ENVIRONMENT INSTITUTE OF AUSTRALIA AND NEW ZEALAND

Griffith UNIVERSITY

Professional Development for Environmental Practitioners in Australia

Final Report

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List of Acronyms

ABCEP: Academy of Board Certified Environmental Professionals
CCEP: Certified Canadian Environmental Practitioner
CECAB: Canadian Environmental Certification Approvals Board
CEnv: Chartered Environmentalist
CEnvP: Certified Environmental Practitioner
CEP: Certified Environmental Professional
CPD: Continuing Professional Development
DPI&F: Department of Primary Industries and Fisheries
EA: Engineers Australia
ECP: Early-Career Professional
EIANZ: Environment Institute of Australia and New Zealand
EMS: Environmental Management Systems
NAEP: National Association of Environmental Professionals
NOS: National Occupational Standards
PIA: Planning Institute of Australia
REM: Registered Environmental Manager
SEQ: Southeast Queensland
SocEnv: Society for the Environment
STEP: Staged Training for Environmental Practitioners
SYP: Students and Young Professionals
TAFE: Technical and Further Education

Executive Summary

This report details results of the study conducted by the Environment Institute of Australia (EIANZ) and Griffith University. The aim of the study was to formalize the structure of EIANZ professional development programs and activities as to better cater for current and future needs of environmental practitioners, and to create a professional development program particularly for early-career environmental professionals.

SECTION ONE gives an introduction and background to the project and introduces key underlying principles and definitions relevant to this project.

SECTION TWO provides an overview of the environment profession and its current trends in Australia. It describes how the profession has developed over the past decades and has shifted from a narrow, specialized discipline towards a multi-disciplinary profession that takes a holistic and proactive perspective and approach to environmental issues.

SECTION THREE discusses key findings of a comparative assessment of a number of professional recognitions programs for environmental practitioners in Australia and abroad. The assessment particularly looks at how professional bodies define and assess competency standards for the profession. It reveals that competency standards are the anchor point for most professional recognition schemes and are commonly used as a benchmark to determine a practitioner's eligibility for certification, registration, or membership in a professional body. There are a range of approaches and tools that are applied by professional bodies to assess the candidate's level of competency.

SECTION FOUR particularly focuses on the EIANZ and looks at the range of professional development activities and programs that the Institute currently offers, such as membership, committee work, mentoring, the Certified Environmental Practitioner (CEnvP) scheme, the proposed Staged Training for Environmental Practitioners (STEP) program, and Continuing Professional Development (CPD) activities such as conferences and seminars. The section discusses how these activities and programs support environmental professionals throughout their career, and it gives recommendations how these initiatives can be advanced and strengthened, and more coherently linked to each other. The section also looks at the most common topics of the Institute's current and past CPD activities, and identifies areas that were not commonly addressed.

SECTION FIVE discusses some key considerations and steps to help improve the planning and implementation of professional development (PD) activities and programs of the Institute in general, and the EIANZ SEQ Division in particular.
This section in particular:

- Proposes a set of Core Competencies for Environmental Practitioners

as an anchor point for professional development;
- Discusses the Career Path model to illustrate existing and planned EIANZ PD activities and programs and how they are interlinked;
- Suggests a process for planning and implementing PD programs;
- Proposes draft CPD guidelines for members, CEnvPs and STEP participants; a draft PD Strategy for the SEQ Division, and recommendations how to integrate other relevant CPD providers.

SECTION SIX proposes a detailed program outline for the Staged Training for Environmental Practitioners (STEP) program, including program structure, administration, mechanisms for competency assessment, mentoring and training modules. The program outline defines the target group and their benefits of participating in the program, and it introduces a number of tools and mechanisms to help participants achieve the competencies required for certification. The STEP Training Modules are proposed as a key component of the program, and a list of modules and potential training providers is suggested.

SECTION SEVEN proposes a short-medium Action Plan that suggests some action points as a follow-up of this study.

1. Introduction

1.1. Background

Already in 2003, the House of Representatives Standing Committee on Environment and Heritage (2003: 153) identified the need to better understand current and future skill requirements of environmental professionals in Australia, and help to adequately equip practitioners with the skills that are needed to ensure greater accountability and sustainability. It recommended a comprehensive review to assess current skill levels, future skill requirements, and current training capabilities in Australia. It also stressed the importance of establishing closer links between industry and tertiary and vocational training institutions to ensure that the skills developed meet market needs. 'Given the global importance of the environment sector and its growth performance, it is important that Australia is able to benchmark its own industry, identify market openings and monitor trends across industry segments' (House of Representatives Standing Committee on Environment and Heritage 2003: 21).

In late 2007 the Environment Institute of Australia and New Zealand (EIANZ) organised a series of events called *EP3: The Third Wave in Environmental Practice.* It included eleven events across Australia and New Zealand and involved 750 practitioners and 200 presentations. The key message that came out of these events was that the major challenges of the future – namely climate change, water, sustainability and energy – will require new approaches and skills from the environment profession, and that environmental practitioners do not feel well prepared to meet these future challenges (EIANZ 2008). EIANZ as the key professional association for environmental practitioners in Australia and New Zealand is committed to helping practitioners to rise to these future challenges.

In response to the emerging challenges faced by environmental practitioners, the EIANZ has initiated a project in Queensland to develop a coherent formalised structure for professional development. The Department of Tourism, Regional Development and Industry (2006) in Queensland has identified the lack of best practice professional and industry standards for the environment industry. EIANZ is considered well positioned to establish such standards and deliver professional development and recognition to practitioners. The Department has contracted EIANZ to:

- Facilitate the further development of environment industry standards to set the world class benchmarks for technologies, products and services; and
- Facilitate the establishment of a professional accreditation program to provide suitable certification and registration for all practitioners in the environment industry.

As part of this initiative, Griffith University has been subcontracted to deliver the following components:

- Formalise the structure of the EIANZ's Professional Development

Programs; and
- Create a professional development program for early-career environmental professionals to step towards certification – Staged Training for Environmental Practitioners (STEP).

Project Objectives
This project aims to:
- create an industry-wide formalized structure for EIANZ professional development programs for environmental practitioners (Project 1); and
- create a professional development program for early-career environmental professionals to step towards certification (Project 2).

1.2. Definitions

Environmental practitioner: The term refers to any person who performs environmentally-related work activities in any of the following functional areas of environmental practice: 1) policy development and implementation, 2) planning and assessment, 3) design and construction, 4) operation and management, 5) monitoring and reporting, 6) legislation, regulation, enforcement, 7) auditing, 8) research, and 9) education and community awareness.

Continuing Professional Development (CPD) refers to practitioners' ongoing commitment to ensure they deepen as well as broaden their knowledge and skills to effectively perform a job, and maintain the currency of their skills and knowledge with the rapidly changing and expanding knowledge base and technology which impact on environmental practice. It includes formal training such as short courses, workshops and seminars, but it also includes a range of other activities such as networking (e.g. involvement in committees, mentoring), private study, publication of technical or research papers, lecturing, industry involvement for academia, and other on-the-job experiences.

Competencies include the knowledge and skills that enable a person to perform effectively the activities of a given occupation or to function to the standards expected in employment (Gupta et al. 2007). Example: The ability to analyse data, interpret and present results is a competency, while the ability to utilize spatial data analysis tools such as GIS and Remote Sensing would be specific skills.

Enabling competencies support the application of environmental competencies. They 'denote awareness and critical understanding of the requisite body of knowledge, the ability to apply it to representative problems and situations, and the intellectual skills to test and continually extend it through lifelong learning' (Engineers Australia 2003: p.6). Examples: communicating effectively, critical thinking, leading/influencing others, learning and creativity, computer proficiency, work ethic.

Generic environmental competencies relate to environment-related competencies that all environmental professionals should have, irrespective of their area of specialisation. Examples: understanding of sustainability principles, ability to apply ethical principles to environmental practice.

Early-career environmental professional refers to a person holding at least an environment-related undergraduate degree and with up to five years of experience in a functional area of environmental practice (public/private/academic sector) (includes mature professionals from other profession moving into the environment sector).

Experienced professional refers to a professional with at least five years of work experience in a functional area of environmental practice, including Certified Environmental Practitioners (CEnvPs) or professionals of equivalent standing.

1.3. Rationale and Approach

This project is based on the following overarching principles:

This project is based on the premise that continuing professional development (CPD) is a fundamental commitment throughout any professional practitioner's career. Participation in CPD signals to potential employers and clients a commitment to life-long learning and acts as a mark of quality assurance. The environment industry is changing rapidly, and it is part of 'duty of care' of environmental professionals towards their customers, employers, society and their professional body to have an adequate and suitably maintained skill and knowledge base to effectively perform a job.

The EIANZ currently provides a wide range of CPD activities, such as conferences, seminars, networking and mentoring opportunities, and committee work. This project attempts to integrate existing CPD activities and products and incorporate them into an integrated CPD framework that provides a planned and structured approach to the professional development of environmental practitioners. A formalised approach towards professional development is expected to enhance life-long learning and better prepare environmental practitioners to meet industry expectations and rise to future environmental challenges.

Structure of the report:

- The report starts with a brief overview of the environment profession and its trends in Australia (Section 2).
- Section 3 looks at how professional bodies in Australia and abroad define and assess competencies as part of their professional recognition programs.
- Section 4 provides an overview of what the EIANZ currently offers in terms of professional development (PD). The section discusses the Institute's (current and planned) PD programs and activities, how they are structured and planned, what topics they focus on, and how the content relates to the core competencies.

- Based on the previous assessment, Section 5 proposes a set of tools and models to formalise the structure of the Institute's professional development programs, and provide a coherent framework and strategy for professional development in Southeast Queensland. The framework includes the proposed list of core competencies for environmental practitioners, a process for PD planning, draft CPD guidelines, and a draft PD Strategy for the SEQ Division.
- Section 6 proposes a detailed program outline for the Staged Training for Environmental Practitioners (STEP) program, including program structure, administration, mechanisms for competency assessment, mentoring and training modules.
- Section 7 proposes a short-medium term Action Plan.

2. The Environment Profession in Australia

The environmental profession is a very broad field that embraces individuals with highly diverse academic and professional backgrounds. Figure 1 illustrates the range of disciplines that may be included in the environment profession.

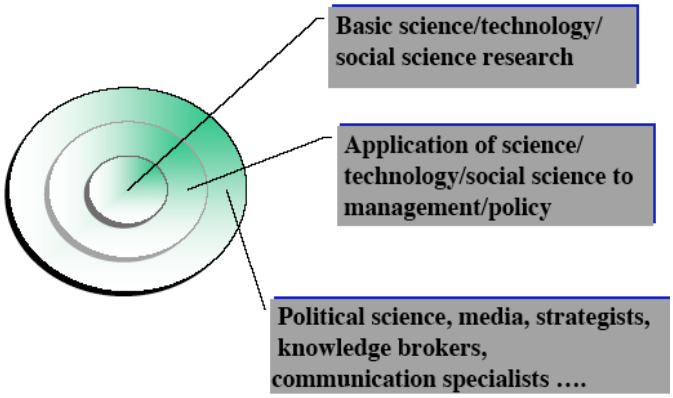


Figure 1: What is the Environmental Profession?
Source: Harding (2007)

The EIANZ groups environmental practice into the following functional areas of expertise that relate to both the biophysical and socio-economic environment (By-law 1):

- Policy development and implementation
- Planning and assessment
- Design and construction
- Operation and management
- Monitoring and reporting
- Legislation, regulation and enforcement
- Auditing
- Research
- Education and community awareness

Trends in the environmental profession

The environment industry is a growing sector in Australia and worldwide. Environmental employment has grown steadily over the past decades.

According to an assessment by the House of Representatives Standing Committee on Environment and Heritage (2003), the environment sector in Australia is expected to grow as a result from an increased need to integrate environmental management and ESD principles across all levels of industry.

The environmental profession has undergone fundamental transformations over the last decades as illustrated in Figure 2. Table 1 lists some of the key transformations of the environment industry. The complexity of major environmental issues such as climate change and Australia's commitment to ecologically sustainable development, have necessitated a shift towards more integrated and holistic approaches. Management for sustainability requires integration of social, economic, environmental and governance issues relating to human activities.

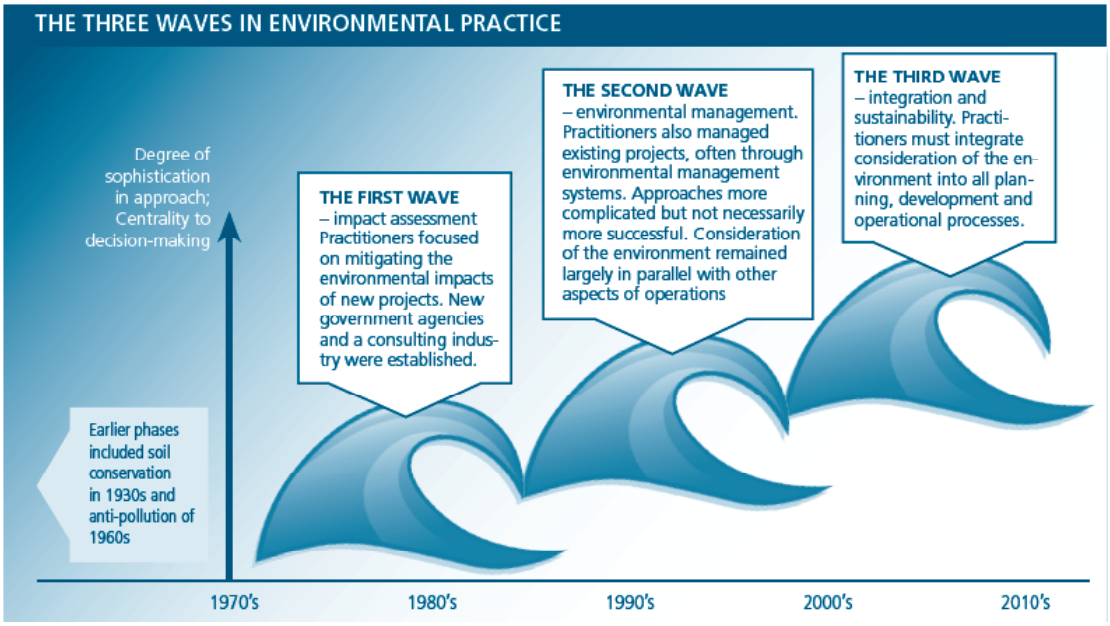


Figure 2: The Three Waves in Environmental Practice
Source: EIANZ (2007)

Table 1: Trends of the Environment Profession
Source: Harding (2007)

Earlier approach	Newer approach
End-of-pipe pollution control	Source control – cleaner production
Waste collection and disposal	Recycle-Reuse-Reduce-Avoid. Extended producer responsibility
Short term reactive	Long term proactive – anticipatory, precaution + risk emphasis
Silo & reductionist	Integrated & transdisciplinary
Local EIA analysis	Broad ecological footprint
Narrow environmental management	Management for sustainability
Linear decision-making	Circular and adaptive
Narrow range of tools & models	Wide range of tools & models
Technical & scientific expertise	Multiple perspectives – different ways of seeing, knowing, doing
Top-down, one-way information flow	Participatory, networks, community development

3. Professional recognition & competencies: Literature Review

A comparative assessment was conducted for this project to compare professional recognition programs for environmental practitioners and related professions in Canada, UK, US and Australia[1]. Table 2 provides a summary of key findings. The following sections discuss in particular how competencies are defined and assessed as part of the programs.

3.1. Defining environmental competencies

Professional recognition programs such as certification, registration, and membership in a professional association usually require a candidate to demonstrate professional competency. Most of the assessed institutions do have a predefined set of skills against which the eligibility of a candidate for certification, registration or membership is checked.

[1] The comparative analysis included: the Canadian Environmental Certification Approvals Board (CECAB), the Society for the Environment (SocEnv) in the UK, the Academy of Board Certified Environmental Professionals (ABCEP) in the US, the National Registry of Environmental Professionals in the US, the Environment Institute of Australia and New Zealand (EIANZ), the Institute of Engineers Australia, and the Planning Institute of Australia (PIA).

Table 2: Synthesis of professional recognition programs in Australia and abroad

Governance arrangements
• Governance arrangements vary greatly between the different institutions. Institutions that provide professional recognition schemes include professional associations (EIANZ, Engineers Australia, PIA), non-member accrediting and certification organizations (ABCEP, NREP and CECAB), and umbrella organizations (SocEnv).
Type of programs
• There are 3 types of professional recognition: membership in a professional association, certification, and registration • General vs specialized certification: Australia and UK programs have certification schemes for general environmental practice; in US and Canada candidates apply for certification in particular areas of specialization. • Most programs (except CEPIT in Canada) are designed for practitioners with at least a few years of work experience. • Canada is the only country that has an operational certification program for young professionals.
Certification requirements
• All programs have established codes of ethics and professional conduct that candidates are required to subscribe to. Only in the case of the EIANZ CEnvP program are referee reports explicitly required to comment on the candidate's ethical conduct and professional integrity. There are no other mechanisms for verifying the ethical conduct of an individual. • Eligibility criteria commonly specify requirements relating to post-secondary education, work experience, and (in some cases) environmental competencies. • Mechanisms for assessing eligibility include self-assessment, exam, referee reports, professional interview, report/review, compulsory practice course. • Most schemes are open to members and non-members (with some exceptions) • Eligibility criteria and mechanisms for assessing eligibility vary greatly among the organizations • Some organizations/schemes such as SocEnv, CCEP, and Engineers Australia define a set of environmental competencies that need to be demonstrated. The list of competencies range from very detailed skill sets (CCEP) to broad areas of competency (SocEnv).
Continuing Professional Development
• All programs require members/certified practitioners to engage in a certain amount of CPD per year. • CPD should be balanced including specific and generic skills. • Most institutions do not define compulsory CPD topic/activities • Members/practitioners are required to keep a record of CPD activities • CPD requirements range from 15 hrs per year (REM (US)) to 150 hrs per year (CCEP (Canada)). The Australian EIANZ CEnvP program ranks at the lower end (50 hrs over two year period). • Engineers Australia: compulsory amount of CPD in risk management and business & management skills

There are different approaches as to the level of detail of the required skill set. In general, professional recognition programs can be divided into those for general environmental practice and those relating to an area of specialisation within the environment profession.

Some examples of general environmental recognition programs are the Certified Environmental Practitioner (CEnvP) (EIANZ), Chartered Environmentalist (CEnv) (Society for the Environment, UK), and Registered Environmental Manager (REM) (National Registry of Environmental Professionals, USA). The Society for the Environment in the UK has a very broad and generic approach towards defining environmental competencies. The five key competencies required for certification as CEnv focus around environmental management and sustainability as well as transferable skills such as leadership, professional ethics, and interpersonal skills (Appendix 1).

Other certification or registration programs require candidates to select an area of specialisation. These include the Certified Canadian Environmental Practitioner (CCEP) (Canadian Environmental Approvals Board) and Certified Environmental Professional (CEP) (Academy of Board Certified Environmental Professionals, US). These programs usually have a more specific and detailed set of prescribed competencies. In Canada, the National Occupational Standards (NOS) for Environmental Employment provide a very detailed set of criteria for a total of 19 sub-sectors within the environmental field. The NOS are used by the Canadian Environmental Certification Approvals Board (CECAB) as eligibility criteria for certification as Certified Canadian Environmental Practitioners (CCEP). Candidates can choose to be certified in up to 5 areas of specialisation. The NOS include specialised as well as enabling competencies.

Overall, most of the assessed institutions do apply a fairly standardised approach in defining competencies. The benefits of a more standardised approach as stated in the Canadian National Occupational Standards include 1) providing clarity in distinguishing work as environmental practitioners from other professions, 2) providing clarity for standards required for certification, 3) helping with curricula development for candidates working towards certification, and 4) making the certification process easier and less time-consuming.

3.2. Assessing environmental competencies

Institutions also apply a range of ways to assess the candidate's competencies:

Self-Assessment: CECAB requires candidates to do a self-assessment of all competencies listed in the NOS. The candidate needs to state for every competency: 1) work experience (number of years), 2) last time (how long ago the candidate worked in this area), and 3) level of proficiency (learning, guidance, independent, or expert). This assessment is then validated by three peers.

Exam: Candidates for the Registered Environmental Manager (REM) status under the National Registry of Environmental Professionals in the USA must pass a 2hrs – 45 minutes timed, multiple-choice, closed-book examination with a scaled score of 700 or better. The exam covers the topics environmental project management, environmental audits/inspections, chemistry, mathematics, toxicology, laws and regulations, technology,

environmental assessments, and sampling and analysis.

Compulsory Practice Course: candidates for certification as Certified Practicing Planners must demonstrate current professional competence by completing the Planning Practice Course, which provides a nationally-consistent training for planning professionals in key areas of competence for planning practice. The Course comprises five units, each concerning one core aspect of planning; four units must be satisfactorily undertaken to complete the Course.

