



Skills for Sustainability



Manufacturing Skills Australia



Assessment Guide:

MSS015009A Implement sustainability plans

- ☒ skills
- ☒ knowledge
- ☒ assessment methods
- ☒ evidence
- ☒ context

This project is supported by the Australian Government
through the Clean Sustainable Skills Package

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About the assessment guide

Aim of the guide

The Sustainability Skills assessment guide will assist Registered Training Organisations (RTOs) to design and contextualise their assessment activities and evidence requirements for the unit of competency

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In particular the guide demonstrates how:

- **Assessment methods can be chosen to suit the learner**, for example, if a learner has existing skills and experience in the unit of competency a portfolio of evidence is more useful than direct observation.
- **Assessment methods can be chosen to suit the industry context**, for example, where a work place has established sustainability policies and procedures direct observation and work place documentation / records could be used.
- Specific types of evidence can be identified that relate to the unit requirements and the industry context, for example, if the company has weekly production meetings minutes of these might provide evidence of making recommendations.

These decisions are used to design the assessment activities. For example a work place project might be developed around the aspects of the unit that can be applied and/or demonstrated in the workplace. Portfolio requirements might be designed around evidence that can be found, or generated, from typical day to day activities. An interview or test might be designed around aspects of the unit where knowledge needs to be tested because it is not clearly demonstrated in the practical activities or to test an individual's knowledge in a team environment.

The guide also provides examples that show how:

- **a contextualised workplace project can be developed** that demonstrates relevant aspects of the unit
- **questions can be identified** to assist in the authentication of evidence and show understanding of the application of the concepts of sustainability.

The assessment guide uses a fictional scenario as the basis for demonstrating one approach to developing an assessment tool for this unit of competency.

Note that the guide should be read in conjunction with the unit of competency (see training.gov.au).



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What the guide does not provide

The guide focuses on selecting assessment methods and evidence and does not provide a complete or validated assessment instrument. It is for guidance only; there are others ways that the unit could be assessed and many ways that an assessment can be contextualised. None of the processes or ideas in this guide is mandatory.

It does not cover everything that an RTO must address to deliver an assessment and meet compliance. For example the RTO will need to address:

- development of assessment instruments and documentation
- validation of assessment tools, processes and outcomes
- consulting with industry and developing a training and assessment strategy
- how the assessment will be 'delivered', for example, scheduling the activities, monitoring and providing support to the learner, and engaging input from enterprise managers
- full mapping of evidence to units of competency.

Each RTO will need to decide whether to follow any of the processes demonstrated here. If so, the RTO will need to amend the evidence and other details to reflect the characteristics of their learner/s and the context of their assessment. This should be based on their consultations with industry and clients, and the other information within their training and assessment strategy.

Focus of the guide

MSS11 Sustainability Training Package Assessment Guidelines

The Assessment Guidelines in MSS11 state that *"assessment should be conducted in the workplace or in a in a work-like environment. Many of the units also require the measurement of environmental and other indicators over a period of time and for this reason project based assessment is also preferred."*

This unit of competency states that *"Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts."*

In addition the Sustainable Operations qualifications are designed for workers experienced in their industry who require an 'overlay' of skills to improve the sustainability of the business.

Therefore the assessment guides focus on assessment methods for experienced workers and workplace assessment.



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Contextualising

The guide focuses on contextualising assessment to the participants / learners and the workplace context. It demonstrates how the context of the assessment can be analysed and used to select assessment methods and evidence to meet the requirements of the unit of competency.

Typically the context comprises information about:

- industry or enterprise systems, practices and documentation
- characteristics of the learner/s
- mode of delivery of any training.

The guide outlines one approach to planning and designing assessment activities and evidence that are contextualised.

There are many ways that an assessment can be designed to meet the context and the unit requirements. The approach outlined in this guide is just one way. If an RTO follows this approach they should amend the activities, evidence and other details to reflect the characteristics of their learner/s and the context of their assessment.

Contextualising for different sectors is critical. The sustainability issues that are significant to one industry sector or process might not be found in another. For example the casting and forging sectors use large amounts of energy and produce emissions such as dust and greenhouse gases (GHGs). However, one of the key sustainability issues in furniture manufacture may be sourcing plantation timber.

Additional information is available on the Skills for Sustainability website at <http://www.sustainabilityskills.net.au> including information about this unit of competency and information about sustainability issues in different sectors.

