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Educating and Accrediting the Workforce

7.1 Australia's environment industry is aiming to increase sales to a target $40 billion by 2010. Accompanying this growth will be an increased demand for employees with environmental skills and expertise. The mounting pressure for national and international environment accountability has lead to an increased demand for environmental training across all sectors of industry.

7.2 Environmental education has been incorporated into primary and secondary school teaching for over thirty years. However evidence from the inquiry suggests that it could be more actively integrated into a wider spectrum of tertiary and vocational training courses.

7.3 Evidence from the inquiry's public hearings and the Committee's discussions with industry suggest links between higher education and industry need to be enhanced in order to assist new environmental graduates to make a smoother transition into the workforce.

7.4 An environmentally aware and trained workforce is essential for industry as a whole to embrace ESD. Some of the drive towards changed business practices must be lead by senior management and shifts in corporate philosophies.

7.5 However, all employees have a role in implementing change and bringing environmental responsibility into the workplace as an active and integrated part of business.

7.6 The widespread 'greening of the workforce' and greater environmental accountability for industry will bring with it the demand for more advisory services, and specialist and technically competent environmental professionals. The Committee considers the role of environmental professionals to be essential in ensuring that Australia achieves leading edge innovations in business efficiency and ESD.

7.7 Green business must be embraced as a component of good business. Critical to this future path is the scope of environmental training available to the mainstream workforce and the credibility of specialist environmental professionals.

Environmental Education

7.8 Environmental education has different objectives across primary, secondary and tertiary levels. The Committee recognises the importance of environmental education at each level and the different roles of these educators. The broad awareness of environmental issues taught at primary and secondary school must be succeeded by a range of both specialist and general training opportunities in the workforce, within vocational and tertiary education.

Inspiring and Educating Children

7.9 The Committee was interested in the approaches to environmental education through all levels of education. The Barton Group and the EIA suggested to the Committee that:

> Environmental education … needs to start early – as it already does in our primary schools – and progress through secondary, technical and diploma levels to fully professional qualifications in our tertiary education institutions.[1]

7.10 Giving evidence at a public hearing, Professor Barry Meehan, a lecturer at the Royal Melbourne Institute of Technology, detailed the history of environmental education in Australia. He noted that, while there has been considerable activity in environmental education over the past 30 years in both the formal education sector and the

1 Submission no. 33, p. 4.

community, there has only been intermittent support for the environmental agenda.[2] He commented that:

> Within the formal sector, environmental education has had an ongoing base in both primary and secondary schools, but one that has seen a spasmodic support by education departments and governments.[3]

7.11 Professor Meehan emphasised the need for government intervention and commitment to ensure a continuation of support for environmental education.

7.12 The Committee is satisfied that environmental education is being addressed at primary and secondary levels and that the training of teachers is sufficient to address the needs at these levels.

7.13 The Committee's view was supported by the Barton Group and the EIA who suggested that:

> … environmental education in primary schools can be carried out effectively by teachers with broad qualifications in areas such as the natural sciences, geography and environmental science. But at tertiary level more specialist teaching is required.[4]

7.14 However, the Committee stresses the importance of incorporating environmental awareness into schooling. Future generations will take on the responsibility for ESD and the Committee encourages all schools to review and, where possible, enhance their environmental education.

7.15 The Committee also received evidence from some community groups on environmental education and training. The Committee recognises the valuable contribution of these groups in providing training and communicating environmental awareness to the broader community.

7.16 The Palm Beach Surf Life Saving Club, on the Gold Coast, has a local community group involved in environment and conservation problems in the area. The Club also runs environmental programs for primary and secondary schools and the Committee was pleased to hear that there are currently eight participating schools. The programs are an important tool in educating and encouraging children to take part in environmental remediation and improvement projects. The

2 Submission no. 7

3 Submission no. 7, p. 1.

4 Submission no. 33, p. 4.

Palm Beach Surf Life Saving Club runs the following range of activities:

> … beach litter patrols, weeding and eradicating beach dune areas of unwanted plants, growing special grasses and plants and planting these areas to help control erosion and stabilising these areas which are constantly being damaged by wind and high seas.[5]

7.17 Another non-profit community organisation, the SurfRider Foundation Australia, provided evidence to the Committee on its environmental education initiatives. The SurfRider Foundation runs environmental programs for schools. In its submission, the Foundation explained that it takes a:

> … proactive approach to environmental issues through school and community education programs and regular publications to members and the public.[6]

7.18 The Committee acknowledges the important role that community groups play in providing environmental education programs, especially for school-aged children. The Committee also commends the partnerships that some schools have developed with environmental community groups.

