

# **SKILLING EDUCATORS FOR SUSTAINABILITY AUSTRALIA**



## **REPORT ON PROFESSIONAL DEVELOPMENT NEEDS OF WASTE AND WATER INDUSTRY TRAINERS TO EDUCATE FOR SUSTAINABILITY**



# ***SKILLING EDUCATORS FOR SUSTAINABILITY AUSTRALIA***

## **Project Consortium**

SESA is a three-year project funded by the Australia government through the Department of Industry. It is overseen by three professional associations: Australian Water Association, Waste Management Association of Australia, and Australian Association for Environmental Education.



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## Acronyms

AI	Appreciative Inquiry
EfS	Education for Sustainability
Gen Y	Generation Y
IRG	Industry Reference Group
PD	Professional development
SESA	Skilling Educators for Sustainability Australia
W&WIT	Waste and water Industry Trainers

# **REPORT ON PROFESSIONAL DEVELOPMENT NEEDS OF WASTE AND WATER INDUSTRY TRAINERS TO EDUCATE FOR SUSTAINABILITY**

## **REPORT OVERVIEW**

### **Main messages**

This research was concerned with determining the skills and capability of trainers in the waste and water sectors to deliver effective sustainability education. Effective education for sustainability is that which produces actual sustainable outcomes.

While the resource requirements of trainers are specific and variable, research indicates a range of professional development opportunities that are applicable to both sectors that are concerned with teaching methods for utilising education for sustainability (EfS) principles to engage audiences, deliver behaviour change education and evaluate the effectiveness of that training.

Research identified a widespread need for a variety of content areas (or learning “modules”), at both a basic and advanced level, available in a variety of modes. These content areas represent an effective strategy to produce sustainable outcomes for waste and water industry trainers specifically and sustainable outcomes generally.

## **EXECUTIVE SUMMARY**

Skilling Educators for Sustainability Australia (SESA), which began mid-2012, is a three-year project funded by the Australian Government through the Department of Industry.

The aim of the project is to enhance the skills and capability of trainers in water and waste industries to better support their colleagues in responding to the challenges of climate change and a low-carbon economy. The project will provide targeted professional training for those working in the field of sustainability education.

SESA is overseen by three professional associations: Australian Water Association, Waste Management Association of Australia, and Australian Association for Environmental Education.

SESA contracted consultants Alchemy Living & Learning in September 2013 to research the following questions:

- 1. The ways in which sustainability issues are impacting on the roles of waste and water industry trainers;**
- 2. Their professional development needs to educate for sustainability;**
- 3. The best way to provide professional development.**

This report presents their research findings and recommendations. This research provides the evidence base to determine professional development strategies to support waste and water industry trainers to educate for sustainability. In: the SESA Outcomes Hierarchy, see Appendix 1, this relates to achieving Level 2: Linking changes in workplace trainer roles with Education for Sustainability.

## Confidence in findings

The research methodology was designed to capture the views of Australian waste and water industry trainers (W&WIT) and their employers in relation to sustainability issues impacting on their job roles. It explored what the trainers and their employers felt were their professional development (PD) needs and the enablers or barriers to PD. There were three stages to the research with a total of 180 people providing data. First, in-depth telephone interviews with a small sample of W&WIT (n=15) which led to the second stage - the development of an online survey for a broader sample (n=159). Lastly, follow-up in-depth interviews with some employers (n=4) and a few Generation Y (Gen Y) W&WIT (n=2).

Whilst the response rate of 14% for the online survey was not optimum, it achieved the project target of over 100 responses within the 10-days available for the survey and is sufficiently representative for the purposes of this study. Data from in-depth interviews, both pre and post survey enabled findings to be triangulated so that findings and recommendations were not solely reliant on the surveys.

## Findings

### 1. How sustainability issues have impacted the roles of waste and water industry trainers

Waste and water industry trainers reported that sustainability issues were not impacting greatly on their job; however examination of survey responses indicates that **roles have been impacted by sustainability issues**.

Reported impacts are as follows:

#### 1. Training outcomes have shifted

Reported changes include a widening of the scope of sustainability topics delivered and that training outcomes have shifted from “information only” sessions to an expectation that training will transform participant understanding and behaviours.

Professional development and resources need to build knowledge and skills to deliver a broader range of sustainability information.

#### 2. Marketing and engagement methods are critical

Trainers reported that sustainability is more important to themselves than their employers or audiences. They found it difficult to discern the level, focus and outcomes of PD training that they were considering attending.

Consideration needs to be given to:

- a. how trainers engage and market to audiences to educate for sustainability;
- b. how professional development for trainers is marketed and accessed.



### **3. Trainers roles are extremely diverse**

The roles of trainers and the background skills and knowledge they bring to their roles are extremely diverse.

These findings support the need for both basic and advanced professional development in sustainability and sustainability education strategies.

### **4. Audiences and topic diversity has increased**

The diversity of audiences engaged and topics taught by waste and water trainers have expanded to include broader sustainability issues such as climate change and energy efficiency.

This finding supports the need for a diversity of resources.

## **2. Professional development needs of waste and water industry trainers to educate for sustainability**

### **1. Knowledge and Skills**

The four most important PD requirements for both waste and water trainers were:

- Building the business case for sustainability;
- Technical skills and knowledge about waste/water;
- Sustainability issues and concepts related to their field; and
- Strategic planning and project management.

### **2. Training Expertise**

The four highest priority skills for both waste and water trainers were:

- Achieving action outcomes and behaviour change; and
- Motivating people
- Identifying needs and structuring information for audience; and
- Critical and systems thinking

### **3. Educational Resource requirements**

- Experiential learning activities (60%, 65)
- Case studies (58%, 63)
- Learning resources (53%, 58)
- Practical trials (46%, 50)
- Activities (44%, 48)
- Field trips (44%, 48)

### **4. Additional Skills requested**

- Program evaluation techniques (56%, 61); and
- Social media use and analysis (51%, 55)
- Community/business engagement skills (46%, 50); and
- Networking (45%, 49)

Professional development modules need to enable industry trainers to apply best practice Education for Sustainability principles and practice to all aspects of their training role. Trainers also require local, relevant resources to support the broad range of topics and audiences they train.

### 3. The best ways to provide professional development

#### 1. Accreditation and pathways

For a majority of the respondents, accreditation for training was important but not essential. Industry is more concerned with quality training that provides specific, meaningful knowledge and skills particular to trainers' needs. This is especially so, given the lack of time that trainers have available to undertake PD.

#### 2. Modes of delivery

Face-to-face delivery is the preferred delivery mode for professional development in both sectors. Trainers agreed that a combination of face to face and online learning was probably necessary to capture the spread of trainers in different locations, and that online was useful as an addition to learning, however virtual learning was not a preferred stand-alone option.

#### 3. The value of peer to peer learning

After face-to-face learning, networking and conferences were the most preferred modes of professional development. These reflect the stated value of peer to peer learning expressed at all stages of the research. In part this relates to the importance of local, relevant examples as a basis by which trainers can develop projects and programs specific to their regions and audiences. In disaggregating data there was a much stronger requisite by waste educators for onsite field studies.

#### 4. Barriers to uptake of professional development

**Time and cost are the main barriers** to the uptake of professional development. Gauging the **value and relevance** of professional development emerged as the underlying reason employers are reluctant to spend the limited funds they have.

#### 5. The need for clarity in marketing professional development

Research revealed that poor descriptors, the pitch of training and insufficient communication about professional development opportunities contributed to low uptake in the past. Both trainers and their employers perceive that time and money has been wasted on poor quality or irrelevant professional development, however quality, targeted training is still sought.



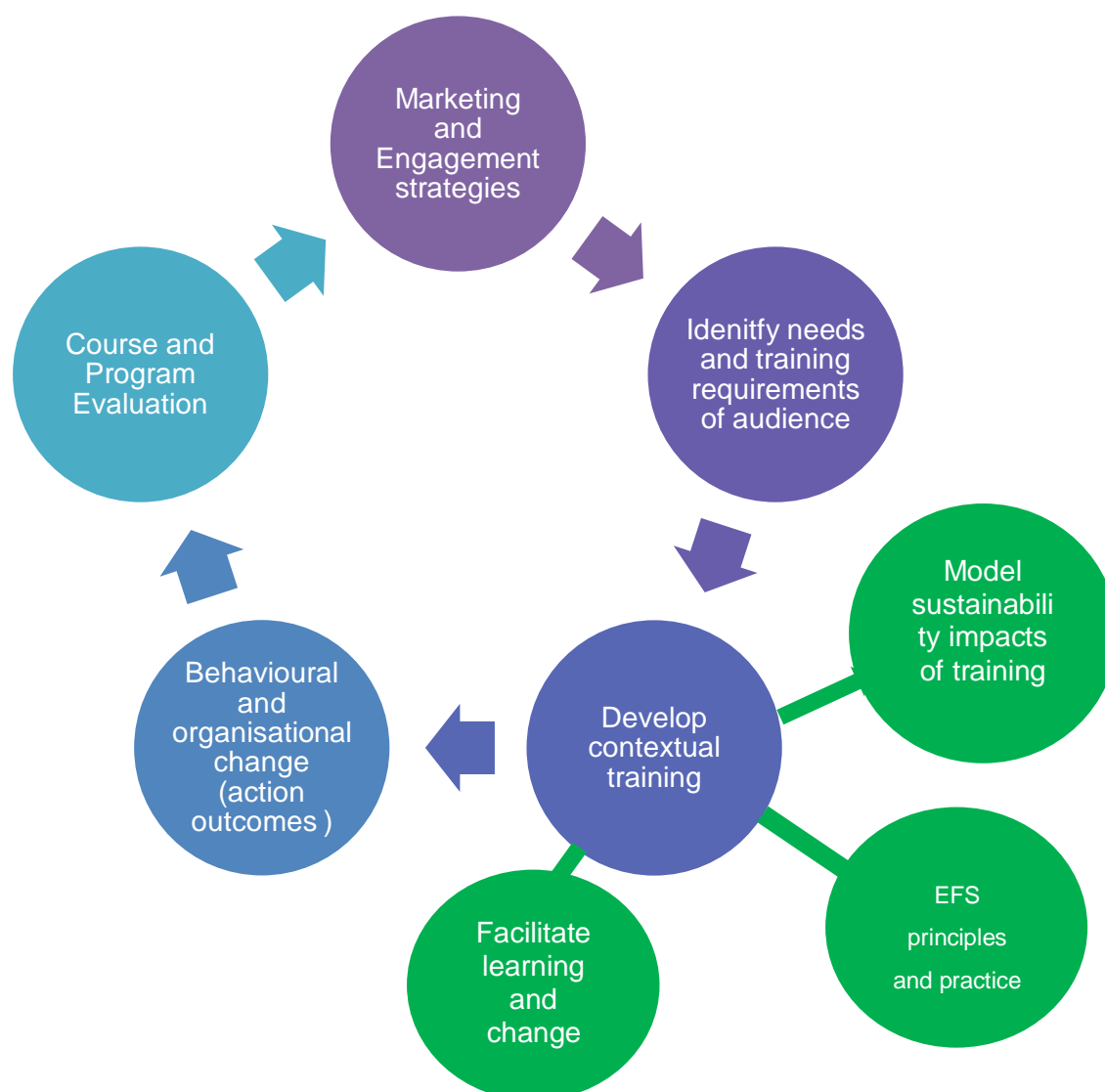
## Recommendations

**Recommendation 1 - Provision of a basic or “101” Education for sustainability training course, e.g. the TAE10 Sustainable Practice Skill Set (Refer Ch. 3)**

**Recommendation 2 - Development of training modules that together form a complete training cycle for best practice sustainability education (Refer Ch.3)**

The diversity of audiences engaged by waste and water trainers has implications for the breadth of training expertise they require and the resources needed to support different requirements and outcomes in different regions and contexts. There is a need for generic EfS training that underpins skills in recognising and developing training for different audiences enabling trainers to create the training resources they need for themselves.

The diagram below represents the professional development requirements of waste and water trainers in pictorial form. The key requirements requested have been clustered into suggested modules that would enable trainers to pick and choose those most necessary to their job role or knowledge gap. (See Diagram 1 below)



**Diagram 1: A possible training cycle for best practice education for sustainability**

## **Possible content of professional development modules**

The following list is not intended to be prescriptive list of recommendations, rather to provide direction and indication of possible content based on synthesised findings of research. This list does not assume that training modules are the only methods of providing professional development.

### **1. Marketing and Engagement strategies**

- Principles and importance of effective engagement
- Models for developing best-practice engagement activities with communities, business, industry and other stakeholders
- Engagement purpose, planning and tools
- How to identify what motivates people
- Marketing skills
- Social media skills
- Building the business case for sustainability

### **2. Identify training needs for context of audience**

- Industry sector, region, group type, level, need and mode of delivery
- Model social, economic and environmental impacts of training for different groups

### **3. Develop contextualised training**

- Develop training based on scope and depth of knowledge, skills, values, needs and context of audience as identified
- Delivering training to different types of audiences
- Applying EfS to waste and water industries
- Sustainability '101' and advanced modules
- Overview of sustainability issues and dimensions
- Emerging sustainability practices in industry

#### **Model Sustainability impacts of training**

- Social impacts
- Economic benefits
- Environmental resource and cost savings

#### **EfS principles and practices requested by participants**

- Systems thinking
- Values education
- Critical thinking skills

#### **Suggested additional EfS skills**

- Participation
- Collaboration
- Envisaging
- PD based on adapted TAESUS501A and TAESUS502A modules

#### **Facilitating Learning and Change**

- Principles of effective teaching and learning
- Facilitation skills, tools and processes for applied learning

- How people are motivated
- Negotiating contentious topics/issues
- Using the experience and wisdom of audiences

#### **4. Behavioural and organisational change for action outcomes**

- Inspiring, equipping and empowering audiences to do things differently
- Equipping audiences with tools and capabilities to deliver desired performance
- Empowering audiences to make long term sustainably improved performance
- Management and leadership development
- Modelling social, economic and environmental impact of training
- Integrating sustainability into organisation
- Behavioural change models

#### **5. Course and program evaluation**

- Assessing the merit of a program, training or initiative
- Assessing outcomes for participants (the skills, knowledge, attitudes, values change and behaviour change)
- Assessing whether results were what trainers anticipated
- Assessing if program improvement will produce continuous sustainable outcomes.

