



Certificate in whole life carbon assessment



Course guide

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Duration: 09 months enrolment duration

Language: English

CPD: 80 hours

Market sector: Construction

Course type: Cohort training programme

Welcome

We are very excited that you have chosen to study the certificate in whole life carbon assessment. This guide provides essential information and tips to help you make the most out of this course, including details about your course materials.

First steps

1. Familiarise yourself with the guidance materials provided on the main page of your course.
2. Introduce yourself to your peers and your trainer in the Introduction Forum.
3. Bookmark the course page.
4. We recommend that you use Google Chrome.
5. Disable pop-up blockers in the settings of your Internet browser.

Mode and duration of study

This training programme is designed to be completed within a 9-month period, which includes the time allotted for final assessments. Modules are released every 5 weeks to ensure a steady progression through the curriculum.

To make the most of your learning journey, we recommend dedicating a minimum of 11 hours to each module and ensuring completion of the final assessments before the course expires. In total, the programme is estimated to take at least 80 hours of commitment to achieve comprehensive learning outcomes.

Each module provides a blend of learning experiences, combining introductory videos, interactive, self-paced eLearning modules with plenty of practical examples and professional tips, reading materials, case study practices, live Q&A and consolidation sessions, knowledge checks and a final assessment at the end of the course which consists of a case study assignment and an online exam. Additionally, there is a discussion forum available to encourage peer interaction and enable direct communication with the course tutor for any questions or concerns.

What support do you receive?

Your course tutor will remain accessible via the discussion forum throughout the entire course. Expect tutor responses within 3 to 5 working days.

A dedicated support team will be on hand to help you with any questions that you may have. You can reach the Online Academy team at onlineacademy@rics.org

Course description

Whole life carbon assessment stands at the forefront of the RICS sustainability strategy.

This training programme aims to equip the industry with the essential tools to carry out carbon assessments in accordance with the standard's heavily complex and technical specifications. Through a blend of illustrative examples and real-world case studies, this course will enable RICS practitioners and industry stakeholders to apply the new standard in a practical and 'in-use' situation.

Course structure

Module 1 – Background and A0: Pre-construction

- Part 1 – Key changes from 1st edition
- Part 2 – Introduction to the standard
- Part 3 – A0: Pre-construction

Module 2 – A1-A3: Product stage

- Part 1– Early stages (RIBA 0-2)
- Part 2 – Design stages (RIBA 2-3)
- Part 3 – Alternate situations for the product stage in built in projects

Module 3 – A4-A6: Construction stage

- Part 1 – Estimating/tendering
- Part 2 – On-site application
- Part 3 – Alternate situations for construction stage

Module 4 – B1-B7: In-use stage

- Part 1 – Elements B1 to B4
- Part 2 – Water and energy (B6 - B8)
- Part 3 – Refurbishment (B4)
- Part 4 - Alternate situations for in-use stage

Module 5 – C1-C4: End-of-life stage

- Part 1 – End-of-life for buildings
- Part 2 – Transport and disposal
- Part 3 – Alternate situations for end-of-life

Module 6 – D: Beyond the asset (Building lifecycle)

- Part 1 – Beyond the asset (D1 - D2)
- Part 2 – Alternate situations for beyond asset

Module 7 – Production of the WLCA report

- Part 1 – Reporting
- Part 2 – Alternate situations for reporting
- Part 3 – Case study

Final assessments

- Online exam
- Case study assignment

Learning outcomes

At the end of this course, you will be able to:

Module 1 – Background and A0: Pre-construction

1. Acknowledge the requirements or expectations of RICS professional standards for RICS members and regulated firms about how they provide services or the outcomes of their actions.
2. Define the scope of a carbon assessment.
3. Appraise the use of software and tools to support a carbon assessment ensuring results are validated.
4. Develop effective strategies for continuously updating and adhering to legal obligations.
5. Understand the significance of pre-construction phases within a project's scope and the appropriate timing for commencing assessments during this stage.
6. Identify the scope of a pre-construction assessment.
7. Prepare well-informed assessments for pre-construction set-up requirements.
8. Recognise the importance of local knowledge and diverse technologies in project execution, while understanding that fundamental principles remain consistent.
9. Identify the types of changes and implications to the carbon assessment due to the nature of infrastructure works.