7.19 The Committee encourages all schools, from primary to secondary level, to enhance the education of young people by instilling a sound concern for our environment and its future conservation.

Post-Secondary Environmental Training

7.20 While the foundations for environmental education must be laid during school years, Australia must continue this education into more specialised post-secondary training to ensure a skilled and aware workforce.

7.21 Evidence to the Committee suggested that Australia has a strong demand for tertiary environmental courses across a range of specialist areas. The Committee was interested in the breadth and strengths of Australia's tertiary environmental education sector.

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5 Submission no. 3, p. 1.

6 Submission no. 5, p. 1.

7.22 The Australian Government Department of Education, Science and Training (DEST) informed the Committee that, in 2001, there were 7 957 students enrolled in environmental studies courses.[7]

7.23 Environmental engineering comprises a significant component of the environmental industry. The IEAust informed that Committee that 'overall, there are 12 environmental engineering courses across Australia'.[8] These include universities such as Monash, Newcastle, and the Universities of Melbourne, Queensland and New South Wales.

7.24 IEAust informed the Committee that these courses contain:

> … components that analyse environmental legislation and the importance of sustainability. They also offer post-graduate research scholarships specifically aimed at the development of sustainable practice and new technologies'.[9]

7.25 DEH administers an environmental education database called EnviroNET. This database provides searchable information on 879 Australian environmental courses for Australian and international students at a tertiary level.

7.26 The National Capability Statement on Australia's Environment Industry describes Australia's EnviroNET as:

> … the premier electronic national and international gateway to Australia's environment business sector. It provides information on industry expertise, environmental technologies, education, and research and development.[10]

7.27 The environmental courses on offer throughout Australia provide a range of generalist skills and more specialised training. Greening Australia discussed with the Committee the issue of course specialisation at university and the skilling requirements in the workforce:

> We tend to find that the people we recruit have great generalist skills and very few specialist skills. The dilemma that this puts us in is that we must train them in a particular area of speciality. There needs to be a shift to encourage

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7 Submission no. 25, p. 3.

8 Submission no. 21, p. 5.

9 Submission no. 21, p. 5.

10 Centre for Strategic Economic Studies (2001), *National Capability Statement on Australia's Environment Industry*, Prepared for Environment Australia, p. 54..

> greater specialisation—be that in community engagement, in adult education and training, in water quality or in biodiversity assessment; there is a whole bunch of specialities that any individual could choose—as well as a generalist background amongst the people who are coming out. I think the [curricula] could do more to encourage people to choose a specialty and pursue that as well as the general background that they require.[11]

7.28 In addition to the concerns surrounding 'specialist' versus 'generalist' training, Greening Australia also raised the difficult balance between theoretical and vocational training. The CEO of Greening Australia conceded that ultimately:

> … you always have that dilemma of the balance between a theoretical training and a vocational training. Those with a theoretical base are probably going to struggle when they hit the field and have to have a fair bit invested in them … I think the ones who ultimately succeed and make the biggest contribution in Australia are the specialists who then become generalists.[12]

7.29 Greening Australia also commented that, in order to obtain a better understanding of what industry requires, 'Better links with the industry and a better understanding of the specialist areas and skills required are needed'.[13] An ongoing dialogue should be established between industry and tertiary and vocational training institutions to ensure that the skills developed are relevant to market needs. Conversely, industry would benefit from being made aware of the skills offered by environmental graduates and the value of these skills in a business context.[14]

7.30 The Committee considers that there is a need for a diversity of graduates able to meet the range of workplace skill needs. However, there was not sufficient evidence received by the Committee to assess whether the current diversity of training courses adequately meets the range of employment opportunities.

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11 *Transcript of Evidence*, p. 155.

12 *Transcript of Evidence*, p. 159.

13 Submission no. 20, p. 4.

14 Submission no. 20, p. 4.

Tertiary Specialist Training

7.31 The National Capability Statement commented that:

> Australia has a strong educational infrastructure in environmental sciences and environmental engineering, and professional skills provide an important source of strength for the industry.[15]

7.32 The Committee is pleased to note that the study also finds that:

> Australia has a broad international competitive advantage in university and technical education as well as vocational training and specialist training. This broader advantage flows through into environmental engineering, science and management education and provides a base for the skills required in the environmental education, training and information industry.[16]

7.33 In evidence to the Committee, the EIA spoke highly of Australia's tertiary environmental education programs, commenting that 'we are producing some wonderful graduates'.[17] The EIA also stated that the environmental graduates from Australian tertiary institutions 'come out well educated. They understand what they are doing. At that professional level, we have that knowledge and expertise'.[18]

7.34 From the evidence available, the Committee considered that current tertiary courses, which are specifically designed for environmental science and engineering, are providing graduates with a high level of education on the environment.

