Chapter Two: The Environmental Industry…

So what is the environmental industry exactly? This is a legitimate question, but one that doesn't really have a precise answer. Years ago, the environmental industry was easy to describe. But as it has grown, what was once black and white, is now grey. What was once a stand alone industry is now becoming integrated with others. As environmental employment is absorbed more and more into the mainstream, the more complex and harder to define it becomes.

The environmental industry is moving along its own path, just like your career. It changes as opportunities and challenges appear. It's a path well trodden, previously walked by the Information Technology (IT) and the Occupational Health and Safety (OH&S) professions. IT started out as a stand alone specialist industry, with IT companies providing IT products and services. It still does, however as the advantages and potential of IT advanced, the industry grew and developed and integrated. IT departments and IT specialists became common amongst large organisations and then in medium to small organisations. More companies and organisations invested in IT and today, all of us use, and even rely on, IT as part of our daily work and family life. Just as IT is now a standard tool in many jobs, environmental management and awareness will be integrated into the daily work practices of employers and employees.

This move has already started with the environmental industry. The environmental industry was once a clear industry (conservation, waste management and pollution prevention and control). But now it has integrated into other industries (e.g. hospitality, finance) whose activities run along side a number of sectors that constitute the core environmental industry, such as conservation, waste management and pollution prevention and control and water conservation. This core continues to grow itself, with new sectors, such as climate change and carbon trading, setting up as our understanding of environmental issues develop. Today, we are a long way from the position where the environment is fully integrated into every industry and role. But the environmental industry is still a relatively young industry which is rapidly developing, so it's only a matter of time before this is the case.

On top of this integration, is subjectivity. As with environmental consciousness, environmental actions and behaviour change, there is a spectrum of involvement, with deep green at one end of the spectrum and light green at the other. What constitutes an environmental job to one person may be a very different case to another, as we all value environmental aspects (eg species protection, efficient use of resources, unpolluted water or air) differently. This influences how we interpret what is important and what we need to work on. So it's all down to personal beliefs, ethics and preference.

So, this section, does not aim to describe what constitutes the environmental industry or what an environmental job is. Rather it aims to provide you with:

- some historical background information about the industry,
- a summary of reports and opinions on green collar careers,
- an outline of the challenges and opportunities it faces in terms of personnel,
- a view on where the industry could be in the next five to ten years.

Background

Although interest in the environment dates back to the 1960s, it wasn't until the 1970s that environmental employment was available, with the creation of both environmental courses and jobs. Traditionally, this environmental work was associated with jobs in national parks (conservation) and within the waste management and pollution areas. This was linked to the development and passing of environmental laws. Since then, as awareness of the way humans interact with the Earth and concern about our impact has intensified, so to have the number of people working to better understand this interaction and manage the impact.

Again, this growth is linked to the development of policy and the passing of legislation, but more recently, growth has also been generated through the increase of public awareness and pressure. Today, public pressure is arguably the most important factor affecting the development and direction of the environmental industry. As the condition of the environment worsens and the issue climbs the media ladder, public awareness increases along side the pressure for solutions and the willingness to implement them. However, legislation is still needed to develop and legitimise the environmental industry and move society to a more sustainable way of working especially in terms of market and economic mechanisms. Public pressure plays a vital role in this.

In Australia, there has been interest in the development of jobs in the environment (or green) sector for almost two decades. In the 1990s it was reported that "*the environment industry is one of the fastest growing sectors of the global economy. While the world market for the pollution control and waste management sectors of the industry is expected to grow by at least five per cent per year, a much higher growth rate is forecast for South-east Asia which will provide substantial opportunities for Australian industry.*" (House of Representatives Standing Committee on Environment, Recreation and the Arts 1994)

By the late 1990's, US$400 billion per year was being spent on environmental protection and conservation worldwide, supporting thousands of jobs. (Environmental Career Organisation). The Australian environment industry activities were estimated at $16, 705m in 1999-2000 (The Environment Industry Action Agenda EIAA DITR 2001). This report included the activities encompassing water and waste water management, river system and coastal zone management, land management, rehabilitation and remediation, air quality monitoring and control, energy efficiency and renewable energy, waste minimisation, resource recycling, waste treatment and waste disposal, cleaner production technologies, monitoring and instrumentation, research, analysis and technology and systems development.

There is limited data on current green job employment in Australia, several independent reports have been written and aim to ascertain the size of the environmental industry in terms of staff and economic value, and how fast it is growing.

The Barton Group indicated a figure between $16 billion and $20 billion in 2004-5 and identified growth areas as being water and wastewater, land management, remediation and rehabilitation, renewable energy and building energy efficiency and state reported export improvements.