The website also has information about contextualization, understanding sustainability issues within different sectors, designing an assessment, developing workplace projects and using simulated workplace environments.



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What's in the assessment guide

This guide provides:

- a scenario outlining the RTO, learner and enterprise context
- key points drawn out from the scenario
- checklists to help link the context to the assessment methods and evidence:
 - checklists relating to the context for the assessment
 - checklists relating to assessment methods, and methods of collecting and submitting evidence
- an evidence planning table, linking the scenario context with evidence and the unit of competency
- a Recognition of Prior Learning (RPL) assessment method based on the scenario and unit of competency and contextualised using the identified evidence
- questions based on the scenario and unit of competency and contextualised using the identified evidence.



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Assessment planning and design

Planning every aspect of an assessment is a broad process that requires many steps and sources of information. Arguably it can start with industry consultation and developing the training and assessment strategy; and conclude with the assessment decision and feedback to the learner.

This guide focuses on a small section of the process. It targets the steps of analysing the unit of competency and the context of the assessment in order to select appropriate assessment activities and evidence collection. These steps are represented in the flow chart at Figure 1.

Typically the context comprises the industry or enterprise systems, practices and documentation and characteristics of the learner/s and mode of delivery of any training. As an RTO you will collect much of this information from your industry consultation and discussion with clients, and capture it in your training and assessment strategy.

In this guide the context is described in a scenario which includes a fictional RTO, learner profile and an industry sector or enterprise context. It uses this information to identify suitable assessment methods and available evidence that are aligned to the unit of competency. These are used to design the assessment activities linked to the unit requirements.

Information inputs

Context

Assessment guide uses a scenario for the context
RTO uses its training and assessment strategy for the context (including consultation and review of the unit of competency)

Competency requirements

Unit of competency

Steps in designing assessment activities

Identify key aspects of the context
(learner, enterprise, sector,
sustainability issues, other?)

Select assessment methods and evidence
collection aligned to context

Identify specific evidence (valid, sufficient, current,
authentic and aligned to the unit and context)

Design the activities to generate/capture and
authenticate the evidence

Figure 1 Designing assessment activities



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Context: The scenario

The RTO

Greater Southern Institute of TAFE is delivering MSS50112 the Diploma of Sustainable Operations and is offering recognition of prior learning (RPL) to suitably experienced learners. The TAFE provides access to the internet, and has a sustainability learning hub for learners to find relevant resources.

Wendy is the course coordinator and RPL supervisor. It is her job to develop the RPL process for the sustainable operations qualifications that are on scope, based on the institute-wide policies and procedures. All learners are offered RPL, and Wendy seeks expressions of interest from the learners for RPL at enrolment. If they are interested she contacts them and has an initial phone interview about what experience they have, if RPL would be suitable for them and which units of competency may be relevant.

One learner has enrolled in MSS50112 the Diploma of Sustainable Operations and at this stage has applied for RPL in MSS015009A Implement sustainability plans.

The learner

Manpreet is the operations manager at Geotextiles Australia. He is responsible for the production of the geotextiles and reports to the general manager.

As part of Manpreet's role as operations manager he also has responsibility for:

- monitoring the sustainability performance of the business
- leading and monitoring the implementation of sustainability improvement projects
- providing input into the overarching sustainability strategy for the business at Board level
- continuously improving the strategic sustainability plan which aims to address the sustainability impacts across the business as identified in the sustainability strategy
- managing the implementation of the sustainability plans which are for discreet projects
- consulting with the key stakeholders for the business and manufacturing value chain, such as suppliers, customers, employees and the community on how to improve sustainability performance
- establishing and monitoring data collection arrangements to meet the requirements of customers, ISO 14001 Environmental management systems and the *Clean Energy Act 2011*
- auditing the use of water, energy, fuel and raw materials
- preparing reports for the Board and senior management.



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Manpreet has been to several short courses and conferences about sustainability. He is known as the 'sustainability champion' in the business so he is a strong advocate for sustainability and is well regarded by the employees.

The enterprise context

Geotextiles Australia imports and manufactures geosynthetic products and industrial non-woven fabrics. It manufactures geotextiles for use in drainage and other applications, for example, geotextiles used above the liner at the base of landfill sites to prevent build up of leachate, thereby extending the life of the liner. There are 250 people employed in total, and there are manufacturing facilities in Wodonga and the Sunshine Coast.