15 Centre for Strategic Economic Studies (2001), *National Capability Statement on Australia's Environment Industry*, Prepared for Environment Australia, p. XIII.

16 Centre for Strategic Economic Studies (2001), *National Capability Statement on Australia's Environment Industry*, Prepared for Environment Australia, p. XV.

17 *Transcript of Evidence*, p. 46.

18 *Transcript of Evidence*, p. 46.

Environmental Education and Business Management Courses

7.35 The Committee was informed by Professor Meehan that, since the early 1990s, there have been initiatives world-wide to integrate environmental education across the curriculum of tertiary institutions. There have been a number of institutional moves to ensure that students are educated in sustainability and that universities demonstrate their own commitment to ESD.

7.36 Professor Meehan told the Committee that:

> One of the early approaches has been for universities to sign agreements or declarations like the Talloires Declaration. Many of these declarations focus on the day-to-day operations of the institutions, encouraging a reduction in resource consumption and waste. However, many also propose that the institutions' curricula ensure that all students are educated about the environment, and are encouraged to take a role in reducing environmental impacts in their personal and professional lives. During the late 1990s the emphasis on environmental literacy was broadened to embrace the principles of sustainable development, and the language in these agreements has moved to sustainability education, or similar.[19]

7.37 In Australia some six universities have signed the Talloires Declaration. However Professor Meehan expressed disappointment at the lack of environmental outcomes or leadership from Australian universities. He commented that:

> … research of less than two years ago indicated that universities across Australia, whether or not they were signatories of Talloires or other declarations, had not achieved anything that could be identified as curricula for environmental literacy, or sustainability education.[20]

19 Submission no. 7, p. 3.

20 Submission no. 7, p. 3.

7.38 Professor Meehan emphasised the importance of integrating environmental education, suggesting that:

> … the curricula of tertiary education must be renewed if adequately resourced graduates are to emerge to support the potential of the environmental industry.[21]

7.39 The NEEC also suggested that there is a need for universities to integrate environmental education across the curriculum. The NEEC commented that universities and industry need to address new and emerging issues such as environmental legislation and requirements, TBL auditing and the growing demand for more eco-efficiency in product performance and service delivery, innovation and commercialisation.[22]

7.40 In terms of business schools, EBA believes that the awareness of environmental management issues and sustainability should be integrated into existing business courses. The CEO of EBA told the Committee:

> One of the things that needs to develop – and I have spoken to a few of the graduate schools about this—is much more awareness of issues of sustainability, risk, risk management and assessment, and company liability, and that awareness should be integrated into existing business courses. I think that over the next couple of years we will see a number take that up. RMIT certainly has a whole division focus to it. The Macquarie Graduate School of Management is very seriously looking at it, and so are Murdoch University and Curtin and, I think, the Melbourne business school as well.[23]

7.41 However, anecdotal evidence to the Committee suggests that at some institutions there is little or no focus given to environmental training in business management courses. Ms Slawka Bell, a representative from the EIA, gave the following account in relation to the environmental content of her Masters degree:

> I am currently studying for an MBA [Masters of Business Administration] and in no section of that MBA do I see anything on the environment. Maybe some cover it, but a lot do not. The MBA tends to cover four sectors: finance, marketing, IT and a type of HR, which is people

21 Submission no. 7, p. 2.

22 Submission no. 26, p. 15.

23 *Transcript of Evidence*, p. 170.

> management. But it certainly does not focus in those areas on the environment at all.[24]

7.42 During a public hearing, DEH explained to the Committee that progress has been made by the NEEC in implementing environmental education across courses – but it was not yet standard practice:

> The National Environmental Education Council has sought to engage with a number of the universities to try to promote the inclusion of environmental components in all degree courses, regardless of the particular discipline being pursued. I think that the council has found some receptive ears in a number of universities.[25]

7.43 Integrating environmental education into business courses is essential to provide adequately trained management professionals equipped with the skills to lead Australian companies in ESD. As environmental issues are integrated into sustainable business practices, it increasingly falls to all tiers of company management to assess environmental performance.

7.44 At a public hearing, the EIA discussed with the Committee the need for environment training at three different levels within an organisation. The EIA explained that:

> … within an industry or business there are really three levels. You have senior management or corporate management, you have a supervisors level and then an operators level. All three of them actually need different information. The first group look at the big picture, the global influence—why we are heading this way and what that is. The next group actually need to know some of that but also all the tools that the operator is going to need, because they are implementing it or managing it. So there are different training programs to give toolsets to the different levels within the industry or business.[26]

24 *Transcript of Evidence,* p. 49.