House of Representatives Standing Committee on Environment and Heritage 2003 reported considerable development in the following areas:

- developing policy, legislation, regulation, standards and systems that aim to control and reduce pollution,
- understanding and mitigating climate change,
- managing, conserving and preserving water, wildlife and other resources,
- educating communities on waste management and water conservation,
- creating and disseminating a more sustainable way of life in corporate and civil arenas.

Annandale et al. (2004) noted that growth in green jobs has been much stronger than growth in the general business sector over the course of the last eight years.

Australian Conservation Foundation and Australian Council of Trade Unions (2008) reported 112,000 people being employed in six key green markets: renewable energy, energy efficiency, sustainable water systems, biomaterials, green buildings and waste and recycling. They stated that this figure could grow to 847,000 jobs by 2030.

Connection Research (2009) states that current estimates suggest that there are between 50,000 and 300,000 green collar workers in the Australasia region. However, it also states that it is impossible to arrive at a meaningful figure if we can not define what we are attempting to measure, eluding to the grey edged nature of the industry.

Until a definition of the environmental industry is agreed upon, as well as what is a green job, it will remain impossible to calculate a true figure for the number of workers within the industry. The Australian Bureau of Statistics currently reports figures on employment by occupation group and industry, unemployment and labour force utilisation. Due to the complex nature of the environmental industry, it does not fit neatly within in this system, and isn't recorded in a meaningful way. This is further discussed in 'where to next' section.

The Current Green Collar Movement

By the mid 2000s it was recognised that the real growth for environmental employment, and the real gain for Australia, lies in integrating environmental management across all levels of industry. All jobs and businesses must take on an environmental responsibility and become 'green jobs' and 'green businesses'." (House of Representatives Standing Committee on Environment and Heritage 2003).

At around this time, and possibly as a result of the understanding for the need for the environment to be integrated into everyday life, the environmental industry focus moved from that of 'environmental' to 'sustainability'. Whilst people still referred to environmental professionals as people working within the environmental / green industry, new terms such as 'Sustainability Professionals' and 'Green Collar Workers' are increasingly being used to describe people working in environmental, sustainability or green jobs.

As with the industry itself, there had been no attempt to define what is a green collar worker. That was until 2009, when Connection Research and the Environment Institute for Australia and New Zealand published a research report entitled 'Who are the Green Collar Workers?'. This report identifies a two part definition of green collar workers as:

- managers, professionals and technicians who work in green organisations or who have green skills and responsibilities within other organisations that may not be considered green,
- services, clerical, sales and semi-skilled workers who work in green organisations. (Connection Research, 2009).

This definition hinges on a further definition of 'what is green?'. Green is used to describe environmental and/or sustainable actions. There is a wealth of research and reports defining the difference between the terms environmental and sustainability. For the purpose of this guide on careers:

- the term environmental tends to be associated directly to the environment or an environmental issue. It is therefore physical and relates to roles that directly relate to the physical environment,

- the term sustainability incorporates environmental, with other aspects of life, that of social and economic. It's about understanding the interconnections of these three and finding a balance so that we can live within the limits of what our environment provides. It is therefore more focussed on community's actions and attitudes, the social and economic systems and behaviour change processes we need to adopt to achieve a sustainable lifestyle.

To support this, and take it a step further, there are essentially three types of green collar workers:

- environmental professionals working in environmental organisations (environmental professionals working to directly improve the physical environment and the core environmental industry).

- environmental professionals working in non environmental organisations (environmental professionals working to support the environment and/or sustainability performance of the non environmental industry).

- non environmental professionals working in environmental organisations (non environmental professionals working to indirectly improve the physical environment, the core environmental industry or working to advance sustainability).

In Times of Economic Crisis

The environmental industry is an integral part of the broader economy and has been affected by the economic crisis, as with most other industries. The Global Economic Crisis of 2008 – 2009 has meant:

- major projects have been delayed or even cancelled,
- recruitment freezes and termination of contract staff within government departments,
- recruitment freezes and some redundancies within the corporate and business sectors of the industry,
- ceasing of spending or the holding of budgets for non core business activities (which the environment falls into for many companies),
- ceasing of opportunistic hiring of environmental professionals.

However, with the crisis have come some positive impacts. It has:

- forced industry in general to rethink how they operate and reassess their values.
- brought sustainability to the forefront of discussion and debate in industry in general.
- shown the speed in which the environmental industry has bounced back in comparison to others. It's already recruiting again and becoming more active than other industries.
- shown the extent of the skills shortage. Even though there was a lack of new job opportunities, there was no increase in the right level or type of potential employees. This skills shortage is likely to continue for some time.

For more detailed information on how the economic crisis has affected specific sectors in the environmental industry, please refer to the specific sector in 'The Careers' section.

