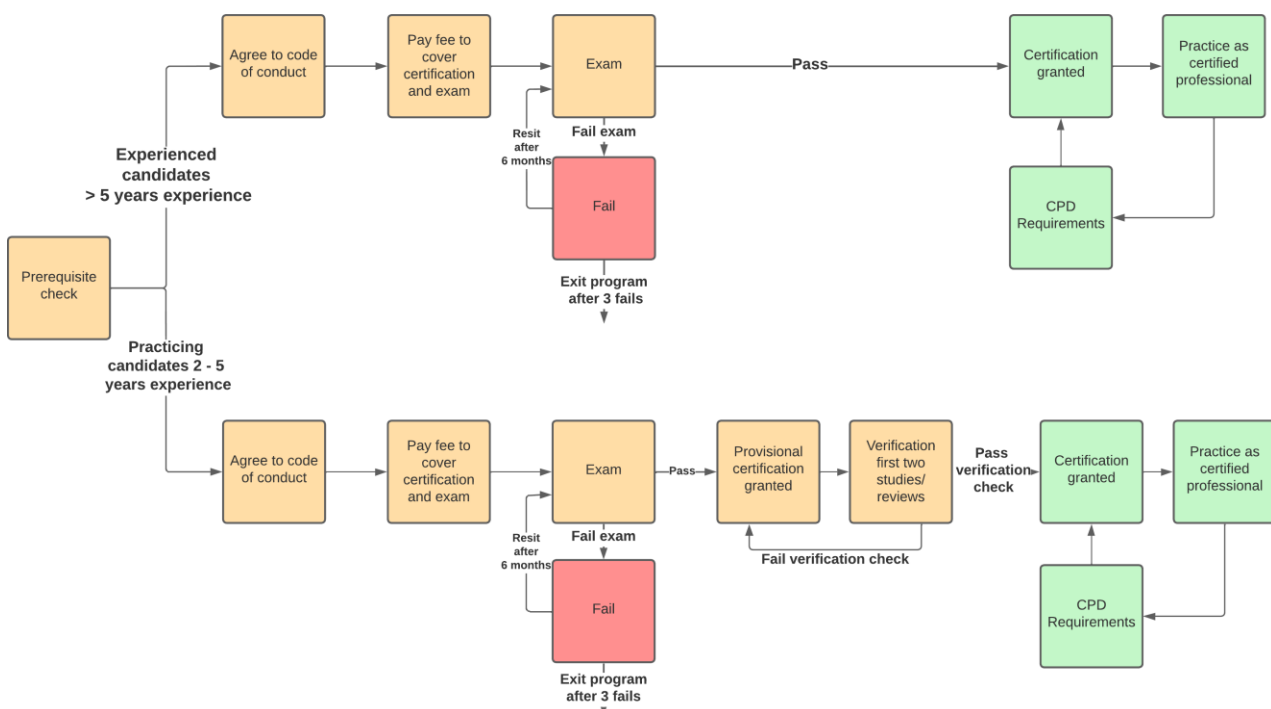


Figure 1 Program design

2.2 Prerequisites

LCCCP exam candidates must first have their prerequisites tested and approved before they can sit the exam.

There are two level of LCCCP candidates:

Experience candidates are those GHG accounting professionals who have at least five years of experience in GHG accounting and have experience working as lead auditor/verifier of a carbon account.

- **Practicing candidates** are those GHG accounting practitioners who have at least two years of experience in GHG accounting.

Under each of the above levels, candidates must submit the following required evidence accordingly.

2.2.1.1.1 Experience Candidates

For candidates applying to become LCCCP certified under the **experienced** category they must:

Demonstrate GHG accounting skills gained through experience. Candidates should submit proof of at least five product carbon footprints that were completed by the Applicant over a period of (more than) five years, of which at least one study is either critically reviewed (applicant must be one of the listed authors in the study submitted) or published in a peer-reviewed journal that is recognized by the Australian Research Council.

Demonstrate auditing skills with a minimum of two GHG accounts for which they have acted as an independent lead auditor/verifier of the carbon account.