25 *Transcript of Evidence,* p. 62.

26 *Transcript of Evidence,* p. 50.

7.45 EIA believes that environmental education in upper management is starting to filter through, however middle management and the workers operating the machines required urgent training and education:

> At the top end of management, we have some CEOs who actually acknowledge ESD as their new way of doing business, but we have quite a slab of middle or senior management that are the asset managers … They have not gone through any cultural awareness or change and they have not been given the tools to do the job. That is quite a blockage in Australian industry at the moment. It is a severe blockage.
>
> The second area, which is probably a little more frightening right now, is that those people in the work force—the operators who potentially can pollute or contaminate—are at risk. They have not been educated. The education system there is very poor. They have a little bit of awareness but they have not been educated in spills management, waste management, hazards management, erosion sediment control management and all the areas where they can pollute or contaminate.[27]

7.46 During a public hearing, GreenChip made the observation that a cultural change is needed in top level management. Specific training that targets middle management and operational managers is also required. GreenChip made the following comment in relation to a cultural shift in upper management:

> If we can get the CEOs to have this as part of their personal passion—such as at VicSuper, where the CEO is personally passionate about it—it will bring about change. They will then believe that, for the long-term sustainability of the company they have to be playing the game.[28]

7.47 Overall the Committee believes that environmental education and training is slowly being taken up by industry's management streams. However, it urges all businesses and industry sectors to evaluate the level of environmental education and training that managers at all levels receive and take appropriate action to enhance the current levels of training.

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27 *Transcript of Evidence,* p. 49.

28 *Transcript of Evidence,* p. 126.

7.48 The Committee considers that substantially more needs to be done to integrate environmental training into a more consistent manner across all tertiary management courses. Failure to do so may leave Australia lacking a future managerial workforce that can respond effectively to growing demands for better environmental performance, accountability and reporting. The environmental and economic costs of this situation could be significant.

Recommendation 13

7.49 **The Committee recommends that the Department of Education, Science and Training and the National Environmental Education Council:**

- **Assess the extent to which specific training in environmental awareness and reporting is included in all business, commerce, management, administration and related degrees; and**
- **Undertake to achieve the inclusion of environmental awareness and training in all business management courses.**

Industry Skills Assessment

7.50 In order to green the mainstream workforce, especially at the management level, Australia must also ensure it has an adequate supply of both environmental generalists as well as environmental specialists. This requires ensuring that there is appropriate and relevant training and also entry level workforce opportunities for environmental graduates.

7.51 Currently the dispersed nature of the environment sector, and particularly those engaged in environment management as part of their 'mainstream occupation', makes it difficult to determine how Australia stands in terms of skill levels and future needs. To take ESD seriously, and to expect its widespread uptake across businesses, governments and communities, requires a detailed understanding of Australia's skill needs and training capabilities.

7.52 The Committee sought to collect evidence in this area. However, beyond anecdotal accounts, there is little information available on which to determine any planned policy options. There is limited cooperation between training institutes and industry, and the sector lacks the cohesion to fully identify its potential expertise and needs.

7.53 Assessing current environmental management skill levels, future skill requirements and the adequacy of current training initiatives to equip the workforce with these skills is essential to ensure that Australia has the workforce and knowledge to drive and implement ESD principles.

Entering the Environmental Workforce

7.54 During a public hearing, the Melbourne Environmental Jobs Network (MEJN) also discussed its concern regarding new graduates accessing job opportunities. MEJN highlighted the need to bridge the gap for graduates in the transition phase from university to the workforce:

> There are many people who are becoming highly skilled in environmental studies from universities, however they find that it is very hard to get jobs of their choice at the end. Therefore, we see a future requirement for this skilled workforce being the jobs available at the end, and the programs to bridge the gap between university and the workforce to ensure that they do not get disgruntled and turn away. Many employers are seeking qualifications and experience that are far above graduates, and the numbers of people looking for these kinds of jobs far exceeds the positions available.[29]

7.55 Greening Australia expressed concern to the Committee about a lack of career structure and professional development in the environment sector. The CEO of Greening Australia stated that:

> There is relatively poor career structure and professional development in Australia, and relatively short-term employment. Most employment is on an 18-month to three-year contractual basis … these programs are run on a budget cycle and there is no security of employment. This makes it very hard for people to plan for the future and the majority of staff who work with us get fed up with that at some point in time.[30]

29 Submission no. 16, p. 3.

30 *Transcript of Evidence*, p. 153.