Personnel Challenges and Opportunities

If we as a society are going to implement actions and changes that ensure current and future environmental issues are met, managed and even mitigated, then the environmental industry needs to continue to grow significantly. This is reliant on the industry being able to recruit and retain professionals with excellent and relevant experience and skills. The research found that the **key challenges** in enabling the environmental industry to achieve that are:

- a disconnect between available employees and those who organisations need to hire. At the end of the 2000s, a lack of expertise in many sectors means that Australia will have to import expertise for the foreseeable future,
- due to the rapid change in environmental understanding and technological development, a lot of people who have worked in the industry for many years and who are seen as experts, are often out of date. These professionals need to update their skills and knowledge to ensure continuing effectiveness. Organisations need to have the resources to enable this skill development,
- an increasing number of professionals coming into the industry have moved from non environmental positions (career changers). It is important for these professionals to update their skills and knowledge to maximise their effectiveness in their role and ensure continued employability,
- environmental education is struggling to keep up as environmental issues intensify, technology progresses and legislation keeps changing. What is studied in a course is often, by the time of graduation, out of date,
- many organisations know they need to include environmental practices into their business, but don't understand what or how they can do it and, therefore, what personnel they need to hire.

The skills, knowledge and employability of professionals are an integral part of the industry's future. **Key opportunities** for the environmental industry are:

- it is the industry of the future and is attracting a lot of very skilled and experienced people to it,
- new jobs are being created that have never existed before, so it is an exciting time,

- it provides great career opportunities. The industry is now so vast and diverse that you can move and develop your career whilst remaining within it. In addition, the implementation of emerging ideas and technologies provide further career progression and professional development opportunities,
- the need for more in depth research and planning on human capital requirements for new environmental markets, technologies and services,
- more investment in longer term training and development (both academic and professional) for people already working in the industry. Creating more partnerships between academia (university / TAFE / further education institutions) and industry to achieve this.

Where to Next

So what does the future hold for the environmental industry? Many predict the demise of the environmental industry as a discrete industry, due to the process of mainstreaming environmental positions. This may be true, but it's a long way in the future. The short to medium term steps in the development of environmental professionals is three-fold:

- continued growth in other industries - 'greening mainstream employment',
- growing the skill base - 'building capacity of the environmental industry',
- measuring the environmental industry.

The environmental industry will move further along the pathway of integration with environment employment opportunities growing in key industries. Existing professionals in those industries will also be trained in sustainability practices. As professionals they will need to provide up to date and full product and service options, necessitating the incorporation of environmental knowledge into their business area.

The main driving factors for this growth will be:

- increased awareness will increase consumer and community pressure,
- implementation of tighter environmental regulation,
- rollout of new Government economic incentives and packages,
- improvement of business positions on environmental competitiveness and compliance,
- developments in technology.

All of these are components of behaviour change, none of which will work in isolation.

Public pressure and legislation are influenced by key environmental issues. In the near to medium future the three main sustainability issues for Australia have been identified as population, water security and climate change. To support this several reports have predicted growth in certain industries:

Greenpeace and European Renewable Energy Council undertook modelling of what they termed an 'Energy [R]evolution Scenario' that predicts 16% cuts in electricity consumption by 2020 through energy efficiency, coal power phased out by 2030, and a 40% increase of renewable energy by 2020 providing a net gain of between 33,700 and 57,500 jobs in the renewable energy sector.' (Teske and Vincent 2008).

CSIRO and Dusseldorp Skills Forum modelling predict that 230,000 to 340,000 new jobs will be created through more sustainable practices. These jobs will be created in the transport, construction, agriculture, manufacturing and mining sectors (Hatfield-Dodds et al 2008).

According to the Victorian State Government's Climate Change Green Paper, green job opportunities will increase in the following areas: 'Green buildings and urban design, water efficiency and water markets, lower emissions technology and renewable energy and development of the Australian carbon market'. Green job opportunities will also arise from the 'design and construction (in relation to energy and water efficient buildings and infrastructure, renovations and retrofits, and the installation and maintenance of efficient appliances and machinery), restructuring of the energy system and the introduction of

renewable energy, developing alternative transport systems and changing the ways in which food is produced' (Victorian Government 2009).

Allen Consulting Group claims, in a report to the Victorian Department of Innovation, Industry and Regional Development, there is a 'core set' of 'climate winning' industries that will benefit from increased carbon regulation. These include gas; forestry (i.e. carbon sink enhancement); energy efficiency; sequestration technologies; renewable energy; and crops due to shifts in relative costs and biofuel opportunities' (Allen Consulting 2009).

The growth in skills base is really about evolving the existing skill base to ensure that we as a nation have the right skilled people to undertake the roles that need to be done. The environmental industry is moving fast, issues have intensified, new technologies have emerged, laws are changing. The result of this is that many highly regarded and skilled professionals in the sector are in fact out of date on what the issues and options are. There is a need to invest in skill and knowledge development of environmental professionals, especially in the fast moving industries and those closely linked with big issues such as climate change (energy efficiency and renewable energy, climate change and carbon trading, green building and design).