Referee reports: EIANZ requires candidates to submit at least two referee reports in which referees are asked to comment on the candidate's professional ability, experience, and competence, ethical conduct and professional integrity. Candidates for the Certified Environmental Professional (CEP) designation under the National Association of Environmental Professionals (NAEP), USA, must submit eight letters of recommendation from peers, clients, and/or supervisors.

Professional Interview: many institutions such as Engineers Australia, EIANZ, Society for the Environment (UK), and National Association of Environmental Professionals (US) assess a candidate's level of competency through an interview conducted by senior practitioners from the area of practice.

Report/Review: candidates for the various types of chartered status within Engineers Australia are required to prepare an Engineering Practice Report linking the candidate's work experience to the Australian Engineering Competency Standards. Candidates for the Chartered Environment status in UK must submit a report/review which demonstrates development and achievement with reference to the key competencies defined by the Society for Environment. These reports are then assessed and/or validated by senior professionals / Board members.

Further information

ABCEP: http://www.abcep.org/
CECAB: www.cecab.org
CEnvP: www.cenvp.org
EA: www.engineersaustralia.org.au
NAEP: www.naep.org/
NREP: www.nrep.org
PIA: www.planning.org.au
SocEnv: www.socenv.org.uk

4. Professional Development: the EIANZ position

4.1. Types of Professional Development offered by EIANZ

The EIANZ supports professional development of environmental practitioners in many ways.

4.1.1. EIANZ Membership

Membership of a professional association has many benefits for

environmental practitioners, and it is an important part of professional development. Benefits to EIANZ members include:

- Access to professional development opportunities (conferences, workshops, seminars, social activities) at discount price;
- Forum for networking;
- Access to publications such as the Australasian Journal of Environmental Management and the EIANZ newsletter and email bulletin;
- Opportunities to actively participate in the various committees of the Institute; and
- Mentoring program for student members.

EIANZ has several categories of membership: Student member, Associate member, Full member, Fellow, and Honorary Life Member. Different statuses of membership are applicable to practitioners at different points in their career:

- student membership and associate membership are suitable for students and recent graduates with no or only little work experience,
- full membership is available to practitioners with a minimum of two years of work experience' and
- fellowship is awarded to outstanding practitioners with at least ten years of work experience.

The eligibility criteria and application requirements are listed in Table 3.

There are no compulsory links between the different stages of membership, except for fellowship and honorary life membership that can only be awarded to full members and upon nomination by the EIANZ president.

Links to other PD components:
There are also no compulsory links between membership and the STEP program and the CEnvP certification scheme; both programs are open to members and non-members. However, there are some benefits for members such as discounted fees.

Table 3: EIANZ Membership Criteria

Membership status	Application Requirements	Eligibility criteria
Student	• Payment of membership and application fees • Copy of transcripts or proof of study • Signed agreement to abide by Code of Ethics	Individuals undertaking tertiary-level study (full or part time) related to one or more functional areas of environmental practice.
Associate	• Payment of membership and application fees • Copy of transcripts or proof of study • Signed agreement to abide by Code of Ethics • Curriculum Vitae	Graduates in the process of gaining relevant work experience, and individuals wanting access to EIANZ information who are not eligible for full membership status.
Full Member	• Payment of membership	• a tertiary degree plus a minimum

	and application fees • Signed agreement to abide by Code of Ethics • Curriculum Vitae	of two years professional experience in one or more functional areas of environmental practice; or, • five or more years of experience in functional areas of environmental practice (applicants with experience in areas other than those outlined in the By-law are encouraged to explain how their experience is relevant to environmental practice).
Fellowship	The award of Fellowship is made by the President on advice from the Executive Committee of Council, based on recommendations put forward by the Member and Corporate Services Committee.	• a minimum of ten years as a senior position holder within the applicant's profession; • a period of at least ten years employment in a position of significance in the applicant's profession, having acquired a high level of general knowledge and influence; • good character and personal repute plus the establishment of a professional reputation, with high ethical and moral standards; • a current Member in good standing of EIANZ for a continuous period of not less than two years.
Honorary Life Member		The Council may award honorary life membership to any person it considers to have made outstanding contributions to the environment profession as demonstrated by service to the EIANZ.

Discussion Points

Compared to some other professional associations, the EIANZ has a relatively informal procedure for becoming a member and maintaining membership status. The Institute does not define and assess any set competency standards for its members. Full members need to provide a CV that should clearly show the period of time and relevance of tasks to environmental practice undertaken for each employer. However, there are no requirements to verify the accuracy of the information given. Once a member has been accepted, there are no requirements to commit to continuing professional development (CPD).

Although many professional associations apply a similarly informal membership procedure, there are other institutions that apply more formalised procedures and set competency standards for their members. Below are some examples:

- The Planning Institute of Australia (PIA) requires applicants for full membership in one of their chapters (e.g. Environmental Planning Chapter) to demonstrate certain pre-defined core competencies, for example through completion of the PIA accredited courses. The PIA also expects all members, fellows and life fellows to commit to a certain amount of CPD activities (60 PD points over 2 yrs) to maintain their knowledge and skill base.
- Engineers Australia require that the information provided in the application documents is verified by a Member or Fellow of Engineers Australia, or a person of equivalent standing, who can personally confirm the accuracy of statements made.
- All members of the Institution of Environmental Sciences (IES) in the UK must be able to demonstrate knowledge of the discipline for Environmental Science and should have had varied interdisciplinary environmental experience. The IES also expects all members to engage in a certain amount of CPD (30 hrs per year).

Recommendations

- Consider integrating competency requirements and/or CPD requirements into membership conditions;
- Develop CPD guidelines for members, STEP participants and CEnvPs.
- Consider waiving membership application fee for STEP participants as an incentive to join the Institute.

4.1.2. Involvement in committees and networks

EIANZ members have the opportunity to actively participate in any aspects of the organisation (such as committees, working groups and networks). There are Standing Committees for Policy and Practice, External Relations, Membership Promotion, Professional Development, and Students and Young Professionals. Early-career professionals in South East Queensland can join the SEQ Students and Young Professionals network. Members are also invited to participate in the Institute's Special Interest Sections (currently for impact assessment and ecology).

4.1.3. Mentoring

EIANZ student members are offered career guidance through the Institute's mentor program. This program links each student member with a senior environmental practitioner currently working in the field selected by the student. The mentoring program provides students with relevant professional advice and support.
Mentoring guidelines have been developed for the SEQ Division. The program currently runs only sporadically, and interest from practitioners to engage in such a commitment seems to be low at the moment.

Link to other PD components:
The introduction of the STEP program (which includes a mentoring component) is an opportunity to strengthen the mentoring program in the Division.

Recommendations

- Mentoring is an important component in professional development. A well-structured mentoring program is invaluable especially to early-career practitioners, and it is an important incentive to join the Institute. By strengthening the program, the EIANZ can provide an invaluable service to its young members, and it can improve the attractiveness of membership.
- In order to strengthen the program, it is recommended that mentoring be integrated into other PD programs such as the STEP program. Involving mentors in important activities such as competency assessment gives mentors clearly defined tasks and responsibilities, which in turn might facilitate the interaction and be an incentive for mentors and mentees to join the program.
- It is important to provide mentors and mentees with a clear framework for the engagement, including clearly defined goals, responsibilities and outputs. It is recommended that the SEQ mentoring guidelines be revised to include STEP mentorship.
- initiate 'call for mentors'

Further information

The Australian Institute of Landscape Architects (AILA) has integrated mentorship into the assessment process of practitioners applying to become an AILA recognised Registered Landscape Architect. The scheme applies clearly defined procedures, roles and responsibilities for the mentorship program. Further information available at www.aila.org.au.

4.1.4. Certified Environmental Practitioner (CEnvP) scheme

The CEnvP scheme was launched by the EIANZ in 2004. The scheme provides professional recognition to environmental practitioners that meet high standards of professional and ethical conduct. It is available to practitioners with a minimum of 5 years of relevant work experience and is open to any environmental practitioner that fulfils the eligibility criteria.
The minimum requirements for certification are:

- An environment-related degree;
- Five years of full time experience in the functional areas of environmental practice during the last 10 years;
- Nomination by three respected environmental professionals who are willing to act as referees for the candidate;
- Evidence in the form of referee reports (at least two), detailed curriculum vitae, publications, citations, reports, etc. that the candidate is a respected, competent, ethical and active member of the profession;
- Ongoing commitment to training and professional improvement (in the order of 50 hours of training, professional improvement, service to professional practice over a two year period), and
- A signed statement of claim covering qualifications, experience, ethics, commitment and the accuracy of materials provided to the Certification Board.

Application process:
There are two intakes per year, in June and December. Intake closing dates are published on the CEnvP website (www.cenvp.org). Applications are received by the Certification Registrar and assessed by the Assessment Panel and the Certification Board. If accepted, the applicant is granted the CEnvP status. Rejected applicants may re-apply at a later point in time. Approval may also be deferred where applicants are asked to demonstrate further commitment and understanding of environmental practice in order to become certified. In this case it might be sufficient for the applicant to engage in additional CPD activities. Deferred applications may be re-assessed after six months and do not require to re-apply and pay application fees again. Deferred or rejected applicants may wish to enter (or re-enter) the STEP program in order to take additional CPD as recommended by the certification board.

Re-certification process:
Certification is reviewed on a two yearly basis. AT this time the applicant will need to provide evidence of CPD and a statement verifying any changed circumstances including employment and ethical conduct.

CPD:
Certified professionals are expected to engage in continuing professional development to ensure they maintain the currency of their skills and knowledge, and keep up to date with the rapidly changing and expanding knowledge base and technology which impact on environmental practice.
As to date, the EIANZ does not offer a formalised CPD program for certified environmental professionals. In the near future, it does not seem feasible and realistic to implement a formalised training program such as STEP for CEnvPs.

Link to other PD components:
Although it is not obligatory to be an EIANZ member or take the STEP program prior to certification, EIANZ membership and STEP participation can help potential CEnvP candidates to prepare for certification. The STEP

program is designed to specifically address the professional development needs for practitioners aiming for certification, and it is envisioned that STEP graduates will be charged a discounted fee for the CEnvP application. EIANZ membership allows members to access a wide range of CPD activities and resources that support a practitioner's professional development process and EIANZ members receive discounts for EIANZ CPD activities and are charged a reduced CEnvP application and annual certification fee.

Recommendations

- Endorse list of core competencies and integrate them into the application process (as part of the eligibility criteria). The list could be used as a support document that helps candidates prepare for the application process and that is used by Certification Panel members to assess a candidate's competency/eligibility, or it could be officially endorsed by the Certification Board;
- Consider a discounted application fee for STEP participants;
- Conduct needs assessment to ensure that the CPD offered by EIANZ matches the needs of CEnvPs;
- Mid-term: adapt core competency list to suit competency requirements for certified professionals. This could provide guidance for CEnvPs to plan their career development and select CPD activities, and it could be integrated into the re-certification process.

Further information

Further information on the CEnvP program is available at www.cenvp.org

4.1.5. Staged Training for Environmental Practitioners (STEP) program

The EIANZ is introducing a professional development program especially designed for early-career professionals with less than 5 years of work experience. The Staged Training for Environmental Practitioners (STEP) program is closely linked to the CEnvP program and aims to guide and support practitioners through the first stages of their career in an environmental field and help to prepare them for certification as CEnvP. The program focuses on equipping early-career professionals with the competencies needed for certification.

The entire STEP program runs over approximately 5 years and covers two stages – STEP Level I: BASIC and STEP Level II: INTERMEDIATE. Direct entry into Level II is possible, which would reduce the program length to approximately 2.5 years. Individual program length is variable, depending on an individual's achievement and level of competency. Entry into, and graduation from the program is possible at any point in time.

Upon graduation from the program, it is envisioned that the practitioner directly enter the application process for CEnvP recognition. There are two intakes per year, occurring in June and December. Practitioners that have been unsuccessful with their CEnvP application may re-enter the STEP program to take additional training modules before re-applying for certification.

In this case the candidate should make sure to engage in sufficient additional CPD as recommended by the certification board before re-applying for certification. A deferred CEnvP candidate can be re-assessed by the certification board after six months.

Further information
For further details on the STEP program refer to Chapter 6.

4.1.6. Specialised Certification

The EIANZ considers introducing a specialised certification scheme (e.g. for Impact Assessment) some time in the future. The scheme is going to be discussed at the national EIANZ conference in Melbourne in October 2008. The EIANZ Special Interest group on Impact Assessment is expected to take the lead in setting the requirements and process for certification.

Questions to be considered:

- What are the core competencies for practitioners seeking specialist certification?
- What are the training needs of certified practitioners or those seeking certification, and how will EIANZ cater for their needs?
- Will CEnvP recognition be a prerequisite for any practitioner applying for specialist certification?

Recommendations

- Conduct needs assessment to identify core competencies, competency gaps and training needs for practitioners within area of specialisation. Special Interest groups need to get involved to define competencies. These competencies could be used not only as eligibility criteria for certification, but also to identify training needs and make sure EIANZ offers appropriate CPD opportunities.
- In the long-term: offer specialised CPD program??

Further information
The Institute of Environmental Management & Assessment (IEMA) runs specialist registers for Environmental Impact Assessors and Environmental Auditors (http://www.iema.net/registers).

4.1.7. EIANZ Continuing Professional Development

EIANZ offers a range of national and regional conferences, workshops and seminars. The CPD activities are generally open to members (at a discounted price) and non-members and practitioners at any career level.

Content
EIANZ CPD addresses a wide range of **topics**. A review of national and divisional EIANZ activities has revealed that most of the CPD activities are targeted at a broad audience and deal with topics related to general

environmental practice. Most of the activities in the past few years (2004-2008) and those planned for 2008-2009 related either to **EIANZ priority topics** (climate change, sustainability, water, energy) or to **regional/local priority topics** (for example hydro impacts in Tasmania, salinity in Western Australia).

Among the most common topics in 2004-2008 were:

- EIANZ priority topics: Sustainability, Climate change, Water, Energy
- Biodiversity
- Environmental Ethics
- Impact assessment
- Environmental legislation, policies & plans;
- Environmental management, including Environmental Management Systems (EMS), Environmental Management Plans, Environmental monitoring, mitigating specific environmental impacts (e.g. hydro impacts, woodsmoke, odour)
- Environmental planning, alternative/sustainable design & building
- Behavioral change, corporate sustainability, community engagement.

Appendix 2 shows how the topics relate to the **core competency areas** proposed in Chapter 5.1. The assessment reveals that many of the CPD activities do address topics relating to the core competencies. The most common competency areas from this assessment were **environmental awareness** (including the EIANZ priority topics), **policy and planning**, and **environmental assessment**. Many of the activities address a **generic environmental topic related to a regional or local issue.**

However, the analysis also revealed a number of core competency areas that were **not addressed** in any EIANZ activities. Topics that were not, or very rarely, addressed include:

- **Enabling competencies** such as critical thinking, professional practice, and communication & interpersonal competency; and
- Generic environmental competencies such as **risk assessment** and **environmental decision-making** (including dealing with risk & uncertainty)

Delivery mode

Most CPD activities are offered in urban centres. It is recommended that the Institute assess whether the needs of rural practitioners are sufficiently met and how the Institute's CPD offerings can better cater for their needs (e.g. through distance learning opportunities).

4.2. The Institute's Professional Development Planning

In 2006 a Professional Development Standing Committee was formed. This Committee is responsible for developing a framework for the Institute's professional development programs, identifying the requirements of competency for the various levels of experience within the Institute, providing guidance as to the content required for the various levels of experience and speciality; and assisting Divisions, Standing Committees and Special Interest

Sections to deliver the competent practice programs.

As to date, the Institute does not have an overall, national-scale Professional Development strategy or framework. Professional Development is mostly managed by the Divisions. In the SEQ Division (and maybe also in other Divisions), CPD is currently driven by:

(a) the local market (what will be popular? what will make a profit? what are local environmental professionals prepared to pay to attend?); and

(b) the interests, networks and perceived 'issues' of local executive members, and the need to raise EIANZ profile/make submissions on 'hot' topics;

(c) the four identified major focus areas of EIANZ (water, sustainability, climate change and energy); and

(d) opportunities e.g., a well-known speaker is in town, a government department or an allied institute offers a joint workshop/seminar, etc.

5. Formalising the structure of EIANZ professional development

The EIANZ aims to formalise the structure of its professional development programs and activities as to better cater for current and future needs of environmental practitioners (Project 1). This chapter discusses some key considerations and steps to help improve the planning and implementation of PD activities and programs of the Institute in general, and the SEQ Division in particular.

This chapter in particular:

- Proposes a set of Core Competencies for Environmental Practitioners as an anchor point for professional development;
- Discusses the Career Path model to illustrate existing and planned EIANZ PD activities and programs and how they are interlinked;
- Suggests a process for planning and implementing PD programs;
- Proposes draft CPD guidelines for members, CEnvPs and STEP participants; a draft PD Strategy for the SEQ Division, and recommendations how to integrate other relevant CPD providers.

5.1. Core competencies for environmental practitioners in Australia

5.1.1. Background

Australia currently lacks professional or industry standards for the environment sector. This project is based on the understanding that core competencies for the environmental profession need to be identified in order to guide and evaluate professional development. Competencies are thus considered the anchor point for the Institute's professional development programs and activities.

5.1.2. Data collection

The EIANZ as well as other professional bodies and organisations have started to address the need for identifying core competencies for environmental practitioners in Australia. The development of the core competencies were based on the analysis of a number of data sources, including:

- Literature review (key source: "The Guide to Environmental Careers in Australia" by Ribon-Tobon and May, 2005);
- Discussions with key experts within and outside EIANZ;
- Results from the 2007 EIANZ conference series "EP3 – The Third Wave in Environmental Practice" with special sessions on skill sets for environmental practitioners; and
- A focus group discussion conducted in July 2008 with a range of early-career and experienced environmental practitioners. A workshop summary is provided as Appendix 4.

Summary of key findings:

- Environmental practitioners need a combination of enabling and

technical/specialised competencies, and professional development needs to broaden generic skills as well as deepen specialised skills.

- One of the key messages of the EIANZ EP3 conferences was that environmental practitioners today need different skills and competencies than they did in the past. It is nowadays not sufficient for an environmental practitioner to only have skills in a narrowly defined area of specialisation. New skills have to be continuously developed as new environmental challenges emerge (Godden 2007). Some of the key 'new' skills compiled from the presentations on 'changing skill sets for future environmentalists' are listed in Table 4.
- A literature review and selected interviews with key experts indicate that there might be a gap between the existing levels of competencies of environmental practitioners and those expected by the industry in particular with respect to emerging and future environmental challenges.

Table 4: "New" skills for future environmental practitioners

'New' skills for future environmental practitioners	
• ability to see big picture • look beyond legislation and procedures into real world • Build partnerships between disciplines, networking • consensus-building • public participation, understanding stakeholders • Innovation: apply technical knowledge in innovative ways, innovative problem solving • looking forward & anticipating trends	• facilitation and mediation • synthesis • integration & transdisciplinarity: increased need for strategic and integrative skills, integrate between disciplines, and between generalists and specialists • participatory, adaptive, sustainable decision-making • courage • positive thinking • managing change

5.1.3. Guiding principles

- The environment profession embraces practitioners from various disciplines and areas of specialisation, each requiring a different specific set of skills and knowledge. The list (Table 5) focuses only on those competencies that all environmental practitioners should have, irrespective of their area of practice and specialisation.
- Competency requirements also vary with career stage. The list (Table 5) suggests core competencies for practitioners eligible for certification as Certified Environmental Practitioner (CEnvP).
- Competency standards of graduates are highly variable depending on the program of study in the university/college at which the degree was obtained.
- There are also multiple ways in which environmental practitioners acquire competencies throughout their career. While some start with a broad knowledge base and then specialise over time, others extend their initially narrow focus by acquiring more generic skills.
- As new environmental challenges emerge, skills sets for environmental practitioners are changing. This list should be flexible and adaptable to

any such changes.

- The list of competencies will be used as an anchor point for the STEP program. However, it is also recommended that the list eventually be incorporated into the CEnvP scheme, e.g. through endorsement of a list of competencies as eligibility criteria for certification (in addition to other certification requirements).
- While the competencies are considered compulsory for any environmental practitioner, the specific skills and knowledge are just examples and might vary from person to person.
- The list of competencies should be understood as a working document that reflects the views of those involved in the project. It is recommended that as a follow-up activity to the project the list be distributed to a wider audience for feedback, and be reviewed and revised as appropriate.

5.1.4. Competency categories

The proposed list of competencies (Table 5) suggests the following competency categories:

- Enabling competencies (categories A, B, C): these relate to transferable skills such as academic, interpersonal, and computer skills; and
- Generic environmental competencies (categories D, E, F, G): these include basic competencies in the general area of environmental practice that are needed by any environmental practitioner irrespective of the area of specialisation and function.