7.56 DEST informed the Committee that:

> The Department will continue through its policies and initiatives to facilitate the acquisition of education and training that supports the environment industry and related employment sectors.[31]

7.57 The Committee recognises the potential difficulties facing graduates who are looking to join the workforce with several years of mainly theoretical knowledge and limited vocational experience. The Committee encourages DEST to review the current programs in place to help bridge the gap between universities and the workforce.

7.58 The Committee was pleased to note that vocational training in environmental management is receiving increased emphasis with a variety of operator level and skills enhancement courses being offered through the Technical and Further Education (TAFE) sector and a number of these institutions are seeking to integrate with industry providers in offering courses overseas.[32]

7.59 An Australian Government program providing some entry workforce opportunities and training in environmental awareness for young people is Green Corps. The Green Corps program provides 1 700 young people in rural and regional Australia with a youth training wage for six months while they work on environment industry projects. Greening Australia currently has the contract for this program.

7.60 The CEO of Greening Australia commended the Green Corps program but also stated that there appears to be a lost opportunity. The CEO suggested that there is an excellent opportunity to offer potential employers green apprenticeships or green traineeships which would provide follow-on employment for young workers while also benefiting employers:

> The program would benefit from being more closely tied to the potential employers of people coming through the program and I think there is also considerable potential for tying traineeships to the back of the program. If, for example, we could take someone in the program who shows promise, develop a mentoring arrangement over the first six months

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31 Submission no. 25, p. 7.

32 Centre for Strategic Economic Studies (2001), *National Capability Statement on Australia's Environment Industry*, Prepared for Environment Australia, p. 185.

> with the local industry or a local employer and then offer a traineeship running off the back of that, we would have potentially opened up a pathway.[33]

7.61 The Committee acknowledges these concerns raised by witnesses regarding entry and ongoing opportunities for young people to secure employment in the environment sector. Given the limited evidence on this issue, and the lack of available data, the Committee considers that further assessment of employment impediments and opportunities is required before effective strategies can be developed.

Ongoing Workplace Training

7.62 Training is a key issue for the mainstreaming of environmental awareness. Changing technologies, community expectations and regulatory standards result in operators requiring more specialised knowledge. The skill level required for some positions has also been upgraded.

7.63 Generalised workplace training is important to ensure that the environment becomes the business of all workers. More specialised re-skilling courses are needed to take account of changing expectations and technologies and the new demands this places on some jobs.

7.64 WIOA typifies the difficulties faced by a traditional industry responding to changing environmental standards and expectations. A survey by the WIOA of its members in 2001 found that:

> … of the 100 respondents, 66 % were in 31-50 year old bracket. A trade qualification was the most common educational standard attained (34 %) with a water industry specific certificate held by only 10 % of respondents. The Association believes that its members reflect the broader industry in terms of age and skill distribution.[34]

7.65 In its submission to the inquiry, the WIOA noted that, given its ageing workforce, 'the challenge for water business managers, as well as Associations such as ours, is to ensure that access to appropriate skills development and training courses is available'.[35]

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33 *Transcript of Evidence,* p. 158.

34 Submission no. 9, p. 1.

35 Submission no. 9, p. 1.

7.66 It would seem that the issues faced by the WIOA, and many other similar sectors, are twofold. Firstly there is a need to encourage young people to pursue careers in certain sectors. Awareness of these sectors as a career choice could be raised through the provision of more training programs which address the specific skill needs of these areas. Secondly, there is a need to update the skills of some existing workers to meet the changed technological and regulatory demands of the job.

7.67 Both challenges could be addressed by the provision of training programs which raise awareness of industry sectors as a career choice for young people, and provide the opportunity for those working in the field to upgrade skills and competencies in line with new technologies.

7.68 The Committee was impressed with the market awareness of industry associations, such as the WIOA, which are working at strategies to best serve the training needs of their members and the sector. An example of this forward thinking and commitment to both the industry and environment is the Association's engagement in the development and revision of the National Water Industry Training package. In its submission, the WIOA explained to the Committee that:

> This package has recently been released to the water industry and training providers, and the challenge now for each State is the development and provision of courses meeting the outcome requirements of the package. Integral to this is the need for acceptance of the package by the water business managers and a commitment to the provision of access to ongoing training for their staff.[36]

7.69 Another industry association responding to the challenge of changing industry competency requirements and the skilling of its members is the CCF. The CCF has developed a national prequalification system which consists of an Integrated Management System (IMS) containing elements of the ISO 14001 standard for environmental management, quality assurance and Occupational Health and Safety Standards.