Additionally, to support the growth in other industries, there is an even bigger need to develop the skills of other professionals to include sustainability into their working practices. CSIRO's research for Dusseldorp Skills Forum lists the following jobs as important for the green economy: 'planning and design; business leadership and entrepreneurship; project management and procurement; specific business management expertise (such as for architectural practice, broad acre farming, fleet management, specialist manufacturing or retail); trade skills (such as green plumbing, construction of energy efficient buildings, renewable energy, low input gardening); assessment of project requirements (such as specification of inputs, system specifications, access to finance, approvals requirements, total costs) and outcomes (such as water and energy use, efficiency, market value); marketing and communication' (Hatfield-Dodds et al 2008). Industry Skills Councils (ISCs) 'Environmental sustainability – An Industry Response' (2009) report claims there will be emerging opportunities in emissions monitoring, auditing and reporting skills, design and development, risk management and environmental market research roles.

The growth in skills base is therefore closely linked to the other two areas of development. Sustainability skills need to be increased and improved in environmental and non environmental professionals working in the environment, and several other priority industries (manufacturing and construction for example) and they need to be increased to a level that allows us to meet our needs, that of achieving environmental targets and policies and being able to implement and enforce environmental standards and legislation.

The need to measure the environmental industry in Australia is three-fold. We need to:

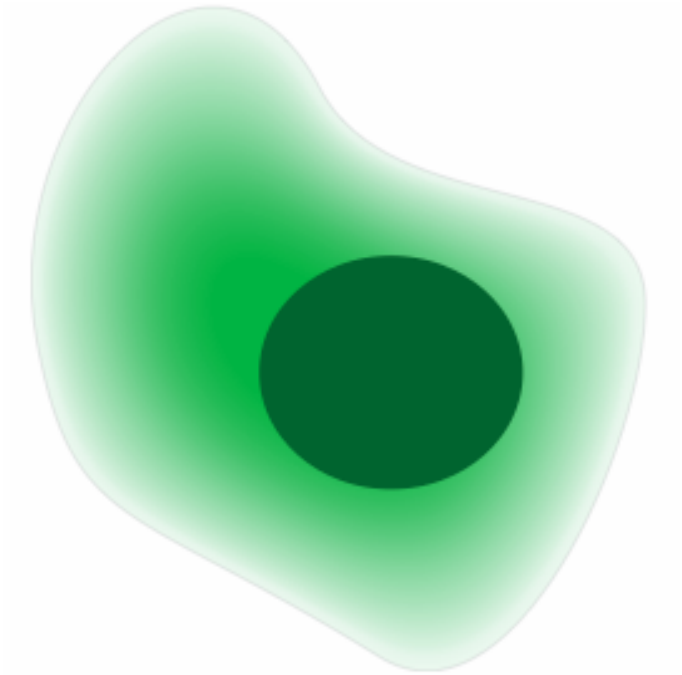
- capture our national skill set as baseline data to understand what we need to do to ensure we have the right professionals to enable the transition into a low carbon economy,
- use this baseline data to measure growth and value of the industry,
- compare the industry to others in terms of growth, skills, value.

A recent report by Connection Research in conjunction with the Environment Institute of Australia and New Zealand (EIANZ) supported by the Department of Environment and Climate Change NSW suggests a Green Collar Worker Coding System (Connection Research, 2009). The report proposes that green collar jobs in Australasia be designated a simple four character code, with each character describing one of the four attributes of the job:

- environmental or sustainable,
- occupation,
- skills level,
- industry.

This system allows any green collar job to be coded and base line data to be gathered in order to understand the skills base Australia has and therefore, what it will need to do to respond to climate change, water scarcity as well as the need to repair environmental damage and offer environmental goods and services. It also means that all job descriptions will accord largely with standard Australian Bureau of Statistics industry, occupational and skills classifications (the last three characters). This will ensure that green collar workers that make up the environmental industry will be accounted for in official statistical data used by all Government and most industry policy-makers.

Final thought…. The environment industry is like an egg. It has a yolk, that represents the core environmental industry which includes organisations like environmental not for profits and environmental consultancies with personnel with roles of water conservation officer, environmental campaign manager. It then has a white which represents parts of the environmental industry that is spreading and integrating into other areas of business and society.



So consider your skills, knowledge, interest and current position. Do you have environmental skills and knowledge? How deep is your interest in the environment? Do you want to work in an environmental role or organisation? Or help other organisations to become more environmentally sensitive? These simple questions can help shape your thoughts and identify potential entry points into the sector, be that the core or the supporting and integrating part of the industry.