#### **Recommendation 3 - Provision of Professional Development (Ref Ch. 3: 3.2)**

- Non accredited and accredited options
- Modularised training that enables participants to pick and choose professional development most suited to their needs
- Face to face or blended (a combination of face to face and online) delivery preferred
- Identification of innovative and cost effective ways to conduct professional development that works for the organisations and industry trainers

#### **Recommendation 4 – A centralised web based resource hub (Ref Ch. 3: 3.3)**

Development of a hub for waste and water sectors that includes:

- A calendar of professional development opportunities that can be assessed and rated by trainers and employers for quality, learning outcomes, level of training and relevance to job roles. A web-based platform such as 'Trip Advisor'<sup>1</sup>, where users can rate and review their experience, is an example of how such a feature might work.
- Links to Education for Sustainability Hubs already developed.
- A medium by which industry can share resources and identify mentors (peer-to-peer learning)
- Industry specific resources including:
  - Applications
  - Experiential learning activities
  - Shared learning information
  - Collections
  - Shared resources
  - Tools to train staff
  - Off the shelf programs to support staff training

<sup>1</sup> <http://www.tripadvisor.com.au/>

- Regular information about sustainability initiatives/projects going on in Australia across all sectors and industries
- Industry specific technical skills
- Policies, regulations and legislation
- Issues and concepts related to sustainability.

#### **Recommendation 5 – Criteria for piloting quality PD that links to accreditation (Ref 3.4.2)**

For a majority of the respondents (60%, 64), accreditation for training was important but not essential. PD promoted through SESA should include knowledge of any available accreditation so that participants understand the opportunities for recognition towards qualifications. More importantly SESA should establish criteria for ensuring quality and rigour of the PD it pilots.

#### **Recommendation 6 - Marketing of professional development (Ref 3.4.3)**

Marketing descriptors need to clearly articulate the learning outcomes and level of training; and be pitched so that both trainers and their employers understand the importance and relevance of the professional development to their job roles.

Ideally, professional development opportunities would be disseminated through a variety of mediums such as industry associations, groups, networks and media. If a resource hub was developed this could provide a central location where trainers and their employers could locate PD opportunities (See Recommendation 4)

# CHAPTER 1 CONTEXT

## 1.1 THE SESA PROJECT

Skilling Educators for Sustainability Australia (SESA), which began mid-2012, is a three-year project funded by the Australian Government through the Department of Industry.

The aim of the project is to enhance the skills and capability of trainers in water and waste industries to better support their colleagues in responding to the challenges of climate change and a low-carbon economy.

SESA is overseen by three professional associations: Australian Water Association, Waste Management Association of Australia, and Australian Association for Environmental Education. This project is all about providing targeted professional training for those working in the field of sustainability education.

Advising SESA is an Industry Reference Group that includes representatives of three Industry Skills Councils, and key people in strategic organisational roles. They confirmed a strong need to support this area of capacity building and encouraged SESA to undertake this research.

## 1.2 THE CONTEXT OF EDUCATION FOR SUSTAINABILITY

Education for Sustainability (EfS) is an approach designed to equip individuals and organisations with the knowledge, skills, values, capacity and motivation to respond to sustainability issues in their personal and working lives. Critical global challenges, such as the complexities and synergies between issues threatening planetary sustainability, require new ways of thinking and innovative solutions. EfS teaches people to question, test and think differently about current processes and practices, and have the resilience and resolution to carry out new ways.

The National VET Sector Policy and Action Plan<sup>2</sup> defines sustainability skills as not only technical skills, but generic skill areas such as sustainable approaches, innovation and problem solving.

Principles for industry training are defined as:

- promoting to all stakeholders the values, knowledge, skills, and technologies required for a sustainable economy and the conservation of the natural environment;
- demonstrating best practice training methods;
- integrating and coordinating sustainability initiatives that include the development and consolidation of partnerships and information sharing networks;
- recognising the diversity of sustainable practices across jurisdictions and industries

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<sup>2</sup> \* National VET Sector Policy and Action Plan, 2009 – 2012,  
[http://www.innovation.gov.au/Skills/SkillsTrainingAndWorkforceDevelopment/Pages/Library%20Card/NVSS\\_PolicyandActionPlan.aspx](http://www.innovation.gov.au/Skills/SkillsTrainingAndWorkforceDevelopment/Pages/Library%20Card/NVSS_PolicyandActionPlan.aspx)

## **1.3 INTENDED CONTRIBUTION OF THE RESEARCH AND KEY RESEARCH QUESTIONS**

SESA contracted consultants Alchemy Living & Learning in September 2013 to research the following questions:

- **The ways in which sustainability issues are impacting on the roles of waste and water industry trainers;**
- **Their professional development needs to educate for sustainability;**
- **The best way to provide professional development.**

This research contributes to SESA by providing the evidence base for the SESA Steering Group to determine the best professional development strategies to support waste and water industry trainers to educate for sustainability. In: the SESA Outcomes Hierarchy, see Appendix 1, this relates to achieving Level 2: Linking changes in workplace trainer roles with Education for Sustainability.



# CHAPTER 2 APPROACH

## 2.1 OVERVIEW

The research methodology was designed to capture the views of Australian waste and water industry trainers (W&WIT) and their employers in relation to sustainability issues impacting on their job roles. SESA also needed to know what the trainers and their employers felt were their professional development (PD) needs and what the enablers or barriers to PD are. There were three stages to the research. First, in-depth telephone interviews with a small sample of W&WIT (n=15) which led to the second stage - the development of an online survey for a broader sample (n=159). Last, follow-up in-depth interviews with some employers (n=4) and a few Generation Y (Gen Y) W&WIT (n=2). Please see Diagram 2 below: Overview of research stages.

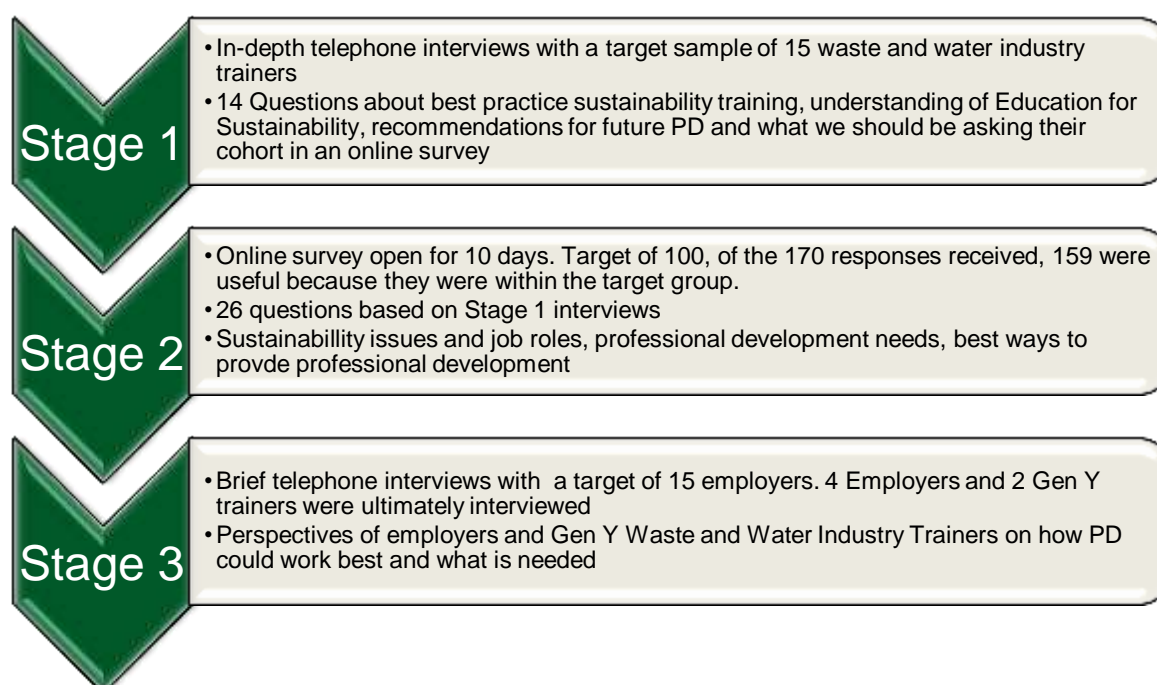


Diagram 2: Overview of research stages

## 2.2 AN APPRECIATIVE INQUIRY APPROACH

The research design was based on an Appreciative Inquiry (AI) approach, with questions focusing on the first two of a four stage AI process –*Discover, Dream*. Questions were asked to find out the respondent's peak experiences of valued and worthwhile PD; and to identify future PD that would best suit W&WIT. Examples of this style of questioning used in the Stage 1 In-Depth Interviews were:

*What characterises your most successful training sessions?*

*What have been your most exciting and/or satisfying experiences educating for sustainability?*

*What characterises the most successful sustainability professional development, training or another form of skill or capability development?*

*If you had the power to influence the future, describe what 'best practice' sustainability education looks like (knowledge and skills etc.)*

The consultants used the responses from telephone interviews to construct the online survey. The design of the online survey questions was underpinned by the five principles of Appreciative Inquiry<sup>3</sup> to identify what would support W&WIT in their PD.

## **2.3 DATA COLLECTION INSTRUMENTS AND RESPONSE RATES**

The three stages of data collection and respondent characteristics are outlined in detail in the following sections.

### **2.3.1 Stage 1: In-depth telephone interviews**

Purposive sampling was used in this stage. The SESA Steering Committee provided contact details for likely interviewees from W&WIT (n=17) and the consultants added to this from their networks (n=22). A total of 35 potential interviewees were contacted resulting in 15 in-depth interviews.

Characteristics of respondents include:

- All but two States/Territories - Tasmania and NT were not represented
- A mix of metropolitan, regional and rural representatives
- Waste and water associations, Local Government, State Government organisations represented.

The interview schedule included 14 questions on the following topics:

- Identifying data
- Best practice sustainability education
- Professional development needs
- What we should be asking a broader sample of trainers about sustainability professional development

Interviews identified key themes and topics that were tested both quantitatively and qualitatively in the Stage 2 online survey to W&WIT.

The strength of the in-depth interviews was that they enabled answers to be clarified and explained in context. See Section 2.3 for discussion on limitations to the data where some respondents (n=6) preferred to write answers to the questions and agreed to follow-up telephone calls where required.

<sup>3</sup> Five principles of AI are: constructionist- *creating what we can imagine*; poetic –*organising our past, present and future as a source of learning and choice*; simultaneity – *embedding the seeds of change in the questions we ask*; anticipatory –*projecting our collective images of the future to guide our behaviour*; and positive – *grounded inquiry and positive affect as contagion of an optimistic outcome*. (based on an article from Unison Consulting, *Five principles of appreciative inquiry*, 2005) <http://unisonconsulting.com/2005/06/13/five-principles-of-appreciative-inquiry/>

See Appendix 2: Stage 1 – In-depth interview questions.

### 2.3.2 Stage 2: Online Survey

The invitation to complete the online survey was sent to 3 main target populations: the Waste Educators Network; the Water Educators Network; the Australian Association for Environmental Education (AAEE). The invitation was also sent to informal networks of Sustainability Educators (e.g. sustainability educators Yahoo Groups email list); the Australian Council for Private Education and Training (ACPET); graduates of the Vocational Graduate Certificate in Education and Training Champions program. Respondents were also located through internet and Facebook searches for waste and water professionals, groups and networks.

It is difficult to accurately quantify the target population for the online survey because informal social media networks were also included. What we do know is the numbers of Waste Educators Network (n=349) and the Water Educators Network (n=789) which gives a total of 1,138 W&WIT. Whilst there were 170 respondents, a total of 11 were culled as they were not from the target group<sup>4</sup>. Target respondents numbered 159. This gives a response rate of 14%. This was not optimum, but it achieved the project target of over 100 responses within the 10-days available for the survey and is considered sufficiently representative for the purposes of this relatively short study. The research methodology included data from in-depth interviews, both pre and post survey, so that findings were able to be triangulated. Findings and recommendations were not solely reliant on the surveys.

“SurveyMonkey” was used as the online data collection tool. There were 26 questions covering the following topics:

- Identifying data (including types of people/groups they train)
- Integration of sustainability into the work role
- Professional development needs (knowledge, skills, resources, delivery modes, additional support)
- Barriers to the uptake of professional development
- Evaluation methods used
- Other comments about sustainability, PD or this survey
- Optional contact details of respondent and their employer

The strength of the online survey was its reach and respondent numbers in a short timeline. The weakness was that it 11 non-target respondents completed the survey and these people had to be culled from the data.

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<sup>4</sup> Filtering of non-target respondents occurred through reported job roles, open comments, contact details and by filtering data by respondents who nominated themselves as Waste only/ Water only and Waste and Water only sectors.

- 11 respondents clearly identified themselves as formal education teachers through the open description of their job role or in provision of contact details/position. Data from these respondents was disaggregated from the research
- 5 respondents clearly identified themselves as teachers or principals of outdoor environmental education centres through the open description of their job role or in provision of contact details/position. Responses indicated that these institutes train primary school groups, business and local government in Waste and Sustainability/Natural Environment/Climate Change/Energy and therefore data was not disaggregated from the research.

### **2.3.3 Stage 3: Employer and Generation Y Interviews**

Stage 3 was designed to seek additional material from two sources - employers and industry trainers from the 'Generation Y' age group i.e. people now in their early to late 20's.

Four employer telephone interviews were conducted which confirmed trends in the findings from Stages 1 and 2. The topics included:

- Professional development needs of industry trainers in sustainability and Education for Sustainability (now and in the future.)
- Challenges in uptake of PD and views on why industry has not taken up sustainability professional development in the past
- What would support organisations to enable industry trainers to undertake professional development
- What organisations currently do to support professional development

At this point, through advice from the SESA Steering Group, it was agreed that the remainder of research time be used to interview 'Gen Y' industry trainers about their ideas on future oriented, innovative modes of PD. In the time available, two 'Gen Y' trainers were able to be interviewed in relation to the following topics:

- Identifying questions
- Professional development needs for Educating for Sustainability in the future
- Desired professional development opportunities
- Preferred and future modes of delivery of professional development

## **2.4 DATA ANALYSIS**

The consultants used both quantitative and qualitative data from surveys and interviews to construct a picture of the ways in which sustainability issues are impacting on the work of W&WIT to better understand their professional development needs.

Content analysis of qualitative data from interviews and open-ended survey questions was undertaken. Microsoft Excel was used to examine and sort comments by themes, frequency and consistency of opinion. Data was then used to classify and prioritise key ideas, trends and themes across and within the research stages. The key ideas, themes and trends became the basis for the findings and recommendations in this report.

## **2.5 LIMITATIONS OF THE DATA**

### **2.5.1 Use of self-reported data**

The research was largely dependent on self-reported data. Whilst responses could be clarified in the telephone interviews; analysing qualitative data from an online survey did not allow for further clarification. Where possible, the themes from surveys have been linked to interviews and in this way data has been triangulated to achieve greater validity and reliability.