5.1.5. Application of core competencies

The list of core competencies (Table 5) may be applied to various components of the Institute's PD activities:

- STEP program: The list provides a basis for self-assessment by early-career environmental professionals (ECEPs) to assess their own level and identify gaps, and for discussion with mentors when planning a PD program.
- CEnvP scheme: The list may be used by the Certification Board as a supporting document to assess a candidate's competencies and direct applicants to undertake particular programs, and it can provide guidance to applicants and help them prepare for the certification process.
- EIANZ CPD program planning: The list helps EIANZ identifying needs and planning PD programs.
- Guidance for career development: The list may be useful to any environmental practitioner inside or outside EIANZ PD programs to guide an individual's career development.

Table 5: Core Competencies for Environmental Practitioners

Enabling competencies		Examples of specific skills + knowledge
A: Critical thinking	• Ability to distinguish between broad/strategic/holistic and specific/operational issues; and to understand how they relate, eg. how specific projects contribute to global/societal goals (e.g. sustainability) • Ability to critically analyse and evaluate problems and solutions • Ability to develop creative/innovative solutions	• Systems thinking (ability to see 'the big picture') and its application to planning and decision-making • Analytical skills
B: Professional Practice	• Understanding of professional practice, standards and obligations • Developing culture of "reflective practice" • Commitment to engage in continuous learning and plan own professional/career development • Ability to plan and manage work and projects effectively • Information literacy: Ability to utilize information technology as needed to produce work products	• Office/workplace practices: time management, project management • personal/self management (time, work/life balance, initiative/motivation, assertiveness) • Professional development skills • creativity techniques • Computer applications like modelling, statistical analysis
C: Effective Communication & Interpersonal Competency	• Ability to collaborate with other individuals and organizations • Ability to work in multi-disciplinary teams • Ability to communicate and interact effectively with stakeholders • Ability to negotiate and withdraw when ethical issues arise • Ability to communicate risk and facilitate resolution of conflicts • Ability to justify work • Broad range of writing skills (reports, scientific writing, media release etc)	• stakeholder consultation/community engagement, negotiation, dispute resolution • report writing, presentation, conduct meetings, • networking, coaching/mentoring, (multidisciplinary) teamwork
Generic environmental competencies		Examples of specific skills + knowledge
D: Environmental awareness	Understanding of environmental issues and societal responses, awareness of overarching principles/contemporary framework, their application and opportunities/barriers to implementation	• Sustainability: key principles, including precautionary principle, application to various areas of practice. • Climate change: awareness of key principles, new knowledge, tools and case studies

E: Analysis & Assessment	• Information gathering: Ability to identify sources and appropriate tools/techniques/methods, and compile relevant information (including reliability & accuracy, quality control & technical awareness) • Data Analysis & Interpretation: Ability to analyse data, assess reliability + accuracy of data, interpret and present results and provide a balanced/objective opinion • Evaluation: Ability to evaluate procedures, interventions, and programs. • Risk Assessment: Ability to assess risks and apply risk management strategies • Assessment context: Ability to put assessment results into broader context of environmental management, policy and planning	• Conduct baseline studies • Spatial data analysis tools: GIS/ remote sensing • Statistical data analysis • Environmental assessment tools such as Environmental Impact Assessment (EIA), strategic environmental assessment, Life-Cycle-Assessment • Risk assessment + management tools
F: Environmental Policy & Planning	Environmental Policy & Planning: • Ability to identify environmental impacts/risks and develop measures to enhance the benefits and to minimise the risks • Ability to develop, apply, monitor and evaluate corporate environmental plans, policies, and procedures/best practices Environmental decision-making: • Understanding of the process and tools of environmental decision-making (at personal &- societal level) • Dealing with risk/uncertainty and conflicts of interest • Recognition/integration of stakeholder interests Regulatory/legal/institutional framework: • Understanding of key State and Federal environmental utilisation and protection interests and related legislation & policies, and institutional responsibilities • Ability to understand and assess compliance & enforcement	• Environmental management/decision-making tools such as Environmental Management Systems (EMS), Environmental Impact Assessment (EIA), Environmental Audit, Risk Analysis, Cost-Benefit-Analysis • Community consultation techniques • Knowledge of, and ability to apply, the requirements of State and Federal Environmental utilisation and protection interests and related legislation & policies.
G: Environmental ethics	• Ability to recognise ethical issues • Basic understanding of environmental ethics, value systems & paradigms • Ability to use a process to work through ethical dilemmas • Personal commitment to professional standards (codes of ethics)	• Techniques for resolving conflict in an ethical manner • Knowledge of how to get help if ethical dilemmas arise

5.2. EIANZ Career Path Model

In a profession as diverse as the environment profession, individual career paths are highly variable. Professional development needs change along an individual's career path: graduates might have very different career development needs to those of senior and highly specialised practitioners.

The career path model depicted in Figure 3 illustrates how existing and planned EIANZ professional development programs and activities accompany and support environmental practitioners along their career path. The model shows the different (current and planned) EIANZ PD components and how they are interconnected.

When creating an integrated structure for professional development it is important not only to identify the different ***components*** of professional development, but also the ***process*** how the components are linked to each other and how they fit into the overall career path model. **Error! Reference source not found.** provides some recommendations to streamline EIANZ PD programs and increase consistency among them.

Table 6: Recommendation to increase consistency between EIANZ PD components

PD component	Activity (recommendation)
Membership	➢ Consider integrating competency requirements and/or CPD requirements into membership conditions; ➢ Develop CPD guidelines for members, STEP participants and CEnvPs. ➢ Consider waiving membership application fee for STEP participants as an incentive to join the Institute.
Mentoring	➢ Strengthen mentoring program, initiate call for mentors, integrate existing program into STEP mentoring
CEnvP	➢ Integrate competency requirements into application process for certification/re-certification (endorse core competencies as eligibility criteria) to ensure consistency between STEP and CEnvP ➢ Consider a discounted application fee for STEP participants ➢ Conduct needs assessment to ensure that the CPD offered by EIANZ matches the needs of CEnvPs
Specialist certification	➢ Identify competency requirements and training needs ➢ offer appropriate CPD opportunities to meet their needs
Special Interest Sections	➢ Increase visibility of SIS to encourage participation ➢ Establish link to STEP program: serve as mentors, help identify specialised training needs ➢ Take the lead in planning and implementing specialist certification scheme, including definition of competencies

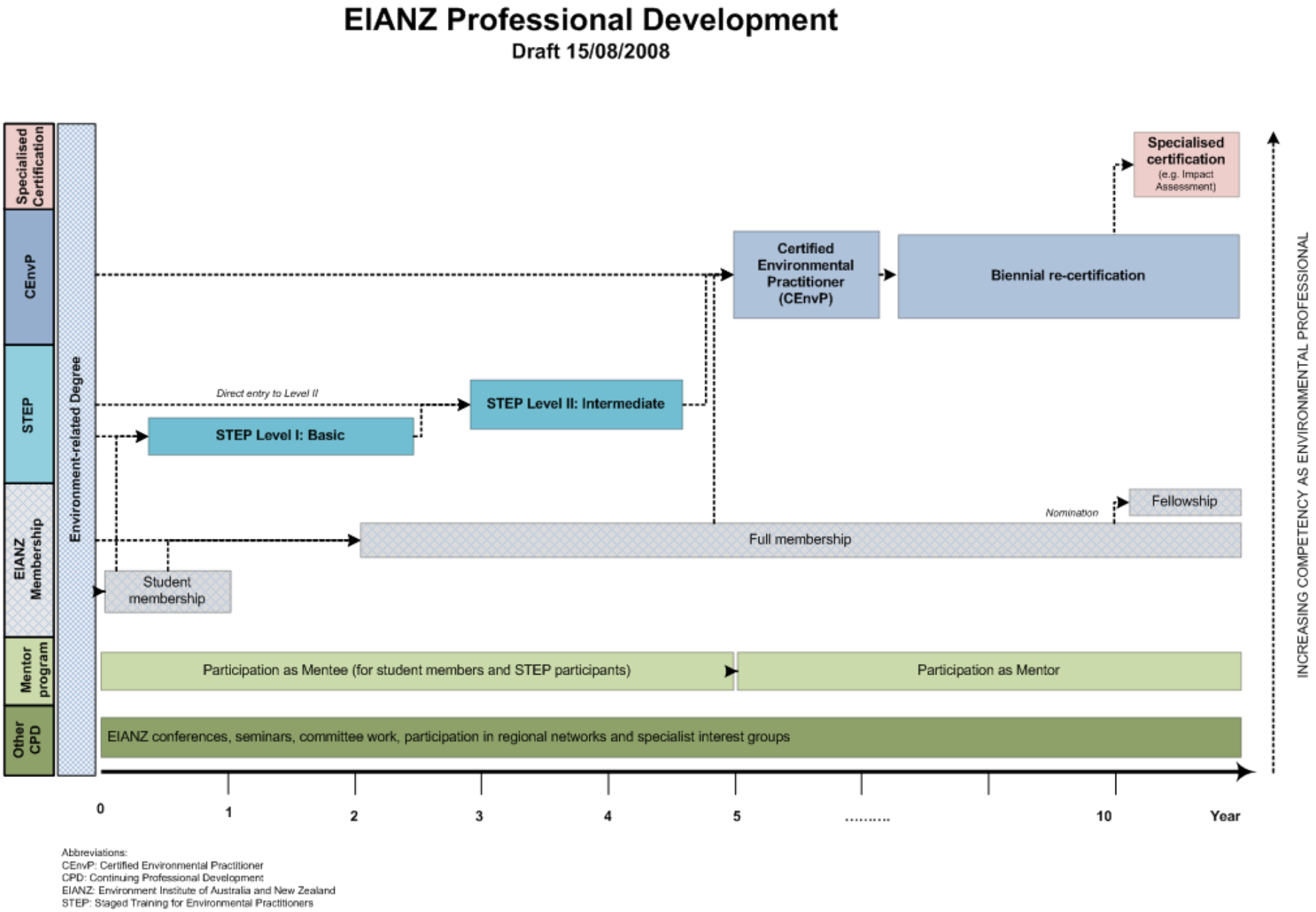


Figure 3: EIANZ Career Path Model

5.3. Professional Development Planning Process

Figure 4 describes the general adaptive process for planning a professional development program.

1. Identify target group

Key question: what is the target group that the PD program is aiming at?

For example, the program could target specific groups of practitioners such as early-career environmental practitioners, experienced and/or certified environmental practitioners (CEnvPs), specialised environmental practitioners (candidates for a Specialist Certification scheme), rural/urban practitioners and so on.

2. Assess needs

Key question: What are the competency requirements and training needs of the target group?

A needs assessment is a tool for identifying competency requirements and gaps, and determining professional development needs of the target group. This information is essential to ensure that the training program meets the needs of the target group and it provides the basis on which the program components are designed.

3. Research market

Key question: What PD programs and products are already on the market that address the needs of the target group?

This phase involves a review of available PD programs and products (EIANZ and other training providers) to meet the needs of the target group. This assessment allows EIANZ to identify gaps on the market.

Based on this review, EIANZ might consider collaborating with key training providers and integrating existing programs and products into the planned PD program (e.g. through accreditation of PD courses).

4. Design PD program

Key question: How can the PD program meet the perceived PD needs of the target group?

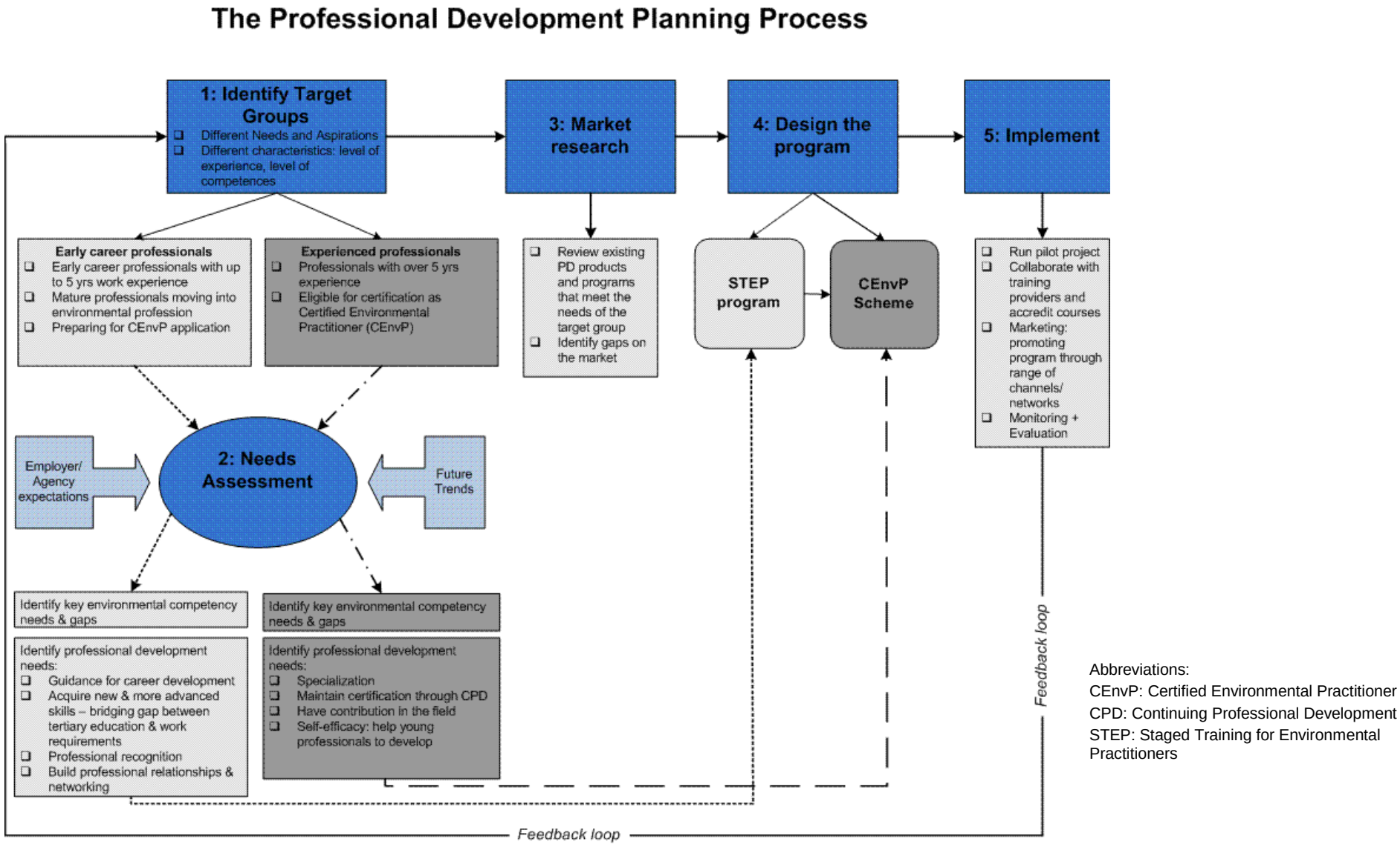
This phase could include activities such as:

- setting program goals, objectives, and overarching principles;
- identifying the different program components (e.g. training courses, mentoring) and defining conditions, requirements and processes for each component;
- identifying delivery mechanisms and organisations to make best use of already existing expertise and experience on the market;
- defining PD guidelines and requirements for program participants, and mechanisms for competency assessment;
- defining administrative procedures and funding arrangements;
- defining monitoring and evaluation procedures; and
- developing an Action Plan for implementation.

5. Implement, monitor, evaluate

In the implementation phase, the program is trialled on the market. The phase requires collaborating with training institutions such as universities, other professional bodies, and TAFE institutes to provide training components.
This phase also includes the promotion of the program through a range of channels, and the continuous monitoring and evaluation of the program in order to assess the effectiveness of the program in achieving its purpose.

The process was developed with a focus on the STEP program, but it can be applied to the development of CPD programs for other target groups as well (e.g. CEnvP scheme, specialist certification scheme).



Abbreviations:
CEnvP: Certified Environmental Practitioner
CPD: Continuing Professional Development
STEP: Staged Training for Environmental Practitioners

Figure 4: The Professional Development Planning Process

5.4. Identify and Integrate outside training providers

There is a wide range of training providers that offer PD programs and activities relevant to the needs of environmental practitioners. Training providers include:

- Professional bodies such as EIANZ, Planning Institute of Australia (PIA), Engineers Australia (EA), Australian Institute of Landscape Architects (AILA);
- Universities, TAFE Institutes, Australian Agricultural Colleges;
- Specialised environmental groups (water, sediment/erosion, air etc), and
- Commercial training providers.

It is envisioned that the EIANZ will identify and collaborate with key training providers and integrate relevant PD activities into their own programs.

An initial review of relevant training providers and products on the market was conducted as part of this project. The assessment focused on general environmental training and did not include specialist training in the various areas of environmental practice. Appendix 3 lists a number of selected CPD courses and trainings in Queensland that address some of the core competencies (providers outside Queensland were included if they offer distance learning courses).

The assessment revealed that:

- **Enabling competencies** such as professional writing and communication skills, project and time management and many others, are regularly run by institutions such as TAFE, commercial training providers (e.g. Chifley), and professional bodies such as PIA and EA.
- There are numerous commercial training providers that offer basic, intermediate and advanced courses in **environmental management** tools such as EMS, Environmental Audits, and risk management (e.g. Graham A Brown, SAI GLOBAL, ACI GLOBAL, BSI Management Systems). Many of these courses are available in distance delivery mode.
- Universities offer postgraduate study (as single course units or whole degrees such as graduate certificates, graduate diplomas or Masters) in a wide range of specialised and generic environmental topics. Many of the courses and degrees are available in off- or on-campus mode.
- There are a number of specialised institutions that offer CPD in **core competency areas related to a specific area of practice**. For example, IWES offers a number of courses related to the water industry such as Water Auditing, Risk Assessment for Water Reuse, Managing Climate Change Risks in the Water Industry etc.
- A number of **Specialist training** courses are also offered by specialised research centres such as CRC for Contamination Assessment and Remediation of the Environment, National Research Centre for Environmental Toxicology, Centre for Environmental Management and Compliance and many more. Universities may also

offer specialised short course opportunities.
- Environmental ethics was a clear gap on the market.

Overall, the assessment revealed that there are numerous courses and trainings available in Australia that environmental practitioners can choose from. As discussed earlier, the EIANZ itself offers CPD mainly in general environmental practice and does not particularly address enabling competencies or specialist competency needs (refer to 4.1.7). It is therefore recommended that the Institute acknowledge the role of key training providers and establish a process for integrating them into the PD Strategy/Framework.

Accreditation of CPD courses is one way of integrating existing courses into the Institute's PD Framework. For the SEQ PD Strategy it is proposed that accredited courses would need to address the core competency areas defined by the Division, and be offered by credible training institutes such as other professional bodies (e.g. PIA, EA, AILA), universities, and TAFE institutes. The accreditation procedure is suggested as a relatively simple process that would not involve any kind of quality control or influence into content and structure on the part of EIANZ.

A list of accredited or recognised courses would help practitioners select suitable CPD that might not be offered within EIANZ itself. It would be particularly useful for STEP participants and other early-career practitioners to help achieve competency requirements for certification.

Many other professional bodies such as Engineers Australia, AILA, and PIA have established a formal procedure for accreditation of tertiary degrees and CPD courses. It is recommended that the EIANZ look into the accreditation procedures and policies of other such institutions and consider an appropriate approach for the Institute or Division.

In addition, the Institute/Division might consider creating a simple **database** of CPD providers that offer training in the core competency areas (including accredited and non-accredited courses). The database can be extended and updated. CPD logs from STEP participants and CEnvPs can provide valuable information on training available on the market.

The STEP program suggests a practical approach for collaborating with training institutions to run training modules as part of the program (for further information refer to chapter 6.7).

5.5. CPD Guidelines

It is recommended that the Institute endorse CPD guidelines for personal program implementation. Draft CPD Guidelines were developed as part of this project (Appendix 5).
The proposed guidelines apply to members, STEP participants and CEnvPs. The Institute might identify other relevant groups of practitioners (for example candidates for a specialist certification scheme) that would need to be included in the guidelines as well.

5.6. PD Strategy for EIANZ SEQ Division

It is recommended that the SEQ Division endorse a PD Strategy for planning and implementing its PD activities and programs. A draft Strategy was developed as part of this project (Appendix 6).

Benefits/Applications:

- At the practitioner's level: The Strategy may provide guidance for **individual PD planning**. It can help practitioners reflect on their own competency level, analyse competency gaps, and plan their career development.
- At the Divisional level:
    - The Strategy may provide a **framework for PD planning** and implementation at the divisional level. It may help the Division structure its CPD activities (such as conferences, seminars and workshops), plan and implement new PD programs (such as STEP), liaise with training providers etc.
    - PD priorities for the Division will differ from year to year. Based on the Strategy the Division should bi-annually discuss and define **PD priorities** for each year. Practitioners should be involved in this process. The priority setting process will provide the basis for developing a short-medium term **Action Plan** (see chapter 7).
    - The proposed Strategy may provide a **template for other Divisions** to formulate their own PD strategy adapted to their local needs.
- At the Institute level: The EIANZ PD committee may develop this Strategy further and use it as the first step in developing an Institute-wide PD Policy as discussed below.