As the manufacturer of a product that has a large role to play in protecting the environment, it is very important for the business to 'walk the talk' in order to protect its green credentials with its customers. Manufacturing and delivering products and services with fewer sustainability impacts will give the business a significant competitive advantage, provided that there are not sacrifices in safety, time or quality. Products with superior environmental performance can attract new customers.

The business has embraced ISO 14001 Environmental management systems and developed a full set of policies and procedures for economic, environmental and social sustainability. They have developed a Board level sustainability strategy through to strategic sustainability plans for making improvements across the business, and sustainability project plans for individual sustainability projects (these are called implementation plans in the unit of competency). The business is ready to manage the requirements of the *Clean Energy Act 2011*.

The major sustainability issues that have been identified by Geotextiles Australia include reducing carbon emissions (materials, electricity and fuel); efficient use of resources used, such as water, power and raw materials; and more efficient production processes.

Addressing these issues will protect the reputation of the business and develop consumer confidence and trust in the brand.

Examples of sustainability projects that have been implemented include:

- improvements to facilities and equipment, such as ensuring that the evaporative air conditioning units are working properly, installing water-efficient fixtures, installing sensor systems for lighting and space heating, and 'green teams' doing audits to ensure office and plant equipment is turned off when not in use
- process control improvements to the plant and equipment to increase production efficiency, such as installation of advanced process control software and the installation of technology to capture



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and use the heat released as the textile thread forms from polymer granules in the spinneret to preheat the polymer granules

- the introduction of an 'ecodriving' program for vehicle drivers as a strategy to use less fuel and increase the safety of drivers
- the introduction of processes to ensure vehicle tyres are inflated correctly to save fuel.

Key points from the scenario

- The industry sector is commercial textiles.
- The business has implemented ISO 14001 Environmental management systems and has a full set of strategic plans, policies and procedures for sustainability.
- The learner comes from a business where sustainability plans have been implemented, so RPL may be feasible.
- The learner has detailed technical knowledge of the manufacturing processes and the sustainability related policies and procedures that have been implemented.

What does the scenario tell us about the context for the assessment?

- ☐ Classroom based
- ☒ Existing worker in this field
- ☐ Not currently employed in this field
- ☐ Off the job learning
- ☒ On the job implementation
- ☐ RPL
- ☐ Simulated workplace environment
- ☒ Single unit of competency
- ☐ Skill cluster
- ☐ Whole qualification
- ☒ Workplace based



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Which assessment methods are suitable?

Direct observation, for example;

- ☐ Practical demonstration in the workplace
- ☐ Real work/real time activities in the workplace
- ☐ Work activities in a simulated workplace environment

Structured activities, for example;

- ☐ Activity sheets
- ☐ Presentation to colleagues
- ☐ Scenario based project
- ☐ Simulation exercises such as hypotheticals and role plays
- ☐ Work based case study
- ☐ Work based project (and documentation)

Questioning, for example;

- ☐ Oral or written examinations (may be applicable at higher AQF levels)
- ☐ Questionnaires
- ☐ Self assessment
- ☒ Verbal questioning / discussion / interview
- ☐ Written questions

Portfolios of evidence, for example;

- ☒ Authenticated prior achievements
- ☒ Collection of work samples compiled by the learner
- ☒ Evidence of training courses attended
- ☐ Historical evidence
- ☐ Information about life experience
- ☐ Journal or log book
- ☒ Photographs or video
- ☐ Product with supporting documentation
- ☒ Verified workplace history/CV
- ☒ Workplace documentation / records

Third party feedback, for example;

- ☐ Interview with employer, supervisor, or peer
- ☐ Letter of support from a work place
- ☒ Testimonials and reports from employers and supervisors
- ☐ Third party report from supervisor or technical expert



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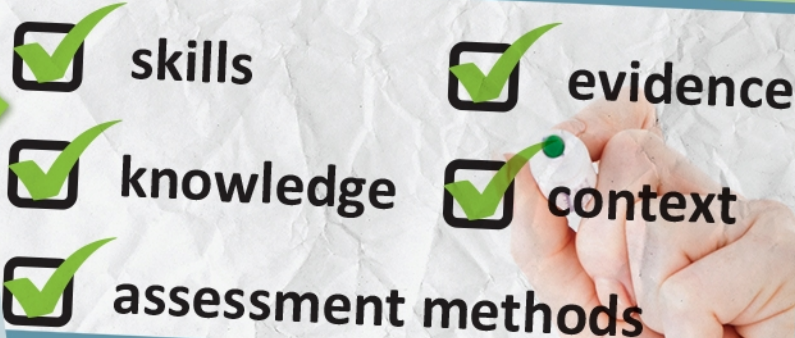
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How will evidence be collected or submitted?