Evidence:

Submit a evidence of peer-reviewed or published study and four other carbon product or service footprint studies.

Submit evidence of two independent GHG account audits

1. The accounts should be for two different clients/entities
2. Independent means that the GHG account was prepared by an unrelated third-party
3. The verified GHG accounts could be for Organisations, Products & Services, Precincts and/or Events

2.2.1.1.2 Practicing Candidates

For candidates applying to become LCCCP certified under the **Practicing** category they must:

Demonstrate GHG accounting skills gained through experience. Candidates should submit proof of at least 3 product carbon footprints that were completed by the Applicant over a period of (more than) two years

Demonstrate auditing skills with a minimum of one GHG account for which they have acted as an independent auditor/verifier of the carbon account.

Evidence:

Submit evidence of at least three product carbon footprints that were completed by the Applicant over a period of (more than) two years

Submit evidence of one independent GHG account audit

1. Independent means that the GHG account was prepared by an unrelated third-party
2. The verified GHG accounts could be for Organisations, Products & Services, Precincts and/or Event

Qualification prerequisites may be met by any one of the following:

- GHG accounting skills gained through experience: submit a product carbon footprint (or LCA) that is either critically reviewed (study submitted: applicant must be one of the listed authors) or published in a peer-reviewed journal that is recognised by the Australian Research Council (www.arc.gov.au). Independently verified Climate Active Product & Services carbon footprints qualify under this criterion.
 - Experienced candidates should submit proof of at least five product carbon footprints completed by the Applicant over a period of (more than) five years

- Practicing candidates should submit proof of at least three product carbon footprints completed by the Applicant over a period of (more than) two years
- Experienced candidates need to submit evidence of a minimum of two GHG accounts for which they have acted as an independent lead auditor/verifier of the carbon account.
 - The accounts should be for two different clients or entities
 - 'Independent' means that the GHG account was prepared by an unrelated third-party (i.e. not from the same organization as the verifier)
 - The verified GHG accounts could be for organisations, products, services, precincts and/or events
 - Evidence can be provided by submitting the verification report (clearly stating the Applicant as a lead verifier/auditor) and published GHG account

Assessment of applications will be undertaken by LCCCP secretariate with a recommendation provided for approval by the LCCCP committee. Where there is a dispute from an applicant it will be assessed directly by the committee.

2.3 Code of conduct

The code of conduct is a guideline for appropriate practice of LCA and is provided in Appendix III and also reproduced on the ALCAS website.

All applicants are required to sign a declaration that they agree to follow the code of conduct in their application of professional activities.

2.4 Examination

The applicant must pass an online multiple-choice examination in English, demonstrating knowledge of the criteria for LCCCP. These criteria are available on the ALCAS website and may be changed from time to time by the program oversight.

The questions have been developed by a range of LCA professionals and verified by at least two other professionals for quality and consistency.

- 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.

2.5 Review Process for Provisional Certifications

For provisional certifications two life cycle carbon footprints will be reviewed an LCCCP member. Acceptable studies include:

- A product carbon footprint according to ISO 14067
- A climate active product footprint
- A product carbon footprint according to GHG protocol methodology
- A life cycle assessment of the product according to ISO 14044

The fee for the internal review is \$1000 per review. If s additional reviews are required this will cost \$1000 also. This fee is provided to the reviewer for their time and ensures reviews are undertaken in a timely and professional manner.

The reviewer will look at the level of understanding of life cycle concepts as well as compliance with the relevant standards being applied. Appendix II lists the reviewer requirements in detail.

2.6 Awarding certification

The LCCCP is granted for 3 years from the date the application is notified of the exam results. For provisional certifications the timing starts at the successful completion of the second review. LCCCP must renew their certification every three (3) years.

Re-certification is granted to LCCCPs who have remained active in the field for the duration of the renewal cycle. This is evidenced by submitting three (3) product carbon footprints for which the Applicant is a lead-author, as well as evidence of the Applicant having earned a minimum of 12 CPD credits.

Alternatively, an Applicant may take and successfully complete the current LCCCP examination in the third year of the cycle.