5.7. EIANZ PD Policy

It is recommended that the EIANZ formulate an Institute-wide policy for professional development. The PD Committee is considered to be the appropriate body to develop such a policy that must be consistent with PD activities and strategies at Division-level, and is flexible and adaptable to changes in the industry/profession.
The PD Policy would provide a strategic framework for planning and implementing PD activities and programs at the Division-level and the Institute level. It should include formulation of goals, overarching principles, roles and responsibilities, core competencies, CPD guidelines, endorsement or accreditation policy.

Benefits/applications:

- The Policy may help the EIANZ to structure Institute-wide PD activities such as conferences etc.
- The Policy provides a **focal point for discussion** within and outside the EIANZ about the areas of competency that need to be developed.
- The Policy can be used as a **planning tool** to design and implement new PD programs (such as the STEP program or a

specialist certification scheme).

- The Policy should be flexible and adaptable so that it can be **customised** for and incorporated into local planning processes.

5.8. Recommendations for Advancement & Delivery

As follow-up activities from this project it is recommended that the following actions be taken:

Environmental competencies

It is recommended that the list of core competencies be reviewed and distributed to a wider audience for feedback, for example at the national EIANZ Conference in October 2008. The list should also be distributed to the Certification Board for feedback.

Eventually, the Certification Board should consider endorsing a list of core competencies as eligibility criteria for certification. This step would significantly increase consistency between the STEP and the CEnvP programs, and it would provide clarity for potential certification candidates.

The list of competencies might also be adapted to cater for the needs of certified, experienced practitioners. Should a specialist certification scheme be introduced, the EIANZ might consider developing a competency list for the particular area of specialisation.

Ensure consistency and seek endorsement

The EIANZ runs a range of PD programs and activities at divisional and Institute-wide level. While this framework for professional development was developed for the EIANZ SEQ Division, it does integrate across division- and national-scale. For example, regional initiatives such as the STEP program cannot be successfully implemented if they are not integrated with the CEnvP process. Key documents such as the list of competencies, the SEQ PD Strategy, and the CPD Guidelines therefore need to seek endorsement by key national-scale committees and interest groups, such as the Certification Board and the Professional Development committee. If successful, the proposed framework could be extended to other regions in Australia as well.

Chapter 4.1 discussed considerations and recommendations how to advance and streamline EIANZ PD programs and increase consistency among them.

Collaborate with training providers, review and accredit CPD courses

It is recommended that the Institute consider a procedure for reviewing and accrediting CPD courses of other training providers such as:

- Professional bodies such as EIANZ, Planning Institute of Australia (PIA), Engineers Australia (EA), Australian Institute of Landscape Architects (AILA);
- Specialised environmental groups (erosion/sediment, water, air, ecology etc);
- Universities, TAFE Institutes;
- Commercial training providers.

To initiate this process, the Division should review accreditation procedures & policies of other professional bodies.

Also, the Division should look in more detail at what CPD activities the institutions offer that are of specific relevance to environmental practitioners or

aimed at environmental issues (this assessment could be related to the core competencies). From this assessment, the key training providers should be identified, and communication with key people in those institutions established.
As part of the STEP program it is envisioned that the Division will collaborate with a number of institutions to provide STEP training modules, and accredit a number of other CPD courses that address the core competencies. The accreditation is envisioned to be a relatively simple process that is initially applied only at Division-scale. Eventually, the EIANZ could consider establishing a formal, Institute-wide accreditation process and policy.

Advance and implement the PD Strategy
The draft PD Strategy for the SEQ Division needs to be revised and endorsed by key people within the Division. Then, the Division should agree upon a set of PD priorities and a short-medium term Action Plan.

Special Interest Sections (SIS)
It is recommended to raise the profile and increase the visibility of the EIANZ Special Interest groups (e.g. Impact Assessment, Ecology), e.g. through providing clear links on the Institute's and the Divisions' websites.
The SIS are a source of expertise and experience that can provide valuable input into various aspects of the Institute's PD framework:

- The SIS can contribute to the STEP program with their specialised expertise and experience. While the STEP program mainly focuses on generic competencies, access to (and involvement in) the SIS can allow STEP participants to develop their specialised competencies. STEP participants should be encouraged to use SIS resources (websites, publications etc) and get involved in SIS activities.
- SIS members should be encouraged to serve as mentors for the STEP and the Division's mentoring programs.
- The SIS are expected to play an important role in planning and implementing the specialist certification scheme.

5.9. Summary of Key Actions

Core component	Actions to be taken	Key Actors	Output
Core Competencies	• Define & endorse list of core competencies for environmental practitioners • In the long term: it might be needed to identify core competencies for other target groups such as CEnvPs and candidates for specialist certification	PD committee, CEnvP certification board, Special Interest groups	List of Core Competencies (table 5)
Institute-wide PD Policy	• Draft an Institute-wide PD Policy • Endorsement by the Institute's PD committee and other relevant EIANZ groups & committees	PD Committee	EIANZ PD Policy
CPD Guidelines	• Draft and endorse Institute-wide CPD guidelines for members, CEnvPs and STEP participants	PD Committee and other relevant working groups & committees	CPD Guidelines (Appendix 5)
PD Strategy	• Develop and endorse a PD Strategy at the Division-level	Divisions	PD Strategy for each Division (Appendix 6)
PD Action Plan	• Develop a PD Action Plan at the Division-level outlining short-medium term goals and actions for PD in the region.	Divisions	Action Plan for each Division (chapter 7)
Integrate CPD providers	• Define an Institute-wide policy to accredit or endorse other profession development programs and activities • Endorsement by the Institute's PD committee and other relevant EIANZ groups & committees	PD Committee and other relevant working groups & committees	Accreditation or Endorsement Policy
Endorsement of key documents	• Seek endorsement of key documents (list of competencies, PD Strategy, CPD guidelines) by relevant committees	PD Committee and other relevant committees	

6. Staged Training for Environmental Practitioners (STEP)

6.1. Introduction

The EIANZ aims to introduce a professional development program for early-career environmental practitioners (ECEPs) to help them develop their career path and prepare for application as Certified Environmental Practitioners (CEnvP). In particular, the program aims to equip ECEPs with core competencies for the environment profession. Upon completion of the program the candidate should have achieved the level of competency required for certification as CEnvP.
A first draft format for this program was proposed by the EIANZ SEQ Division Students and Young Professionals Committee in 2006. With funding from the Department of Tourism, Regional Development and Industry in Queensland, the EIANZ SEQ Division has taken this initiative further and has developed this proposed program outline to meet the needs of ECEPs in SEQ. Based on the planning process outlined in chapter 5.3, Figure 5 illustrates the different phases for planning and implementing the STEP program.

6.2. Program Overview

Purpose/aim:
The purpose of this program is to:

- Assist early-career professionals achieve competency standards that are required for certification as Certified Environmental Practitioner (CEnvP); and
- Provide a vehicle for recognition of professional development and competent and ethical practice for early-career professionals.

The STEP program aims at equipping environmental practitioners with enabling and generic environmental competencies that are needed by all environmental practitioners irrespective of their areas of specialisation. The program does not particularly address any specialised, technical training needs.

Target audience:

- Early-career professionals with less than 5 years of work experience in the environmental field, including
    - recent graduates from an environment-related tertiary degree; and
    - practitioners who have switched careers and have only been working in the environment industry for less than 5 years, or those who have a break in career for family, study or other reasons such that they do not have 5 years experience within the past 10 years as required for certification
- Practitioners who have applied for certification but have been advised that they are required to demonstrate further commitment and understanding of environmental practice in order to become certified.

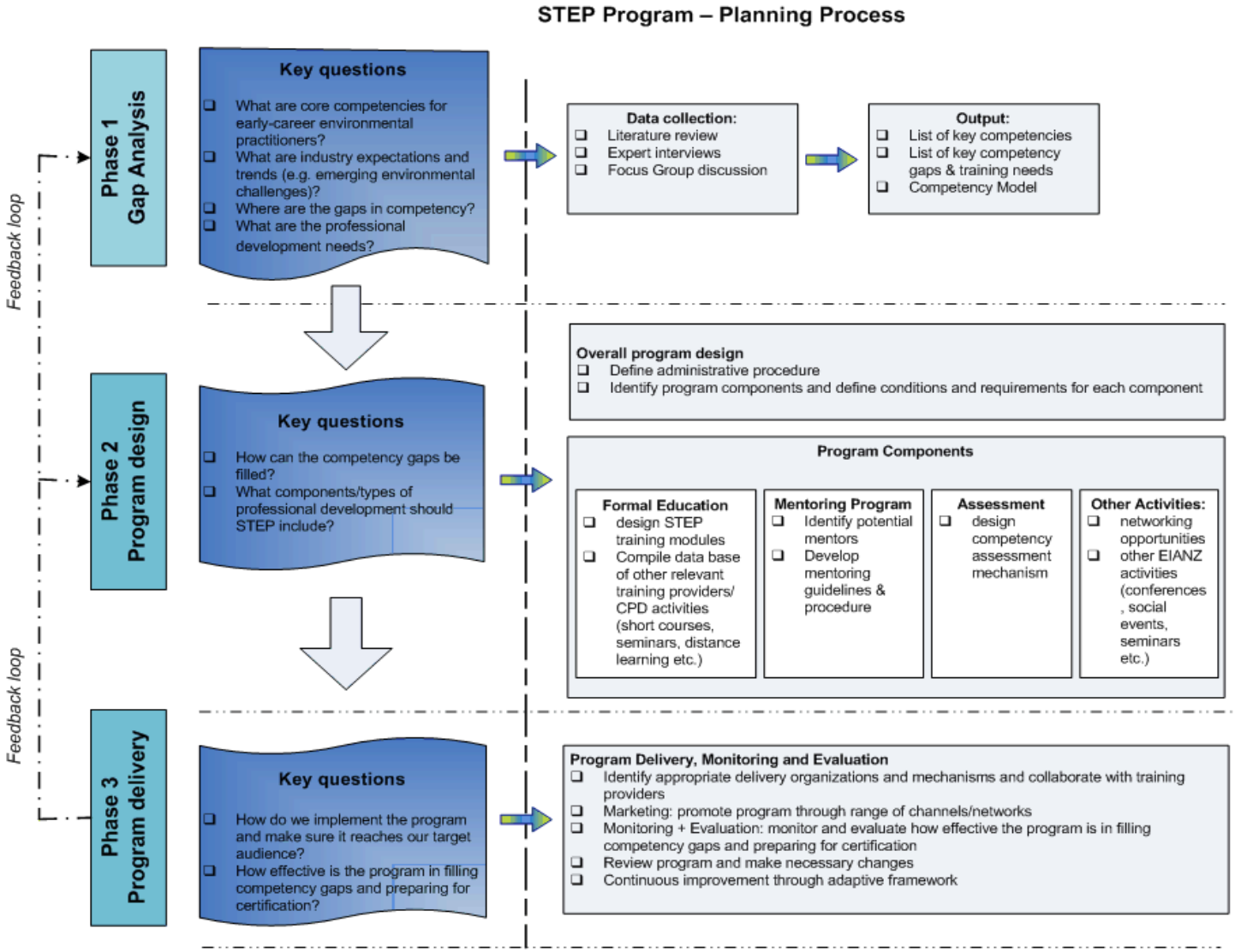


Figure 5: STEP Planning Process

Benefits of the program:

- Recognition of commitment to the environment industry and initiative taken to demonstrate professionalism and accountability at the early stages of their career;
- Increased accountability in the industry and a competitive edge when seeking employment – provides greater assurance to prospective employers with respect to the competence and ethical behaviour of an environmental practitioner;
- Access to a wide range of professional development activities and resources, including STEP Training Modules and the Mentorship program;
- Reduced application fees for STEP Training Modules, EIANZ membership and CEnvP application;
- Listing of personal profile on the publicly available website register of STEP participants and permission to use of STEP logo and acronym on resume, business card etc.;
- Access to the wider EIANZ network, e.g. through participating in regional and national EIANZ events, joining EIANZ SEQ Students and Young Professionals network, participating in mentoring program, committee work.

Discussion Points
It needs to be discussed at the Institute-level in how far CEnvP and membership application fees can be reduced for STEP participants. It might be considered to waive the membership application fee as an incentive for STEP participants to join the Institute.

Core Competencies for Environmental Practitioners:
The list of core competencies for environmental practitioners is considered the anchor point of the STEP program. The competencies listed in Table 5 were identified as the core competencies that environmental practitioners need to demonstrate in order to obtain certification as Certified Environmental Practitioner (CEnvP). As the STEP program aims to lead early-career environmental practitioners to certification, the program is designed to help practitioners achieve these competencies.

Program components:
Continuing Professional Development has many facets; it can be achieved through formal education such as training courses, and through building interpersonal relationships and on-the-job experiences. The STEP program consists of a number of elements/components that address these different facets of professional development:

- STEP Training Modules: formal education in core competency areas
- Mentoring program: opportunity to build relationships and learn from experienced practitioners in an area of environmental practice
- Networking opportunities, e.g. through joining the EIANZ SEQ Students and Young Professionals network, participating in social events and meeting other environmental professionals

- Other CPD activities: access to EIANZ event such as conferences, seminars etc.

It is acknowledged that the STEP program will only represent one component in an individual's professional development. A practitioner might wish to engage in CPD activities outside the STEP program such as CPD activities offered by other professional bodies and specialised training in a specific area of environmental practice. CPD Credit Points can be claimed for any such activities taken outside the STEP program. A large proportion of professional development will also come from on-the-job training. It is therefore expected that the STEP practitioner seeks work experience in a relevant area of environmental practice. Upon completion of the program, a practitioner is expected to have at least 5 years of relevant work experience.

Levels of achievement:
There are two levels of achievement under which STEP practitioners can be recognized: Basic and Intermediate levels. Each of the levels corresponds to the amount of work experience and extent of professional and ethical competency in environmental practice. It is envisioned that practitioners may enter the program at any level (Basic, Intermediate). For example, a recent graduate from an environment-related degree may enter the program at Level I, while a practitioner who has been requested to demonstrate further commitment and understanding of environmental practice in order to become certified may enter the program at Level II. The appropriate level will be verified at application by the STEP Registrar/member of the regional certification panel.

6.3. Proposed program structure

The program is divided into three phases (see Figure 6):

- Application
- Level I: Basic
- Level II: Intermediate

6.3.1. Application Phase

Requirements
Practitioners applying to be accepted into STEP Level I or II will need to:

- Submit a written application including a personal statement regarding career direction, commitment to environmental practice and a professional development program;
- Submit a resume and academic record as evidence of experience and/or education in the field;
- Pay an application fee; and
- Submit the completed and validated competency-assessment (ONLY APPLICABLE TO PRACTITIONERS APPLYING TO BE ACCEPTED INTO LEVEL II).

Application Process
The following process will occur for the application phase:

- Submitted applications will be reviewed by the STEP Registrar;

- In case the applicant is applying for enrolment in STEP Level II, the submission will be sent to a member of the regional certification panel for assessment and approval;
- Once approved, an acceptance letter together with the STEP Kit is sent out to the applicant, and the practitioner's details are entered onto the STEP Register;
- If the STEP applicant applies for participation in the mentorship program, the applicant will be matched with a suitable mentor.

Recognition

The practitioner will be recognized for enrolment through the following:

- Details entered on the STEP Register
- Receive a STEP Kit, including
    - STEP Enrolment certificate;
    - EIANZ Code of Ethics;
    - STEP Continuing Professional Development (CPD) Log Book (Appendix 10);
    - Competency Self-Assessment booklet;
    - Permission to use the STEP terminology on resumes, application forms etc;
    - Mentoring program application form; and
    - Certified Environmental Practitioner (CEnvP) Application guidelines

6.3.2. Level I: STEP BASIC

It is envisioned that this level would most likely attract recent graduates and early-career professionals with less that 3 years of work experience.

Eligibility

STEP practitioners entering the program at Level I need to:

- Have completed an environment-related degree from a tertiary education institution (evidence required);
- Intend to pursue a career in the environment industry and demonstrate commitment to Continuing Professional Development (CPD) (to be explained in application letter); and
- Be committed to abide by the EIANZ Code of Ethics (to be stated in application letter).

Process

The following process will occur for Level 1 of the program:

- Practitioners will do the competency self-assessment, identify competency gaps and training needs, and select appropriate CPD activities, including STEP training modules;
- All CPD activities will be recorded in the CPD Log Book and supported by necessary evidence/documentation;
- Once practitioners have fulfilled the requirements of this stage they are eligible to apply for Level II of the STEP program.

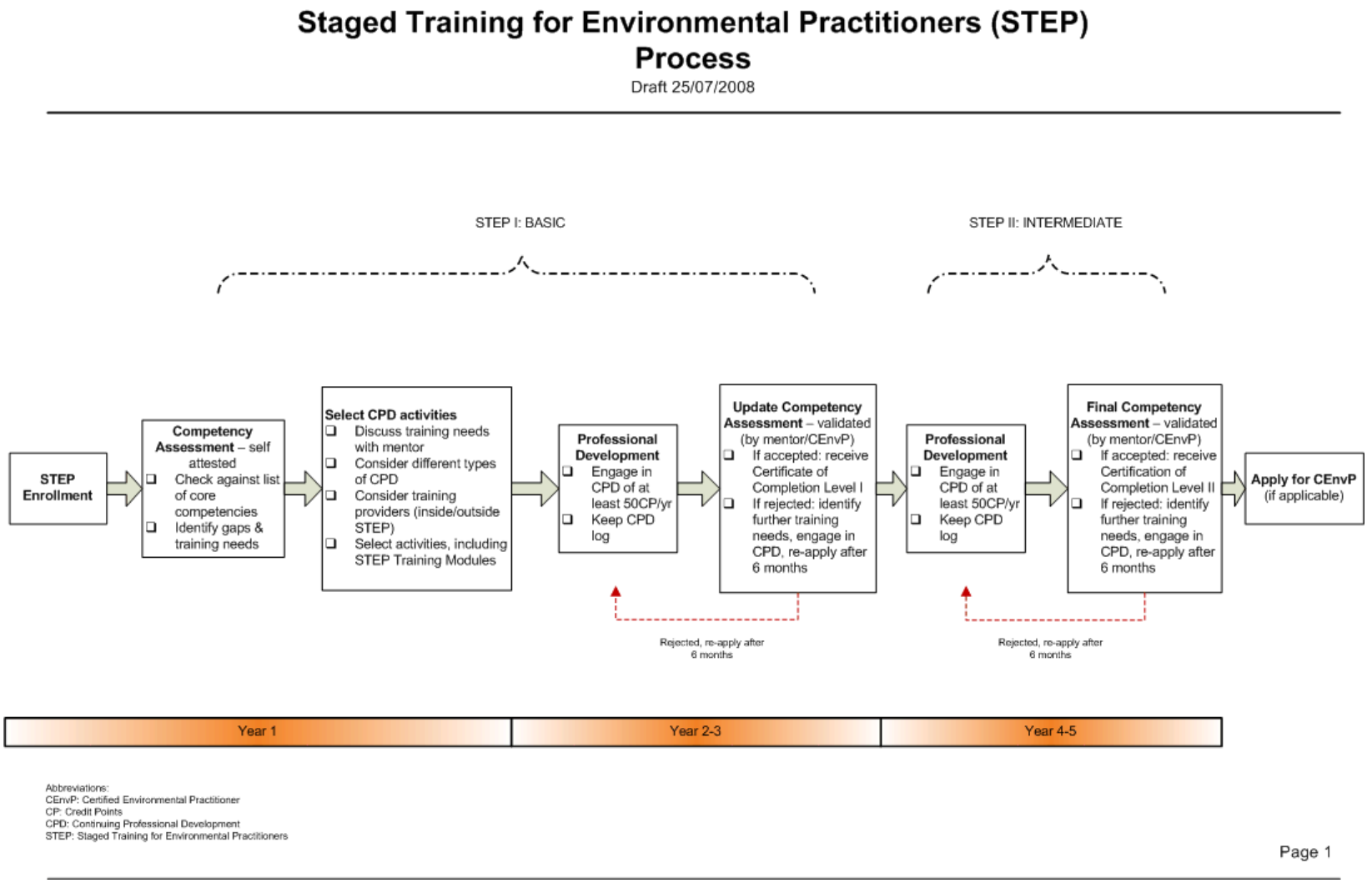


Figure 6: STEP process

6.3.3. Level II: STEP INTERMEDIATE

It is envisioned that practitioners at this stage would have between 3-5 years of work experience. Level II would most likely attract those that have successfully completed STEP Level I, those that newly enter the program after already having gained some experience and demonstrated competency in environmental practice, and those who have been unsuccessful in achieving certification as CEnvP.