Module 2 – A1-A3: Product stage

1. Explain the need to develop a carbon assessment over the design development, detailing methods to source and validate project-specific data for the assessment.
2. Explain the core carbon terminologies commonly used in a carbon assessment.
3. Discuss the importance of early initiation in carbon assessments and its impact on design and changes, detailing when to start a carbon assessment.
4. Identify the typical sources of data in order of reliability and accuracy while identifying potential shortfalls in data quality.
5. Explain predetermined factors and their appropriate application and suitability, delineating scenarios in which they stand as the sole viable option, and contrasting these instances with contexts where alternative methods prove more suitable.

6. Understand carbon data sources and considerations for the design stage.
7. Manage the update of assessments at the design stage utilising appropriate change control methodology.
8. Identify optimal timing for proposing design changes and apply suitable methodologies effectively.
9. Test the validity of a carbon assessment.
10. Describe the changes to the methodology required for the assessment of fit out, refurbishment and retrofit of buildings at the product stage.
11. Outline the differences and similarities between infrastructure and new build at the product stage.

Module 3 – A4-A6: Construction stage

1. Explain how to source information and justify the methodology for presenting data results in a defined format.
2. Analyse the impact of logistics on the assessment and adjust it accordingly.
3. Explain how the assessment of materials should be carried out.
4. Describe the methodology for measuring materials for the assessment according to the level of detail available at the time.
5. Produce an assessment for a simple building element based on the data provided in the worked examples.
6. Explain the process and criteria for assessing and reporting temporary works.
7. Summarise how on-site change is defined under different forms of contract.
8. Describe the methodology for assessing and reporting on-site changes.
9. Describe the methodology for assessing and reporting on-site waste and its allowances.
10. Define predetermined factors and how to use them for assessing on-site waste.
11. Describe the changes to the methodology required for the assessment of fit out, refurbishment and retrofit of buildings at the construction stage.
12. Outline the differences and similarities between infrastructure and new build at the construction stage.

Module 4 – B1-B7: In-use stage

1. Describe the processes and/or materials that both remove and release carbon at the in-use stage.
2. Identify the associated risks of operating specific MEP systems leading to carbon emissions.
3. Explain the criteria for determining what is included under built asset maintenance, and the methodology for assessing and reporting it.
4. Identify the activities deemed included in reactive maintenance under repair works.
5. Explain the use of predetermined factors to assess the scope of repair works and identify its risks on the assessment.
6. Explain the principles for replacement of built assets components.
7. Identify the activities deemed included in replacement of built asset components.
8. Demonstrate the application and risks of predetermined factors and their impact on the replacement of built asset components.
9. Illustrate the situations where parts B2 to B4 may be perceived as constituting a new project.
10. Explain how to make an assessment for operational energy (B6) for a small project, including when to seek advice from specialists.
11. Identify when to challenge the result of operational energy assessment against the expectations of similar schemes.
12. Identify the sources of data used to provide and/ or conduct the assessment of operational energy (B6).
13. Apply the principles of assessing operational energy when using new and developing technologies.
14. Define the scope of module B7 - operational water use.
15. Describe the methodology for assessing water use (B7).
16. Describe the methodology for assessing and reporting user activities (B7).
17. Describe the changes to the methodology required for the assessment of fit out, refurbishment and retrofit of buildings at the in-use stage.
18. Outline the differences and similarities between infrastructure and new build at the construction stage.

Module 5 – C1-C4: End-of-life stage

1. Outline the current disposal options for built asset materials and components, recognising that as these options evolve, they significantly influence future assessments.
2. Identify materials that can be recovered, reclaimed, reused or not currently suitable.
3. Describe the methodology for assessing and reporting each component of A4 to A6 for end of life.
4. Describe the impact of incineration on waste processing.
5. Describe the methodology for assessing and reporting on demolition, dismantling and deconstruction of built assets (C1).
6. Explain how demolition factors, contractual and legal obligations affect what can be recovered, reused or recycled.
7. Identify the factors involved in the time, cost and recovery balance equation.
8. Explain the impacts resulting from the transportation of materials, plant and equipment to and from the site.
9. Explain what has to be accounted for when reinstating the site to its original condition.
10. Describe the methodology for assessing and reporting the reinstatement process for the site.
11. Describe the methodology and obligations for assessing and reporting the processing and management of waste (C4).
12. Describe the changes to the methodology required for the assessment of fit out, refurbishment and retrofit of buildings at the end-of-life stage.
13. Outline the differences and similarities between infrastructure and new build at the end-of-life stage.

