



Australian Government

Department of Education, Employment and Workplace Relations

FPICOT6204A Use carbon accounting to estimate emissions in the workplace

Release: 1

FPICOT6204A Use carbon accounting to estimate emissions in the workplace

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to account the carbon emissions released over a defined period of time for a forestry-related organisation
General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

Application of the Unit

Application of the unit

The unit involves the identification and application of carbon accounting methodologies to develop and analyse a carbon inventory for the workplace. The unit can be applied in a variety of work settings including:

- forest environment
- saw mill
- wood chip mill
- veneer mill
- board/plywood mill
- timber treatment plants
- downstream processing of timber
- forest products factory
- forest products sales and service
- horticultural, local council, emergency services environment

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Evaluate the context for instigating carbon accounting in the workplace	<p>1.1. Applicable <i>Occupational Health and Safety</i> (OHS), <i>environmental, legislative</i> and <i>organisational requirements</i> relevant to carbon accounting are identified and followed</p> <p>1.2. Need to quantify the stocks, sources and sinks of carbon and other greenhouse gas (GHG) emissions in the context of anthropogenic impacts on the global climate is examined</p> <p>1.3. Mandatory and voluntary obligations for carbon accounting under <i>international conventions and protocols</i> and national context are investigated</p> <p>1.4. <i>Supplementary principles</i> of carbon accounting are examined</p> <p>1.5. Role of the forestry sector in the global balance of GHG emissions is assessed</p> <p>1.6. <i>Objective</i> of conducting an accounting of carbon emissions is established</p>
2. Identify carbon accounting methodologies and define the appropriate approach	<p>2.1. Methodologies for carbon accounting are explored</p> <p>2.2. Carbon accounting frameworks and methods are examined</p> <p>2.3. Protocols for carbon <i>biomass pools</i> including harvested wood products and <i>non CO₂ emissions</i> are identified</p> <p>2.4. Approach for developing a carbon inventory in line with the nationally agreed standards is established</p>
3. Establish the accounting area	<p>3.1. Organisational and operational <i>boundary/ies</i> for the carbon inventory are defined</p> <p>3.2. Time period over which carbon emissions are to be assessed is determined</p>
4. Collect data	<p>4.1. <i>Emissions and offset sources</i> are identified</p> <p>4.2. Collection of activity/consumption and offset data is determined based on availability of data, analytical capacity and available resources</p> <p>4.3. Carbon inventory summary table is constructed listing and separating the emission sources into the correct scopes</p> <p>4.4. Carbon offset sources are included in the carbon inventory summary table outside the scopes</p> <p>4.5. Available data is recorded in separate spreadsheet tabs</p> <p>4.6. Existing <i>secondary data</i> is researched</p> <p>4.7. Field data is gathered for carbon storage sources</p>
5. Apply calculation	<p>5.1. Calculations for carbon dioxide equivalent</p>

ELEMENT	PERFORMANCE CRITERIA
methodology	<p>emissions consistent with GHG protocol are conducted within the spreadsheets for each emissions source included in the inventory</p> <p>5.2. Calculations for carbon storage, consistent with a <i>standardised methodology</i> are conducted within the spreadsheets for each carbon offset source included in the inventory</p> <p>5.3. Carbon inventory summary is populated with calculated emissions/offsets in descending order</p> <p>5.4. Total emissions for each scope and for the removals/offsets are calculated</p> <p>5.5. Sum total of all emissions and offsets for the inventory are calculated</p> <p>5.6. Change in carbon stocks is estimated if a baseline exists</p> <p>5.7. Charts and/or graphs are prepared to display the emissions by scope and source</p> <p>5.8. Suitable ratio indicator for the organisation is formulated and its value is calculated based on the total carbon emissions in the summary</p> <p>5.9. Value of the ratio indicator is reported in the carbon inventory summary</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit

Required skills

- Technical skills sufficient to select and apply a methodology to calculate emissions; examine carbon accounting frameworks and methods; develop a carbon inventory for the workplace
- Communication skills sufficient to gather primary data from field surveys; use appropriate communication and interpersonal techniques with stakeholders, colleagues and others
- Literacy skills sufficient to interpret legislation, standards and codes of practice; document control records; research relevant information to collect secondary data; record data in separate spreadsheet tabs
- Numeracy skills sufficient to collect and analyse data; calculate emissions using an equation; conduct carbon storage calculations; prepare charts and graphs
- Problem solving skills sufficient to estimate total uncertainty

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards and codes of practice relevant to the full range of processes for carbon accounting
- Environmental protection requirements, including the safe disposal of waste material, minimising carbon emissions
- Organisational and site standards, requirements, policies and procedures for carbon accounting
- Environmental risks and hazards
- Minimising environmental impact
- Using energy effectively and efficiently
- Using material effectively and efficiently
- International and national GHG emission standards, guidance and frameworks, such as:
 - GHG protocol
 - ISO 14064-1 2006 Greenhouse gases -- Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
 - National Greenhouse Accounts (NGA) Factors Workbook
- Carbon cycle
- Influences on the carbon cycle
- Anthropogenic influences
- Greenhouse effect
- Trends in carbon emissions
- Impacts of climate change
- Drivers behind carbon accounting
- Carbon accounting terminology
- Carbon accounting frameworks and methods
- Organisational and operational boundaries
- Categorising carbon reductions, removals offsets
- Emissions sources in the workplace
- Collecting data
- Selecting emissions factors
- Established communication channels and protocols
- Problem identification and resolution strategies
- Types of tools and equipment, and procedures for their safe use and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently use carbon accounting to estimate emissions in the workplace

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to, and satisfy, all of the requirements of the elements of this unit and include demonstration of:

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to carbon accounting
- following organisational policies and procedures relevant to carbon accounting
- researching information to establish an objective for conducting carbon accounting in the workplace
- identifying boundary/ies to be covered
- identifying emission sources to be covered
- selecting an emissions calculation approach
- collecting activity data
- applying a calculation tool to estimate emissions

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed Assessment

EVIDENCE GUIDE

Guidelines of the FPI11 Training Package

- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge
- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

RANGE STATEMENT

OHS requirements:

are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices including required actions relating to forest fire
- manual handling including shifting, lifting and carrying

Legislative requirements:

are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Organisational requirements may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards
- OHS, emergency and evacuation procedures
- ethical standards

RANGE STATEMENT

- recording and reporting requirements
- equipment use, maintenance and storage requirements
- environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)

RANGE STATEMENT

International conventions and protocols may include:

- Kyoto Protocol
- ISO 14000 essentials
- GHG protocol
- Copenhagen Agreement

Supplementary principles may include:

- baseline scenario
- leakage
- permanence

Objectives may include

- providing information on which to build an effective strategy to manage GHG emissions
- prerequisite for participating in GHG trading markets
- demonstrating compliance with government regulations

Biomass pools may include:

- above ground biomass
- below ground biomass
- dead organic matter - wood, litter
- soil organic matter

Non-CO₂ emissions may include:

- soil disturbance
- fertilisation
- biomass combustion

Boundary/ies may include:

- global
- national, organisational
- operational
- geographical
- project based

Emissions and offset sources may include:

- direct GHG emissions
- indirect GHG emissions
- on-site and off-site emissions (geographical)
- upstream emissions
- downstream emissions
- full cycle accounting

Secondary data may include:

- information from national statistical agencies
- information from research institutes
- information from sectoral experts

Standardised methodology may include:

- legislated carbon farming initiatives

Unit Sector(s)

Not Applicable

Competency field

Competency field Common Technical