Assessment Requirements for FWPFGM6201 Plan a biochar storage system for carbon capture and storage

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Modification History

Release	Comment
1	Replaces superseded equivalent FPIFGM6201B Plan a bio-char storage system for carbon capture and storage, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2.
	Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement'.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit, and must be able to provide evidence that they can:

- Conduct a feasibility study for the design and construction of a bio-char carbon storage for one of the following users:
  - harvesting operators
  - forest owners
  - sawmill operators
  - timber processing and manufacturing facilities
  - industries supplying feedstock
  - government departments and councils
  - agricultural businesses
- Complete a report recommending the optimum type of system to meet the user's needs including the method of pyrolysis.
- Develop design specifications, a construction plan and budget for building the facility.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- Purpose and content, at an in-depth level of understanding, of mandated and voluntary industry codes of practice for operating bio-char storage systems.
- Carbon marketing principles.
- Quality management systems for chemical production.

- Fundamental principles of chemistry as they apply to the operation and stability of bio-char facilities.
- Features and uses of environmental protection monitoring systems associated with a bio-char facility.
- Common user needs and requirements for bio-char storage systems, including:
    - by-products of a pyrolysis system
    - waste management options
    - carbon sequestration priorities
    - land management priorities
    - development priorities
    - investor interests
    - financial returns
    - environmental outputs
    - social responsibility
    - sustainability
    - input usage
- Meaning of pyrolysis, differing methods and benefits of each , including:
    - slow pyrolysis
    - fast pyrolysis
    - intermediate pyrolysis
    - carbonisation
    - gasification
- Types of feedstock used for bio-char processes, characteristics and range of outputs associated with each, including:
    - wood products, including:
        - harvesting residues
        - green mill residue
        - dry mill residue
    - residue from other wood fibre processing operations
    - agricultural waste
    - crops grown for the consumption of bio-char plants
    - manure and waste from intensive animal farming systems
    - municipal waste
- Process conditions for bio-char systems, including:
    - temperature
    - residence time
    - heating rate
    - feed stock preparation
- Format, content and use of design specifications and construction plans.

Assessment Conditions

The following resources must be made available:

- Computers, keyboards, printers and software used to document plans and reports.
- Template feasibility reports, design specifications and construction plans.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- Hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47