

**Modification history**

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 7.0.

<b>FWPFGMXXXX</b>	<b>Apply knowledge of forestry contributions to carbon reduction strategies</b>
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to explain the contribution of forestry to carbon reduction to variety of professional and non-professional audiences and to apply knowledge of forest carbon stock measuring and monitoring techniques in planning and implementing carbon reduction strategies in the forestry industry.</p> <p>The unit applies to individuals who are involved in planning and implementing carbon reduction strategies in the forestry industry.</p> <p>All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Forest Growing and Management (FGM)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Outline the contribution of forestry to carbon reduction	1.1 Identify the role of forests in the carbon cycle 1.2 Describe the impact of climate change on tree physiology and forest ecosystems 1.3 Explain the role of forests in climate change mitigation 1.4 Outline the role of forestry in carbon reduction strategies including carbon sequestration and emissions trading schemes 1.5 Prepare and present information to professional and non-professional audiences on the contribution of forestry to carbon reduction
2. Outline techniques for estimating forest carbon stock	2.1 Identify the purpose of estimating forest carbon stocks 2.2 Source workplace policy and procedures and reference materials on estimating forest carbon stock 2.3 Explain the concepts of carbon pools, biomass, carbon stock and carbon fluxes and how these apply to estimating forest carbon stocks 2.4 Outline the methods for estimating forest carbon stocks and changes in carbon stock 2.5 Describe the process for estimating carbon stocks by measurement including selecting carbon pools that may be estimated by measurement, identifying sampling sites, conducting sampling activities and monitoring sampling activities 2.6 Describe the quality assurance and quality control procedures required to ensure reliability of measurements, data entry, data analysis and data archiving while conducting a forest carbon inventory 2.7 Describe the processes involved in interpreting sampling data and estimating carbon stocks from collected data 2.8 Describe the processes involved in using growth models to predict biomass and carbon stocks and comparing predicted forest carbon stocks to current available data 2.9 Prepare and present information to professional and operational personnel on estimating forest carbon stock

<b>Foundation Skills</b>	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
<b>Skill</b>	<b>Description</b>
Reading	<ul style="list-style-type: none"> <li>Interpret complex technical information on different methods for estimating forest carbon stocks and changes in carbon stock</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Prepare written information on complex technical matters for use by a range of professional and non-professional audiences</li> </ul>
Oral communication	<ul style="list-style-type: none"> <li>Apply effective communication skills to ask questions and seek clarification on complex and unfamiliar technical concepts related to the contribution of forestry to carbon reduction</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Collect, analyse and record complex statistical data related to sample site selection, sampling methods and interpretation of sampling data</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
FWPFGM5XXX Apply knowledge of forestry contributions to carbon reduction strategies	FWPFGM5219 Undertake carbon stock sampling of forest and plantations	<p>New title</p> <p>Revised Application Statement to reflect change in scope of unit of competency</p> <p>Revised Elements and Performance Criteria</p> <p>Revised Performance and Knowledge Evidence</p> <p>Revised Assessment Conditions to reflect Standards for Training packages</p>	Not equivalent

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a>
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<b>TITLE</b>	<b>Assessment requirements for FWPFGM5XXX Apply knowledge of forestry contributions to carbon reduction strategies</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has:</p> <ul style="list-style-type: none"> <li>explained the contribution of forestry to carbon reduction to one professional and one non-professional audience</li> <li>prepared and presented information to one group of professional staff and one group of operational personnel on estimating forest carbon stock.</li> </ul>	

<b>Knowledge Evidence</b>
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> <li>the role of forests in the carbon cycle</li> <li>the impact of climate change on tree physiology and forest ecosystems</li> <li>the role of forests in climate change mitigation</li> <li>the key features and role of forestry in carbon reduction strategies: <ul style="list-style-type: none"> <li>carbon sequestration</li> <li>emissions trading schemes</li> </ul> </li> <li>key concepts used in estimating forest carbon stocks <ul style="list-style-type: none"> <li>carbon pools</li> <li>biomass</li> <li>carbon stock</li> <li>carbon fluxes</li> </ul> </li> <li>types of carbon pools <ul style="list-style-type: none"> <li>above ground biomass</li> <li>below ground biomass</li> <li>dead wood</li> <li>litter</li> <li>soil organic carbon</li> </ul> </li> <li>methods for estimating forest carbon stocks and changes in carbon stock <ul style="list-style-type: none"> <li>estimation by default factors</li> <li>estimation by modelling</li> <li>estimation by measurement</li> </ul> </li> <li>techniques for measuring land areas</li> <li>sampling design and sampling methods for estimating carbon stocks.</li> <li>techniques for conducting measurements in sampling plots</li> <li>quality assurance and quality control techniques used in forest carbon inventory</li> <li>statistical analysis techniques applicable to biomass and carbon assessments.</li> <li>methods used to predict biomass growth and carbon stock growth, specifically the use of growth models.</li> </ul>

<b>Assessment Conditions</b>
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>physical conditions: <ul style="list-style-type: none"> <li>skills must be demonstrated in a forest work environment or an environment that accurately represents workplace conditions</li> </ul> </li> <li>resources, equipment and materials: <ul style="list-style-type: none"> <li>reference materials on carbon reduction strategies and estimating forest carbon stock</li> </ul> </li> <li>specifications: <ul style="list-style-type: none"> <li>workplace policy and procedures on estimating forest carbon stock.</li> </ul> </li> </ul>

<b>Assessment Conditions</b>	
Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.	
<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a>