



Skills for Sustainability



Manufacturing Skills Australia

# Assessment Guide:

**MSS015007A Develop a business case for sustainability improvements**



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

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

# Assessment Guide

MSS015007A Develop a business case for sustainability improvements



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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](http://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 work-based project 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

Australian Management Systems is a private RTO specialising in management and leadership in manufacturing. The RTO delivers training and assessment in the classroom and on the job. The RTO's point of difference is that they work with businesses to ensure the training and assessment meets business needs by customising the courses they deliver.

Upana, the coordinator for management training, has a group of 15 learners and has been consulting with Hovell Pipes, a concrete pipe manufacturing business, to develop the learning and assessment strategy. This involves choosing the units of competency and developing the learning and assessment resources.

Upana has consulted with the business and determined that there is an increasing focus on sustainability and that the team leaders will be required to develop business cases for proposed improvements to the sustainability of the business.

The learners are enrolled in BSB40807 Certificate IV in Frontline Management. The packaging rules for this qualification allows the importation of one Diploma unit of competency and Upana is going to import MSS015007A Develop a business case for sustainability improvements as an elective.

### The learners

The learners are all existing workers and are team leaders who oversee teams of workers to produce the concrete pipes.

The team leaders are responsible for:

- production planning and quality
- supporting quality customer service
- managing resources
- controlling risks
- supporting operational performance
- providing team leadership
- supporting workplace communications
- providing mentoring, training and assessment and
- implementing projects.



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The team leaders are required to develop the business cases for proposed sustainability projects as part of their broader role in having responsibility for managing resources, controlling risks and implementing projects.

## *The enterprise context*

Hovell Pipes produces steel reinforced concrete pipes and precast concrete products such as culverts, railway sleepers, piles and stumps at eight sites around Australia. It uses sophisticated batching and machine controlled equipment.

Management has taken the move towards sustainable practices very seriously and all of the policies and procedures have been reviewed to support sustainable practices and meet the requirements of ISO 14001 Environmental management systems. The business has developed a sustainability strategy and mapped the sustainability issues across the whole supply chain from the production of concrete slurry through to packaging and distribution of the products.

The main sustainability issues identified by Hovell Pipes are in the areas of the impact of the carbon price on materials, electricity and fuel, water use, GHG emissions, disposal of waste, worker exposure to chemicals, dust and pollutants and the difficulty of making the transition to high skill high technology workplaces for existing, lower skilled workers.

The proposals for projects to mitigate sustainability impacts have been developed and are to be considered by senior management as part of the budget process. The projects range from reducing waste slurry by adjusting the sizes of the batches to match the number of moulds to be filled, to introducing remote hand held monitors for the drying kilns so the operators can do other tasks while still monitoring the kilns.

## *Key points from the scenario*

- The industry sector is cement and concrete.
- The Team Leaders are taking part in a course delivered by workshop and on the job implementation, so a workplace project is feasible as a key assessment method.
- The Team Leaders have detailed technical knowledge of all of the policies and procedures.
- The learners are enrolled in a frontline management course and industry consultation done as part of the development of the training and assessment plan has determined that sustainability improvement is a key strategic goal for the business.
- The sustainability focus is likely to be across all 3 pillars economic, environmental and social.



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## *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

## *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



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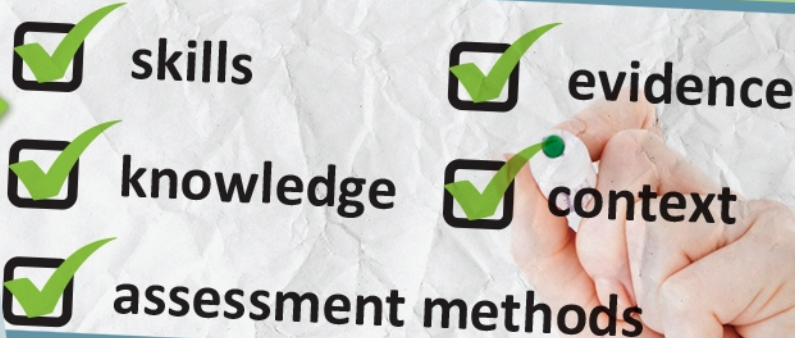
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Portfolios of evidence, for example;