## **2.5.2 Exclusion of non-target respondents**

### **Distribution of online survey**

Whilst the survey was large enough to be considered a representative sample and to confirm confidence in the data analysis of the barriers and enablers to professional development, the researchers did not anticipate that the survey would be sent to formal education teacher networks, or that non-target population would complete a survey clearly intended for waste and water industry trainers. As such, the online survey questions were not designed to easily filter out non-target respondents (i.e. a primary school teacher indicated that they worked in the Waste, Water and Sustainability/Natural Environment/Climate Change/Energy sectors). The researchers therefore used qualitative data, self-reported job roles, and contact details to identify and remove data provided by these respondents.

### **School teachers**

The invitation to participate in the online survey was sent out by SESA Steering Group members and the consultants to different networks and organisations. In order to reach potential respondents who may be in waste and/or water industries but linked through sustainability education interests, the invitation was also forwarded to EfS teacher networks in the formal education sector. As a result, approximately 10% (16) of answers can be attributed to teachers from a University, TAFE or school. There were five from environmental or outdoor education centres with roles broader than school education. They were therefore considered to be within the target group. The remaining 11 (i.e. 6%) were disaggregated from data as they did not teach outside the formal education sector.

## CHAPTER 3 - RESULTS

### 3.1 RESPONDENT CHARACTERISTICS

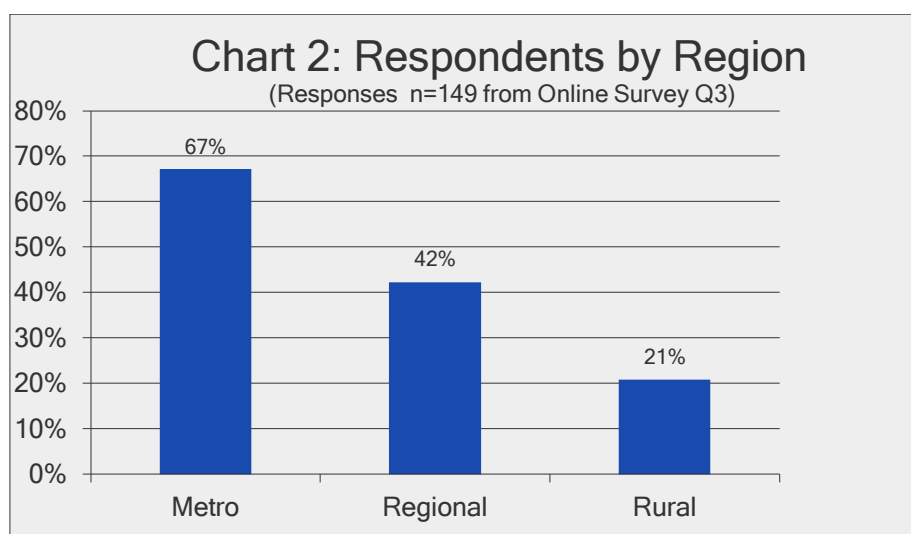
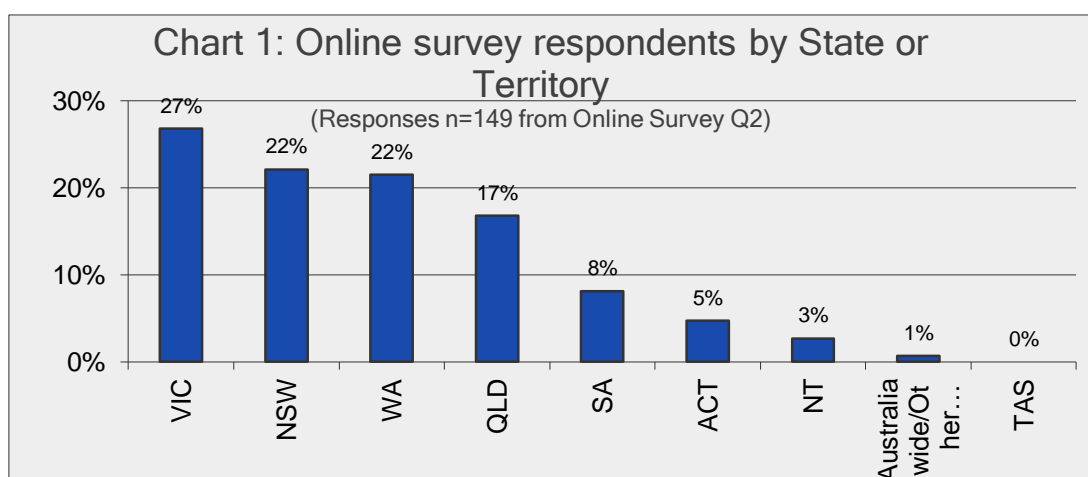
#### 3.1.1 Respondents by location

Stage 1 interviewees were distributed evenly from all but two of the eight Australian States / Territories. Northern Territory and Tasmania were not represented in this sample. They were also from each of the regions (regional, rural and metropolitan) and sectors (waste and water).

Only Tasmania was not represented in the Stage 2 online survey respondents. The majority (88%, 131) were from Victoria (27%, 40), NSW (22%, 33), WA (22%, 32) and Queensland (17, 25). See Chart 1.

The majority (67%, 100) were from metropolitan locations; (42%, 63) from regional areas and the remaining (21%, 21) from rural areas. See Chart 2. Note that some respondents identified themselves as being from more than one region.

The four employers interviewed in Stage 3 were from NSW Metro and two Gen Y trainers from regional Victoria.



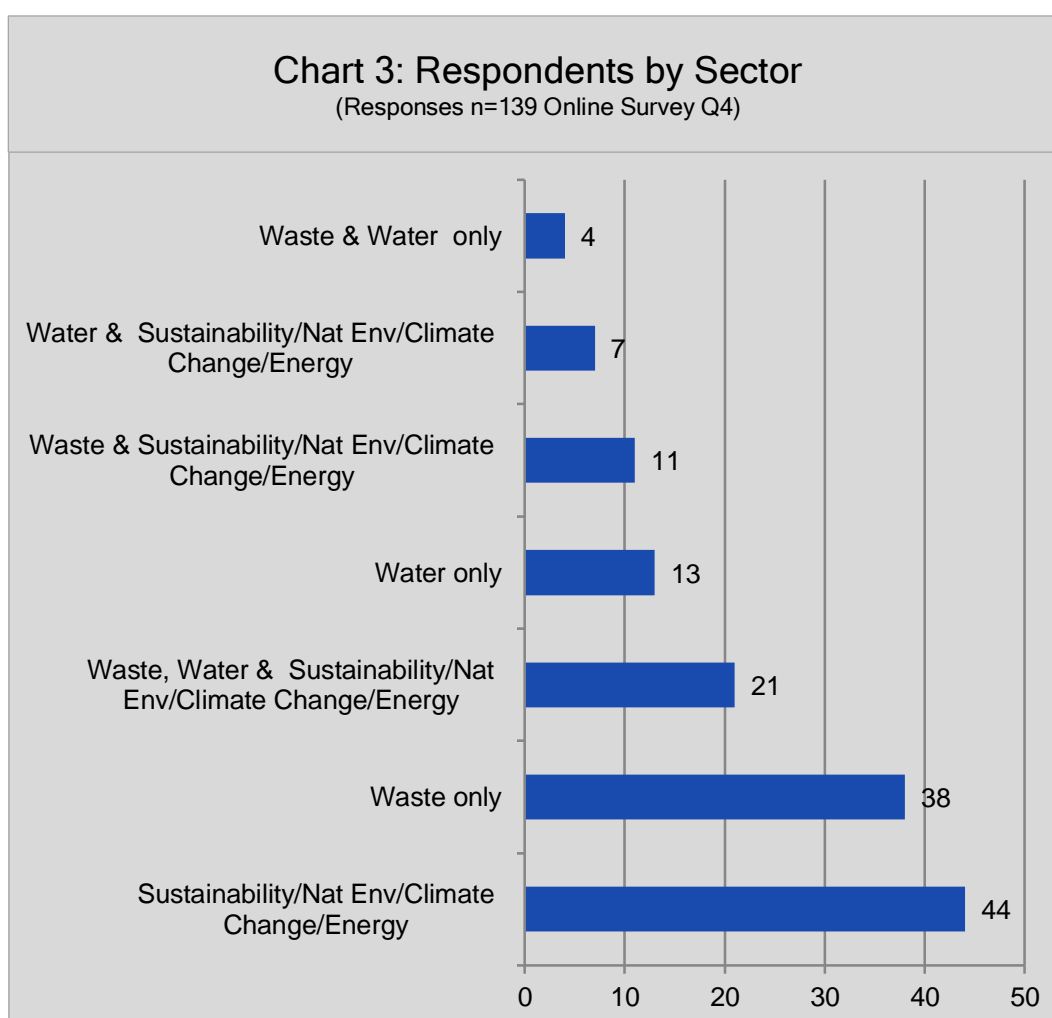


### 3.1.2 Respondents by sector

Industry trainers were asked to identify the sector/s in which they worked. They had the option to select multiple options from 3 categories:

1. Waste (n=77)
2. Water (n=46)
3. Sustainability/Natural Environment/Climate Change/Energy (n=95)

Chart 3 shows the results of more detailed analysis of this data. It demonstrates the range of combinations of sectors in which respondents worked. (Refer Online survey Q4). All sectors are represented and more of the respondents work in waste specific roles (6%, 38) than water (0.6%, 13). Some 21 (10%) work across a range of sectors. While almost a third (44) described themselves as working primarily within Sustainability / Natural Environment / Climate Change / Energy, 39 respondents identified that they combined these with waste/water or both.



While it appears that water (only) trainers are underrepresented; both waste and water trainers identified themselves as working in multiple categories.

## Specific roles within sectors

Of the 159 respondents to the online survey, the following are of interest for the diversity of organisations that employ people who identify themselves as waste and water industry trainers. They include:

- 19 who worked in local or state government in a variety of relevant roles,
- 14 environmental consultants; either individuals or from businesses of various size,
- 5 from environmental or outdoor education centres and regarded as part of the target group because of who and what they train (government, business in waste and water)
- 10 people who had dual roles as trainers and executives in their organisation.

Table 1 is a compilation of the ways in which almost a third of respondents (43) described their roles. The list is diverse and extensive.

**Table 1: The range of roles undertaken by waste and water industry trainers**

<b>Waste (n=21)</b>	<ul style="list-style-type: none"> <li>• Manager of Waste (x3 - including municipal waste, regional landfill)</li> <li>• Waste education/engagement officers, public and employees (5 – including waste minimisation, best waste management practices, recycling, composting)</li> <li>• Effective waste management services</li> <li>• Increasing sustainability knowledge of waste industry and industries that generate waste (that is all industries)</li> <li>• Environmental management program officer for the institute and teacher in the waste management/resource recovery industries; also teach community development, engagement and EfS</li> <li>• Research into waste behaviour and education</li> <li>• Waste management consultant</li> <li>• Planning for waste management infrastructure</li> <li>• Waste processing</li> <li>• Waste to energy</li> <li>• Energy efficient recovery and reuse of waste resources principally as engineered fill and recyclables</li> <li>• Resource Recovery</li> <li>• Providing management programs for a materials recovery facility</li> <li>• Regulator</li> <li>• Sustainability in water and wastewater industries</li> </ul>
<b>Water (n=6)</b>	<ul style="list-style-type: none"> <li>• Water demand management (x2 - including financial incentives for saving water)</li> <li>• Water and wastewater treatment optimisation, technology development and training</li> <li>• Educating and training for behaviour change in relation to water quality</li> <li>• Sustainable treatment practice</li> <li>• Sustainability in water and wastewater industries</li> </ul>

<b>Sustainability related roles</b>  <b>(n=10)</b>	<p><b>Climate Change</b></p> <ul style="list-style-type: none"> <li>• Climate change adaptation planning</li> </ul> <p><b>Natural Environment</b></p> <ul style="list-style-type: none"> <li>• Sustainability and Integrated Land Use Planning</li> <li>• Natural areas management</li> <li>• Rehabilitation</li> <li>• Environmental engagement both internally within our organisation and externally with the community</li> <li>• Strategic Environmental planning</li> </ul> <p><b>Government/policy</b></p> <ul style="list-style-type: none"> <li>• Gathering information to inform policy</li> <li>• Public Health Regulation</li> </ul> <p><b>Sustainability consulting</b></p> <ul style="list-style-type: none"> <li>• Consultant in sustainability</li> <li>• Environmental Advisor - educator and implementer for sustainability, energy efficiency and environmental impact</li> </ul>
<b>Other</b> <b>(n=6)</b>	<ul style="list-style-type: none"> <li>• Marketing</li> <li>• Implementing sustainability actions</li> <li>• Strategy and stakeholder engagement</li> <li>• Developing tender bids for external work- have to complete Sustainability questionnaires on employer's performance</li> <li>• Supply Chain Management</li> <li>• Project officer</li> </ul>

### ***Implications of respondent characteristics in relation to job roles***

A broad sweep of job roles and the mix across water, waste and sustainability / climate change / energy is well proven by this data. It indicates that W&WIT roles have expanded significantly. Included in the activities of W&WIT are all levels of organisational roles from operational on-the-ground (or in the field work) to managerial. Specific areas involve: policy; strategic planning; research, marketing; internal capacity building; process and supply chain expertise; stakeholder and community engagement.

### 3.1.3 Key groups with which waste and water industry trainers engage

Industry trainers engage with a wide variety of stakeholders and generally train multiple types of groups. Data collected from both Stage 1 interviews and the survey confirms that engagement with school groups is the most common function of waste and water industry trainers (63%, 94). The next most common groups included the community and residents; school teachers; colleagues and staff members (from 53% to 47%). Just under a third (32% to 26%) engage with business, corporates, waste related organisations and tertiary education groups. Water related organisations were the least (16%) See list below:

#### Key groups engaged by waste and water industry trainers

(Responses 149 from Online Survey Q6)

1. Primary or Secondary School Groups (i.e. students) (63%, 94)
2. Community groups or residents (53%, 79)
3. Teachers – Primary or Secondary (52%, 77)
4. Internal staff training (51%, 76)
5. Local Government (47%, 70)
6. Business/Corporates (32%, 48)
7. Waste organisations/authorities (32%, 47)
8. Tertiary education groups (26%, 38)
9. Water organisations/authorities (16%, 24)
10. Other (10%, 15) which included:
  - *Take 3 - A Marine Debris Initiative*
  - *Facilitate school and university student visits and industrial training*
  - *Regulators, resource companies*
  - *External customers*
  - *Organisations representing industries that generate waste*
  - *At events i.e. agricultural shows, fairs*
  - *Community members, largely graziers*
  - *Waste generators*

### 3.1.4 Training categories and topics delivered by waste and water industry trainers

Correlating the data across the three stages, the most frequent training categories reported were Water practices, Waste practices and General Sustainability. Notable is the scope and diversity of sustainability information delivered by most respondents that has expanded to include topics such as energy efficiency practices and climate change adaptation, mitigation, risk management and resilience.