2.7 Continuing professional development

A total of 12 CPD points are required over 3 years. Typically, CPD points can be earned by undertaking courses, attending conferences and webinars, developing approved training courses, writing academic papers, etc. Appendix III list CPD points for different activities.

2.8 Applications administration procedure

1. Candidates pay the Application Fee via the ALCAS website.
2. Candidates complete the Google application form and upload their supporting documentation. This triggers an email to lcccp@alcas.asn.au, which is monitored by the secretariat.
 - a. Practicing Professional Candidates: <https://forms.gle/x1pgxYparbPpZVqL9>
 - b. Experienced Professional Candidates: <https://forms.gle/9aVXX1gceQw97iecA>
3. When the secretariat has verified that the candidate has paid the application fee, they select two members of the TAG to become the assessors. The secretariat then forwards the supporting documentation to the assessors.
 - a. Members of the TAG are selected evenly to share the workload. Otherwise, they are selected at random.
 - b. The selected assessors may decline to complete the assessment on the basis of a conflict of interest, unavailability, or other reasonable circumstances. In this case, a new TAG member is selected by the same process.
4. The assessors determine the candidate's suitability for the exam, as per Section 2.1, and inform the candidate of the outcome. If the candidate is successful, they are provided instructions for paying the Examination Fee and sitting the exam.
5. The assessors should liaise with the secretariat to confirm that the Examination Fee has been paid.

3 Competencies of Certified Practitioners

LCCCP certified status will indicate that a professional possesses certain competencies. Essentially, these are the same as a regular LCA practitioner for a cradle-to-grave life cycle assessment of products, services, and organisations, but limited to the climate change impact category. These studies are referred to in ISO 14067 as carbon footprint (CFP) studies. It covers the broader implications of choices in assessment methods, models, and scope setting, among other areas.

These competencies are in addition to the other prerequisites, such as levels of experience.

3.1 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.

3.2 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.

3.3 Standards

1. 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

3.4 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.

3.5 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.

3.6 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.



4 Fee structure

As ALCAS is a not-for-profit organisation, fees are priced at the lowest possible level and are non-refundable. Table 2 outlines the proposed fees for the program.

4.1 Application Fee

- Payable on submission of application. The application and payment systems are online.
- A granted application will expire after 12 months.
- If an applicant fails the exam, they may take it again within the above timeframe without paying a second application fee.

4.2 Exam Fee

- Payable before the exam is scheduled
- There are no free or discounted exam fees if applicants must re-sit the exam, so if they fail the exam they will need to pay a re-examination fee.
- Applicants are limited to three attempts at the exam every 12 months.

Table 2 Fees for program

Fees	Members	Non-Members
Application fee	\$500	\$575
Examination fee	\$300	\$345
Re-examination fee	\$300	\$345
Study review (for provisional certified practitioners)	\$2,000	\$2,300
Re-certification fee	\$250	\$287.50

5 Program Governance Structure

The certification program will be managed by an ALCAS sub-committee – the LCCCP management committee (MC) reporting to the ALCAS board.

This MC will oversee the LCCCP program with support of a Technical Advisory Group. The committee also manages and delegates routine activities to a LCCCP secretariate. The secretariate is appointed by ALCAS.

Any grievances which cannot be resolved by the committee will be sent to an external group for review.