- ☐ 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

## How will evidence be collected or submitted?

- ☒ Documents - electronically / in person / mail
- ☐ Data capture - video / audio / notes / smart pen by assessor / 3<sup>rd</sup> 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 evidence 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.



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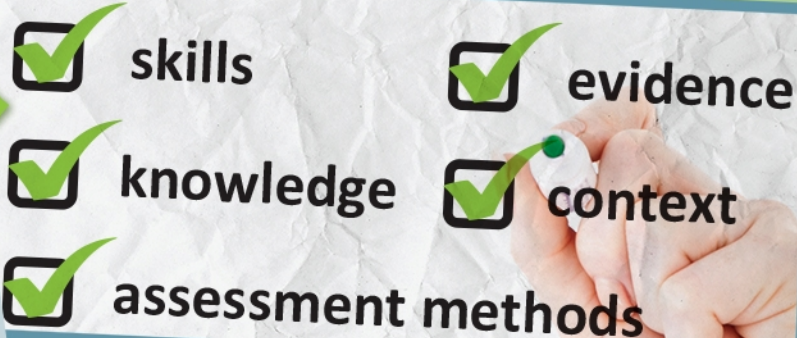
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## Evidence planning table

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 Define the intended sustainability improvement project	1.1 Define the purpose of the project 1.2 Determine the project goals 1.3 Determine regulatory requirements 1.4 Determine stakeholders for project 1.5 Clarify the critical success factors for the project 1.6 Quantify the current state	<b>☑ Work-based project (and documentation)</b> <ul style="list-style-type: none"> <li>Project plan for a work-based project to develop a business case for a sustainability improvement project</li> </ul> <b>☑ Workplace documentation/records</b> <ul style="list-style-type: none"> <li>Evidence of keeping up to date with the current regulatory environment for example, attendance at conferences and workshops, use of blogs and examples of information collected</li> <li>Business sustainability strategy with the goals relevant to the proposed project highlighted</li> </ul> <b>☑ Verbal questioning/discussion/ interview</b> <ul style="list-style-type: none"> <li>Interview with the assessor about the regulatory requirements, stakeholders and link of this project to other company goals</li> </ul>
2 Quantify expected benefits from the project	2.1 Determine cost of any capital improvements from the project 2.2 Determine production improvements 2.3 Determine maintenance improvements 2.4 Determine product life cycle improvements 2.5 Determine regulatory health, safety and environment (HSE) improvements 2.6 Estimate total benefit of proposed project	<b>☑ Work-based project (and documentation)</b> <ul style="list-style-type: none"> <li>Spreadsheet of the estimated total benefits of the project</li> </ul> <b>☑ Workplace documentation/records</b> <ul style="list-style-type: none"> <li>Evidence of communicating with stakeholders to determine the expected benefits of the project, for example, notes of meetings and emails</li> </ul> <b>☑ Verbal questioning/discussion/ interview</b> <ul style="list-style-type: none"> <li>Interview with the assessor about the assumptions made when estimating the total benefits and exploring costs</li> </ul>