36 Submission no. 9, p. 38.

7.70 The CCF notes that their IMS:

> … enables contractors around Australia to more successfully meet their obligations and manage the risks associated with works impacting on the environment. The scheme, environmentally speaking is far in advance of other sectors of the building and construction industry.[37]

7.71 The CCF noted to the Committee that there has been a high uptake of the IMS across States and some State authorities are making the CCF IMS or similar a mandatory requirement for contractors.

7.72 The CCF considers that there is an important role for the Australian Government leadership in promoting the uptake of management systems which deliver sound environmental outcomes. The CCF stated in its submission that:

> … all levels of Government through various compliance measures should be setting higher standards / criteria to make environmental awareness / training mandatory.[38]

7.73 In relation to future training needs of the industry, the CCF described a similar situation to that faced by the WIOA:

> The Civil Construction industry presently has an ageing workforce. Every effort should be made to encourage younger people to join the industry through appropriate skills programs. The environmental awareness of young people will only help the industry to go to the next stage.[39]

7.74 Schemes, such as the CCF IMS can ensure that training in environmental management and awareness is a standard component of management systems and employee expectations. The WIOA commented to the Committee at a public hearing that, in relation to environmental training:

> … one of the big drivers now is ISO accreditation. I know a lot of the authorities are going down that path. We certainly are. One of the reporting outcomes from that is to actually have demonstrated levels of training in your staff. That is an important thing for us.[40]

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37 Submission no. 11, p. 44.

38 Submission no. 11, p. 45.

39 Submission no. 11, p. 45.

40 *Transcript of Evidence*, p. 146.

7.75 Training needs, particularly to implement sustainable forestry practices, are also an issue for the National Association of Forest Industries (NAFI). NAFI informed the Committee that they were currently not skilled 'to the extent that the industry would like'.[41]

7.76 To meet future demand, the forestry industry will have to ensure that the people working in the sector are appropriately skilled. Specific skills sets are required in order to be able to provide advice on issues such as the correct species of trees that should be planted in areas, depending on the annual rainfall levels and the quality of soil.

7.77 NAFI went on to explain that:

> There are some very good forestry schools and some very good courses being run around the country, but the industry does have some significant problems with talent base and with future leadership positions.[42]

Industry Skill Needs

7.78 The 2001 National Capability Statement recognised the need for skill specialisation in the environment sector as well as the benefits of promoting the opportunities for careers in the environment sector:

> … there are many roles in the environment industry in which skills of the highest order are required – such as in design and engineering, monitoring and analysis, and research and consulting. Greater awareness of the opportunities and challenges of careers in these areas and greater focus on education and training for environment industry opportunities might assist industry development by ensuring ease of access to necessary skills.[43]

7.79 The Committee believes that the NEEC is a valuable forum for bringing together speakers from industry, business, government and tertiary institutions to exchange views on the professional skills that are required for graduates and professional entering the workforce now and in the future.

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41 *Transcript of Evidence*, p. 87.

42 *Transcript of Evidence*, p. 87.

43 Centre for Strategic Economic Studies (2001), National Capability Statement on Australia's Environment Industry, Prepared for Environment Australia, p. XX.

7.80 The need to foster this collaboration between tertiary institutions and business and industry was also brought to the Committee's attention by the Western Australian Department of the Premier and Cabinet:

> Continued coordination and cooperation between industry, industry associations, government, unions, education and training bodies and institutions will be required to achieve a focussed and timely response to skills generation in the environment sector.[44]

7.81 The South Australian Government recognised that environmental industries such as aquaculture and fisheries are becoming increasingly popular in South Australia's regional areas and for regional young people. Consequently schools, TAFEs, universities and other educational and training institutions have a major role in ensuring that there is a steady stream of skilled personnel available for industry development.

7.82 The South Australian Government recommended that the Australian Government commit, along with States and Territories, to a national campaign directed at young people which emphasises environment related industries as viable career options.[45]

7.83 A representative from GreenChip also made the point that:

> Environment job opportunities would abound if governments agreed that these people could make a real difference to the environment and the economy and efforts were then made to mobilise them.[46]

7.84 Addressing skill gaps is a complex issue, in particular when environmental employment stretches across a range of sectors and is not able to be confined to certain industries or production processes. The Committee heard consistent reference made to the need for vocational education, either subsequent to, or in conjunction with, tertiary training.

7.85 There was also the need for vocational training which provided more specific environmental management skills to supplement the competencies of workers who came into the field through trade qualification or had 'worked their way up' to new positions. In many instances, it would seem to the Committee that there were people

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44 Submission no. 22, p. 4.