#### Topics taught by waste and water industry trainers

##### Water practices

- Theory, practice, skill sets, strategies, integrated and sustainable outcomes, conservation, quality monitoring, protection of aquatic ecosystems, management, efficiency, energy efficiency, strategies and projects around sustainable irrigation/ NRM /water programs, managing water programs to deliver water more efficiently, information and incentives to farmers to implement more sustainable irrigation practices

### **Waste Practices**

- Recycling, reductions to landfill, waste management practices, waste programs, composting, reduction, separation and energy efficiency. *It is interesting to note the absence of innovation and experimentation here such as waste to bioenergy.*

### **General sustainability**

- Delivering change processes of influence, biodiversity, environmental sustainability issues, strategic thinking, environmental regulation, climate change adaptation and mitigation, energy conservation, sustainable procurement, environmental monitoring, cost savings, sustainability practices and operations, general resource recovery and use, sustainability improvements to assets.

### **Other topics**

- Information sharing, making links between people and groups, long haul project development, building capacity to work together and the efficiencies from it, protected area management, solar, purchasing efficiency, energy, soil degradation, salinity, integrated farm management, sustainable agriculture, environmental education programs, eco systems, active transport, sustainability leadership in students.

### ***Implications of key groups trained topics delivered***

W&WIT need skills to engage a broad range of potential audiences from school and community groups to external organisations and internal staff. The topics that are being delivered are typical of waste and water practices with the significant inclusion of a broad sweep of sustainability related areas.

## **3.2 HOW SUSTAINABILITY ISSUES ARE IMPACTING WORK ROLES**

### **3.2.1 Reported impacts**

Data collected in the online survey demonstrates that job roles have expanded to include broader sustainability issues such as sector specific energy efficiency and climate change strategies around adaptation, mitigation, risk management and resilience.

A majority of the respondents, 66% (98) considered sustainability education was a focus of their job. There were 36% (53) respondents who had some other role that related to sustainability. Responsibility for increasing their organisation's sustainability knowledge formed a smaller part of roles 16% (24). That sustainability education comprises a significant part of job roles is an important finding when considering professional development. How sustainability is taught (as well as what is taught) has implications for training outcomes and sustainable actions.

Waste and water industry trainers interviewed in Stage 1 reported that sustainability issues are not impacting greatly on their job roles and position descriptions; rather that the emphasis of training shifts with sustainability 'trends' in government, business and the community. Here are some quotes typical of interviewees' comments:

*"Changed emphasis; changes [are being] driven by politics... It's no longer just water and waste, but an energy focus on waste. Otherwise sustainability changes in the sector haven't really changed my work role"* (Waste Trainer, Vic)

*“The focus from State Government has now added a layer about adaptation – they want to roll that out - and be leader in what that looks like” (Sustainability Officer, Vic)*

*“This position suggests there has been a shift in the sector, and this would be a representation of the views of the community.” (Waste Trainer, SA)*

### 3.2.2 Strategies for systemic adoption of EfS

The findings in 3.3.1 were reinforced by the open responses to online survey questions 10 (What top 3 strategies you would like to see happen so that sustainability education is integrated into your work and/or community?) and 11 (Ideally, what strategies would you use to keep the momentum for sustainability initiatives alive?). Responses indicated there was a need for organisational and government support of the integration of EfS into training and organisational strategies. This implies that lack of support is a barrier to uptake of PD. **Refer Appendix 6** for the full list of comments. The main themes of the responses and some examples are:

- Political will; government legislation, policy, funding and support;
- Organisational leadership, policy, strategy, funding and support;
- Embedding EfS into training and educational programs;
- Broadening out EfS to all areas of organisations; and
- Employing (more or dedicated) sustainability officers.

*‘New, up-dated programs and grants offered by local governments, state governments and the Australian government. A new, up-dated push for sustainability from our political leaders’  
(Waste, Water and Sustainability Trainer, Qld)*

*‘Local government action: a sustainability officer position at all LGs’  
(Sustainability Trainer, Vic)*

*‘There is currently no incentive to integrate EfS or focus on sustainability either from a professional development or industry-driven perspective...Educational Executive staff directed to make sure all staff have participated-in and practice EfS and EaS. Integrating sustainability KPIs into all teaching job descriptions - including executive’  
(Tertiary Waste Trainer, NSW)*

### 3.2.3 Importance of Sustainability

The comments made during interviews about the indifference of some employers and audiences to sustainability were supported by survey data. During interviews, W&WIT expressed their concern about a lack of political support at the local, state and federal levels that they felt was contributing to this. The following quotes are examples of these opinions. These attitudes also underpin the expressed need by W&WIT for professional development in engagement strategies (see 3.3.1):



*"The politicisation of climate change has been an issue – scepticism has increased if anything."* (Sustainability Officer, Local Government, Vic)

*"Governments [should be] promoting progress and great outcomes, rather than just politics and attacks, leading media to focus on what can be done and that people can make a difference."* (Waste Trainer, NSW)

*"Got to accept that some people just do not care"*  
(Sustainability Educator, ACT)

In the online survey, trainers were asked to rate the importance of sustainability to themselves, their organisation and their audiences. The results indicate a significant disparity between W&WIT, and the perceived importance that their organisations and their audiences placed on sustainability. Trainers attribute high importance of sustainability issues to themselves (97%, 114 'very' or 'completely important'). Their perception of the organisations in which they work (62%, 73) and the audiences they train (40%, 47) indicates that they are facing significant challenges in their roles. See Chart 4.

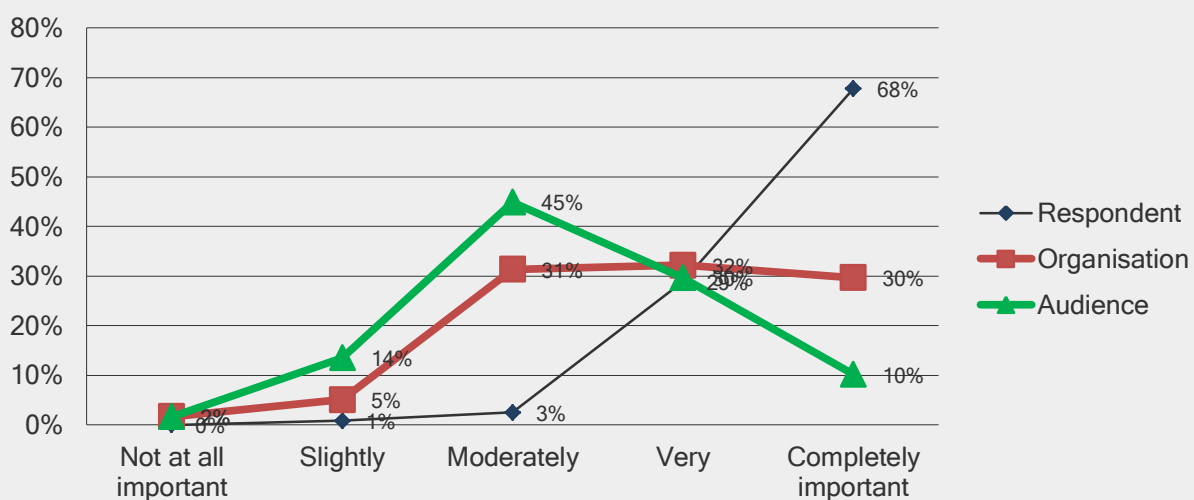
These challenges were recognised by interviewees in relation to strengthening their ability to engage their communities, as these quotes show,

*"A barrier to training is accessing the community because getting them interested is hard. Schools don't have a choice, but adults are harder to get. Community engagement strategies and ongoing things would be good"* (Waste and Sustainability Trainer, SA)

*"Community engagement and social media are important for connecting with community and getting them involved. I could use training in these."* (Waste Trainer, Qld)

**Chart 4: How Important is Sustainability**

(Responses n=118 from Online Survey Qs7, 8, 9)



## ***Implications – How sustainability issues are impacting work roles***

Sustainability education comprises a significant percentage of W&WIT job roles. This is an important finding when considering professional development needs. How sustainability is taught (as well as what is taught) has implications for the success of training outcomes.

W&WIT reported that while position descriptions have not changed, the emphasis of what they train shifts with sustainability 'trends' in government, business and the community. These trends include broader sustainability issues such as sector specific energy efficiency and climate change strategies around adaptation, mitigation, risk management and resilience. W&WIT therefore require a broader range of support materials and resources than in the past.

The perception of W&WIT that sustainability is less important to the organisations in which they work (62%, 73) and the audiences they train (40%, 47) indicates that they are facing significant challenges in their roles. Professional development in engagement strategies and Building the Business Case for Sustainability would enable trainers to 'sell' sustainability to their employer and the audiences they train.

Trainers indicated that integration of Education for Sustainability into their own delivery and organisational structures is integral to maintaining the momentum for sustainability.

- W&WIT require a range of support materials and resources to cover broader sustainability issues than they have delivered in the past. See **Recommendation 4 – A centralised web based resource hub**
- Engagement strategies will assist trainers to access reluctant and sceptical audiences, identify the needs of an audience, develop best practice activities and promote courses effectively. See **Recommendation 2 – Development of training modules that together form a complete training cycle for best practice sustainability education (1) Marketing and engagement strategies**
- W&WIT require professional development in Building the Business Case for Sustainability to be able to develop and sell sustainability based on economic savings, social benefit and staff morale as well as environmental positives. See **Recommendation 2 – Development of training modules that together form a complete training cycle for best practice sustainability education (1) Marketing and engagement strategies**

## **3.3 PROFESSIONAL DEVELOPMENT REQUIREMENTS**

### **3.3.1 Knowledge and skills required to educate for sustainability**

The four most important PD requirements for both waste and water trainers were:

- Building the business case for sustainability;
- Technical skills and knowledge about waste/water;
- Sustainability issues and concepts related to their field; and
- Strategic planning and project management.

Of lesser importance were:

- Climate change adaptation and/or mitigation; and
- Policy, compliance, risk management issues about waste/water.

There were some minor differences between the two sectors in the overall emphasis of topics. Table 2 lists the findings in more detail.

Table 2: Knowledge and Skill Requirements by Sector			
Waste	n=77	Water	n=47
Building the business case for sustainability	61%	Technical skills and knowledge about waste/water	54%
Technical skills and knowledge about waste/water	56%	Building the business case for sustainability	54%
Sustainability issues and concepts related to your field	56%	Sustainability issues and concepts related to your field	51%
Strategic planning and project management	52%	Strategic planning and project management	46%
Policy, compliance, risk management issues about waste/water	37%	Climate change adaptation and/or mitigation	44%
Climate change adaptation and/or mitigation	24%	Policy, compliance, risk management issues about waste/water	26%

### ***Implications for PD strategies – knowledge and skills***

The knowledge and skills content areas indicated by W&WIT can be delivered in a range of PD modes. There are also relevant nationally accredited units of competency in EfS (i.e. [TAESUS 501](#) and [502](#)) that should be used to inform the content of PD. The Sustainable Practice Skill Set provides training and development resources for the delivery of these competencies. It was designed for vocational education teachers and trainers to develop the skills and knowledge required to provide effective training and facilitation in skills for sustainability and to underpin professional development programs nationally<sup>5</sup>. See <http://www.swinburne.edu.au/ncs/efshub/skillSet.html> and <https://www.ibsa.org.au/sustainable-practice-skill-set>) for more information

In Table 3 the specific PD content areas have been matched with a range of preferred delivery modes indicated by respondents to the survey. See Section 3.4.1 for more details about these findings.

<sup>5</sup> See <http://www.swinburne.edu.au/ncs/efshub/skillSet.html>

**Table 3: EfS knowledge or skills with suggestions for PD**

PD content area	Applicability to PD strategy (✓ = consultant's advice that this mode is applicable)					
	Unit/s of competency and/or existing training where known	Mentoring / peer to peer	Fact sheets / forms / Case studies	Training experts	Conferences	Online resource hub
<b>Building the Business Case for Sustainability</b>	Unit of competency <a href="#">VU20304</a> - Develop a business plan for sustainable business practice Diploma of Sustainability	✓	A range of slides, references, books and lectures are available on Building the Business Case for sustainability <sup>6</sup> .	✓	This is an emerging topic at business and sustainability conferences.	✓
<b>Technical skills and knowledge about waste/water</b>	This is not considered to be within SESA's role. Technical skills and knowledge about waste/water may be required by those who work in the sustainability sector and who do not have a waste or water qualification. Technical resources and factual data could be considered for inclusion in a Professional Development Resource Hub.					
<b>Field related sustainability issues and concepts</b>	These are likely to be listed in specific industry supplements as part of the 'Green Skills' <sup>7</sup> .	✓	✓	✓	✓	✓
<b>Strategic Planning/ Project Management<sup>8</sup></b>	A number of Units in the Diploma of Sustainability <sup>9</sup>	✓	Examples and case studies by peers.	✓	✓	✓

The last two content areas,

- Climate change adaptation and/or mitigation; and
- Policy, compliance, risk management issues about waste/water,

may be considered for inclusion in a Professional Development Resource Hub.

<sup>6</sup> For examples see Bob Willard's site The Sustainability Advantage". <http://sustainabilityadvantage.com/>

<sup>7</sup> See also Industry Supplements listed as part of the Sustainable Practice Skills Set <https://www.ibsa.org.au/sustainable-practice-skill-set>

<sup>8</sup> Strategic Planning and Project Management are a high priority but are not conventionally sustainability specific, so would need to have sustainability principles and practices applied to them.

<sup>9</sup> For a full range of Units go to <http://training.gov.au/Training/Details/22105VIC>

### 3.3.2 Training expertise requirements

The highest priority skills for both waste and water trainers were:

- Achieving action outcomes and behaviour change; and
- Motivating people

Other important priorities for both sectors were:

- Identifying needs and structuring information for audience; and
- Critical and systems thinking

Waste trainers also indicated their interest in

- Modelling/defining the financial, social, cultural and environmental issues/impacts of programs; and
- Communicating.

Water trainers had different medium priority needs which included:

- Communicating; and
- Training.

Of least priority for both groups were:

- Working with multicultural communities;
- Values education; and
- Facilitating.

Table 4 provides more details of this data.