Module 6 – D: Beyond the asset (Building lifecycle)

1. Explain how site boundaries are defined and their practical impact on the assessment.
2. Identify circumstances when it is possible to take benefit of waste material from the asset.
3. Explain the difference between the defined knowledge of today's capabilities against the predictions for the future.
4. Identify the sources of potential beneficial materials for including in the assessment report.
5. Explain the principles of exported energy and its similarities to operational energy (B6).

6. Outline the differences and similarities between infrastructure and new build at the end-of-life stage.

Module 7 – Production of the WLCA report

1. Explain the requirements for producing a WLCA report according to the standard.
2. Describe the requirements for presenting data in the assessment report.
3. Identify the points that must be explained, clarified, excluded or assumed when providing the narrative to the report and why they are needed.
4. Explain the principles governing the maintenance of assessment records.
5. Explain why the assessor must be familiar with legal obligations by location and jurisdiction concerning the asset, including how these variations may impact their obligations and responsibilities.
6. Outline the assessor's duties and tasks pertaining to their insurance provider.
7. List the instances where assessment reports must be reviewed and how to identify when these changes occur.
8. Describe how the scope of the review and reporting of the updates is determined and explained.
9. Explain who is responsible for the records and maintaining the reports.
10. Outline the similarities between infrastructure and new build.
11. Produce a complete WLCA report for a single building.

Learning resources

Each module follows a structured format, offering the same types of learning resources presented in the recommended order for optimal progression.



Pre-reading

These are essential reading materials which we recommend reading prior to watching the introductory video.

To complete this activity, you must view the reading files.



Introductory video

The theoretical aspects of the module will be delivered in the introductory videos. You will take more advantage of the video lessons if you read the materials suggested on the course page prior to watching them.

To complete this activity, you must watch the video files.



eLearning module

Interactive and responsive eLearning modules will deliver the practical aspects of the theory covered in the introductory videos.

The content is presented in bite-size chunks, featuring worked examples, interactive practice activities, top tips and knowledge checks that will enhance engagement and learning retention.

To complete this activity, you must complete all lessons.



Knowledge check

Once you finish the eLearning module, you can take the knowledge check to assess your understanding and track your progress in the module.

To unlock the case study practice, you must achieve a passing grade of 75%.



Case study practice

The case study is your opportunity to practice. It is an activity based on simulated projects where you can apply theoretical concepts into real-world scenarios.

Case studies **are not marked** by the course tutor.

Instead, use the 'Case Study Exchange' forum on your course page as a platform to share your work with peers. This valuable practice can expand your perspectives and generate a diverse range of insights and ideas. Peers may offer unique viewpoints that you hadn't previously considered, ultimately enriching the depth and quality of your learning.

Once you submit your case study, you'll gain access to its model answer. Both the case study instructions and model answer are provided in PDF and video formats.

Some modules will offer multiple opportunities to practice, however you are only required to submit one case study per module.

We highly encourage all learners to share their Case Study work. Your case study could be selected as an exemplary model.

To complete this activity, you must submit at least one case study in the 'Case Study Exchange' forum.



Consolidation Q&A session

These live online classes consolidate the key takeaways from the eLearning modules and reading materials. The classes are recorded and added to your course.

This activity has no completion requirement, but we strongly recommend attending the live session or watching its recording.



End of module knowledge check

This knowledge check will assess your knowledge of the content covered in the module and unlock the next module.

To unlock the next module, you must achieve a passing grade of 75%.



Case study assignment

The case study assignment is part of your final assessment, and it will be marked by your tutor. It will consist of a full whole life carbon assessment, based on a small building.

To unlock the case study assignment, you must have completed all seven modules.

To unlock the online exam, you must achieve a passing grade of 65% in the case study assignment.



Online exam

Upon successful completion of case study assignment, you will unlock the online exam.

- The exam consists of 50 multiple-choice questions.
- The passing grade is 75% and you will have 70 minutes to complete it.
- You are allowed 2 attempts; however, the second attempt is only released 24 hours after the first attempt.

A certificate of completion will be granted upon successfully achieving a passing grade of 75% in the online exam.

Discussion forums

There will be one forum per module for you to engage with peers and tutors. Tutors will usually reply within 3 to 5 working days.

Please refer to the “Discussion Forum – Guidance and Code of Conduct” on the course page.