45 Submission no. 32, p. 3.

46 Submission no. 30, p. 5.

willing to do the job, and often represented by industry associations committed to sound environmental outcomes, but there are skill gaps – that is, a lack of 'the specialised knowledge, skills and experience needed to adapt to new technology and new methods of working'.[47]

7.86 A report on national skill shortages identifies globalisation and changes in technology as two major forces impacting on skill formation:. The implications of these forces are:

- the need for all skills training programs (including apprenticeships) to be continually developed to meet the now very rapidly changing skill requirements in the workplace arising from new technologies; and
- that as much attention needs to be given to the upgrading and renewal of the skills of existing workers as the acquisition of qualifications by new entrants to any skilled occupation.[48]

7.87 While these themes resonate with those of the environmental industry and emphasise the need for raising environmental training across a range of sectors, the report also stated that:

> … despite some of the issues being generic across all or most skilled occupations, the solutions and plans for action really need to be tailored and customised to the conditions applying in particular industries and occupations. For example, most industries felt that the skilled trades had an image problem in terms of their appeal to young people thinking about potential careers. All industries felt a bias on the part of school, parents and media towards university education and the professions. Yet each industry has proposed some quite different specific measures to tackle these issues in their industry.[49]

7.88 DEH also informed the Committee about a series of NEEC summits at various Australian universities. The summits brought together speakers from business, industry, government organisations and tertiary institutions with the aim of exchanging views on industry's needs and the tertiary sector's capacity to prepare graduates equipped with necessary environmental and professional skills.

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47 DEST (November 2002), *Nature and Causes of Skill Shortage*, p.3.

48 DEST (November 2002), *Nature and Causes of Skill Shortage*, p. 1.

49 DEST (November 2002), *Nature and Causes of Skill Shortage*, p..1.

7.89 The Committee noted that there were a limited number of these forums and they have not been ongoing.

7.90 While the Committee received some evidence regarding education and training needs in the industry, much of this evidence was anecdotal and specific to certain areas of industry. Shortages of professionals are anecdotally reported in some areas, and yet others consider that there is a good supply of trained environmental consultants and professionals. It is also unclear whether the current availability of training courses is sufficient to meet the predicted growth in demand for environmental professionals.

7.91 The Committee noted that other sectors have at times faced similar education and training issues, and strategies have been developed at the Australian Government level to address sector skill needs. The National Industry Skills Initiative (NISI) is an industry led consultation process that establishes the industry, government and partnership projects required to redress industry skill shortages in identified sectors. A number of action plans have already been developed across a range of sectors and recommendations from these plans are in the process of implementation.

7.92 A report on the effectiveness and progress of NISI was released in November 2002. The report provides some 'overarching' lessons and comments on skill shortages derived from the six industry areas (engineering, electrotechonology, retail motor, commercial cookery, building and construction and rural industries).

7.93 In many instances the findings of the report echo the evidence heard by the Committee in relation to environment skills and training. A key finding of the report is that pathways to employment have diversified, beyond the traditional apprenticeships, to a range of vocational education opportunities. The report noted that:

> Most skilled occupations have a significant proportion of workers who do not have formal qualifications. A real question arises as to whether Australia can maximise its potential with such high numbers of skilled workers without formal qualifications in the future.[50]

50 DEST (November 2002), *Nature and Causes of Skill Shortage*, p.3

7.94 The report also considered:

- skill shortages - where there is difficulty in filling vacancies for an occupation); and
- skill gaps - where specialisation or re-skilling of existing employees is required).

7.95 The Committee believes that an industry-Australian Government partnership approach to assess skill levels and needs is essential for the environment sector and for ESD implementation. There is a critical need to ensure that all Australian industries have access to environmental training and that Australia's specialised areas of environmental management and development continue to be world competitive and leading edge.

7.96 It is the view of the Committee that a comprehensive review should be undertaken to assess skill needs and training facilities and a set of actions developed to adequately equip the future workforce to meet the expectations of greater environmental accountability and sustainability.