In addition to these main topics were suggestions given by 40 respondents. The most common theme related to strategies and skills in engaging diverse groups and achieving behaviour change (n=12). This links well with the first two highest rating skills above. Examples of the range of comments are listed here:

*More knowledge on social media/engaging audiences from 0-80 years and in particular older youth e.g. 18-25's demographic thru social media. (Online survey respondent)*

*Presentation, engagement and communications skills tailored for dealing with professionals and subject experts inside organisations e.g. engineers, scientists, accountants. (Online survey respondent)*

*Skills in engaging the unwilling and un-supportive; Skills in getting the complacent in the training door; Skills in lobbying effectively for change (Online survey respondent)*

*Advanced presentation skills, in specific reference to working with CALD communities, it would be good to get really good insight into the values, customs, roles of gender in communities so programs can be targeted accurately. (Online survey respondent)*

**Table 4: Training expertise requirements by sector**

<b>Waste</b>	<b>n= 77</b>	<b>Water</b>	<b>n= 47</b>
Achieving action outcomes - behaviour and organisation change	67%	Achieving action outcomes - behaviour and organisation change	62%
Motivating	54%	Motivating	59%
Identifying needs and structuring information for audience	46%	Communicating	41%
Modelling/defining the financial, social, cultural and environmental issues/impacts of programs	46%	Critical and systems thinking	41%
Critical and systems thinking	44%	Identifying needs and structuring information for audience	38%
Communicating	39%	Training	33%
Values education	37%	Modelling/defining the financial, social, cultural and environmental issues/impacts of programs	33%
Working with multicultural communities	33%	Values education	31%
Facilitating	30%	Working with multicultural communities	28%
Training	28%	Facilitating	26%

### ***Implications for PD strategies - training expertise***

The training expertise content areas indicated by W&WIT can be delivered in a range of PD modes. As mentioned previously, the accredited units of competency in EfS (i.e. [TAESUS 501](#) and [502](#)) and the materials and resources called, the 'Sustainable Practice Skills Set' also provides guidance for the content that is discussed in this section.

The Sustainable Practice Skills Set is comprised of two units that enable participants to analyse and apply sustainability skills into learning programs and develop activities and assessment strategies utilising EfS principles and practices. The Skill Set provides an overview of sustainability issues and dimensions; values education; principles of effective teaching and learning; facilitation skills and emerging sustainability practices in industry.



In Table 5 the specific training expertise content areas have been matched with a range of preferred delivery modes indicated by respondents to the survey.

**Table 5: Training expertise needs with suggestions for PD**

PD content area	Applicability to PD strategy (✓ = consultant's advice that this mode is applicable)					
	Unit/s of competency and/or existing training where known	Mentoring / peer to peer	Fact sheets / forms / Case studies	Training experts	Conferences	Online resource hub
Achieving action outcomes - behaviour and organisation change	Unit of competency TAESUS502 A <a href="#">VU20303</a> Develop and implement a program to support behaviour change for a sustainable initiative Diploma of Sustainability	✓	✓	✓	✓	✓
Motivating	Included in <a href="#">TAESUS502 A</a>	✓	✓	✓	✓	✓
Identifying needs and structuring information for audience	Included in <a href="#">TAESUS502 A</a> And Sustainable Practice Skill Set			✓		
Modelling / defining the financial, social, cultural and environmental issues / impacts of programs	This relates to defining the business case and also evaluating EfS Programs	✓	A range of slides, references, books and lectures are available e.g. see Bob Willard's site " <a href="#">The Sustainability Advantage</a> ".	✓	✓	✓

Neither **Values Education** (worldviews, assumptions, beliefs), nor **Facilitation Skills** (adult learning principles) were rated highly by respondents. However the researchers assert that high level awareness of values and the capacity to facilitate using adult learning principles are

essential skills of trainers, particularly if they are to deliver behaviour outcomes. This is in line with the third of four key result areas of the National VET Sector Sustainability Policy and Action Plan (2009-2012) to, 'Encourage the adoption of sustainability values, principles and practices by VET leaders, partners and champions.' (2009)

The fact that respondents did not report that they required skills in **Values Education** and **Facilitation Skills** may be indicative of a lack of understanding of how these relate to sustainability education, rather than trainers already possessing these skills. The researchers recommend that the principles of adult learning and values education underpin professional development as they are fundamental informers of EfS practice.

**Values Education** and **Facilitation Skills** are essential professional development requirements for both sectors although the terminology may need to be changed for marketing purposes to encourage uptake. For example values education could be relabelled, 'Achieving behavioural outcomes,' or facilitation skills as, 'How to influence (insert type) audiences.'

#### **Refer to Recommendations 1 and 2:**

- |                           |   |
|---------------------------|---|
| <b>Recommendation 1 -</b> | Provision of a basic or "101" Education for sustainability training course  |
| <b>Recommendation 2 -</b> | Development of training modules that together form a complete training cycle for best practice sustainability education |

### **3.3.3 Educational resource requirements – a centralised resources hub**

Across all stages of research, resources were the most frequently expressed requirement to enable industry trainers to integrate sustainability education into their work and/or community, to keep the sustainability momentum alive and to support the credibility and robustness of delivery.

Trainers expressed the need for examples, applications, activities, shared learning information, collections, shared resources, tools to train staff, off the shelf programs to support staff training, and regular information about sustainability initiatives/projects going on in Australia across all sectors and industries.

Waste and water industry trainers indicated their top three preferences for educational resources that would assist in delivering EfS. The highest ranked were:

- Experiential learning activities (60%, 65)
- Case studies (58%, 63)
- Learning resources (53%, 58)

Of lesser importance were:

- Practical trials (46%, 50)
- Activities (44%, 48)
- Field trips (44%, 48)

Other ideas for resources (14 in total) included:

- Examples, applications and activities
- Shared learning information
- Awareness and engagement strategies

- Collections/ shared resources
- Behaviour change
- Tools to train staff
- Off the shelf programs or support for staff training
- Regular information about sustainability initiatives/projects going on in Australia across all sectors and industries.

Respondents indicated the desire for a centralised website, hub or other means to share and access resources for their industry.

*The most useful thing would be a menu of resources I could tap into either for my own professional development or I can access to build courses for other people. Ideally there would be a well built, web based platform where you could get access to things like case studies, videos of sustainability leaders, exercises, notes, papers – all industry specific – I can use for a platform to put a really good course together (Water Trainer, NSW/Qld)*

*Resources that are easily available and provided to Local Government to assist in the delivery of education programs (Waste Trainer, Qld)*

### ***Implications for PD strategies – resource requirements***

W&WIT expressed a need for a broad range of resources to support their training. The diversity of audiences engaged and topics taught have implications for the resources they require to support **different requirements and outcomes in different regions and contexts**. Educational Resources form the most complex category of professional development needs and would be reliant either on significant financial investment to develop, or a nationwide coordinated effort to collect and collate by industry itself. **See Recommendation 4 – A centralised web based resources hub.**

### **3.3.4 Additional knowledge and skills to assist in EfS.**

Survey respondents were asked about their preferences for additional skills from a list that are considered to be either support or promotional mechanisms.

The most highly valued were:

- Program evaluation techniques (56%, 61); and
- Social media use and analysis (51%, 55)

Next in importance were:

- Community/business engagement skills (46%, 50); and
- Networking (45%, 49)

Of least in demand were:

- Promotion and Marketing (39%, 42); and
- Project Management (34%, 37)

There were only three additional comments to this question which were:

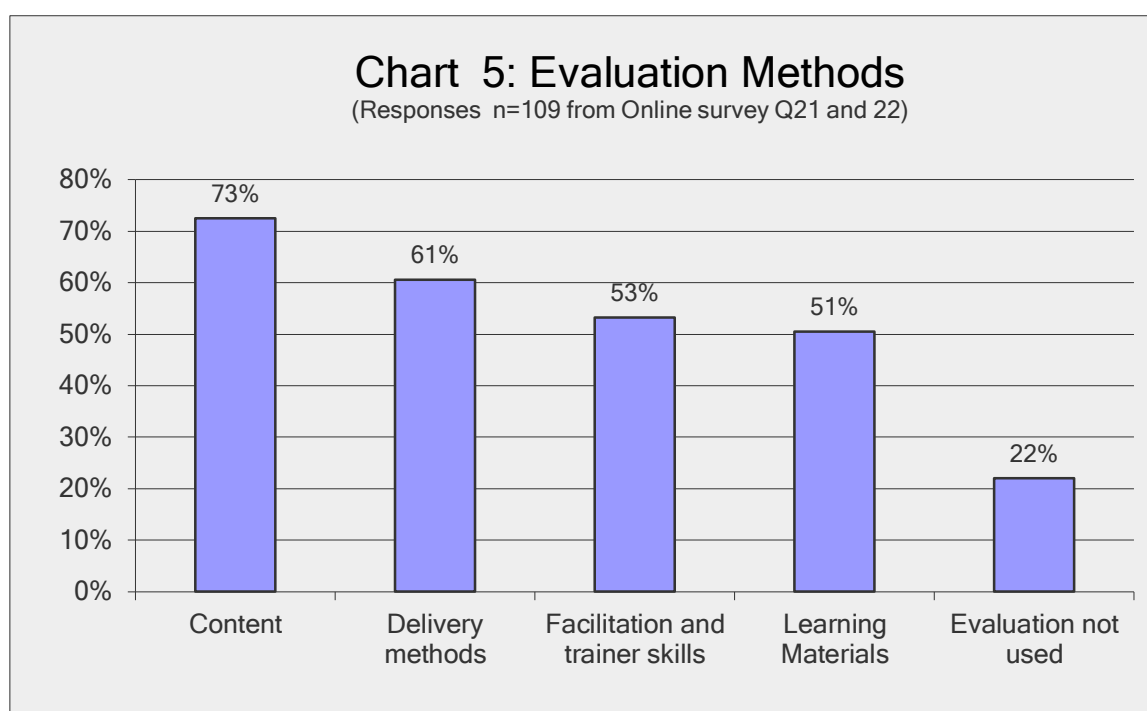
*Financial sustainability - linked with health costs an implications, environmental clean-up and loss of biodiversity (Waste trainer, NSW)*

*Advanced presentation skills (Waste trainer, NSW different to above)*

*Document writing/structure/presentation (Waste trainer, WA)*

Program evaluation was the most highly rated additional skill for trainers by online survey respondents and represents an important skill for those delivering sustainability programs and training. This research showed that industry trainers primarily used evaluation to assess the merit of content (73%, 79); and delivery methods of training (61%, 66). The quality of facilitation and training skills and learning materials were less likely to be evaluated (i.e. between 53% and 51% respectively). See Chart 5.

Evaluation of sustainability education, projects and initiatives ideally requires trainers to assess the merit of a whole program; its outcomes for participants (the skills, knowledge, attitudes, values change and behaviour change) and whether the results were what the trainers anticipated. These components are necessary to ensure continual improvement and sustainable outcomes.



### ***Implications for PD Strategies***

Both waste and water Industry Trainers require professional development in whole of program evaluation strategies. **See Recommendation 2 - Development of training modules that together form a complete training cycle for best practice sustainability education.** The multiplicity of groups trained and topics taught supports the development of modules that will enable industry trainers to apply best practice Education for Sustainability principles and practice to all aspects of their training role. They also require local, relevant resources to support the broad range of topics and audiences they train.

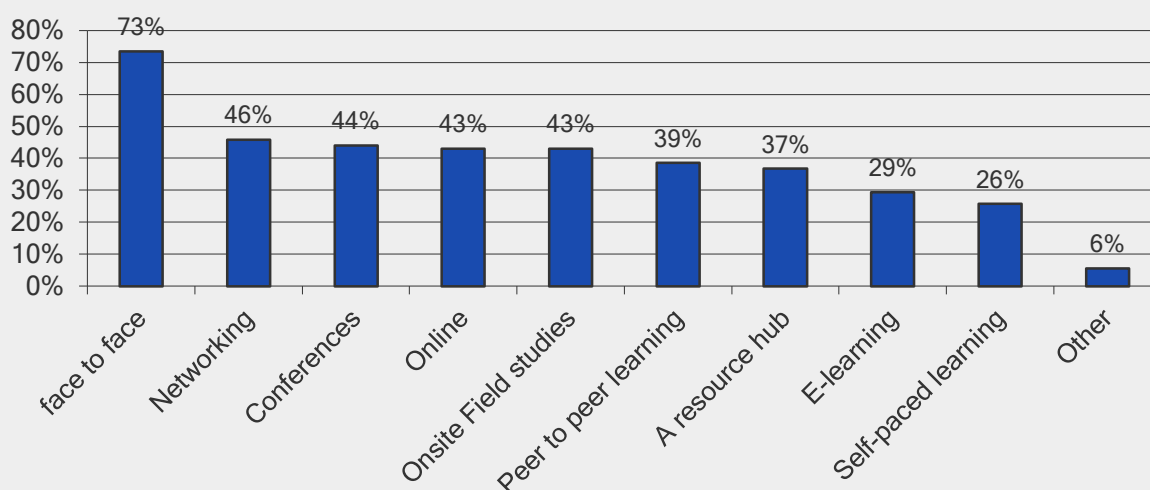
### 3.4. THE BEST WAYS TO PROVIDE PROFESSIONAL DEVELOPMENT

#### 3.4.1 PD modes of delivery preferred by respondents.

**Face-to-face** delivery is the preferred mode for professional development for both sectors. Networking and conferences are the next most highly valued. This compliments the value of peer to peer learning communicated at all stages of the research. In part this relates to the importance of local, relevant examples as a basis on which trainers can develop projects and programs specific to their regions and audiences. Waste educators expressed a stronger need for onsite field studies.

Chart 6: Preferred Modes of PD Delivery

(Responses n=109 from Online survey Q16)



In open comments, trainers articulated that a combination of face to face and online learning was probably necessary, and that online was useful as an addition to learning, however online learning was not a preferable stand-alone option.