- ☒ Documents - electronically / in person / mail
- ☐ Data capture - video / audio / notes / smart pen by assessor / 3rd party / candidate
- ☒ Data submission - web upload / mail (USB drive / SD card / disc etc)
- ☐ Online real time - Skype, web conference
- ☐ Online self paced – online tests, interactive simulation

Evidence: What will be available and suitable?

The evidence planning table shows one way of linking the context of the scenario with the unit of competency. It examines the unit of competency, the context and the selected assessment method in order to identify appropriate assessment evidence.

Based on the scenario, the learner and the context identified above, the following evidence could be expected to be available as part of the assessment. Keep in mind that some evidence might apply to several aspects of the unit or even several units.

Evidence planning table

This table provides an example of identifying evidence that is available in the workplace. The evidence listed here has been selected so that it covers the required skills, required knowledge and critical aspects of assessment for this unit; however this has not been shown in the table.

The table is not intended as a format for mapping to meet compliance requirements and each RTO needs to determine the type of mapping that may be required by its registering body.

| Element | Performance Criteria | Evidence |
|---|--|--|
| 1 Establish required support for proposed sustainability related improvements | 1.1 Identify key stakeholders 1.2 Identify benefits of proposal for each stakeholder 1.3 Identify causes of resistance to proposal 1.4 Negotiate with key stakeholders and gain support | <input checked="" type="checkbox"/> Workplace documentation/records <ul style="list-style-type: none"> Evidence of communicating and negotiating with stakeholders to gain support for the sustainability projects, for example, notes of meetings, emails, memos and further information provided <input checked="" type="checkbox"/> Verbal questioning/discussion/ interview <ul style="list-style-type: none"> Questioning about the portfolio of evidence |

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| Element | Performance Criteria | Evidence |
|---|--|---|
| 2 Establish systems for monitoring implementation | 2.1 Agree on implementation timelines 2.2 Develop agreed indicators of progress 2.3 Establish data collection systems and responsibilities for each indicator 2.4 Validate data collection against indicators | <p><input checked="" type="checkbox"/> Workplace documentation/records</p> <ul style="list-style-type: none"> Project plans, including team members, timelines, outcomes and indicators of progress Evidence of setting the agreed indicators of progress, such as notes or photographs of the whiteboard notes from a meeting <p><input checked="" type="checkbox"/> Collection of work samples compiled by the learner</p> <ul style="list-style-type: none"> Examples of sustainability indicators and data collection systems, such as sustainability audits, environmental monitoring records, production records, staff records, supply chain invoices, and water/gas/electricity meter readings Examples of analysis of data against progress indicators, for example, graphs of electricity use or fuel consumption <p><input checked="" type="checkbox"/> Verbal questioning/discussion/ interview</p> <ul style="list-style-type: none"> Questioning about the portfolio of evidence |
| 3 Implement improvement plan | 3.1 Update project implementation plan as required 3.2 Take required actions to have plan implemented 3.3 Monitor progress using agreed indicators 3.4 Analyse progress to plan 3.5 Take control actions necessary 3.6 Modify implementation plan as required 3.7 Report on progress | <p><input checked="" type="checkbox"/> Workplace documentation/records</p> <ul style="list-style-type: none"> Revisions to the project plan for sustainability projects that are being implemented Evidence of consulting and negotiating with stakeholders on the implementation process, monitoring progress and taking control actions as necessary, such as meeting notes, emails, notes of telephone conversations and memos Project progress reports reviewing progress and analysing data and barriers to success <p><input checked="" type="checkbox"/> Authenticated prior achievements</p> <ul style="list-style-type: none"> Report of implementation of a sustainability project plan, for example, presentation to senior management, article for employee newsletter, or a report of sustainability project to funding partners <p><input checked="" type="checkbox"/> Photographs or video</p> <ul style="list-style-type: none"> Video of a meeting where the learner seeks information from the sustainability project team members about the progress and impact of the sustainability project <p><input checked="" type="checkbox"/> Verbal questioning/discussion/ interview</p> <ul style="list-style-type: none"> Questioning about the portfolio of evidence |