Recommendation 14

7.97 **The Committee recommends that the Australian Government Department of Education, Science and Training, in association with the National Environmental Education Council:**

- **Undertake a review to assess current environmental skills and broad industry needs in relation to environment training, and workforce entry opportunities; and**
- **Develop a set of actions to ensure an adequately skilled future workforce and appropriate training facilities to meet future needs.**

Recommendation 15

7.98 **The Committee recommends that the Australian National Training Authority develop a program of environmental apprenticeships or traineeships to provide follow-on opportunities for youth completing the Green Corps or similar program.**

Professional Certification

7.99 The EIA gave evidence to the Committee regarding the need for certification of the environment profession and the steps being taken by the Institute to achieve this. In their submission, the EIA noted the importance of certification for the industry to ensure professional credibility and sound environmental outcomes. The EIA stated that:

> It is the expectation of the Institute that we will witness a massive increase in the demand for formally certified environmental professionals to be employed to prepare environmental management systems, carry out environmental audits and be responsible for the 'sign off' of projects having potential environmental impacts. This expectation is sustained by a growing awareness of sensitivity within the community worldwide, demanding assurances that adverse ramifications, such as environmental harm, can and will be avoided.[51]

7.100 The EIA considered that certification has become essential due to the increasing demands and expectations of governments, business and the industry itself to meet environmental responsibilities and manage risk liabilities. The development of a series of common yardsticks, against which competence could be measured, would ensure that environmental practitioners and consultants are appropriately experienced for the task at hand.

51 Submission no. 10, p.43.

7.101 In addition, given the range of technologies and specialisations within the environment profession, few practitioners can be expected to competently operate across all fields. EIA believes is an obligation to establish systems of accreditation (that assess standards of competence, professionalism and adherence to ethical standards) for environmental practitioners.[52]

7.102 The EIA made a strong case to the Committee regarding the need to ensure the competencies of professionals employed, especially in light of the predicted rise in environmental consultancy work.

7.103 The Committee was told that the situation is rapidly becoming one of:

> ... employ the right person – competent, knowledgeable, responsible, professional and ethical – or else. This trend to significant increases in employment of environmental professionals is inevitable, if public liability issues are to be reduced to acceptable levels and private confidence (for say, investment purposes) is to be achieved and maintained.[53]

7.104 In its supplementary submission to the inquiry, the EIA also brought to the Committee's attention a request for funding assistance that has been presented to the Minister for Environment and Heritage, the Hon Dr Kemp. The EIA stated to the Committee that it considers that the Institute is:

> ... in a strong position to drive and develop an environmental professional certification program but it cannot do this alone. It seeks the support of the Federal Government in bringing forward this certification scheme.[54]

7.105 The EIA seeks funding to implement the next stage needed to establish certification in Australia. This stage involves the establishment of a taskforce, high level work with other stakeholders, a review and assessment of other models and associations, followed by the publication, launch, implementation and marketing of the certification scheme over a three year period.

52 Submission no. 10, p.4.

53 Submission no. 10, p. 43.

54 Submission no. 33, p. 259.

7.106 The EIA has undertaken a large amount of preliminary work towards certification of the profession, including conducting research and international benchmarking with programs from Canada and the United States.

7.107 For certification to be an effective nationally recognised scheme, the EIA told the Committee that the Australian Government commitment is essential. The EIA stated that:

> Federal government needs to be actively involved in supporting the progress of a certification scheme for environmental practitioners which will lead to high and consistent standards within the profession.[55]

7.108 The Committee was impressed by the drive of the EIA and its commitment to upholding the strongest ethical standards and to seeking the best environmental outcomes.

7.109 The Committee is also strongly of the view that, for industry to be 'won over' to ESD, the credibility of environmental professionals is of paramount importance. It also considers that the Australian Government must again be seen to recognise the importance of ESD and to facilitate the integration of environmental considerations and performance into standard business practices.

7.110 Accordingly, the Committee places a high importance on a certification program for environmental professionals. There are sound national benefits to ensuring that Australia has skilled environmental professions whose competencies can be certified.

7.111 For these reasons, the Committee concludes that there is a definite role for the Australian Government to financially and administratively assist the EIANZ in the establishment of such a program.[56]

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55 EIA (2003), The *Future for Certification of the Environment Profession*, submission made to the Minister for Environment and Heritage, p. 9.

56 In December 2002, the EIA become the Environment Institute of Australia and New Zealand (EIANZ). EIANZ continues to progress the EIA work towards certification of the environmental profession. However, for the purposes of this inquiry, the report refers to the EIA as the submission, documents and public hearing referred to were prepared by or conducted with EIA. Future work will be conducted with the EIANZ.

Recommendation 16

7.112 **The Committee recommends that the Australian Government departments of Education, Science and Training, and Environment and Heritage:**

- **Work with the Environment Institute of Australia and New Zealand to establish a certification scheme for environmental professionals; and**
- **Assist the Environment Institute of Australia and New Zealand to identify Commonwealth grant programs.**

Bruce Billson MP

Committee Chair

6 November 2003