*A combination of face to face and online learning (we need to be flexible as learners) (Sustainability Trainer, NT)*

*On-line or distance learning is useful as a support tool but I'm tired of learning in a virtual world (Waste Trainer, NSW)*

*Offering webinar for some things in addition to face to face (Waste Trainer, WA)*

Responses from the Gen Y interviews may flag two emerging trends. The first is about the value of using cultural tools to engage audiences in EfS. The second is about making a greater use of e-learning to upskill staff in skills specific to their role. Whilst only 2 Gen Y respondents were interviewed, their comments echoed trends that the researchers have observed in their capacity as sustainability trainers. Here are their comments:

*'Training for clowns – done a lot of waste stuff, clowns, performers, comedians – the most effective ways of getting people to have conversations with us about waste; Trying to find funding to train people up in street performance; providing engaging and uplifting messages about making sustainable change.'* (Gen Y Waste Trainer, Victoria)

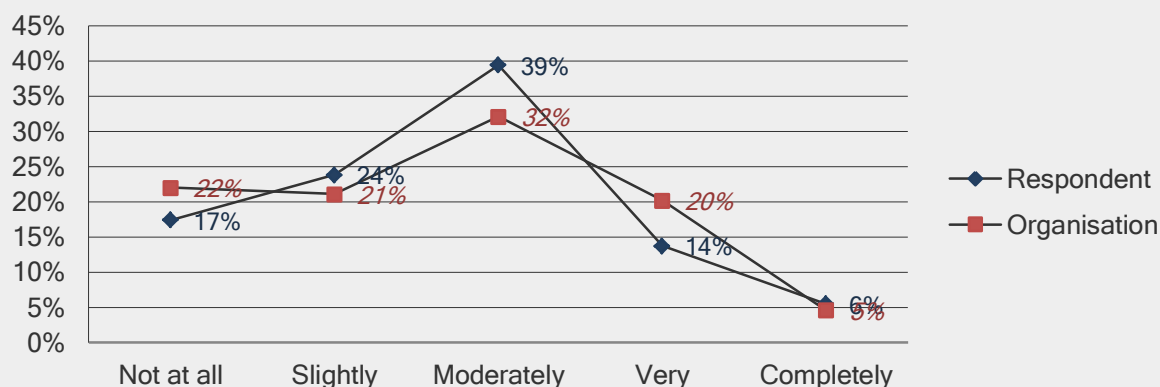
*E-learning that is developed and delivered internally. Identify and tailor key learnings for each staff member i.e. is it critical for the position description, what is the appropriate level of training, what will be in their future position description and what qualifications will they need. Our trainers are now mostly internal and the people we employ are hired with the view to what they can also offer in terms of internal training. We have just employed an e-learning manager to determine our training needs and what is most applicable to our requirements. We need to demonstrate that the money we receive is spent on needs.* (Gen Y Water Trainer, Victoria)

### 3.4.2 Importance of PD providing accreditation or pathways into larger qualifications

For a majority of the respondents (60%, 64), accreditation for training was important but not essential. Accreditation for training was unimportant to only 19 people. All stages of research indicated that industry is more concerned with quality training that provides specific, meaningful knowledge and skills particular to trainers' needs. This is especially so, given the lack of time that trainers have available to undertake PD. Survey respondents rated both their personal views and the importance they felt their organisation placed on accredited training. See Chart 7.

**Chart 7: The importance of accredited training to W&WIT - their ratings from a personal and organisational perspectives**

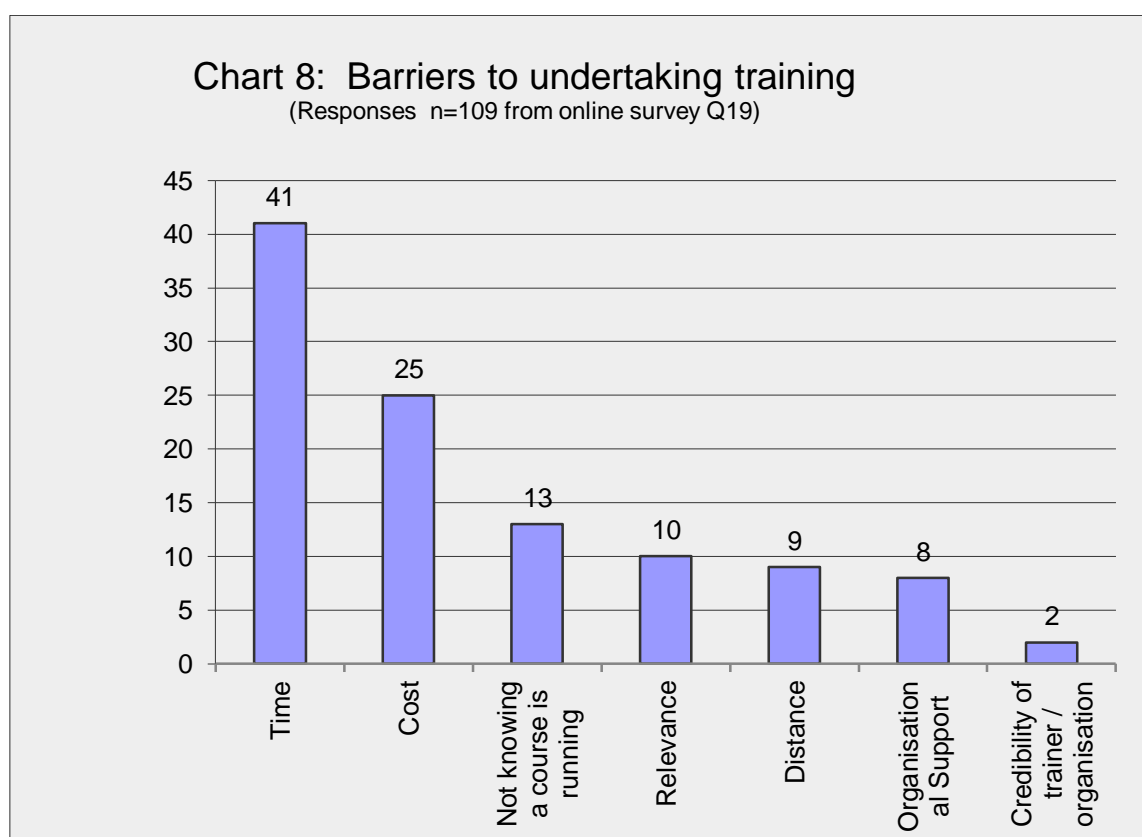
(Responses n=109 from Online survey Q17 and 18)



### Implications for PD strategies – accredited training

PD promoted through SESA should include knowledge of any available accreditation so that participants understand the opportunities for recognition towards qualifications. More importantly SESA should establish criteria for ensuring quality and rigour of the PD it pilots. **See Recommendation 5 – Criteria for piloting quality PD that links to accreditation**

### 3.4.3 Barriers to respondents undertaking training



**Time and cost** were the main barriers to uptake of professional development. See Chart 8. This was confirmed in the data at all stages of the research. “Not knowing a course is running” indicates a hidden barrier and represents an opportunity to better promote PD. “Relevance” as a barrier implies that current professional development either does not meet specific training requirements and/or that trainers/employers are not able to determine specifically what the learning outcomes will be.

*[A barrier is] that specific to need courses are not available for people who have been in the game a long time, training pitches at too low a level. There are too many conferences and too little targeted training programs available... nothing is well enough evaluated beyond the bums on seats level in this sector” (Waste and water Trainer, NSW)*



*“Many courses are at a too low level and I would love some advanced ones. Or networking focus groups” (Sustainability Educator, WA)*

Whilst organisational support to undertake training rated lowly in the survey results, it was frequently mentioned by interviewees as a significant barrier to undertaking any training, not necessarily because the training relates specifically to sustainability. In interviews with employers it is evident that while organisationally they support PD, a range of factors work against releasing staff for courses offered. Time management and cost are significant barriers to employers releasing staff for professional development. Gauging the value and relevance of offerings however, emerged as the underlying reason employers are reluctant to spend the limited funds they have. Employers commented that they needed to be strategic about PD but were not always clear about the quality and relevance of workshops, and had no criteria by which to judge their worth i.e. the level of PD and how it relates to job roles.

*There is some perception in councils that a lot of these sort of things [professional development workshops] are possibly going to be a waste of time, so it's hard to know whether they will be valuable... and our needs are so varied. There is also difficulty in gauging the value and suitability. (Local Government Employer, Water, Vic)*

*“Regional and localised delivery, accessibility, subject, developed to suit local and regional needs. If relevant and the organisation agrees then they will support you.” (Water trainer, Vic)*

The challenges of time, cost, quality and relevance resulted in some organisations moving away from external PD to designing and delivering their own in-house training. This training is tailored to meet the specific context, skill and job role requirements of individuals. This has enabled them to invest in specific learning outcomes to meet the needs of their staff.

*“We identify and tailor key learnings for each staff member i.e. is it critical for the position description, what is the appropriate level of training, what will be in their future position description and what qualifications will they need? Our trainers are now mostly internal and the people we employ are hired with the view to what they can also offer in terms of internal training. We have just employed an e-learning manager to determine our training needs and what is most applicable to our requirements. We need to demonstrate that the money we receive is spent on needs.” (Water and Sustainability Professional Development Officer, Vic)*

*“We have turned to internal training because the quality of external training has varied and their competency has really varied. We need to do annual refreshers and make sure our managers/supervisors can deliver if that is possible; otherwise we have researched the credible RTOs who can deliver the other stuff.” (Water Trainer, Vic)*

For both trainers and employers, not knowing that professional development was on offer at all, or in time to integrate into annual PD planning, was also a barrier to uptake.

*“A barrier to uptake of PD is awareness of what is going on. It is hard to know what is going on – [there is] no central place to go to find out what is available – if I knew, there would be no real barrier for me personally attending.” (Waste and water Trainer, Qld)*

### ***Implications for PD strategies – organisational support for training***

While time and cost are significant barriers to employers releasing staff; gauging the **value and relevance** of professional development emerged as the underlying reason employers are reluctant to spend the limited funds they have to fund PD. The need for organisations to be strategic about professional development is a compelling finding.

Research revealed that poor descriptors, the pitch of training and insufficient communication about professional development opportunities are contributing factors to lack of uptake in the past. It suggests more attention should be given to strategic development and advertising for the waste and water sectors. The perception that time and money has been wasted on poor quality or irrelevant PD has seen a number of organisations develop their own in-house training, however a requirement for quality, targeted training is still sought.

These conclusions require development of marketing strategies and material that support industry in finding and assessing professional development opportunities.

**See Recommendations 4, 5 and 6.**

- |                           |  |
|---------------------------|--|
| <b>Recommendation 4 –</b> | A centralised web based resource hub                         |
| <b>Recommendation 5 –</b> | Criteria for piloting quality PD that links to accreditation |
| <b>Recommendation 6 -</b> | Marketing of professional development                        |

## CHAPTER 4 - CONCLUSIONS

This research was concerned with determining the skills and capability of trainers in the waste and water sectors to deliver effective sustainability education. Effective education for sustainability is that which produces actual sustainable outcomes and which empowers people to take action. This is in alignment with the principles for effective sustainability training as articulated in the National Action Plan for Sustainability which is outlined in the beginning of this report.

### 4.1. THE WAYS IN WHICH SUSTAINABILITY ISSUES HAVE IMPACTED THE ROLES OF WASTE AND WATER INDUSTRY TRAINERS

Waste and water industry trainers reported that sustainability issues were not impacting greatly on their job roles and position descriptions, however aggregation and examination of all survey responses - about the scope of their training, the diversity of audiences they train, and new goals for training outcomes - indicates that **roles have been impacted by sustainability issues**. A majority of the respondents, 66% (98) considered sustainability education was a focus of their job. That sustainability education comprises a significant part of job roles is an important finding when considering professional development. How sustainability is taught (as well as what is taught) has implications for training outcomes and sustainable actions.

Reported impacts are as follows:

#### 1. Training outcomes have shifted

Reported changes include a widening of the scope of sustainability topics delivered (i.e. energy efficiency and climate change strategies around adaptation, mitigation, risk management and resilience) and that training outcomes have shifted from “information only” sessions to an expectation that training will transform participant understanding and behaviours.

**This shift in focus indicates** the need for professional development and resources that build knowledge and skills to deliver a broader range of sustainability information.

#### 2. Marketing and engagement methods are critical

Waste and water industry trainers reported that sustainability is more important to themselves than their employers or audiences.

Respondents also reported that they found it difficult to discern the level, focus and outcomes of PD training that they were considering attending.

These are important considerations for how PD is marketed for two reasons.

- a. how trainers engage and market to audiences to educate for sustainability,
- b. how professional development for trainers is marketed and accessed.

#### 3. Their roles are extremely diverse

The roles of waste and water industry trainers and the background skills and knowledge they bring to their roles are extremely diverse.

These findings support the need for both basic and advanced professional development in sustainability and sustainability education strategies.

#### **4. Audiences and topic diversity has increased**

The diversity of audiences engaged and topics taught by waste and water trainers have expanded to include broader sustainability issues such as climate change and energy efficiency.

This finding supports the need for a diversity of resources.

The abovementioned findings have implications for the training expertise they require, the resources needed to support *different requirements and outcomes in different regions and contexts*. These have been integrated into the recommendations.

## **4.2. PROFESSIONAL DEVELOPMENT NEEDS OF WASTE AND WATER INDUSTRY TRAINERS TO EDUCATE FOR SUSTAINABILITY**

### **1. Knowledge and Skills**

The four most important PD requirements for both waste and water trainers were:

- Building the business case for sustainability;
- Technical skills and knowledge about waste/water;
- Sustainability issues and concepts related to their field; and
- Strategic planning and project management.

### **2. Training Expertise**

The four highest priority skills for both waste and water trainers were:

- Achieving action outcomes and behaviour change; and
- Motivating people
- Identifying needs and structuring information for audience; and
- Critical and systems thinking

**Values Education** and **Facilitation Skills** were multiple choice options, however not rated highly by respondents. This may be indicative of a lack of understanding of how these relate to sustainability education, rather than trainers already possessing these skills. The researchers recommend that the principles of adult learning and values education underpin professional development as they are fundamental informers of EfS practice.

### **3. Educational Resource requirements**

- Experiential learning activities (60%, 65)
- Case studies (58%, 63)
- Learning resources (53%, 58)
- Practical trials (46%, 50)

- Activities (44%, 48)
- Field trips (44%, 48)

#### 4. Additional Skills requested

- Program evaluation techniques (56%, 61); and
- Social media use and analysis (51%, 55)
- Community/business engagement skills (46%, 50); and
- Networking (45%, 49)

The multiplicity of groups trained and topics taught supports the development of modules that will enable industry trainers to apply best practice Education for Sustainability principles and practice to all aspects of their training role. They also require local, relevant resources to support the broad range of topics and audiences they train.

### 4.3. THE BEST WAYS TO PROVIDE PROFESSIONAL DEVELOPMENT

#### 1. Accreditation and pathways

For a majority of the respondents, accreditation for training was important but not essential. Accreditation for training was totally unimportant to only 19 people. All stages of research indicated that industry is more concerned with quality training that provides specific, meaningful knowledge and skills particular to trainers' needs. This is especially so, given the lack of time that trainers have available to undertake PD.

#### 2. Modes of delivery

Face-to-face delivery is the preferred delivery mode for professional development in both sectors. Trainers agreed that a combination of face to face and online learning was probably necessary to capture the spread of trainers in different locations, and that online was useful as an addition to learning, however virtual learning was not a preferred stand-alone option.

#### 3. The value of peer to peer learning

After face-to-face learning, networking and conferences were the most preferred modes of professional development. These reflect the stated value of peer to peer learning expressed at all stages of the research. In part this relates to the importance of local, relevant examples as a basis by which trainers can develop projects and programs specific to their regions and audiences. In disaggregating data there was a much stronger requisite by waste educators for onsite field studies.

#### 4. Barriers to uptake of professional development

All stages of research revealed that **time and cost are the main barriers** to the uptake of professional development. Time management and cost are also significant barriers to employers releasing staff; however gauging the **value and relevance** of professional

development emerged as the underlying reason employers are reluctant to spend the limited funds they have.