Eligibility

In order to be eligible for entry to STEP Level II, practitioners must:

- Have a minimum of 3 years of relevant work experience;
- Demonstrate a minimum of 50 CPD Credit Points per year (on average over 2 year time period) (to be documented in the CPD Log Book); and
- Demonstrate progress towards achieving the Core Competencies for Environmental Practitioners through a combination of work experience and CPD activities (to be demonstrated in the completed and validated Competency Self-Assessment).

Process

The following process will occur for Level II:

- Practitioners will update the competency self-assessment, identify competency gaps and training needs, and select appropriate CPD activities, including STEP training modules;
- The competency self-assessment then needs to be validated by a mentor/CEnvP;
- If approved by the mentor/CEnvP, the STEP practitioner will obtain certificate of enrolment in STEP Level II;
- All CPD activities will be recorded in the CPD Log Book and supported by necessary evidence/documentation;
- It is recommended that towards the end of this phase the STEP practitioner have a meeting with a mentor/CEnvP to discuss achievements over the entire STEP program and help with the preparation for CEnvP application. Upon recommendation/approval by the mentor/CEnvP, the STEP participant will be sent a certificate of program completion.
- Once practitioners have fulfilled the requirements of this stage, they may directly apply for certification as Certified Environmental Practitioner (CEnvP) are eligible to apply for Level II of the STEP program.

Recognition

- Upon registration for this phase, STEP participants will receive a certificate of enrolment in STEP Level II.
- Upon completion of this phase, STEP participants can apply for a certificate of STEP program completion.

Discussion Points
This program proposal suggests two **levels of achievement**. From the perspective of EIANZ the proposed structure requires relatively little administrative work. From the perspective of program participants it might be attractive to have more levels so that they can get rewarded for their activities more quickly and don't have to wait 2.5 years for their first certificate. More levels however, would increase the Institute's workload with respect to administrative procedures (receiving and processing applications for multiple levels, finding mentors/referees to validate competency assessment, sending out certificates etc), and it would increase the complexity of the competency assessment mechanism (different levels in terms of competency requirements would be need to be defined).

6.4. Program administration

The following administrative activities will be required by EIANZ/the program administrator:

Application phase

- Regular collection and validation of applications and collection of fees
- Distribution of applications that need review to regional certification panels
- Development of STEP Kit
- Communications with applicants, regional panels and interested parties (acceptance/rejection letters, kits etc)
- Regularly updated electronic/online register of approved STEP practitioners

General administration

- Develop program materials, including program logo
- Liaise with STEP practitioners in case they need any help, e.g. with selecting appropriate CPD activities and compiling documents for CEnvP application
- Coordinate the delivery of STEP Training Modules, including liaising/collaborating with STEP Training Module providers
- Run the mentorship program, including announcing a call for mentors, matching the STEP participant with an appropriate mentor, communicate/liaise with mentors/mentees if needed
- Marketing: promote the program through various networks
- Monitoring and evaluation activities

6.5. Competency Self-Assessment

The Competency Self-Assessment is a tool that helps STEP participants to develop a systematic picture of their current level of competence, identify and prioritise professional development needs, and develop strategies for achieving those targets.

The assessment refers to the list of core competencies for environmental practitioners (Table 5). For each competency the candidate reviews professional experience to date and estimates/ranks the current level of proficiency (learning, guidance, independent, or expert). From this assessment the candidate identifies gaps and training needs, and develops a strategy to acquire the missing competencies. Appendix 8 provides a template for the self-assessment.

The assessment is taken upon entering the program and when applying to upgrade to a higher STEP level. While at STEP Level I the assessment is purely a self-assessment, at Level II and upon completion of the program the assessment needs to be validated by a mentor or CEnvP or practitioner of equivalent standing. The assessment may be discussed with a mentor who provides feedback to the candidate and evaluates whether the candidate is suitable for upgrade (i.e. whether he/she has demonstrated progress towards achieving the competencies). Should a STEP participant not want to engage in a mentorship program, the validation can be done by any other CEnvP or practitioner of equivalent standing.

Towards the end of the program, the practitioner is expected have achieved sufficient competency in all listed competency areas.

Discussion Points
It needs to be defined more clearly who will be eligible to validate the competency self-assessment, and what is the procedure for assessment. Questions to be considered include: Do assessors have to be EIANZ members? Do participants that do not have a mentor have to find an assessor themselves, or will this be done centrally? **Guidelines for assessment** would need to be established, including eligibility criteria for assessors and assessment procedure.
In addition to the CPD log it might be considered to ask STEP participants to keep a **Reflective Journal** that reflects upon how the CPD taken contributed to the individual's learning, and how it helped in particular to achieve the competencies required. Appendix provides a template for such a Reflective Journal.

6.6. Continuing Professional Development (CPD)

CPD is the cornerstone of the STEPs program. STEP aims to help young practitioners develop their professional competencies through continuous learning and training. The granting of STEP certificates is dependent upon the practitioner's commitment to professional development. For STEP members aiming for certification within EIANZ it is strongly recommended to work towards meeting the CPD requirements for CEnvPs in the order of 50 CPD Credit Points per year.

<u>Selection of CPD activities</u>
The selection of CPD activities should be based on the competency self-assessment. Mentors can help to identify training needs and select suitable

CPD activities. The list of core competencies (Table 5) should form the basis for identifying competency gaps and training needs, and selecting appropriate CPD activities.
It is strongly recommended that practitioners engage in at least some of the STEP Training Modules that will help them cover the core competency areas.
A practitioner might wish to engage in CPD activities outside the STEP program such as CPD activities offered by other professional bodies and educational institutions, and specialised training in a specific area of environmental practice. These activities are acknowledged by allowing CPD Credit Points to be claimed for any such activities relevant to an individual's career development.
It is recommended that a simple database is created with information on CPD providers that offer training in the core competency areas. As part of this project a number of training providers were compiled in an excel spread sheet. This document could be extended and updated. The CPD logs presented by STEP participants could provide valuable information on training available on the market. EIANZ could compile a list of recommended/accredited courses in the core competency areas.

Accumulating CPD Credit Points
STEP participants can obtain credit points for CPD activities in accordance with the CPD guidelines (Appendix 5). All activities for which Credit Points are claimed need to be documented in a STEP CPD log (Appendix 10). The CPD log particularly asks to comment on how the CPD activity helped to achieve competency in the core competency domains.

Specialised training
Practitioners normally need to broaden as well as deepen their skills and knowledge as part of their professional development. Besides developing enabling and generic competencies, a practitioner normally also needs to develop specialised, technical competencies in a particular field of specialisation. These specialised training needs are not particularly addressed within the STEP program. It is the responsibility of each practitioner to engage in additional specialist training outside the program as required by job and area of specialisation.
While specialised CPD is not an integral part of the program, EIANZ can support STEP participants through:

- The Mentoring program: if possible, the practitioner will be matched with an experienced practitioner in an area of practice and specialisation suitable to those of the mentee. The mentor thus may help to identify specialised training needs and give useful advice for career development;
- EIANZ Special Interest groups: the EIANZ has established Special Interest groups in Impact Assessment and Ecology. STEP participants should be given the opportunity to get in touch with and possibly participate in those groups.

6.7. STEP Training Modules

The training modules are a key component of the STEP program. The content of the modules is directly linked to the core competencies that were identified

for environmental practitioners. STEP training modules are specifically designed to deliver the desired competencies and therefore represent a good opportunity for STEP participants to acquire these competencies. The modules particularly address issues that were identified as competency gaps, and for which training is not commonly offered on the market.

How do STEP participants select modules?

By the end of the STEP program, the participant needs to demonstrate competency in all areas that were defined as core competencies. During the program, he/she can choose to acquire these competencies by taking the STEP modules, by engaging in other types of CPD, through work experience, or a combination of these. What matters in the end is the competency – and not the way to get there.

At the beginning of the program the STEP participants will do a competency self-assessment that helps to identify individual competency gaps and training needs, and select appropriate CPD activities, including STEP training modules. It is envisioned that there will be no prescription as to the order in which the modules are taken. A participant might choose to only select individual modules, or engage in the entire program. It might not be feasible to offer every module each year, but it has to be guaranteed that all modules are offered over the 5-year program cycle.

All modules will be open to participants from within and outside the STEP program.

Accumulating Credit Points

- There will be no maximum or minimum amount of credit points that an individual can claim for STEP training modules.
- In line with the CPD requirements for certified practitioners, a STEP participant should demonstrate a minimum of 50 Credit Points per year (on average over a 2 year period). Credit Points can be claimed for a range of CPD activities taken within and outside EIANZ and STEP. The Credit Point scheme for certified practitioners applies.

Training format and delivery mode

It is recommended to offer the modules as 1-2 day workshops. According to EIANZ CPD guidelines, short courses count for 2 credit points per hour; thus a 1 or 2 day workshop would be equivalent to around 10 or 20 credit points.
It is also desirable to offer some distance learning courses; maybe these could be offered through TAFE Institutes or Agricultural Colleges that particularly cater for rural areas. This option needs to be investigated further.

Cost

The costs for participating in STEP training modules should be minimal. EIANZ seminars in SEQ usually cost in the order of $250 (members) and $300 non-members for 1 day seminars, or $100 (members) and $135 (non-members) for ½ day seminars. It is envisioned that STEP participants and EIANZ members will be charged a discounted fee.

Modules run by TAFE Institutes or Australian Agricultural Colleges might be able to receive funding through the Department of Education, Training and the Arts (DETA) as part of the Rural Skilling initiative. In this case participants would only be charged a minimal fee.

Training Providers

The STEP training modules will be delivered either directly by EIANZ or by selected other training providers. EIANZ will design all modules (i.e. EIANZ will define topics, training outcome and format) and will identify and collaborate with appropriate delivery organisations to run the training. The selected providers should have the expertise and experience, and be well-located, to offer training in the specific competency areas.

As part of this project, a number of training institutions were identified that might be suitable to deliver such training in Southeast Queensland. These include:

1. TAFE Institutes: these might be suitable to provide training in enabling competency areas such as report/professional writing. The modules should be specifically tailored to environmental practitioner's needs, e.g. 'report writing for environmental practitioners'. Some modules might be offered in distance-learning mode and could therefore cater for the needs of rural practitioners. Collaboration with TAFE could run under the Queensland Skills Initiative.
2. Australian Agricultural Colleges: These colleges currently offer training on conservation and land management topics. Training is specifically offered in rural areas. Collaboration could run under the Queensland Skills Initiative.
3. EIANZ: The EIANZ has the expertise and experience to offer training in generic environmental competency areas. The EIANZ SEQ Division has run a number of seminars on topics such as environmental ethics, and on topical issues such as water and climate change.
4. Universities: Griffith University has experience to run courses in environmental decision-making, and the University of the Sunshine Coast (USC) has a specialised program on climate change adaptation.
5. Other professional bodies: The Chifley Business School on behalf of the Planning Institute of Australia (PIA) and Engineering Education Australia on behalf of Engineers Australia offer a number of courses in enabling competencies such as effective communication, negotiation and mediation, document writing skills, project and time management.

EIANZ might wish to further investigate the opportunities to collaborate with some of these institutions to provide STEP Training Modules. EIANZ could also accredit/endorse a number of CPD courses offered by training providers that are not part of the STEP modules but that do provide training in the core competency areas. Accreditation in this context means that those courses will be put on a list of recommended courses, but EIANZ would not assess quality

of those courses and would have no direct input into content and format.

Quality control & Relevance (Monitoring & evaluation)

There should be a mechanism to monitor and evaluate whether the training modules are effective in equipping STEP participants with the desired competencies, and whether the offered module topics continue to reflect the needs of environmental practitioners.

- Quality of learning outcome: The selection of training providers should be based on expertise and experience in a particular competency area as to ensure high quality of the training. It is envisioned that there will be no formal assessment of the participant's learning outcome. Participants will explain as part of the CPD log how the activity has helped them to obtain competencies.
- Evaluation/Feedback: Seeking feedback from participants should be a standard component of the training procedure. The standard EIANZ feedback form could be adapted for this purpose and specifically include questions relating to the core competencies addressed in the module.
- Review of module topics: EIANZ should regularly review the content of training modules and assess whether they still represent current issues. As the list of core competencies might be revised from time to time, the training modules will also have to be adapted.

Content

While it is desirable that training modules eventually are offered for all core competencies, this might not be feasible in the short term.

When selecting topics, the following should be considered:

- There should be no overlap in the content of modules;
- The topics should be related to the core competency list;
- The modules should focus on filling gaps in competency and gaps in training provided on the market (e.g. environmental ethics, stakeholder consultation)
- Module topics should be current and include topical issues such as climate change, water issues (EIANZ priority topics);
- The modules should offer generic, not specialised/technical training;
- The topics should be reviewed from time to time and the training program adapted.

Proposed list of STEP Training Modules

Tables 1 and 2 suggest a preliminary list of modules. The tables describe the core competency domain that the modules address, a list of topics to be covered, desired learning outcomes, and potential providers in SEQ that might be suitable to deliver the modules.

Initially, the program could start with offering only a few modules. Table 7 suggests topics that could relatively easily be delivered in the short- to medium-term as courses/seminars.

The modules were selected based on the following criteria:

- They address core competencies as outlined in the list of core competencies for environmental practitioners;
- They address topics where EIANZ already has the experience and expertise to run the modules itself, or that can be run by a few selected partner institutions that EIANZ already has established contacts with (Griffith University, University of Sunshine Coast, possibly TAFE);
- There are a number of already existing courses offered by professional bodies such as PIA and Engineers Australia that deal with core competencies – it might be possible to refer STEP participants to those courses (as recommended/endorsed/accredited courses) rather than running them as separate modules.

Other potential modules

The module topics listed in Table 8 would be interesting to offer, but there are already quite a few courses available that address these topics. Maybe in the short term it would be preferable to refer STEP participants to the already existing courses, and then develop modules for these topics at a later stage. Environmental Impact Assessment could possibly be offered as a module by EIANZ itself, especially if it plans to offer a specialised certification scheme for impact assessment. Maybe the Special Interest group on Impact Assessment could be involved here. Some more market research would be needed to identify suitable training providers.

Table 7: Proposed STEP Training Modules

Core competency	Module	Topics	Learning outcome/achievements	Potential Providers (SEQ)
Effective communication & interpersonal competency	Stakeholder/community consultation and dispute resolution	• Public participation/stakeholder consultation techniques, including meeting procedure • Problem/conflict solving: dispute resolution, negotiation, mediation	• Good communication skills with diverse range of people/stakeholders • Ability to conduct stakeholder consultation • Gain understanding of, and ability to analyse the causes of a conflict and appropriate ways of addressing these (through dispute resolution, negotiation, mediation) • Ability to integrate variety of stakeholders into the decision-making process, balance interests and mediate conflicts	• EIANZ • Chifley/PIA (Planning Practice Course)
	Report writing	• Audience and task analysis • Researching strategies • Organising information • Clear, concise, powerful writing • Optimise layout • Quality assurance/checking	• Ability and confidence to deliver high quality reports, on time • Obtain practical skills to ensure that documents are written and present with clarity, accuracy and impact • Pinpoint and meet your target audience's requirements	• Chifley • TAFE • Engineering Education Australia
Environmental awareness	Sustainability	• Key principles, including precautionary principle • (best) practices & implementation • Australia's commitment • Corporate sustainability (incl. cleaner production)	• Ability to contribute to sustainable development through application of knowledge & understanding, • Develop practical sustainable applications/solutions (products/services), • identify best practices • Demonstrated commitment to sustainability • Understanding of inter-relationship and inter-dependence of social, economic and ecological issues in dealing with	• EIANZ • Griffith University

			environmental issues	
	Climate change	• overview & history of CC issue • CC impacts (ecological, human health, economic) • Mitigation & adaptation • Implications for Australia/SEQ? • Policy development	Increase awareness of key principles, new knowledge, tools and case studies related to addressing climate change	• University of the Sunshine Coast • EIANZ • Griffith University
Environmental Policy & Planning	Environmental decision-making	• decision-making process • gathering & using data • public participation • decision-making tools (EIA, CBA, LCA, SoE reporting, Risk Analysis, GIS, Modelling, EMS, auditing) • conflict (dispute?) resolution • professional ethics	• develop working knowledge of the process of environmental decision-making • develop ability to critically analyse past environmental decisions and transfer that knowledge to deal with future decisions • have appreciation of the many facets that underscore and influence environmental decisions such as dealing with risk/uncertainty and conflict of interest • develop varied contexts of decision-making (e.g. public participation, interdisciplinarity, communication, tools for assessment) • develop ability to transfer theoretical aspects of decision-making to practical situations	• Griffith University • EIANZ
Environmental ethics	Environmental Ethics	• environmental ethics & professional practice (ethics, legal obligations, personal/corporate liability/accountability, insurance) • perspectives from different disciplines: science, planning, law, engineering • Value systems &	• Ability to recognise ethical issues • Basic understanding of environmental ethics, value systems & paradigms • Ability to use a process to work through ethical dilemmas • Personal commitment to professional standards (codes of ethics)	• EIANZ

		paradigms/theories of environmental ethics • Institutional ethics: Codes of ethics, public policy, certification • Ethical dilemmas • Expert witness		

Table 8: Other potential modules

Core competency	Module	Topics	Learning outcome/achievements	Potential Providers (SEQ)
Analysis & Assessment	Risk & Uncertainty	• risk analysis & assessment (hazard identification, exposure assessment, dose-response relationships, risk characterisation) • statistical certainty (dealing with risk/uncertainty in decision-making) • risk management • Precautionary principle • Site remediation • Risk communication	• Ability to apply methodological skills in hazard identification, exposure assessment, dose-response relationships, risk characterisation and risk management • Ability to apply risk management strategies/tools • Understand the role of risk/uncertainty in decision-making	• IWES • EnTox • CRC for Contamination Assessment and Remediation of the Environment • Chifley (risk mgt) • Graham A Brown • Engineering Education Australia
	Environmental impact assessment	• Background (purpose and aims, key elements, scope, principles, cost and benefits, strengths & weaknesses) • Law, policy, institutional arrangements • public involvement • EIA process (screening, scoping, prediction, evaluation, mitigation/impact	• appreciate purpose & role of EIA in decision-making process; • understand strengths, limitations, process of conducting EIA • ability to apply techniques for estimating environmental and social impacts; • know the format of an EIA Report (EIS)	• Global Virtual University • EIANZ • Griffith University

		mgt, monitoring, reporting)		
	Spatial data analysis	• Remote sensing: overview of RS technology and its applications in monitoring & management of earth resources. Visual interpretation and computer processing of data sources such as satellite imagery, RADAR, thermal imagery and aerial photography • GIS: concepts and practice, overview of applications in the applied sciences and related fields, practical training in the use of GIS software. • spatial data analysis, map construction, classification, change detection, cartographic modelling and demographic change.	• Competence with RS software • Competence with GIS software • Demonstrated application of the skills	• Griffith University • UQ (Master, unit) • Online: TAFE NSW Riverina Institute;Charles Sturt Uni; Murdoch Uni; Uni of New England (grad cert); GISCA (Uni of Adelaide)
	EMS & Environmental Audits	• EMS standards - ISO14001 and EMAS: benefits, requirements, principles, legislation & compliance • env impacts/risks & control measures • corporate environmental plans, policies, and procedures/best practices • audits	• understand EMS standards - ISO14001 and EMAS: benefits, requirements, principles, legislation & compliance • Identify env impacts/risks & develop control measures • develop & apply corporate environmental plans, policies, and procedures/best practices • implement internal/external audit	• BSI Management Systems (EMS short courses), • ACI (EMS trainings 4-12 weeks) • Graham A Brown (basic & advanced EMS, env audit certification); • SAI GLOBAL (EMS introductory, intermediate,

				env audits - introductory, intermediate, adv)
	Legislation & governance	• key State and Federal Environmental protection legislation & policies (and recent changes that impact on environmental practice); • best practices and contemporary methodologies and tools in environmental policy and planning • compliance & enforcement	• examined current best practice in environmental policy and planning; • explored a range of contemporary tools and methodologies available to environmental practitioners; • understand key environmental legislation and identified recent changes in legislation and policy that impact on environmental practice; • augmented knowledge of working in courts and tribunals, and of the role of statutory interpretation and judicial decisions on environmental practice and • reflected on the practical application of the tools and principles presented in this unit to their workplace. • Ability to understand and assess compliance & enforcement	• SAI GLOBAL (env compliance -introductory, intermediate); • EIANZ • Online: Centre for Environmental Management and Compliance, Uni of SA (env compliance grad cert)

6.8. STEP Mentorship Program

STEP members may participate in this optional program where they will be paired up with an experienced environmental professional (CEnvP or of equivalent standing) based on career compatibility and location. This opportunity allows participants to expand their network and learn from a more experienced person in the respective field. The mentor is also responsible for providing the member with feedback on the Competency Self-assessment and can give a recommendation towards the practitioner's suitability for upgrade to, or direct entry into STEP Level II.