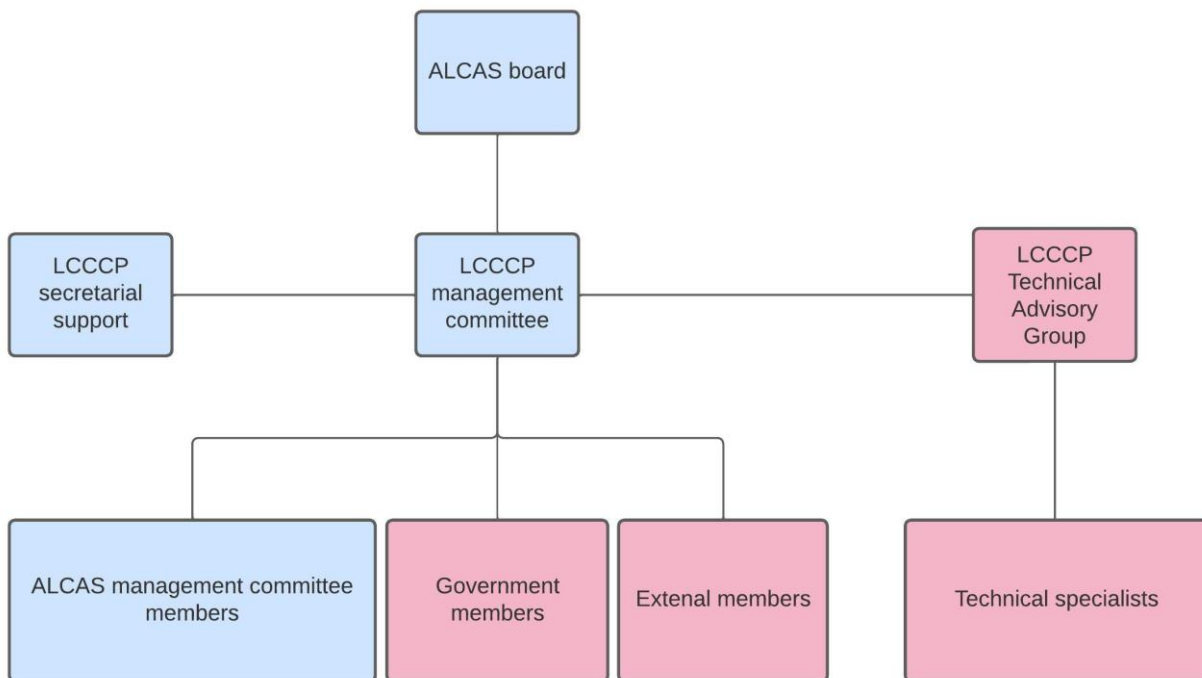


Figure 3 Governance structure for the program

Appendix I: Terms of Reference LCCCP Management Committee

1. **Purpose:** The purpose of the Management Committee (MC) to oversee and ensure the effective implementation and ongoing management of the Life Cycle Carbon Certified Practitioner (LCCCP) program.
2. **Responsibilities:** The MC will be responsible for overseeing program
 - a. Set strategic direction and targets for the program.
 - b. Review and approve the development of marketing and growth strategies.
 - c. Monitor the progress of the examination program and provide guidance and support to ensure that targets are met.
 - d. Approval of applications (from recommendations from secretariat)
 - e. Management of program costs and expenses.

The MC will be supported by the Technical Advisory Group (TAG) on all content related issues for the program including.

- Exam question additions and modifications
- Review of provisional candidate assessments
- Review and development of new content areas.

The MC will also be supported by a paid secretariat who will receive and assess applications against set criteria and make recommendations to the MC.

The secretariat would also assist organising meetings and communications of the MC and TAG and reporting back to the ALCAS board.

3. **Composition:** The management group will consist of 6 to 8 members with expertise in the following areas:
 - a. Product carbon footprint
 - b. Examinations and professional development
 - c. Climate change and sustainability
 - d. Financial management
 - e. Operations management
4. **Meetings:** The MC will meet on a regular basis to review progress and make decisions. Minutes of each meeting will be recorded by the LCCCP secretariat and distributed to all members.
5. **Reporting:** The MC will report to the ALCAS Board of Directors on the progress of the program and seek approval of budget and any change of direction. One member of the MC will be a member of the ALCAS board.

6. **Duration:** The MC members will serve terms of two years.
7. **Conflict of Interest:** Members of the MC will be required to declare any conflicts of interest and abstain from voting on any matter where a conflict of interest exists.
8. **Amendment:** These terms of reference may be amended by the MC with the approval of the ALCAS Board of Directors.

Appendix II: Terms of Reference LCCCP Technical Advisory Group

1. **Purpose:** The purpose of the Technical Advisory Group (TAG) is to advise of technical content issues relating to the LCCCP program under direction of the Management Committee.
2. **Responsibilities:** The TAG will be responsible for overseeing program
 - a. Advise on appropriateness of program content
 - b. Exam question additions and modifications
 - c. Review of provisional candidate assessments
 - d. Review and development of new content areas.