## **5. The need for clarity in marketing professional development**

Research revealed that poor descriptors, the pitch of training and insufficient communication about professional development opportunities were contributing factors to lack of uptake in the past. This is supported by a perception by both trainers and their employers that time and money has been wasted on poor quality or irrelevant professional development. Quality, targeted training is still sought.

## **4.4 RECOMMENDATIONS**

Research results have provided a comprehensive range of findings and recommendations that will assist SESA in refining achievable professional development strategies for waste and water sector trainers in this complex field.

In conclusion the primary focus of PD should therefore be to enable trainers to adapt training materials themselves for best practice EfS and in turn empower audiences to undertake sustainable actions. Professional development options recommended will benefit sustainability industry trainers specifically and sustainability outcomes generally.

The following is a summary list of the recommendations to be found on pages 8 – 11.

**Recommendation 1 - Provision of a basic or “101” Education for sustainability training course (Refer Ch. 3)**

**Recommendation 2 - Development of training modules that together form a complete training cycle for best practice sustainability education (Refer Ch.3)**

**Recommendation 3 - Provision of Professional Development (Ref Ch. 3: 3.2)**

**Recommendation 4 – A centralised web based resource hub (Ref Ch. 3: 3.3)**

**Recommendation 5 – Criteria for piloting quality PD that links to accreditation (Ref 3. 4.2)**

**Recommendation 6 - Marketing of professional development (Ref 3.4.3)**

## APPENDIX 1: SESA OUTCOMES HIERARCHY

### LONG-TERM OUTCOMES

The Australian economy is recognised for its ongoing productivity. Its businesses and industries continue to prosper through integration of sustainability practices and principles. There are employment opportunities for all Australians.

Australia has an internationally competitive, capable and skilled workforce that has successfully transitioned to a sustainable, low-carbon economy.

Australian workers have opportunities to learn new skills for sustainability and enhance their existing skills, knowledge and practices.

Australian business and industry recognise that training Australian workers in skills for sustainability is not only better for the environment, it also saves money and can improve business efficiency

### INTERMEDIATE OUTCOMES

(Capacity building for workplace waste and water trainers in EfS)

#### **4. Integration of Educating for Sustainability (EfS)**

Workplace waste and water industry trainers have the core skills, knowledge and understanding of standards for demonstrating competence in educating for sustainability. They integrate these capabilities into their work and ensure that the people they are training integrate sustainability processes and principles into what they do. This complements and extends the impact of 'Green Skills'. It supports managers to lead their staff in integrating change towards sustainability.

#### **3. Engagement in Education for Sustainability (EfS)**

Workplace waste and water industry trainers use existing resources and specifically customised professional development opportunities. They participate in learning to educate others for actions that will enhance sustainability. They understand how upskilling in EfS capability gives them a qualifications pathway which can lead to career and employment opportunities. Training providers who are expert in EfS (RTOs and others) mentor and/or train waste and water industry trainers to develop their capability in EfS so that they integrate actions that enhance sustainability into their work.

### SHORT-TERM OUTPUTS

#### **2. Linking changes in workplace trainer roles with Education for Sustainability (EfS)**

Workplace waste and water industry trainers information about expanded work and position descriptions is mapped to existing EfS vocational education and training frameworks and resources in 'Green Skills'. The professional development needs of workplace waste and water industry trainers in relation to EfS are identified.

#### **1. Recognition of the need to change**

Workplace waste and water industry trainers recognise that sustainability issues are impacting on their work. They realise that they need to expand their skills and knowledge to become capable in educating for sustainability. They contribute to an understanding of the ways in which sustainability issues are impacting on their work and position descriptions.

This research starts here



## **APPENDIX 2: STAGE 1 – IN-DEPTH INTERVIEW QUESTIONS**

### **Waste and Water Industry Trainers (15)**

#### **About your training**

1. Where are you based?                      State    Rural/regional                      Metropolitan
2. Which of these statements best describes your role, are you someone:  
    With a sustainability education focus as part of your job?  
    Who does not have a training focus, but now has responsibility for increasing your organisation's knowledge of sustainability?  
    Has another role that relates to sustainability?  
    Other? Please describe?
3. Who do you train (the types of people or groups you educate or train)?
4. What do you train them in?
5. What characterises your most successful training sessions?

#### **Sustainability Education**

1. How do you understand the concepts Education for Sustainability and Education about Sustainability?
2. What changes to your work and/or position description, either positive or negative, are due to sustainability changes in the sector/s in which you work?
3. What have been your most exciting and/or satisfying experiences educating for sustainability?
4. If you had the power to influence the future, describe what 'best practice' sustainability education looks like (knowledge and skills etc.)...

#### **Professional Development support**

1. What characterises the most successful sustainability professional development courses you have attended?
2. What would enable/assist you to undertake professional development, training or another form of skill or capability development?
3. In previous surveys, industry trainers specified the sustainability training they needed but didn't attend when it was developed and offered. Why do you think this happened?
4. We are going to be surveying industry trainers across the water and waste industries about their changing job roles and requirements for sustainability training. What question/s should we be asking them?

#### **And lastly,**

What feedback do you have about this interview, the questions, or the SESA project?

## APPENDIX 3: STAGE 2 ONLINE SURVEY QUESTIONS

### Trainers in the Waste and Water Industries

#### About you

1. Confidentiality Agreement
2. The state in which you work
3. The region/s in which you work: Regional, Rural, Metro
4. The sector/s in which you work
  - Waste
  - Water
  - Sustainability/Natural Environment/Climate Change/Energy
5. The statement/s that best describe your role
  - Sustainability education focus as part of job
  - Responsible for increasing org's sustainability knowledge
  - Another role that relates to sustainability (please specify)
6. Who are the types of people or groups you engage with and/or train?
  - Internal Staff Training
  - Waste organisations/authorities
  - Water organisations/authorities
  - Community groups or residents
  - Primary or Secondary School Groups (i.e. students)
  - Teachers – Primary or Secondary
  - Tertiary Education Groups
  - Local Government
  - Business/Corporates
  - Other (please specify)

#### Sustainability and your work role

7. How important is sustainability to you?  
Not at all important   Slightly   Moderately   Very   Completely important
8. How important do you think sustainability is to the organisation you work for?  
Not at all important   Slightly   Moderately   Very   Completely important
9. How important do you think sustainability is to the audiences you train?  
Not at all important   Slightly   Moderately   Very   Completely important
10. What top 3 strategies you would like to see happen so that sustainability education is integrated into your work and/or community?
11. Ideally, what strategies would you use to keep the momentum for sustainability initiatives alive?

#### Professional Development Needs

12. What general knowledge and skills do you need to educate your audiences for sustainability in waste/water?
- Technical skills and knowledge about waste/water
  - Policy, compliance, risk management issues about waste/water
  - Sustainability issues and concept related to your field
  - Climate change adaptation and/or mitigation
  - Building the business case for sustainability
  - Strategic planning and project management
  - Other, what else is there that is not listed here? (open)
13. What training skills do you feel you need to educate your audiences around sustainability?
- Facilitating
  - Training
  - Communicating
  - Motivating
  - Identifying needs and structuring information for audience
  - Achieving action outcomes - behavioural and organisational change
  - Working with multicultural communities
  - Modelling/Defining the financial, social, cultural and environmental roles/impacts in sustainability programs
  - Values education
  - Critical and systems thinking
  - What else? (please describe)
14. What educational resources do you need to educate your audiences around sustainability?
- Case studies
  - Activities
  - Experiential learning activities
  - Practical trials
  - Field trips
  - Learning resources
  - Other (please specify)
15. What additional knowledge and skills do you need?
- Networking
  - Project Management
  - Promotion and Marketing
  - Social media use and analysis
  - Community/business engagement skills
  - Program evaluation techniques
  - Other (please specify)
16. If you were to undertake professional development, what modes would work best for you?

Online   face to face   Self-paced learning   A resource hub   Conferences   Peer to peer learning   E-learning   Onsite Field studies   Networking  
Other\_\_\_\_\_

17. How important is it to you that training you undertake provides credit or a pathway into a larger qualification?  
Not at all important   Slightly   Moderately   Very   Completely important
18. How important is it to your employer (or organisation/s you work for) that training you undertake provides credit or a pathway into a larger qualification?  
Not at all important   Slightly   Moderately   Very   Completely important
19. What are the barriers to you undertaking training? Please number the following from 1 – 8 where 1 (one) represents the greatest barrier.  
Time  
Cost  
Organisational Support  
Relevance  
Distance  
Not knowing a course is running  
Credibility of trainer/organisation  
Other (please specify)
20. Is evaluation used to guide future education programs? If yes, in what ways? E.g.  
Content  
Delivery methods  
Facilitation and trainer skills  
Learning Materials  
Please add any examples of other ways evaluation is used ....

Final question: Are there any comments you wish to make about sustainability in your sector, the survey or professional development?

## APPENDIX 4: STAGE 3 EMPLOYER INTERVIEW QUESTIONS

### About your organisation

1. Where are you located? State, Rural/regional/ Metropolitan
2. What sector does your industry service?  
Waste  
Water  
Sustainability/Natural Environment / Climate Change/Energy

### Professional Development in Educating for Sustainability in your Industry

1. What can you see that they will need professional development in to enable them to educate for sustainability? Immediately? Within the next 2-3 years?
2. What are the challenges with keeping them current with sustainability skills?
3. A couple of years ago, industry trainers were surveyed and specified the sustainability training they needed but didn't attend when it was developed and offered. Can you provide any insights as to why this may have happened?
4. What are the most realistic and practical ways for your organisation to enable officers to get to PROFESSIONAL DEVELOPMENT training? What factors would need to be in place?
5. How do you currently enable/assist education/training staff to undertake professional development, training or another form of skill or capability development?
6. Is there anything else you would like to add?

## APPENDIX 5: STAGE 3 GEN Y INTERVIEW QUESTIONS

### About your organisation

1. What State /Territory are you based?
2. Where are you located?      Metro      Regional      Rural
3. What sector does your industry service?  
Waste  
Water  
Sustainability/Natural Environment / Climate Change/Energy

### Professional Development in Educating for Sustainability in your Industry

We want to look at the sustainability issues that impact your organisation and the training it provides – and the implications for professional development for you as trainers, facilitators and industry trainers.

1. What can you see that will be needed in professional development in to enable you to educate for sustainability? Immediately? Within the next 2-3 years?
2. What are the challenges with keeping current with sustainability skills?
3. If you could wave a magic wand what professional development training would you undertake?
4. In surveys with older trainers in the waste and water industries, we found they still have a preference for face to face training. As a younger member of the sector, if you could do professional development in any way that worked for you, what would that be?
5. If you could really inventive, what else might you try?
6. Is there anything else you would like to add?

And lastly,

1. What feedback do you have about this interview, the questions, or the SESA project?

## **APPENDIX 6: TRANSCRIPT OF OPEN ENDED ONLINE SURVEY RESPONSES QUESTIONS 10 AND 11**

### **10. What top 3 strategies you would like to see happen so that sustainability is integrated into your work and/or community?**

#### **FIRST CHOICE (58 responses)**

- More focus outside sustainability focused departments
- State level campaigns - like Get it Right on Bin Night in Victoria, implemented locally
- Allowing people to spend time in a natural setting, building a relationship with the natural world
- Sustainability included in key performance indicators for staff
- Leadership participation all the way through
- More LCA
- Professional Development for trainers
- Assistance for businesses with waste minimisation
- Principals to pay in-school sustainability co-ordinators (teachers) for extra duties in co-ordinating program in schools
- Container deposit scheme in Victoria - would significantly increase recycling diversion rate and reduce litter
- That sustainability is more than just improving the environment. Tapping into the social and economic benefit can help capture those who do not show a big concern for the environment.
- Linking sustainability education to curriculum professional development opportunities for teachers
- Subsidised trips to waste (water recycling plants for schools (\$ to cover staffing and busses as well as any costs at the sites visited).
- Better targets set
- Make it common place i.e. normal
- Not sure what this questions means.
- Sustainability further integrated into the school curriculum - particularly in content elaborations
- Reduction of waste to landfill
- More support from politicians, and leaders in the community to support the work that people are doing on the ground
- Sustainability forms part of the early childhood & primary school program for learning
- Leadership from all tiers of government
- PowerPoint notes
- Increased education awareness about waste management issues in the broader context through education,
- More funding for sustainability education
- Greater time allocation for teaching sustainability over and above normal classes
- More education that helps people to understand the ways we think about ourselves in relationship to our environment
- Funding to run programmes
- Organisational support for education in schools
- Acknowledge accreditation of the environmental management system, to stop inefficient questionnaires



- Value of sustainability
- Acceptance of ours and the State's Waste Strategy
- Having the tools to train staff
- Relate sustainability to everyday activities "real life"
- Ongoing support targeting at supporting the school
- Policy - government has to set the agenda and then a policy must be developed that integrates sustainability meaningfully into all training packages and courses. A throw-away level 2 unit which covers recycling and switching off lights is insulting.
- Mandated workplace audits to develop sustainability rating and guide future practice
- Policies and organisational objectives that recognise sustainability imperatives for business viability
- Education identified as key to impacting triple bottom line
- Environmental/sustainability education part of syllabus
- Successful recycle program
- Governments at National State and Local level providing a meaningful and effective overarching Framework that establishes and supports EFS as a major contributor to sustainability
- Active engagement
- Consistent long-term funding opportunities
- Ed for sustainability strategy with realistic targets
- Part of induction
- LED Street Lighting throughout whole city
- Making it real with realistic examples
- Mandated reporting for all businesses and NGOs against tangible benchmarks
- Government support on behavioural change
- More time allocated to allow this work to happen/ or more people employed so it can occur
- Application of One Planet Living principles
- Teaching sustainability in schools
- Set aside entrenched constraints to conserve energy (resource) in all things
- Container Deposit Legislation

## **SECOND CHOICE (52 responses)**

- Less interference by corporate branding/comms unit that results in the message being lost/changed
- Practical help - e.g. educate in schools but have difficulty getting recycling bins in schools due to govt contracts
- Incorporated as a part of the overall plan of management
- Sustainability included in all decision making e.g. policies report writing etc.
- Whole community - as in a school - include parents, admin and so on.
- Better understanding of long term price protection via recycled supply chains
- Courses designed to reflect contemporary knowledge about sustainability
- Standardised waste services between Council areas
- State-wide/National campaigns encouraging business to realise the financial benefits for them if they recycle more or adopt other sustainable practices
- Activity based education strategy; paid volunteer days, visits to community composting hubs, recycling tours etc.
- Centralised, on line website and resources to show and tell the story of waste-from manufacture to purchase choice and through to disposal, collection and 'the final'

destination. (Including 100's of years from now to show reuse and or decomposition (or otherwise of items