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| Element | Performance Criteria | Evidence |
|----------------------------------|---|---|
| 4 Recommend further improvements | 4.1 Measure improvements actually obtained 4.2 Identify non-compliances with planned improvements 4.3 Determine desirable additional improvements 4.4 Obtain approvals for improvements 4.5 Implement improvements to sustainability plan | <input checked="" type="checkbox"/> Workplace documentation/records <ul style="list-style-type: none"> Progress report on the project, including measurement against performance indicators, any non-compliances and how they were addressed Evidence of obtaining approvals for additional improvements, for example, variations to work plans for contractors, approval of additional spending from the accountant, and changed maintenance procedures Revisions to the business strategic sustainability plan <input checked="" type="checkbox"/> Collection of work samples compiled by the learner <ul style="list-style-type: none"> Examples sustainability indicators and data to measure improvements obtained, such as sustainability audits, environmental monitoring records, number of fines, production records and staff records <input checked="" type="checkbox"/> Verbal questioning/discussion/ interview <ul style="list-style-type: none"> Interview by the assessor about the portfolio of evidence |

Assessment activity: RPL portfolio of evidence

The portfolio of evidence for RPL is a collection of documentation and workplace documentation that is provided to the assessor to provide evidence of competency. It may include direct and indirect evidence and should be planned with the learner.

RPL portfolio of evidence for Manpreet at Geotextiles Australia

The portfolio of evidence needs to show that the learner can gain support for, manage and implement a sustainability project that has already been planned. This includes implementing a continuous improvement cycle of setting the indicators of success, collecting and analysing the data, monitoring and measuring progress, taking steps to keep things on track and reporting on progress.

Manpreet will need to prepare a portfolio of evidence of competency for a large sustainability project that he has managed. Key things to include in his evidence include:

1. A verified work history/CV of current and previous relevant positions held and duties performed.
2. Copies of certificates of attendance at courses and qualifications.
3. Current position description.
4. Workplace documents and evidence from Geotextiles Australia including:



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- who the internal and external stakeholders are (e.g. general manager, chief financial officer, maintenance supervisor, operations team members, WorkCover officers, Environment Protection Authority (EPA) officers, customers and clients)
- examples of communicating, consulting and negotiating with stakeholders about sustainability projects (e.g. emails, meeting notes, photographs of whiteboard notes, toolbox presentations, PowerPoint presentations, newsletters, screenshots of webpages, visual workplace posters, press releases and records of meetings)
- sustainability project plans, including team members, timelines, outcomes and indicators of progress (e.g. efficiency targets to indicate if the sustainability project is on track and if it delivers the suggested benefits)
- examples of sustainability indicators and data collection systems, (e.g. sustainability audits, environmental monitoring records, production records, staff records, meter readings, and supplier invoices that specify consumption)
- revisions to sustainability project plans
- progress and final reports for the projects.

5. A testimonial from the general manager authenticating that the portfolio of evidence is the work of Manpreet.

Assessment activity: Questions

In this guide, questioning is used to assess required knowledge and aspects of competency which are difficult to assess in other ways, for example, testing the application of the concepts in the workplace. The questions also help to authenticate the evidence.

Based on the scenario, Wendy the assessor will interview Manpreet and discuss these questions about the portfolio of evidence.

Questions for Manpreet at Geotextiles Australia

Who are the people that you communicate, negotiate and consult with in the business and up and down the value chain to gain support for sustainability projects, for example, management, suppliers, distributors and customers? Why was it important to consult with them?

Give an example where there was some concern and resistance about a sustainability project and how you overcame the barriers.

What factors could trigger a revision of the project plan, for example, changes to the business strategic sustainability plan, achievement of key milestones, budget planning, changes to legislation, non-compliances, or not meeting indicators of progress?



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If you worked in a team to implement the sustainability project plan, what was your role?

What factors/sustainability performance indicators/metrics did you use to monitor and measure the benefits of the sustainability project? For example, reduced volume of fuel used, smaller electricity bills, decreased waste disposal costs, reduced consumption of water costs, and increased perception of the business using sustainable practices in customer surveys.

What systems do you use to monitor sustainability projects, for example, meetings with the project teams, analysing data?

What techniques do you use to analyse data for trends, aberrations and factors requiring action, for example, graphing data, reading client or employee satisfaction surveys?

What approvals do you have to obtain to make changes to the project plan, for example, financial from the chief financial officer, marketing and communications manager relating to press releases?



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