For mentors such an engagement is an opportunity to pass some of their experiences and knowledge on to the next generation of environmental practitioners. It is also an opportunity for experienced practitioners to develop their interpersonal skills and gain knowledge about important new scientific developments in their field. A mentor who is also a Certified Environmental Practitioner (CenvP) receives 1.5 CPD points per hour of mentoring activities, up to a maximum of 40 points per 2-year period. Supporting evidence might include diary entries or a statement from the mentee.

Eligibility

Mentees must:	Mentors must:
• Be currently enrolled in the STEP program; • Willing to learn from their mentor and to make best use of their mentor's valuable time; and • Be available to commit to the time requirements of the programme, i.e. to participate in a minimum of one 'contact' per month for at least three months	• Be full Members or Fellows of the EIANZ • Have an established work record within the industry (CEnvPs or of equivalent standing?); and • Be available to commit to the time requirements of the programme, i.e. to participate in a minimum of one 'contact' per month for at least three months

How to pair mentor/mentee

STEP participants will be paired with an experienced environmental professional (CEnvP or of equivalent standing) based on career compatibility and location. The Matching Checklist developed by the EIANZ NSW Division (Appendix 7) could be adapted for this purpose.

Ideally, a mentor should be paired up with one mentee. However, if insufficient numbers of EIANZ members volunteer to provide mentorship, group mentoring could be an alternative of second choice. In group mentoring programs an experienced practitioner is paired with four to six mentees. One potential advantage of the mentoring group is that mentees can learn from each other as well as from a more experienced practitioner (Kaye, B and Jackson, 1995).

When to engage in the Mentoring program

It is recommended that a STEP participant engage in the mentoring program towards the end of each STEP Level. This engagement is a good opportunity for STEP participants to reflect upon their professional development and progress towards the first half of the program towards achieving the core competencies required for certification. The mentee can make use of the mentor's expertise and experience to discuss career development and aspirations.

Roles and Responsibilities:

Tasks of the mentor include:

- Validation of, and feedback on, competency self-assessment,
- Provide guidance with respect to career development, recommend further study, help to identify specialised training needs (specialised CPD is otherwise not addressed in STEP).
- Provide support and advice to help the mentee prepare for CEnvP application.

Recommendations

- The SEQ Division has endorsed a set of mentoring guidelines. These guidelines need to be revised to include guidelines for the STEP Mentoring program.
- The Registered Landscape Architect scheme of the Australian Institute of Landscape Architects (AILA) is a good example how mentoring can be integrated into the competency assessment of practitioners. The scheme applies clearly defined procedures, roles and responsibilities for the mentorship program. Further information available at www.aila.org.au.

Discussion Points

Depending on the number of participants in the program, it might pose a challenge for EIANZ to find for every participant a mentor in a suitable area of practice. Should one-to-one mentoring not be feasible, **group mentoring** might be considered. For the first round of participants, the EIANZ could announce a **call for mentors**.

6.9. STEP Certificates

There are two types of STEP Certificates:

- Certificate of Enrolment (Basic or Intermediate level)
- Certificate of Completion (Basic or Intermediate level)

Certificates of enrolment are granted upon successful application to the program. Certificates of completion would be issued based on:

(a) Evidence of competencies

- From their work experience & qualifications
- From completion of STEP modules
- From other CPD activities

(b) CPD points (average of 50 CPD Credit Points per year)

6.10. STEP Register

All current and former STEP participants should be entered into a database. Initially, this database may be used only for internal administrative purposes and should include information such as:

- Contact details
- Area of practice
- Program details: Application date, level of entry and current level (basic or intermediate), date of completion
- Mentor
- After completion: have participants applied for CEnvP? If yes: was the application successful/deferred/rejected?

Similar to the Board register of certified practitioners, the STEP Register may eventually be made accessible to the public. This would provide opportunities for employers to seek competent and ethically responsible employees.

Discussion Points
In the future it would be desirable to also have some **additional services** available to STEP participants, such as:

- National network: Access to a comprehensive network of professionals online.
- Job opportunities: Access to online listing of environmental jobs, or receive select listings via email through a monthly e-newsletter.
- Courses, Workshops, and Conferences: A members-only searchable database

These services would be tangible benefits to participants and be additional "selling-point" of the program.

6.11. Recommendations for STEP Advancement and Delivery

As follow-up activities from this project it is recommended that the following actions be taken:

Seek further feedback
It is recommended that this program proposal be reviewed and distributed to a wider audience for feedback. One such opportunity for feedback from within the EIANZ community is the annual EIANZ national conference. Input should be particularly sought from the Certification Board and the EIANZ SEQ Students and Young Professionals Committee. Only after further revisions should the program be implemented as a pilot run.

Seek funding
Some additional funding would be needed to start the program and cover initial expenses such as to:

- Produce marketing materials (brochures, website),

- Hire a program coordinator and/or administrative assistant (STEP Registrar?)

A budget for STEP implementation should be drafted, and sources of funding investigated. Government funding opportunities such as the QLD Skills Initiative should be pursued further.

Collaboration with training providers

It is envisioned that EIANZ will collaborate with other educational institutions and professional associations to provide training to STEP participants. This project has proposed a number of STEP training modules and recommended providers. The training modules now need to be designed in more detail, and collaboration/partnerships with training providers need to be established. It is particularly recommended that EIANZ further investigate the opportunity to collaborate with TAFE Institutes and the Australian Agricultural Colleges under the umbrella of the Queensland Skills Initiative of the Department of Education, Training and the Arts (DETA).

EIANZ might also consider endorsing/accrediting a number of training courses outside the STEP program.

Marketing/Promotion

The program will need to be promoted through a range of channels, including:

- Marketing on campus, publishing information;
- Campaigns to make employers in the industry aware of STEP program by enhancing its prestige;
- Promotion within EIANZ: SEQ SYP Network, mailing list, within SEQ Division, at EIANZ events, e.g. national conference;
- Promote program through other networks: TAFE, Agricultural colleges, other professional bodies (e.g. PIA, EA), environmental groups such as Landcare, Greening Australia, Environmental Defenders Office etc.

Monitoring & Evaluation

The program was designed based on a preliminary need assessment for early-career environmental practitioners. Once the program is being implemented, it should continually evolve, improve, and adapt to new and changing needs. Monitoring and evaluation are an integral part of the implementation phase, and they provide the means to measure the effectiveness of the program and allow for continuous improvement and adaptation.

Monitoring and Evaluation require the identification of objectives (overall/phase), assumptions, indicators, data source, data collection method, and who is responsible for data collection, analysis and reporting.

<u>Monitoring</u>

Monitoring refers to the ‘regular collection and analysis of information to assist timely decision-making, ensure accountability and provide the basis for evaluation and learning’ (Gujit and Woodhill 2002: Annex A-6). Monitoring activities as part of the STEP program should include administrative procedures such as:

- Recording number of STEP participants, number of “graduates” from

program, number of those applying for certification (nr of those accepted, deferred, rejected), which areas of practice they come from
- Regular feedback forms for all activities (standard EIANZ workshop feedback forms could be adapted for this purpose)
- Record number of participants for each training module
- Record mentorship engagement, seek feedback from mentors and mentees
- CPD database – request course outlines for all CPD activities that STEP participants are engaged in (inside and outside STEP) and that they claim credit for – put this info into database so will be available to next batch (adaptive framework)

The data can be used for immediate feedback and program adaptation, and it can be used for program evaluation.

Evaluation

Evaluation refers to a systematic and objective assessment of the relevance, performance and success of a project (AMI). It is a time-bound exercise that is done at a particular point in time, for example after a pilot-run of the initiative.

For the STEP program it might be useful to review the program after 2-3 years when the first participants will have passed through the first stage of the program. At this time necessary changes can still be taken before the first candidates complete the project and enter the CEnvP application process. The evaluation would particularly look at the **structure**, **process** and **content** of the program and would assess questions such as:

- Have any difficulties and unforeseen issues arisen during implementation? How can these be solved?
- Are participants satisfied with the program structure, process and content?

This (mid-term) program evaluation should seek feedback particularly from current STEP participants, for example through a survey/questionnaire or an informal workshop/meeting.

A second evaluation of the program should be done after the first complete run/cycle of the program (after around 5 years from implementation). By this time the first participants will have completed the program and applied for certification. This evaluation would focus on the **outcome**, or **impact**, of the program. It would assess how effective the program is in achieving its overall purpose. The assessment could include questions such as:

- Has the program been successful in preparing participants for certification? Has the program improved a candidate's likelihood of becoming certified?
- Is the content of the program still relevant? Does the list of core competencies still reflect current thinking?
- Can or should the program be implemented in other parts of Australia? How would the program have to be adapted to be suitable for other regions?

The second evaluation could seek feedback on the program from:

- STEP mentors: have their mentees demonstrated progress in

achieving the competencies? Has the mentorship program been useful and how could it be improved? Has the Competency Self-Assessment been a useful tool to identify competency gaps and training needs? Did any difficulties or unforseen issues arise during their engagement?

- STEP members: has the program prepared them well for certification? Where they satisfied with the overall program? What was useful and what not?
- Certification board: have STEP participants demonstrated sufficient competency for certification and are they more likely to become certified than other applicants? Were there any competency gaps detected? Is the list of core competencies considered useful for the certification process, and does it still reflect current thinking?

Discussion Points
The EIANZ could consider running regular **workshops** with STEP participants and other early-career professional to identify their training needs. After some years of experience it might be possible to identify priority topics which EIANZ could run on a regular basis.

7. Action Plan (short-medium term)

Project 1: FORMALISING THE STRUCTURE OF EIANZ PROFESSIONAL DEVELOPMENT PROGRAMS			
Topic	Activity	How	Who
Environmental competencies	• Review list of core competencies	This could be done at the national EIANZ Conference in October 2008. The list should also be distributed to Certification Board for feedback.	SEQ Division to take lead, with involvement of PD committee and Certification Board
	• Integrate competency list into certification process	Seek endorsement of core competencies from Certification Board and include them as eligibility criteria for certification	Certification Board
Special Interest Sections	• raise profile/visibility of SIS and integrate them into PD programs	• Create clear links on EIANZ website to SIS websites/documents • Integrate SIS into STEP program (as mentors/assessors)	SEQ Division in cooperation with relevant groups and committees
Mentoring	• strengthen mentoring program and integrate it with STEP mentoring	• review SEQ Division mentoring guidelines to include STEP mentoring • initiate call for mentors (especially for STEP mentoring)	SEQ Division
SEQ PD Strategy	• Review and endorse SEQ PD Strategy	• Revise Draft PD Strategy for SEQ (Appendix 6) • endorsement of PD Strategy by the Division	SEQ Division/PD committee
CPD guidelines	• Develop & endorse CPD guidelines	• It is recommended that the Institute endorse CPD guidelines that are applicable to STEP participants, CEnvPs, and members. • CPD requirements are compulsory for STEP participants and CEnvPs. For members the guidelines might be for guidance only, or the Institute might consider establishing compulsory CPD requirements for members as well. • The guidelines need to be endorsed by the PD committee and/or other relevant committees.	SEQ Division/PD committee
Action Plan	• Review Action Plan & PD priority setting	• Annually, the Division should review the Action Plan and set PD policies for the year	SEQ Division
Accreditation	• Assess whether accreditation of CPD courses is an option	• Look at accreditation procedures & policies of other professional bodies • Review CPD offers of other training providers and identify key	SEQ Division, PD committee

	for EIANZ	institutions that provide training in core competencies • Establish communication with key people from training providers and discuss ways of collaboration • Initially the accreditation procedure will be applied for the STEP program at Division-level. Eventually, the EIANZ could consider establishing a formal, Institute-wide accreditation process and policy.	

Project 2: STAGED TRAINING FOR ENVIRONMENTAL PRACTITIONERS (STEP)			
Topic	Activity	How	Who
	• Set up STEP committee	• Nominate representatives from relevant groups and committees (including PD committee, SEQ Executive Committee, SYP Committee)	SEQ Division
	• Seek funding to kick-off the program	• Draft budget and consider sources of funding • Draft proposal for government funding	
	• Run STEP program as pilot project	• Implement program in SEQ as pilot project • review after a pilot phase and modify if needed • consider implementation in other Divisions?	SEQ Division
	• Establish "guidelines for competency assessment" or "guidelines for assessment of STEP achievement"	• The guidelines should include eligibility criteria for assessors, roles and responsibilities, procedures etc.	SEQ Division
Mentoring	• Establish guidelines for STEP mentoring	• The guidelines should include eligibility criteria for mentors and mentees, roles and responsibilities, procedures etc. • It is envisioned that the mentoring program be linked to the assessment of STEP achievement (validation of competency assessment) – the guidelines should include a special section on this component	SEQ Division
	• "Call for mentors"	• Publish a call for mentors in relevant networks and publications (mailing lists, newsletter etc)	SEQ Division
Collaboration & Accreditation	• Collaborate with training providers	• Communicate with training providers such as PIA, EA, TAFE, universities (Griffith University, University of Sunshine Coast) to discuss collaboration (i.e. running STEP modules). Contacts have been established with TAFE, DPI&F and Agricultural Colleges – needs follow-up. • Consider accreditation of CPD courses in core competency areas (see above)	SEQ Division

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Appendix 1: Key Competences for Certified Environmentalists (CEnv)
Source: Society for the Environment (UK)

A	Use knowledge and understanding of the environment to further the aims of sustainable development.
A1	Understand fundamental sustainable development principles, in particular the environmental management component. Some examples of how this could be demonstrated are: • Describe the relationship between economic, social and environmental issues. • Understand the need for natural resource protection. • Understand the need to create sustainable communities – places where people want to live and work, now and in the future. • Understand the need for sustainable consumption and production and the requirement to achieve more with less. • Identify global environmental issues and define how they can impact at a local level.
A2	Demonstrate an ability to contribute to sustainable development through the application of knowledge and understanding. Some examples of how this could be demonstrated are: • Identify the limits of own personal knowledge and skills. • Promote environmental improvement throughout the organization's customer and supplier networks. • Have regard to relevant legislation and regulatory frameworks, including social and employment legislation. • Operate and act responsibly, taking account of the need to progress environmental, social and economic outcomes. •
A3	Explain the critical importance of maintaining and enhancing natural cycles and biodiversity in achieving sustainability. Some examples of how this could be demonstrated are: • Identify links between natural resource degradation, habitat destruction and impact on species, consequent upon depleting natural resources. • Understand important natural cycles (hydrological, carbon etc) and the potential impact of people and organisations on them.
B	Analyse and evaluate problems from an environmental perspective and develop practical sustainable solutions.
B1	Clearly analyse and evaluate environmental problems. Some examples of how this could be demonstrated are: • Identify and agree appropriate environmental assessment methodologies (which might include Life Cycle Assessment, Environmental Impact Assessment and Strategic Environmental Assessment). • Use imagination, creativity and innovation to provide products and services that support the principles of sustainable development.
B2	See beyond strict legislative compliance and anticipate environmental trends. Some examples of how this could be demonstrated are: • Understand current environmental legislation and anticipate its future direction. • Demonstrate how future possible legislation might influence current decision-making. • Anticipate possible environmental change and predict possible consequences.

C	Demonstrate leadership in sustainable management of the environment.
C1	Seek to positively influence others in respect of environmental issues, effects and sustainable development. Some examples of how this could be demonstrated are: • Actively learn from feedback on results to improve future environmental solutions and build best practice. • Negotiate the necessary contractual arrangements with other stakeholders (client, subcontractors, suppliers, etc.). • Encourage others to understand the wider environmental picture • Provide leadership ensuring development is carried out in a sustainable manner.
C2	Promote a positive sustainable environmental culture and move towards sustainability. Some examples of how this could be demonstrated are: • Identify and influence users' needs and opportunities for environmental improvement. • Assess marketing needs and contribute to marketing strategies. • Identify constraints and exploit opportunities for the development and transfer of technology within own chosen field. • Promote new environmental applications and /or solutions when appropriate. • Influence others to promote behavior and culture change.
C3	Demonstrate leadership and management skills. Some examples of how this could be demonstrated are: • Motivate others - agree objectives and work plans with teams and individuals. • Identify team and individual needs, and plan for their development. • Assess team and individual performance, and provide feedback. • Mentor and support others in the work place.
D	Demonstrate effective interpersonal skills.
D1	Develop and communicate the environmental case. Some examples of how this could be demonstrated are: • Contribute to, chair and record meetings and discussions. • Prepare letters, documents and reports. • Exchange information and provide advice to colleagues. • Engage with a wider audience by writing articles / guidelines / books etc.
D2	Identify, engage with and respond to an appropriate range of stakeholders. Some examples of how this could be demonstrated are: • Be aware of the needs and concerns of others. • Form and maintain productive working relationships with others. • Understand and encourage stakeholder involvement and be accountable to them.

D3	Develop effective means with which to liaise with and advise others. Some examples of how this could be demonstrated are: • Organise and lead work teams, coordinating project activities. • Provide feedback to colleagues and recommend improvements. • Present conclusions of environmental debates clearly and concisely when consulted.
E	Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.
E1	Ensure individuals and organisations are accountable and understand their responsibility for environmental damage and improvement. Some examples of how this could be demonstrated are: • Comply with the rules of professional conduct of own professional body. • Promote and engage /comply with environmental reporting and disclosure within limits of client confidentiality. • Work constructively within relevant legislation and regulatory frameworks, including social and employment legislation • Ensure that variations from environmental standards, improvement programmes and budgets are identified, and that corrective action is taken. • Sign and commit to SocEnv Code of Ethics.
E2	Take responsibility for own personal development and work towards and secure change and improvements for a sustainable future. Some examples of how this could be demonstrated are: • Develop and evaluate opportunities and constraints for continuous environmental improvement. • Identify the required cost, quality, safety, reliability, appearance, fitness for purpose and environmental impact of changes and improvements. • Actively learn from feedback on results to improve environmental outcomes and establish best practice. • Undertake reviews of own development needs Prepare and evaluate action plans to meet personal and organisational objectives.