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Element	Performance Criteria	Evidence
3 Determine costs required to implement project	3.1 Estimate fixed capital costs required 3.2 Estimate personnel costs required 3.3 Estimate financial costs required 3.4 Estimate time required for project and time-related costs 3.5 Estimate total costs of project	<p><input checked="" type="checkbox"/> <b>Work-based project (and documentation)</b></p> <ul style="list-style-type: none"> <li>Spreadsheet of the analysis of the project and the estimated costs</li> </ul> <p><input checked="" type="checkbox"/> <b>Verbal questioning/discussion/ interview</b></p> <ul style="list-style-type: none"> <li>Questioning by the assessor and chief financial officer about the assumptions made when estimating the total benefits and exploring costs</li> </ul>
4 Prepare a proposal justifying project	4.1 Determine ROI, sustainability and other project benefits 4.2 Determine costs if any of not proceeding with the project 4.3 Compare benefits to costs using appropriate methods	<p><input checked="" type="checkbox"/> <b>Work-based project (and documentation)</b></p> <ul style="list-style-type: none"> <li>Benefit /cost analysis of the project to improve sustainability, including evaluations by qualified individuals (e.g. engineers) to examine the project for weaknesses, financial and non-financial benefits, return on investment (ROI), and costs if not proceeding with the project</li> <li>Business case for the project to improve sustainability</li> </ul> <p><input checked="" type="checkbox"/> <b>Verbal questioning/discussion/ interview</b></p> <p>Interview with the assessor about the business case</p>

## Assessment activity: Work based project

The work based project defines a project that the learner can do in the work place. This might be part of their normal activities or it could be an additional activity. In this example there is a clear relationship between the unit of competency and a work place activity to 'develop a business case'.

So, for this unit, the outline of the project can come from the unit itself. The details of the project can be designed by bringing together the context with the evidence that is available in the work place (or that can be generated by the project). The evidence that has been identified in the evidence planning table helps to define the project.

### A work based project for Team Leaders at Hovell Pipes.

The project is to develop a business case for a sustainability improvement project at Hovell Pipes.

The business case is required to get the authorisation to proceed, especially where the project will require expenditure of resources outside of the current budget. The purpose of the business case is to provide the decision makers with a cogent and valid argument for proceeding with the project (or not). The business case will clearly define the project, analyse and quantify the expected benefits and define the costs to implement the project.



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Learners will need to complete the following:

1. Prepare a work plan for how they will develop the business case outlining:
  - a description of the overall business and the proposed project
  - the sustainability goals for the business
  - who the key stakeholders (e.g. regulators, Board of Directors, employees, shareholders and the community) and how they will consult with them
  - what internal and external data sources they might need to use
  - the goals of the project in terms of the sustainability issues for the business and how the project will mitigate the impact
  - timeline for developing the business case
  - evaluation criteria for the success of the project – what the critical success factors will be and key performance indicators (KPIs).
2. Determine the regulatory requirements for the project – if the project plan is already developed and up to date it may include the regulatory requirements, or they may have to research them.
3. Analyse and quantify the current state.
4. Determine the total benefit of the improvements including the sustainability goals, production, maintenance, product life cycle and health safety and the environment (HSE).
5. Estimate the total costs of the improvements including fixed capital, production, personnel, financial and time.
6. Determine the overall ROI.
7. Document a business case using the Hovell CapEx proposal form including;
  - details of the project
  - the sustainability goals for the business and how the project will relate to current and future states
  - any recommended alternatives
  - ROI
  - cost of not proceeding with the project
  - benefit /cost analysis
  - preliminary project implementation plan.



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## 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 to the project activities. The questions also help to authenticate the evidence.

Based on the scenario, Upana will discuss these questions with the Team Leaders at pre-determined points during the project, as part of his delivery and assessment responsibilities.

### Questions for The Team Leaders at Hovell Pipes

What environmental regulations are relevant to the project?

Who were the people that you consulted with? Why was it important to consult with them?

How does the project integrate with other goals and strategic directions of the business?

Were there any implications from the regulatory environment for the products and processes of the business, for example does the carbon tax have an impact on the costs of production?

What project costing methods did you use for capital, personnel, financial and time related costs? What are the non-dollar costs?

Did you use standard accounting conventions or the alternative lean view?

What processes are required to guide the business case through the budgeting process?

What is the difference between capital and operational improvements?



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