- Information sharing
- Required in all formal and non-formal education
- Sustainability targets for schools
- Increased diversion of organic matter from landfill into usable products
- More acknowledgement of the community groups, schools etc. that are doing stuff
- Seed funding is available to businesses for the implementation of sustainability projects
- Continued financial support for sustainability education
- Visual cues - examples
- Increased education and awareness on how valuable waste is a resource
- Funding for professional development
- Move from a focus on behaviour change to a focus on education where learning and change are valued for their own sake
- Funding to run programmes
- Willingness of employers to embrace sustainability initiative and make changes
- Consequences
- Financial support to the waste industry from State Government
- Having the competencies from staff undertaking the training
- Push the positives and not threaten with negatives if sustainable initiative are not implemented
- Resources that we can give with training i.e. classroom compost buckets and 4 compost bins used for each term
- Funding - ongoing and meaningful for employees in waste management and resource recovery, local government and. Funding support for teachers across all sectors/trades particularly in regional areas
- Financial incentives - e.g. taxes / rates based on sustainability rating
- Link theoretical learning about sustainability with deliberate practical skills-based experiences of sustainability
- Resources allocated to do this effectively and holistically
- Licensing regime includes environmental/ sustainability requirements
- Solar power usage increase
- Training for those delivering sustainability program s that is free, available and high quality and promotes change in behaviour
- Accurate and consistent information
- Sustainability afforded a priority as integral part of business
- Holistic approach within all levels of gov't
- Removal of all paper towels and replacement with Dyson Air blades
- Integrated into the policy and regulatory framework (preferably at a National level)
- Whole of staff discussion time, part of staff meetings to assess levels of interest
- Government support on waste minimisation programs and funding
- Ongoing financial support to allow web groups that coalesce around environmental education to continue
- Whole of organisation approaches
- Having local and state government pursue sustainable practices and policies
- Be innovative but simple

### THIRD CHOICE (47 responses)

- More media buy-in on positive environmental stories (i.e. progress, schools, change) rather than just climate change/council bashing
- Improved funding and resources will always help!
- Realisation that the profit will come after
- Remove barriers so everyone can become involved
- Organisations to provide priority funding for sustainable practice not just co- ordination
- More client engagement
- Education / Education marketing / Seminars to encourage water and wastewater authorities to participate in sustainability Education and practices
- Improved resource sharing between sustainability educators - a place where campaign artwork and other useful stuff could be accessed. Save time, save money.
- Linking KPIs for businesses/workplaces to sustainability outcomes
- "Someone important and knowledgeable" to visit and speak to whole school staff so that all understand and discuss local practices so that all know how to comply with sustainability initiatives and why they should bother. I think it is important that this is someone outside of the organisation as it reinforces the importance rather than switching every one off when the same person starts nagging again!
- Greater awareness of how sustainability can be incorporated into every aspect of a business
- Required by business, industry and government
- Further grants for schools to become more sustainable/ use more renewable sources
- Increased recycling rates from commercial/businesses
- Corporations and businesses need to get on board and take responsibility as well
- Resources are easily available and provided to Local Government to assist in the delivery of education programs
- Incentives for schools to participate in sustainability education
- Reading materials
- Increased education and awareness on how we can give waste, including organic waste and non-recyclable plastic a new life.
- Teachers in every school given time allocation to oversee sustainable initiatives
- Develop some tools to measure the degree to which sustainability education is integrated into work & community life.
- Funding to run programmes
- Funding for televised promotion of sustainable practices
- Australia wide Container Deposit Scheme and all products covered in Product Stewardship Legislation
- Having a process whereby the community is better informed on sustainability - from a recycling viewpoint.
- Encourage innovation
- PD training for teachers on factors affecting the environment
- Development of resources available free of charge, that link directly with curriculum and inspire teachers and students to participate in critical thinking
- Charlie Magee's Formidable Vegetable Sound System's 'No Such Thing as Waste' to replace national anthem
- Understanding that small steps may be required to embed lasting organisational change for sustainability
- Proper planning, linking objectives of all projects to organisational plans
- Planting native gardens to attract and sustain native wildlife

- Government leading by example and promoting real change in the community and business Taking the future seriously
- Collection of behaviour data re engagement with sustainability practices
- Funding to enable projects to rollout
- Removal of all plastic bag usage in LGA
- Making it fun and fulfilling
- Allocated work time for sustainability actions ( e.g.- maintaining compost, vege gardens, etc..)
- Government support on Water conservation programs and funding
- Driven by the finance section
- Provide incentives to industry for sustainable practices
- Don't be afraid to be wrong as it is the pathway to success
- Yellow recyclables bin serviced weekly

### **11. Ideally, what strategies would you use to keep the momentum for sustainability initiatives alive?**

- Governments promoting progress and great outcomes, rather than just politics and attacks, leading media to focus on what can be done and that people can make a difference
- Opportunities for mentoring, developing sustainability champions and leaders. Staff and student induction and ongoing CPD,
- Ongoing training and follow up
- The creation of Sustainability Hubs in regional areas- which act as an information and education centre
- Regulatory drivers to require sustainable outcomes of business and government Clear communication of sustainability product and service profiles to consumers through standardised and reliable eco-labelling
- Competitions, rewards, public acknowledgement, eco citizen awards
- A combination of capacity building through action-oriented strategies that are adequately funded.
- More practical support / initiatives - it's great to educate but we then need practical resources and programs (e.g. schools playground recycling).
- Government support and funding Organisational reflection Practice what we preach
- Incentives, encouragement, promotion etc.
- As above- and support generative conversation by every organisation on the planet - I.e. Workplaces, setting up a sustainability team of total organisation representatives.
- Repetition (keep reminding people to do the right thing) and feedback (tell them what their efforts have produced savings wise or just numbers/statistics)
- Measurement of tangible outcomes
- Price & cost saving ones
- Communication and marketing of sustainability projects. Getting people to realise that being sustainable makes good business sense.
- Celebrating achievements, setting targets, constant promotion of the positive effects of acting sustainably
- Education / Education marketing / Seminars to encourage water and wastewater authorities to participate in sustainability Education and practices.
- Education and raising public awareness

- Use of incursions, excursions, kids teaching kids
- linking of resources and learnings
- Keep the conversations happening- keep it at the front of mind- practice the initiatives and demonstrate them widely and publicly. Make part of community
- Pushing the 'personal' benefits of sustainable practices for households and businesses e.g. financial, amenity, environmental Grant programs - to support community groups or businesses to implement sustainability initiatives Simplified tools - some of the waste, water and energy calculators are way too complicated or 'too long' for community groups or businesses who are 'new' to sustainability options
- community education resources - signage, flyers, promotional material
- ability to go online to see good practice elsewhere
- Ensure the initiatives are always evolving and changing, provide rewards to those who go above and beyond, celebrate and advertise wins. Create a culture of 'this is how we do things at (business/council/school) by establishing social norms over the long-term.
- Government driving the cause.
- Continue to work collaboratively, share information, support teachers, hold small workshops, encourage professional development in education for sustainability
- More funding, more staff, increased focus from governments
- Awareness campaigns and reward strategies
- Constantly update presentations with new, fun up to date resources
- Celebrate on the wins, sharing of information and ideas to help keep the sustainability agenda at the forefront of people's minds. Illustrate your commitment through e.g. recycling bins at every event, providing taps to refill water bottles, "green" purchasing etc.
- Legislation
- Media, free events, websites.
- New, up-dated programs and grants offered by local governments, state governments and the Australian government. A new, up-dated push for sustainability from our political leaders!
- Use as a focus for literacy and numeracy tasks in class rooms. Develop as a focus for history and geography classes. Look at how the arts can be used as a create response to environmental and sustainability issues.
- Real, cold hard facts.
- -enviro educational phone apps to be developed for site tours of western Sydney parklands -more funding for community based project -As Urban Growth continues in western Sydney it would be good to see more eco tours.
- positive reinforcement, some compliance and regulation and fostering of community empowerment, however this really needs the support of government, businesses corporations and mining companies and they need to be regulated in the beginning if they are not coming on board
- Peer diffusion- Sustainability champions demonstrating sustainability benefits best practice, media support, government support, industry best practice on display. Rebates, \$ incentives to industry/individual for sustainability initiatives.
- Staff training access to more funds best practices for schools, retro fit buildings etc.
- Effective communication Seed grants Teacher education
- publicising success stories
- Students and parents involvement including community support.
- Cheaper, quicker and easier to maintain base level sustainability awareness/initiatives in the community and ramp up during times of drought than to stop/start programs.

- The primary strategy I would use is education. Education is absolutely imperative when keeping sustainability initiatives alive, as people need to understand how their actions can influence outcomes in both a positive and negative way. Therefore, by highlighting these actions, we can encourage members to do the right thing, and become more waste wise.
- Community engagement
- Make teaching for sustainability the responsibility of every classroom teacher in that they must actively support the school's environmental initiatives. eg actively support recycling of waste. All classes in the primary sector should teach an integrated unit on sustainability every year. I.e. whole school focus on Water. In secondary schools there should be compulsory learning of sustainability integrated into the national curriculum, not just a cross curriculum perspective.
- I don't know that I can. Regardless of how hard I work, or how much progress is made, at the end of the day money talks and bullshit walks.
- using both practical and theoretical tools for keeping issues of sustainability visible within our everyday lives
- Keeping regular contact with participants in initiatives. Being available for support of community groups and provides a venue for them to learn from each other.
- Workshops that draw in people not already convinced of capacity and need for change
- Making use of social media to especially target younger audiences and to keep up daily momentum
- PD sessions and just keep chipping away
- Education/resources/funding to do this work
- Community awareness initiatives Government subsidies - solar - water tanks Media coverage Create a buzz for knowledge/discussion from the community Possibly reward teachers for incorporating sustainability topics in their teaching Reward teachers for attending PD days around this subject - make the days interesting - budget for nice food (always draws a crowd)
- More funding and focus on this issue
- Linking financial saving with sustainability
- empower young people to adopt sustainable behaviours and educate their peers
- Ongoing education strategies across the community on a regular basis. This would include a range of key engagement components such as targeted projects within specific communities, presentations and workshops, better use of volunteer bodies to promote knowledge and understanding of the issues and their possible solutions. Ongoing lobbying for increased political and organisational support.
- Identified, share and published KPI identifying and quantifying the effort in sustainability in the business
- I would NOT create a steering committee that you have to pay very large sums to be part of.
- Accreditation scales- fully compliant, partially compliant, working towards compliance
- Communication Relevance to audience promotion economic incentives
- consistent, relevant and practical communication processes
- Waste Hierarchy CDL
- Provide evidence that what we are doing is working and continue to learn from what we've done
- ongoing funding able to produce information for distribution to the community and staff maintaining best practice within the organisation (via training)
- More funding for core personnel to support schools



- Public celebration of the actions that are happening and making a difference to the people and environments in communities - especially if they are cost effective - people seem to only think about their hip pockets :-(
- Rebates and education
- A/A Accessibility to knowledge through practical displays and building social responsibility somehow, perhaps by fines for bins contaminated.
- Ongoing feedback. Accurate reporting/data in relation to improvements.
- There is currently no incentive to integrate EfS or focus on sustainability either from a professional development or industry-driven perspective. Fund industries/local government to support staff development. Professional development for all teachers in all discipline/trades areas - focussing on activities that are relevant. Regional and broader networks of industry/teaching staff and businesses supporting one another. Educational Executive staff directed to make sure all staff have participated-in and practice EfS and EaS. Integrating sustainability KPIs into all teaching job descriptions - including executive
- Celebrations of success
- Expand sustainability education.
- I guess the ultimate aim if for sustainability to be owned by all so that it does stay alive.
- Formalise sustainability skills and knowledge generation as core components in employee training programs at appropriate levels and reinforce the learning with practical, experimental project-work aligned to organisational objectives, making the learning more relevant to peoples work and role.
- Doing things differently. Looking to psychology research to see why people do what they which can guide how we motivate them to make a behaviour change.
- Inclusion in course content
- having sustainability as part of the official government curriculum
- All of our professional associations and advocacy groups getting on the same page and working together to pressure Australians to see a sustainable future as our number one challenge and to understand that education and engagement is our most powerful vehicle to achieve this.
- online networks; embedded in teacher education
- Get as many involved as possible
- Reactivate QESSI in Queensland and AuSSI nationally as best practice methodology to embedding the cross curriculum priority of sustainability into the school curriculum
- Engagement
- Engaging whole groups (families, schools, clubs) not just the individual interested within the group. i.e. development of whole school approach
- share case studies of successful initiatives; use a variety of methods, including social media, to engage all audiences; make tools for living sustainably easy to understand and accessible
- active engagement with community members
- Media, brochures, community focus groups and activities that are maintained for the longer term. Not the one offs.
- Combination of government commitment via regulatory and incentive devices, education, social marketing
- Reporting back on impacts and achievements of behaviour and practice change to business and community. Regular feedback loops of currency of information.
- Programs that assist communities to become enabled and put into action their knowledge and beliefs towards a more sustainable future



- Not sure I can directly influence this from my current position, i.e. the development of supportive policy for example. I do promote sustainability education currently in my role.
- Focus on capacity building and behaviour change approaches and see above!
- meet every month
- competitions rewards
- Get rid of politicians (the politics) at all levels of government. 2. Have on-going investment to showcase sustainability in action. 3. Provide business case models that can be included in MBA and other tertiary courses in accountancy and business. 4. Have well respected and accepted mentors
- More profile for the success stories De-politicize the carbon discussion Focus on the facts and science
- Regular fun feedback and updates, food celebrations, positive incentives, and 'friendly' competitions- in workplaces or community. (E.g. - I just audited a colleague's domestic 140L bin which hadn't been emptied for 375 days!!We are making mini movie to encourage discussion and set a challenge for others!)
- Taskforces - Rather than focus on the tools as strategies identify the problems and potential problems, the death rate, the disease rate, and injury rates should the problems not be addressed. Sell with the financial burden / cost if not achieved.
- Well working for a regional council in North Qld, Sustainability is seen as a "nice to have" yet not essential. Our Council is moving back to the "80's" in terms of rates, roads and rubbish, scrapping any non-essential programs such as sustainability
- Educator's networks that promote sharing of information - but this is not a strategy (but I had to answer this question!)
- strong leadership and champions
- If governments provided positive incentives to industry for sustainable practices industries would be more willing to find and use sustainable treatment, as presently, many industries use the dollar as their driving cost with treatment of waste, which is generally unsustainable for good environmental outcomes.
- Govt funding, grants, advertising--incentives both financial and educational
- Conserve energy by simple innovation and reuse of resource in the most cost effective form
- More focus on recovery and waste diversion rates.