Appendix 2: EIANZ CPD activities 2004-2008 in relation to Core Competency areas

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
The Art and Science of Impact Assessment	Conference (co-hosted with IAIA)					X		
- key policy topics (Water, Climate Change, Sustainability & Energy) - future of environmental practice, including future approaches, global Impacts, business opportunities and required skill sets.	EP3Conferences		X		X			
Climate change, sustainability, water, biodiversity, Env Ethics, env law & licensing, env mgt plans, impact assessment certification, ecological standards	Annual Conference 2008				X	X	X	X
SEQ Division								
Ethics in Environmental Decision-making	Seminar/workshop							X
Climate Change Boot Camp	Seminar/workshop				X			
Sustainable Infrastructure	Seminar/workshop							
Corporate Sustainability	Seminar/workshop				X			
Impact Assessment – a process not a product	Seminar/workshop					X		
Workable Environmental Management Plans	Seminar/workshop						X	
Energy for the Future – Dispelling the myths	Seminar/workshop							
Ethics in Environmental Practice – Conflicts, Challenges, Credibility	Seminar/workshop							X
Erosion and Sediment Management Forum	Seminar/workshop							

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
SEQ Division (continued)								
Uniting Community Consultation and Impact Assessment	Seminar/workshop			X		X		
Adaptation to climate change	Seminar/workshop				X			
Expectation vs Reality – is the Env Protection Act practical?	Seminar/workshop						X	
Local Growth Management – the business end of the Regional Plan	Seminar/workshop							
Erosion and Sediment Control	2 day conference							
Perspectives on urban and rural planning – getting our acts together	Seminar/workshop						X	
Successes and challenges in sustainability	Seminar/workshop				X			
The QLD EP Act – recent changes impacting on anyone undertaking an Environmentally Relevant Activity (ERA)	Seminar/workshop						X	
Regional NRM groups and gov – managing natural resource assets and making it work	Seminar/workshop						X	
Water recycling strategy – Ipswich Water	Seminar/workshop							
The SEQ Regional Plan	Seminar/workshop						X	
Boomtown at the port of Brisbane – the strategy for sustainable development	Seminar/workshop				X			
NSW Division								
Community Engagement (online consultation tools)	Seminar/workshop			X				
Sustainable building	Seminar/workshop							
Sustainability Forum	Seminar/workshop				X			

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
NSW Division (continued)								
Professional Environmental Practice in the NSW Land and Environment Court (learn to be expert witness)	2-day training course		X					X
Sustainability Advantage Program	Seminar/workshop				X			
Interrelationship between EP&A Act and Threatened Species Legislation	Seminar/workshop						X	
NSW Targets for Natural Resources	Seminar/workshop						X	
Biodiversity and Climate change	Conference (planned)				X			
Communicating sustainability (for town planners)	Presentation at PIA conference			X	X			
Celebrate or Commiserate 25 yrs of EIA in NSW	Seminar/workshop					X		
FNQ Division								
How to build a village – an alternative to suburbia	conference							
Environmental design in the era of climate change in tropical northern QLD	Seminar/workshop				X			
A sustainable future – the big picture	Seminar/workshop				X			
Public forum to discuss EIS for proposed Ocean Terminal	Seminar/workshop					X		
ACT Division								
ISO Environmental and Greenhouse Standards – Update, future and their use in regulation	Seminar/workshop						X	
Strategic Environmental Assessments and the EPBC Act	Seminar/workshop					X	X	

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
VIC Division								
Sustainability Youth Forum – Sustainability and Australia (priority areas: water, CC, waste, social sustainability)	Seminar/workshop				X			
Ethics Panel discussion: standing on our own feet – the environment profession gets active	Seminar/workshop							X
Energy Resource Efficiency Program, and Design for Sustainability	Seminar/workshop				X			
Corporate Social Responsibility	Seminar/workshop				X			
Net Gain policy for native vegetation (planning tool)	Seminar/workshop						X	
Green jobs in developing countries	Seminar/workshop							
How to achieve and environmentally sustainable Victoria?	Seminar/workshop				X			
Geo-Spatial Techniques for Environmental Management	Seminar/workshop					X		
Being an expert witness	Seminar/workshop		X					X
EMS – Victorian Government; Update ISO 12001-2004 changes Ecological risk assessment	Seminar/workshop					X	X	
SA Division								
Carbon credits	Seminar/workshop				X			
Site contamination legislation & regulation	Seminar/workshop						X	
Carbon accounting	Seminar/workshop				X			
Greening organizations – government, councils, business, universities	Seminar/workshop				X			

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
SA Division (continued)								
Changing behaviour – recycling, water use, energy conservation	Seminar/workshop				X			
Time management	Seminar/workshop		X					
Socially responsible investment	Seminar/workshop							
Understanding water resource planning	(planned)						X	
Uranium cycle – risks & opportunities for SA	(planned)							
Leadership	(planned)							
Resource Recovery: myths & realities of recycling	(planned)							
WA Division								
Key issues: Clearing of native vegetation Salinity Sustainability Phytophtora dieback EMS Environmental auditing Air quality Contaminated sites Amendments to environmental legislation	Seminars, conferences, workshops				X	X	X	
TAS Division								
NRM Strategy for TAS	Seminar/workshop						X	
Practicalities of Developing Environmental Monitoring Programs	Seminar/workshop					X	X	
Professional Ethics	Seminar/workshop							X
Future Directions for Environmental Regulation	Seminar/workshop						X	

		Core Competency areas						
Topic	Type & format	Critical thinking	Professional practice	Communication & interpersonal competency	Environmental awareness	Analysis & Assessment	Policy & Planning	Ethics
TAS Division (continued)								
Repair, Reconstruction and Reconciliation. - Values in Sustainability Reporting - managing & mitigating hydro impacts in TAS - stormwater mgt Agricultural reuse of biosolids - construction of linear infrastructure – where does the disturbance go? - remediation of former Launceston Gasworks - odour impact assessment - woodsmoke - community engagement strategies to build local ownership	1-day Conference			X	X	X	X	
NZ Division								
Carbon trading	Seminar/workshop				X			
Thoughts, issues and research on developing sustainable communities	Seminar/workshop				X			
Undertaking EIA on projects from around the world	Seminar/workshop					X		
Biodiversity offsets – intl and NZ perspectives	Seminar/workshop				X			
Innovative tools for mitigating impacts on waterways	Seminar/workshop						X	
Biodiversity offsetting	Seminar/workshop				X			
Total		0	4	4	27	12	21	7

Appendix 3: Other courses relating to core competencies (in QLD)

Core competency	Title	Format	Delivery	Provider	Link
Enabling					
Critical thinking	Strategic Thinking	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Innovate. Create. Solve.	Short course	Face-to-face	Chifley	www.chifley.edu.au
Effective communication & interpersonal competency	Negotiation skills and dispute resolution	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Effective communication, negotiation and mediation	Planning Practice Course unit	Face-to-face or online	Chifley/PIA	www.chifley.edu.au
	Effective People Skills	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Document writing skills	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Writing winning technical documents	Short course		EEA	www.eeaust.com.au
	Professional presentation skills	Short course	Face-to-face	Chifley	www.chifley.edu.au
Professional practice	Time and priority management	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Project management	Short course and Planning Practice Course unit	Face-to-face or online	Chifley	www.chifley.edu.au
	Strategic Planning and Implementation	Short course		Chifley	www.chifley.edu.au
	Managing Self and Others (including teamwork)	Short course	Face-to-face	EEA	www.eeaust.com.au
	Mentoring	Short course	Face-to-face	EEA	www.eeaust.com.au
	Negotiation skills	Short course	Face-to-face	EEA	www.eeaust.com.au
	Personal time management	Short course	Face-to-face	EEA	www.eeaust.com.au
	Project management	Short course	Face-to-face	EEA	www.eeaust.com.au
Generic					
Environmental awareness	Climate change adaptation	Postgraduate degrees and single course units	On campus	University of the Sunshine Coast	www.usc.edu.au
	Environmental systems and Climate Change	Course unit (1sem)	On campus	Griffith University	www.griffith.edu.au
	Carbon Accounting in the Water Industry-Managing Climate Change Risk	Short course	Face-to-face	IWES	www.iwes.com.au
Environmental ethics	Professional ethics	Planning Practice Course unit	Face-to-face or online	Chifley/PIA	www.chifley.edu.au

Core competency	Title	Format	Delivery	Provider	Link
Generic (continued)					
Analysis & Assessment	Environmental Assessment	Course unit (1 sem)	On campus	Griffith University	www.griffith.edu.au
	Risk management	Workshop	Face-to-face, public training and in-house training options	Graham A Brown	www.grahamabrown.com.au
	Contamination assessment, remediation and prevention	Seminars	Face-to-face	CRC CARE	http://www.crccare.com/education/short_courses/index.html
	Environmental toxicology	Seminars	Face-to-face	National Research Centre for Environmental Toxicology	http://www.entox.uq.edu.au/upcoming-seminars
	Ecological Risk Assessment	Short course	Face-to-face	IWES	www.iwes.com.au
	Environmental Toxicology and Risk Assessment for Water Reuse	Short course	Face-to-face	IWES	www.iwes.com.au
	Risk management	Short course	Face-to-face	Chifley	www.chifley.edu.au
	Risk & liability management	Short course	Face-to-face	EEA	www.eeaust.com.au
	Environmental Impact Assessment	Online course module	online	Global Virtual University	http://eia.unu.edu/
	Site remediation & rehabilitation	Course unit (1 sem)		Griffith University	
Spatial data analysis	GIS	Course unit (1 sem)	On campus	Griffith University	www.griffith.edu.au
	Remote sensing	Course unit (1 sem)	On campus	Griffith University	www.griffith.edu.au
	Introduction to GIS	Course unit (1 sem)	Distance study	TAFE NSW Riverina Institute	http://www.rit.tafensw.edu.au/NEC/distance/shortcourses.aspx
	GIS-GPS (Global Positioning Systems) Links	Course unit (1 sem)	Distance study	TAFE NSW Riverina Institute	http://www.rit.tafensw.edu.au/NEC/distance/shortcourses.aspx
	Vector Applications (GIS)	Course unit (1 sem)	Distance study	TAFE NSW Riverina Institute	http://www.rit.tafensw.edu.au/NEC/distance/shortcourses.aspx

Core competency	Title	Format	Delivery	Provider	Link
Generic (continued)					
Spatial data analysis	Raster Applications (GIS)	Course unit (1 sem)	Distance study	TAFE NSW Riverina Institute	http://www.rit.tafensw.edu.au/NEC/distance/shortcourses.aspx
	GIS for Environmental Management	Course unit (1 sem)	Off- or on-campus	Murdoch Uni	http://handbook.murdoch.edu.au/units/detail.lasso?unit=ENV203
	Spatial Analysis and Modelling	Course unit (1 sem)	Off- or on-campus	Uni of New England	www.une.edu.au
	Remote Sensing and Image Analysis	Course unit (1 sem)	Off- or on-campus	Uni of New England	www.une.edu.au
	Introduction to GIS	Course unit (1 sem)	Off- or on-campus	Uni of New England	www.une.edu.au
	GIS and Remote Sensing	Postgraduate degrees (master, diploma, grad cert) or single course units	Face-to-face or online	Charles Sturt University	www.csu.edu.au
	GIS (Basic & Advanced)	Masters degree or single course units	On campus	UQ	www.uq.edu.au
Environmental Policy & Planning	Environmental Management & Compliance, Environmental Auditing (introductory, intermediate and advanced level)	Training courses	Face-to-face, in-house, and online options	SAI GLOBAL	www.sai-global.com
	Environmental Compliance	Short courses and postgraduate study	On- and off-campus	Centre for Environmental Management and Compliance, Uni of SA	http://www.unisa.edu.au/cemac
	Australian Drinking Water Guidelines	Short course	Face-to-face	IWES	www.iwes.com.au
	Australian Guidelines for Water Recycling	Short course	Face-to-face	IWES	www.iwes.com.au
	Water Planning	Short course	Face-to-face	IWES	www.iwes.com.au
	EMS	3-day workshop	Face-to-face, public training and in-house training options	Graham A Brown	www.grahamabrown.com.au

Core competency	Title	Format	Delivery	Provider	Link
Generic (continued)					
Environmental Policy & Planning	Waste management and audit	3-day workshop	Face-to-face, public training and in-house training options	Graham A Brown	www.grahamabrown.com.au
	Environmental Auditor certification	5-day Workshop	Face-to-face, public training and in-house training options	Graham A Brown	www.grahamabrown.com.au
	Advanced Environmental Audit	3-day workshop	Face-to-face, public training and in-house training options	Graham A Brown	www.grahamabrown.com.au
	EMS and Environmental Audit (Basic, intermediate & advanced levels)	trainings 4-12 weeks	Online	ACI GLOBAL	http://www.aciglobal.com.au/Environmental.html
	Introduction to EMS, EMS Implementation, EMS Internal Auditor, EMS Certificate	Short courses	Face-to-face, in-house, and online options	BSI Management Systems	http://www.bsigroup.com.au/en-au/Training/Course-areas/Environment/
	EMS	Course unit (1 sem)	On- or off-campus	Griffith University	www.griffith.edu.au
	EMS	Course unit (1 sem)	Distance study	TAFE NSW Riverina Institute	http://www.rit.tafensw.edu.au/NEC/distance/shortcourses.aspx
	Water auditing	Short course	Face-to-face	IWES	www.iwes.com.au

Appendix 4: Workshop summary

EIANZ/Griffith University
Environmental Competency Workshop

WHEN & WHERE

On 3 July 2008, 5-7pm
Queensland College of Arts, Southbank

PURPOSE

The purpose of this workshop was to bring together early-career and experienced environmental practitioners to identify core competency requirements for environmental practitioners, and identify key competency gaps and professional development needs of early-career professionals.

WORKSHOP AGENDA

17:00-17:10	Workshop introduction
17:10-17:15	Introduction of participants
17:15-17:45	Session I: Discussing core environmental competencies (group work)
17:45-18:00	Plenary to present group work
18:00-18:15	Break
18:15-18:40	Session II: Discussing competency gaps and professional development needs (group work)
18:40-18:50	Plenary to present group work
18:50-19:00	Wrap-Up
After 19:00	Social drinks

DISCUSSION SUMMARY

COMPETENCIES

- Both groups agree that academic skills is not appropriate term – it was suggested to split this group into critical thinking, professional practice, and research skills
- Both groups agree that sustainability is not a competency but an underlying philosophy
- Both groups agreed that climate change is a specific topic, not a competency
- Environmental Management, Policy & Planning: there was some disagreement in one group as to whether this category is a duplication and is already included in other categories (such as assessment or decision-making) or whether it should be kept as separate category.

PROFESSIONAL DEVELOPMENT NEEDS

- It was emphasized that EIANZ does not intend to offer all training themselves but will identify and integrate already existing training courses/programs of other training providers into the STEP program.
- EIANZ professional development activities would focus on environmental competencies (not enabling competencies).
- EIANZ may be able to collaborate with institutions such as TAFE to run training modules (tailored to the needs of environmental practitioners).
- Mentoring was identified as being an important component of professional development. Mentoring should be integrated into the STEP program.

OTHER

- The point was made that competencies are already acquired during tertiary education and EIANZ should seek input into design/curricula development of university degrees. Accreditation of courses/degrees however was not considered an option (at least not in short/medium term).
- STEPs has a dual purpose – for "early-career professionals" and for mid-career professionals that want to update skills or people that have been rejected by the certification panel and need to fill some competency gaps – the latter are not necessarily "early-career professionals". Suggestion: use term "early-career professionals (pre-certification)"
- Follow-up: There will be a session on the STEP program at the EIANZ conference in October 2008 – it was suggested that the list of competencies be reviewed there.

LIST OF PARTICIPANTS

Name	Affiliation
Breitfuss, Mark	LinkWater
Briggs, Howard	EIANZ
Chenoweth, Alan	Chenoweth Environmental Planning & Landscape Architecture, EIAN
Dale, Patricia	Griffith University
Edelmann, Di	Department of Primary Industries & Fisheries
Low, Vicki	GHD
Low Choy, Darryl	Griffith University
Lynch, Kelly	Hyder Consulting Pty Ltd
Matthews, Kelly	Brisbane City Council
Pham, Ha	Griffith University
Thomson, Emma	Environmental Protection Agency
Wever, Lara	Griffith University
Williams, Phil	Griffith University

Appendix 5: Draft CPD Guidelines

ENVIRONMENT INSTITUTE OF AUSTRALIA AND NEW ZEALAND

Continuing Professional Development (CPD)

Guidelines

Draft

What is CPD

- Continuing Professional Development (CPD) refers to a practitioner's ongoing commitment to ensure they deepen as well as broaden their knowledge and skills to effectively perform a job, and maintain the currency of their skills and knowledge with the rapidly changing and expanding knowledge base and technology which impact on environmental practice.
- CPD includes formal training such as short courses, workshops and seminars, but it also includes a range of other activities such as networking (e.g. involvement in committees, mentoring), private study, publication of technical or research papers, lecturing, industry involvement for academia, and other on-the-job experiences.
- The CPD requirements are compulsory only for Certified Environmental Practitioners (CEnvPs) and Staged Training for Environmental Practitioners (STEP) participants; however all other members are also encouraged to implement and maintain their own personal CPD program.
- There are diverse ways of addressing and supporting professional development needs. Both the Institute and the individual have a shared responsibility for meeting professional development needs.

Personal CPD program implementation

- Each individual should document his/her own program, according to topics of personal/professional relevance.
- The personal CPD program should aim to broaden the generic skill base as well as deepen specialised skills.

- EIANZ endorses that your personal CPD program should make best use of other professional schemes (such as PIA, EA, AILA and others).
- CEnvPs and STEP participants are required to keep a CPD log and record all activities carried out.

CPD requirements

- Certified Environmental Practitioners (CEnvPs) and STEP participants are required to engage in a minimum of approximately 50 hours (100 Credit Points) of CPD over a two-year period.
- CEnvPs are required to submit a CPD logbook supported by documentary evidence at the time of biennial re-certification.
- STEP participants are required to submit a CPD logbook and a Competency Self-Assessment (verified by a mentor/CEnvP or practitioner with equivalent standing) when applying of a STEP certificate.

Topics of study

- A personal CPD program should be shaped to suit individual needs and be relevant to an individual's areas of practice.
- The personal CPD program should aim to be balanced in the long term and address enabling competencies (e.g. communication skills, computer literacy, interpersonal competency) as well as environment-related competencies.
- The personal CPD program should aim to broaden the generic skill base as well as deepen specialised skills.

For participants in the STEP program the following areas of study are recommended.

Enabling competencies	**Environmental competencies**
Critical thinking: e.g. systems thinking, analytical skills, creativity	Environmental awareness: awareness of environmental issues and societal responses, e.g. Sustainability framework, Climate Change
Professional practice: e.g. time management, information literacy, project management	Environmental Analysis & Assessment: e.g. statistical & spatial data analysis, risk assessment, EIA
Communication & Interpersonal competency: e.g. writing & presentation, multi-disciplinary work, stakeholder consultation, negotiation	Environmental Policy & Planning: e.g. EMS, environmental decision-making processes, environmental legislation, regulations and policies
	Environmental ethics

CPD reporting & assessment

- Certified Environmental Practitioners (CEnvPs) are required to report on their CPD as part of the bi-annual re-certification process. CEnvPs must keep a CEnvP CPD log that is submitted for assessment together with

other application materials.

- STEP participants are required to report on their CPD engagement and demonstrate progress towards achieving core competencies. STEP participants are expected to keep a STEP CPD log and conduct a Competency Self-Assessment. The Competency Self-Assessment is a tool that helps them develop a systematic picture of their current level of competence, identify and prioritise professional development needs, and develop strategies for achieving those targets. The Competency Self-Assessment (validated by a mentor/CEnvP or practitioner of equivalent standing) together with the CPD log need to be presented when applying for a STEP certificate.

CPD activities and points

The Institute has devised a system of points given to weighted hours of CPD activity undertaken. The table below provides a guide to CPD activities and the allocation of points.

CPD Category No.	CPD Activity	Typical Evidence	Points per hour	Limit of points that can be credited
1	Formal education and training, including distance education	Certificates of attendance or attainment; Certificates / degrees / diplomas awarded from formal assessment	2	No limit
2	Short courses, including in-house training	Certificates of attendance or attainment	2	No limit
3	Conferences, meetings, seminars	Attendance records, receipts of payments made to attend a seminar or conference	1	No limit
4	Service activities to EIANZ – committees, Board, Panels	Minutes of meetings, attendance records	1	25 per 2 year period
5	Presentations to conferences/seminars where there is a contribution to the environment profession. For a presentation where the paper is not published in a refereed journal, 5 points per hour of actual presentation has been allocated to allow for preparation of the presentation	Handout notes; conference brochures which name the person and the paper etc	5	No limit
6	Publication of technical or research papers: In a refereed journal, allow 30 points per paper; In the case of presenting the paper as a technical or research paper to a conference, allow 20 points per paper rather than the 5 points per hour of duration of the presentation as in category 5 above	The actual publication in which the paper appears; acceptance letter from an editor, conference organiser	NA	No limit
7	Part-time or guest lecturer to environmental courses at academic institutes (Points are per hour of actual face-to-face presentation and allows for time of preparation of the lecture material)	Academic institute records, course notes presented, receipts of payments made as a lecturer	5	40 per 2 year period
8	EIANZ Mentoring program	Diary records, statement from recipient of mentoring	1.5	40 per 2 year period
9	Private study of journals, texts etc (informal learning activities)	Diary records, personal declaration	0.5	20 per 2 year period
10	Pro bono activities	Records of the organisation with which the involvement takes place; diary entries	1	No limit
11	Academia involvement in industry	Diary entries; Time sheets or similar attendance records; academic institute records	1	No limit

Appendix 6: Draft EIANZ SEQ Professional Development Strategy

EIANZ SEQ Professional Development Strategy

Draft

Purpose of Professional Development Strategy

The purpose of the Professional Development Strategy is to provide the EIANZ SEQ Division with a ***strategic framework*** for developing professional development activities, programs, priorities and action plans for environmental practitioners. This strategy was developed for the EIANZ SEQ Division but is adaptable to other Divisions.

The objectives of the Strategy are to:

- identify competency domains that guide individual and Institute PD planning;
- provide a generic process for planning Institute-wide or divisional PD programs;
- provide guidelines for personal PD planning and implementation.

Vision of the EIANZ

"A sustainable environment through excellence in environmental practice"

Professional Development Goals

The Institute's overarching goals are to:

- Facilitate interaction among environmental professionals;
- Promote environmental knowledge and awareness; and
- Advance ethical and competent environmental practice

In line with the Institute's strategic direction, the EIANZ SEQ Division seeks to be responsive to environmental practitioner's professional development needs in SEQ, and offer appropriate professional development programs and activities that enable them to promote and achieve a sustainable Australia and New Zealand.

Target audience

EIANZ seeks to meet the professional development needs of:

- Early-career environmental professionals (with up to 5 years work experience);
- Applicants for certification as CEnvP;
- CEnvPs requiring re-certification;
- Other environmental practitioners (outside EIANZ/CenvP); and
- Candidates for potential specialist certification (which may require longer period of practice than 5 years).

Definitions

Environmental practitioner: The term refers to any person who performs environmentally-related work activities in any of the following functional areas of environmental practice: 1) policy development and implementation, 2) planning and assessment, 3) design and construction, 4) operation and management, 5) monitoring and reporting, 6) legislation, regulation,

enforcement, 7) auditing, 8) research, and 9) education and community awareness.

Continuing Professional Development (CPD) refers to a practitioner's ongoing commitment to ensure they deepen as well as broaden their knowledge and skills to effectively perform a job, and maintain the currency of their skills and knowledge with the rapidly changing and expanding knowledge base and technology which impact on environmental practice. It includes formal training such as short courses, workshops and seminars, but it also includes a range of other activities such as networking (e.g. involvement in committees, mentoring), private study, publication of technical or research papers, lecturing, industry involvement for academia, and other on-the-job experiences.