The TAG will also be supported by a the secretariat who will receive and assess applications against set criteria. The TAG will receive questions from the management committee and secretariat.

The secretariat would also assist organizing meetings and communications of the TAG.

3. **Composition:** The TAG will consist of 5-7 members with expertise in the following areas:
 - a. GHG reporting
 - b. LCA
 - c. Auditing
4. **Meetings:** The TAG will meet on a regular basis to deal with technical issues raised in the operation of the LCCCP program. The meetings will be synchronized to intersect with the management committee.
5. **Reporting:** The TAG will report to the MC through 1 common member.
6. **Duration:** The TAG membership will be for two year terms.
7. **Conflict of Interest:** Members of the TAG will be required to declare any conflicts.

Appendix III Code of Conduct

Applicants to the Life Cycle Carbon Certification Program are required to with the following codes of conduct.

- Confidentiality. Committed to maintaining the highest degree of integrity in all dealings with potential, current and past clients, both in terms of normal commercial confidentiality, and the protection of all personal information received.
- Duty of Care. Advice and services provided will conform to all relevant laws and legislation, and where relevant, applicable national and international guidelines and standards.
- Conflict of Interest. Conflicts of interest, where they arise, will be made known to clients.
- Intellectual Property. The moral rights in, and ownership of all intellectual property created in the course of providing services will be agreed with clients in advance of any services being provided. No information relating to any assignment will be discussed or disclosed unless required by law or authorized in writing by the client and/or the organization employing the LCACP.
- Professional Conduct. All activities will be conducted professionally and with integrity. Complete objectivity will be maintained so that issues are never influenced by anything other than the best and proper interests of clients.
- Use of "ALCAS" Name. LCACP Members may use 'LCACP Member of ALCAS' in their business communications but must always add the disclaimer that ALCAS does not bear any legal responsibility relating to the types, outcomes or quality of the services provided by the LCACP Member.
- Professional Competence. Professional knowledge and skill will be maintained at an appropriate level, which ensures clients receive competent professional services based on current developments in practice and techniques, and in accordance with all applicable technical and professional standards. The LCACP Member will not undertake assignments which he/she is not qualified or competent to perform.
- Inducements, Commissions. Inducements, commissions, gifts or any other benefit will not be accepted from client organizations, their employees or any other interested party, nor will colleagues be knowingly allowed to do so.
- Breach of Code. No actions will be undertaken that would in any way prejudice the reputation of ALCAS, and the LCACP Member agrees to cooperate fully with any enquiry ensuing from any alleged breach of this Code. (ALCAS has the sole authority to interpret this Code and to take appropriate action in the event of alleged breach, howsoever it arises). "Appropriate action" for proven breaches of this Code can include removal from membership and prevention of the right to claim ALCAS recognized LCACP status.

I, _____ hear by agree to abide by the codes of conduct outline above.

Date _____

Appendix IV: Review Requirements

For applicants with less than 5 years' experience in the product carbon footprinting will be required to submit two pieces of work for review by certified LCCCP members within 18 months of passing the exam and achieving provisional status.

Suitable assessment will include:

- ISO 14067 compliance footprint
- PAS 2050 compliance footprint
- GHG protocol compliant product footprint
- ISO 14044 compliance LCA
- ISO 13065 carbon footprint

The reviewer will assess.

- Compliance with the selected standard
- Quality of data and report documentation
- Accuracy of calculation and estimations
- Selection and justification of data selection
- Appropriateness of conclusions

If the review finds minor corrective action requests these will be communicated to the practitioner, but the review will be considered as passed. If major corrective action requests are found the review will be considered not as passed and an additional piece of work will need to be assessed.

If more than two pieces of work fail to pass the application will be required to wait 12 months and complete the exam again before submitting work for assessment.

Appendix V Continuing professional development options.

Total CPD points required over 3 year is 12 point

Points can be gained by the following activities.

Activity	CPD points awarded.
Couse in LCA	6
LCA conference	4
Sustainability conference	2
1 day seminar on LCA topic or carbon accounting topic	2