Competencies refer to the application of knowledge and skills that enable a person to perform effectively the activities of a given occupation or to function to the standards expected in employment. Example: The ability to analyse data, interpret and present results is a competency, while the ability to utilize spatial data analysis tools such as GIS and Remote Sensing are specific skills.

Enabling competencies support the application of environmental competencies. They 'denote awareness and critical understanding of the requisite body of knowledge, the ability to apply it to representative problems and situations, and the intellectual skills to test and continually extend it through lifelong learning' (Engineers Australia 2003: p.6). Examples: communicating effectively, critical thinking, leading/influencing others, learning and creativity, computer proficiency, work ethic.

Generic environmental competencies relate to environment-related competencies that all environmental professionals should have, irrespective of their area of specialisation. Examples: understanding of sustainability principles, ability to apply ethical principles to environmental practice.

Early-career environmental professional refers to a person holding at least an environment-related undergraduate degree and with up to five years of experience in a functional area of environmental practice (public/private/academic sector) (includes mature professionals from other profession moving into the environment sector).

Experienced professional refers to a professional with at least five years of work experience in a functional area of environmental practice, including Certified Environmental Practitioners (CEnvPs) or professionals of equivalent standing.

Guiding principles

- There are diverse ways of addressing and supporting professional development needs
- Continuing professional development is a commitment of any practitioner

- Learning needs different between and within groups of practitioners
- Both the Institute and the individual have a shared responsibility for meeting professional development needs, within the constraints of time and budget
- Strategic priorities can effectively be set at the Institute level, but needs are best met at the local level
- Flexibility to customise the Strategy to local/individual requirements needs to be preserved
- Review and evaluation of the strategy are necessary to ensure the goals and objectives are met.

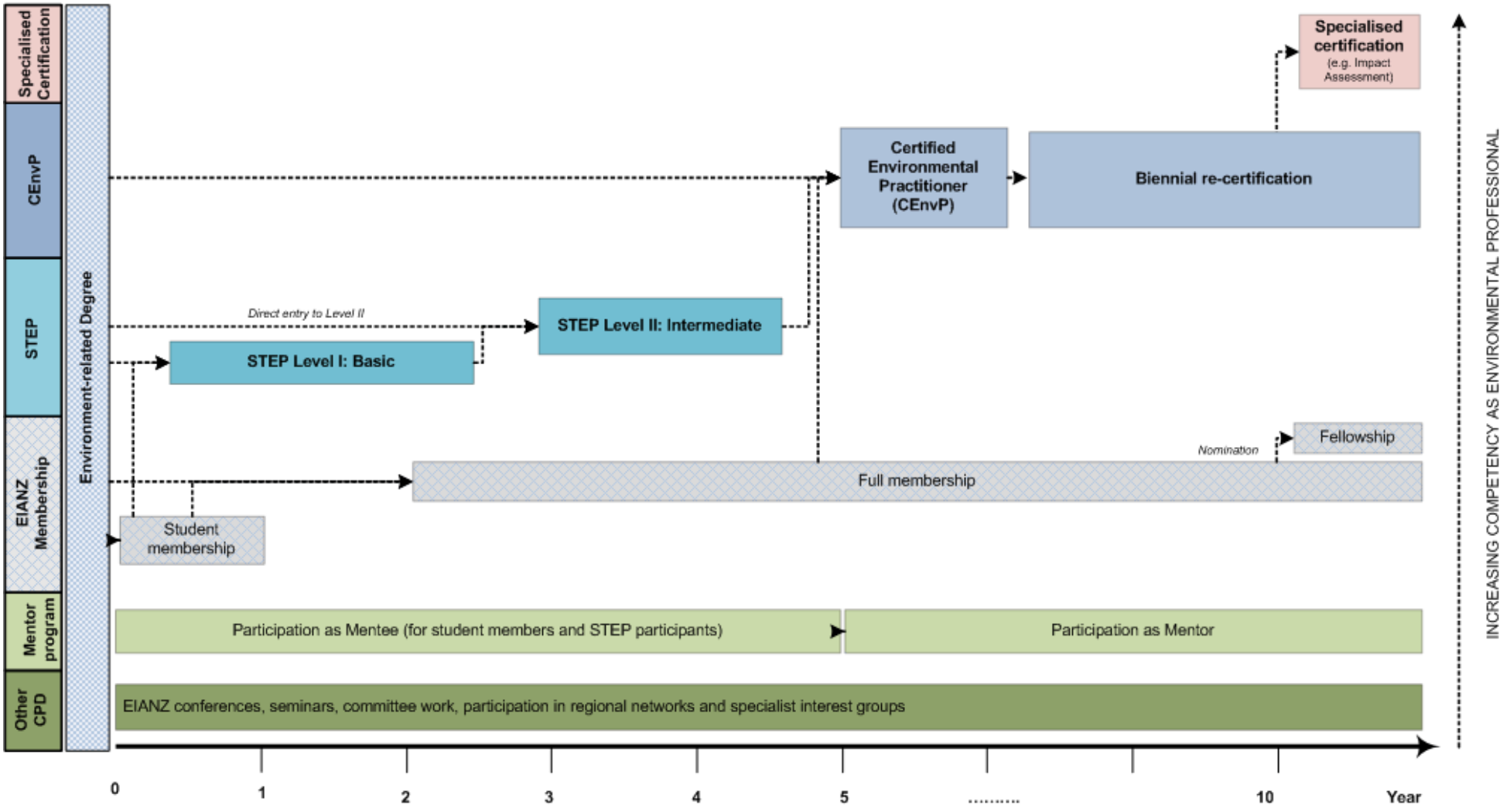
The Career Path Model

In a profession as diverse as the environment profession, individual career paths are highly variable. Professional development needs change along an individual's career path: graduates might have very different career development needs to those of senior and highly specialised practitioners.

The EIANZ seeks to accompany and support environmental practitioner all along their career path by offering them professional development opportunities that meet their individual needs. The career path model shows existing and planned EIANZ professional development programs and activities that span across a practitioner's professional life.

EIANZ Professional Development

Draft 15/08/2008



Abbreviations:
CEnvP: Certified Environmental Practitioner
CPD: Continuing Professional Development
EIANZ: Environment Institute of Australia and New Zealand
STEP: Staged Training for Environmental Practitioners

PD Program Planning Process

As the environment profession is changing and new challenges for practitioners emerge, the EIANZ is aware that it needs to evaluate and modify existing PD programs and introduce new programs. It is recommended that any new professional development program follows the following planning process.

1. Identify target group

Key question: what is the target group that the PD program is aiming at?

For example, the program could target specific groups of practitioners such as early-career environmental practitioners, experienced and/or certified environmental practitioners (CEnvPs), specialised environmental practitioners (candidates for a Specialist Certification scheme), rural/urban practitioners and so on.

2. Need assessment

Key question: What are the competency requirements and training needs of the target group?

A needs assessment is a tool for identifying competency requirements and gaps, and determining professional development needs of the target group. This information is essential to ensure that the training program meets the needs of the target group and it provides the basis on which the program components are designed.

3. Research market

Key question: What PD programs and products are already on the market that address the needs of the target group?

This phase involves a review of available PD programs and products (EIANZ and other training providers) to meet the needs of the target group. This assessment allows EIANZ to identify gaps on the market.

Based on this review, EIANZ might consider collaborating with key training providers and integrating existing programs and products into the planned PD program (e.g. through accreditation of PD courses).

4. Design PD program

Key question: How can the PD program meet the perceived PD needs of the target group?

This phase could include activities such as:

- setting program goals, objectives, and overarching principles;
- identifying the different program components (e.g. training courses, mentoring) and defining conditions, requirements and processes for each component;
- identifying delivery mechanisms and organisations to make best use of already existing expertise and experience on the market;
- defining PD guidelines and requirements for program participants, and mechanisms for competency assessment;
- defining administrative procedures and funding arrangements;
- defining monitoring and evaluation procedures; and
- developing an Action Plan for implementation.

5. Implement, monitor, evaluate

In the implementation phase, the program is trialled on the market. The phase requires collaborating with training institutions such as universities, other professional bodies, and TAFE institutes to provide training components.
This phase also includes the promotion of the program through a range of channels, and the continuous monitoring and evaluation of the program in order to assess the effectiveness of the program in achieving its purpose.

Roles and Responsibilities

The EIANZ Professional Development Committee is responsible for:

- developing an Institute-wide PD framework and policy
- identifying the requirements of competency for the various levels of experience within the Institute, from students and graduates through to general and specialised practitioners;
- providing guidance as to the content required for the various levels of experience and speciality; and
- assisting Divisions, Standing Committees and Special Interest Sections to deliver the competent practice programs.

EIANZ SEQ Division

- Running day-to-day administration and organisation of the Division's PD programs such as the STEP program and Mentoring program;
- Organising range of CPD activities in the region (conferences, seminars, workshops);
- Other (to be specified)

The CEnvP Certification Panel is responsible for:

- Processing applications for CEnvP certification and re-certification;
- Collaborate with relevant committees and working groups to identify competency requirements and training needs for CEnvPs and those applying for certification identify training needs, and ensure the Institute's CPD programs and activities meet their needs;
- Provide input into, and feedback on the STEP program to ensure the program meets the needs of candidates for CEnvP certification;
- Other (to be specified)

Competency Domains for Environmental Practitioners

Professional Development supports practitioners in their development of competencies. The competency domains are based on the ***core competencies for environmental practitioners*** and reflect the scope of competencies that the Division considers essential for any environmental practitioner. The competency domains shall provide guidance to PD planning;, however, it is recognised that different areas within the domains will be prioritised locally (and individually) to meet current and emerging industry needs.

COMPETENCY DOMAINS						
Critical Thinking	Professional Practice	Effective Communication & Interpersonal Competency	Environmental Awareness	Environmental Analysis & Assessment	Environmental Policy & Planning	Environmental Ethics
CORE COMPETENCIES						
• Ability to distinguish between broad/strategic/ holistic and specific/operational issues; and to understand how they relate, e.g. how specific projects contribute to global/societal goals (e.g. sustainability) • Ability to critically analyse and evaluate problems and solutions • Ability to develop creative/innovative solutions	• Understanding of professional practice, standards and obligations • Developing culture of "reflective practice" • Commitment to engage in continuous learning and plan own professional/career development • Ability to plan and manage work and projects effectively • Information literacy: Ability to utilize information	• Ability to collaborate with other individuals and organizations • Ability to work in multi-disciplinary teams • Ability to communicate and interact effectively with stakeholders • Ability to negotiate and withdraw when ethical issues arise • Ability to communicate risk and facilitate resolution of conflicts • Ability to justify work • Broad range of	Understanding of environmental issues and societal responses, awareness of overarching principles & contemporary frameworks, their application and opportunities & barriers to implementation	Information gathering: Ability to identify sources and appropriate tools/techniques/methods, and compile relevant information (including reliability & accuracy, quality control & technical awareness) Data Analysis & Interpretation: Ability to analyse data, assess reliability + accuracy of data, interpret and present results and provide a balanced/objective opinion Evaluation: Ability to evaluate procedures, interventions, and programs. Risk Assessment: Ability to assess risks and apply risk management strategies Assessment context:	Environmental Policy & Planning: • Ability to identify environmental impacts/risks and develop measures to enhance the benefits and to minimise the risks • Ability to develop, apply, monitor and evaluate corporate environmental plans, policies, and procedures/best practices Environmental decision-making: • Understanding of the process and tools of environmental decision-making (at personal &-societal level) • Dealing with risk/uncertainty and conflicts of interest • Recognition/integration of	• Ability to recognise ethical issues • Basic understanding of environmental ethics, value systems & paradigms • Ability to use a process to work through ethical dilemmas • Personal commitment to professional standards (codes of ethics)

	technology as needed to produce work products	writing skills		Ability to put assessment results into broader context of environmental management, policy and planning	stakeholder interests Regulatory/legal/institutional framework: • Understanding of key State & Federal environmental utilisation & protection interests and related legislation & policies, and institutional responsibilities • Ability to understand and assess compliance & enforcement	
EXAMPLES OF PD TOPICS						
Might include: • analytical skills • systems' thinking • problem solving	Might include: • workplace practices: time management, project management • professional development skills • self-management (initiative, motivation, assertiveness, work/life balance) • information literacy	Might include: • writing (reports, scientific writing, media releases etc) & presentation skills • multidisciplinary teamwork • stakeholder consultation • negotiation & dispute resolution	Might include: • EIANZ focus topics: water, sustainability, climate change, energy • Biodiversity • Other local priority topics	Might include: • Spatial data analysis • Statistical data analysis • Environmental assessment tools such as Environmental Impact Assessment, Strategic Environmental Assessment, Life-Cycle Assessment • Risk assessment & management	Might include: • Environmental management/decision-making tools: Environmental Management Systems (EMS), Environmental Impact Assessment (EIA), Environmental Audit, Risk Analysis, Cost-Benefit Analysis • Community consultation techniques • Environmental protection legislation & policies	Might include: • Techniques for resolving conflict in an ethical manner • Knowledge of how to get help if ethical dilemmas arise • Expert witness

Potential training and development activity providers

The Division acknowledges that there is a wide range of PD programs and activities within and outside the EIANZ that can meet the needs of environmental practitioners. Training providers include:

- Professional bodies such as EIANZ, Planning Institute of Australia (PIA), Engineers Australia (EA), Australian Institute of Landscape Architects (AILA);
- Universities, TAFE Institutes
- Commercial training providers.

Practitioners need to select training providers that are appropriate to meet their individual PD needs. The Division offers a range of CPD activities in particular in the area of **general environmental practice**. For **specialist training** needs, some practitioners might wish to engage in CPD offered by specialised training providers. Institutions such as TAFE and professional bodies such as PIA and EA regularly run courses on **enabling competencies** such as professional writing and communication skills. All of these options should be considered when selecting appropriate PD activities.

The Division helps practitioners identify suitable CPD by reviewing and accrediting CPD courses that address the core competency domains listed above. **Accredited courses** need to address the core competency areas listed above, and be offered by credible training institutes such as other professional bodies (e.g. PIA, EA, AILA), universities, and TAFE institutes. Accreditation in this context does not involve any kind of quality control. A list of accredited courses will be particularly useful for STEP participants and other early-career practitioners to help achieve competency requirements for certification. The Division might also consider creating a simple **database** of CPD providers that offer training in the core competency areas (including accredited and non-accredited courses). The database can be extended and updated. CPD logs from STEP participants and CEnvPs can provide valuable information on training available on the market.

Guidelines for personal CPD planning & implementation

Professional development is a commitment of any environmental practitioner. The Division encourages all its members and all environmental practitioners in general, to engage in continuing professional development. STEP participants and Certified Environmental Practitioners (CEnvPs) in particular are required to document their engagement in CPD. The *CPD Guidelines* provide guidance for members, STEP participants and Certified Environmental Practitioners (CEnvPs) to plan their professional development.

Appendix 7: EIANZ (NSW Division) Mentoring Guidelines
Matching Checklist
Oct 2006

A. Functional Areas

1 = main area of work 2 = work occasionally 3 = interested but not actively involved
(Complete as many as relevant)

1. Policy development		6. Legislation, regulation, enforcement	
2. Planning and assessment		7. Auditng	
3. Design and construction		8. Research	
4. Operation and management		9. Education	
5. Monitoring and reporting		10. Other – please specify	

B. Professional Disciplines

1 = Formal training and professional experience 2 = formal training only 3 = basic working knowledge
(Complete as many as relevant)

1. Environmental studies - general		10. Architecture	
2. Biological science		11. Agricultural science	
3. Physical science		12. Forestry	
4. Earth science		13. Geography	
5. Social science		14. Archaeology/Cultural Heritage	
6. Economics		15. Mining	
7. Law		16. Computing/information technology	
8. Engineering		17. Other – please specify	
9. Planning			

C. Environmental Topics

1 = Specialist practitioner 2 = General practitioner 3 = Interested but not professionally involved

(Complete as many as relevant)

1. Plant ecology		32. Risk assessment	
2. Animal ecology		33. Community engagement	
3. Biological surveys		34. Dispute resolution	
4. Geology		35. Environmental management systems	
5. Geomorphology		36. Environmental standards	
6. Soil science		37. Environmental technologies	
7. Hydrogeology		38. Environmental economics	
8. Hydrology		39. Forest environment	
9. Meteorology/climatology		40. Grassland/woodland environment	
10. Air quality		41. Alpine environment	
11. Water quality		42. Arid environment	
12. Acoustics		43. Coastal environment	
13. Energy		44. Marine environment	
14. Environmental chemistry		45. Freshwater environment	
15. Ecotoxicology		46. Wetlands	
16. Land contamination		47. Polar environment	
17. Waste Management		48. Urban environment	
18. Social environment		49. Rural environment	
19. Landscape assessment		50. National parks/reserves/remote areas	
20. Cultural heritage		51. Recreation planning & management	
21. Land rehabilitation		52. Ecotourism	
22. Soil conservation		53. Other – please specify	
23. Major mining projects			
24. Small extractive industries			
25. Climate change			
26. Sustainability			
27. Corporate environmental management			
28. Ecological management			
29. Environmental planning			
30. Environmental reporting			
31. Environmental modelling			

Appendix 8: STEP Competency Self-Assessment Template

Note: The required enabling and generic environmental competencies relate to the Core Competencies for Environmental Practitioners that were identified by the SEQ Division.

REQUIRED COMPETENCIES	EXPERIENCE (number of years/months)	LAST TIME (how long ago you worked in this area or had to apply the competency)	LEVEL OF PROFICIENCY (learning, guidance, independent, or expert)
Enabling competencies			
Critical thinking			
Professional practice			
Effective communication & Interpersonal competency			
Other (specify)			
Generic environmental competencies			
Environmental awareness			
Environmental Analysis & Assessment			
Environmental Policy & Planning			
Environmental Ethics			
Other (specify)			
Specialised competencies (if applicable)			
Other (specify)			
Other (specify)			
Other (specify)			

Comments on evidence for scores/level of proficiency:

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Training needs identified:

Training needs	Relevance (high/low)

Steps/Strategies (courses and other activities to be undertaken):

Activities	Timeframe

Appendix 9: STEP Reflective Journal

The **purpose** of the Reflective Journal is to encourage learning from success and dilemmas encountered during professional practice and training. It contains ideas, questions, and reflections that arise during professional development/practice and helps to document the process of developing professional skills and competencies.

The Reflective Journal consists of the following components:

- Context & Activity: this section describes the type of activity, setting, time, purpose and/or objectives.
- Outcomes: this section discusses whether the activity was successful in meeting the objectives, what where negative/positive aspects of the activity, did it meet the expectations, and why/why not?
- Evidence: What evidence did you use to inform your understanding? How do you know that you were successful in achieving the objective? E.g. observation, self/assessment, task completion, work samples, focus group.
- Implications for professional practice/learning: what did you learn? How can this affect your professional practice? How are you putting new knowledge and skills to use? Identify aspects that need further investigation. Has the training revealed any further gaps you need to address?

The reflections can be subject/topic specific or skill specific. For example, they could related to an activity such as a conference and reflect upon how that activity improved the understanding of a particular topic and/or developed presentation/communication skills. They could also relate to an activity undertaken as part of the job that helped to develop a specific skill. For example, a practitioner might wish to learn how to assess vegetation in the field and undertakes a range of activities (going to the field/field survey, looking at aerial photos etc) to acquire that particular skill.

The Reflective Journal entries need to be cross-referenced with the CPD log. The ideas and reflections from the Reflective Journal help the STEP member to do the Self-Assessment and document to the mentor how he/she is developing the skills and competencies required for upgrade to a higher STEP level.

REFLECTIVE JOURNAL
Name:_____
Date: _____ CPD log reference #:_____

REFLECTIONS:

1. Context & Activity

2. Outcomes

3. Evidence

4. Implications for Professional Practice/Learning

Appendix 10: STEP CPD log

Staged Training for Environmental Practitioners (STEP)
Continuing Professional Development Log

Name: …….. **Year:** ……..….

I declare that all information on this form is true, accurate and complete to the best of my knowledge.

Signature:……..…. **Date:**……..…/……..…/……..….

Date	CPD Activity	Core Competency Domain	Hours	Points per Hour	Total Points Claimed
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					

Date	CPD Activity	Core Competency Domain	Hours	Points per Hour	Total Points Claimed
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					

Date	CPD Activity	Core Competency Domain	Hours	Points per Hour	Total Points Claimed
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					

Date	CPD Activity	Core Competency Domain	Hours	Points per Hour	Total Points Claimed
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					

Date	CPD Activity	Core Competency Domain	Hours	Points per Hour	Total Points Claimed
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					
Individual CPD Benefits (please comment on how the activity helped you achieve competency in the core competency domains):					
	TOTAL				