

JOBS & ENVIRONMENT:
THE 'DOUBLE DIVIDEND' OF ECOLOGICAL MODERNISATION?

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ABSTRACT

This paper reviews the emergent literature on ecological modernisation and considers its theoretical utility in terms of assessing environmental employment opportunities in Australia. It explores the potential for ecologically modernist policy to offer a way beyond 'jobs versus environment' obstacles to greener employment. The future development of post industrial economies is said by ecological modernists to depend upon an ability to produce high value, high quality products with stringent enforcement standards. In these terms, environmental amenity becomes a superior good, and environmental protection not an economic burden, but an opportunity for enhanced growth and job creation (Weale, 1992). The employment impact of such claims is examined in the Australian context.

KEYWORDS

environment; employment; green jobs;
green industry; ecological modernisation; Australia.

INTRODUCTION

There is a growing body of literature on ecological modernisation as an emergent concept in environmental policy analysis which has both theoretical and practical policy applications (Spaargaren & Mol, 1992, p. 334). Although it remains essentially contested (Boland, 1994, p. 140) this literature has immense utility, I argue, for environmental employment analysis. In an uncritical sense, ecological modernisation does seem to offer both economic promise and green employment creation prospects in Jacobs's (1994) sense of a 'double dividend' below. Whether it ever would in Australia, where an economically rationalist policy climate and natural resource based political economy predominates, is less certain. Indeed innovative Australian environmental policy formation is thwarted in part by persistent 'jobs versus environment' rhetoric (Crowley, 1997).

This paper provides an introductory review of ecological modernisation literature and considers how the 'double dividend' above may be achieved through ecologically modernist policy design. It moves on to describe green jobs in Australia, explaining how these may be defined, and how best to explain any green employment outcomes to date. A theoretical discussion of ecologically modernist job opportunities follows, reviewing arguments for the restructuring of the growth economy that would be needed to achieve them. It is argued that industrial restructuring for sustainable development (Simonis, 1989) would have enormous employment creation potential. But it is concluded that Australia remains without the political or economic will to commit to anything other than the most rhetorically green of environmental employment programs.

In earlier work, I have identified three *waves* of official environmental employment initiatives in Australia (ecological restoration; green jobs in industry; and green employment brokering). These I found to be couched in rhetoric asserting both natural resource dependency and economic growth with no pretence of ecological authenticity (Crowley, 1996a). Furthermore, green employment initiatives are argued to have succeeded best in Australia where they enhance rather than threaten market based interests. A truly

green jobs agenda, i.e. one that would redress ecological decline by striving for ecological rationality, authenticity and modernity, is argued to remain an elusive goal (Crowley, 1996b). This paper finds that ecological modernisation holds theoretical promise at least as a pragmatic institutional pathway to greener employment outcomes.

ECOLOGICAL MODERNISATION

Ecological Modernisation Theory

Ecological modernisation is an emergent term that appears in the first instance to have served as a means for pursuing socio-political discussions about the institutional changes necessary in Western industrialised countries for overcoming the ecological crisis.

Spaargaren and Mol mention Huber's work particularly in the early 1980s in this context, and explain that ecological modernisation is both a theory of analysis and a political program to direct environmental policy. As a theory of analysis, Huber's (1982, 1985) ecological modernisation proposes that industrial society throw the 'ecological switch' to turn on an ecological restructuring of its processes of production and consumption.

Intelligent technology would facilitate the 'ecosocial switchover' from polluting to clean production processes and lead to an ecological reform of both economy and society.

Spaargaren and Mol describe this ecological modernisation as heralding in a new era of 'hyperindustrialism' in which nature (biosphere) is added as a third sphere of modern society to the industrial system (technosphere) and the life world (sociosphere) (Huber, 1985; Spaargaren & Mol, 1992, p. 334-6; Simonis, 1989, p. 335).

In Huber's sense, ecological modernisation derives from an industrial, rather than capitalist or bureaucratic, critique of industrial society (Spaargaren & Mol, 1992, p. 336). Weale discusses ecological modernisation very differently a decade later as 'a view about the relationships between the environment, the economy, society and public policy that has to be pieced together from various sources'. Although Weale's critique is constructed in policy terms, he essentially explains Huber's 'ecosocial switchover' in practice, specifically

in the changed assumptions of European policy elites in their remaking of pollution control strategy. Weale accords ecological modernisation ideological status for its denial of the assumptions presupposed in the pollution control strategies of the 1970s. Such denial recognises the subtlety and temporal complexity of environmental problems, and the need for dealing with them at their source, rather than displacing them ecologically or across time and space. Weale explains that ecological modernisation reconceptualises the economy-environment equation, recognising the need to minimise cost displacement onto future generations, and to appreciate environmental protection as ‘a potential source of growth’ rather than economic burden (Weale, 1992, pp. 75-79).

Weale thus extends Huber’s sense of ecological modernisation beyond an industrial critique, to describe an expanded industrial, societal and economic sense that he sees as recognisable in say the European Commission’s *Fourth Environmental Action Programme* (Weale, 1992, p. 76). More generally he suggests that changed philosophical assumptions have underlain environmental policy discourse over the last thirty years, with environmental balance (1970s) shifting to sustainable development (1980s) and now potentially to ecological modernisation (1990s) (Table 1). Since Weale’s discussion, there has been an explosion of ecological modernisation literature, either as German analysis following in Huber and his colleagues footsteps, or as discovery, application and/or constructive criticism of the concept by English speaking authors. Rather than pursue this literature, I will mention its review by Christoff (1996), who sorts the uses of ecological modernisation normatively into technological adjustment, policy discourse and an ecologically emancipatory belief system. It is possible, in short, to find every application of the term from practical policy tool, to social discourse, to transformative political project, and most radically to a means of ecologically restructuring the liberal state (Boland, 1994, p. 135).

“Take in Table 1”

Ecologically Modernist Policy?

There is little doubt that the concept of ecological modernisation in Huber's sense of 'ecosocial switchover' theoretically challenges earlier discourse about balanced economic growth and sustainable development. Balanced economic growth is now an abandoned concept in Australia, more for the ad hoc environmental policy decisions it tended to inspire than for any theoretical flaws. Sustainable development is also a much criticised concept, as Spaargaren and Mol (1992, p. 333) explain, for its vagueness, its failure to critique industrial modernity and its appeal, therefore, to environmentally exploitative societies. There are, however, already a great many similar criticisms of ecological modernisation. Moreover, there are further objections that ecological modernisation is a much too expanded notion, that ecological destruction is embraced by it rather than rejected, and that sustainable development needs no discursive competitor. There appear to be fears that ecological modernisation will be employed to enhance economic growth rather than to redirect it in an ecologically appropriate manner. Ecological modernisation fails to acknowledge the risks of ecologised growth, it is argued by such a critique, and celebrates instead 'contemporary capitalism with a greener face' (Blowers, 1997, p. 854).

Beneath such criticism is real concern that the adoption of ecological modernisation as a political program or policy principle, whilst a hugely symbolic victory, would yet again displace rather than resolve pressing ecological concerns. There is no agreement upon the likely success of a program to ecologically modernise environmental policy. A prior obstacle seen by some authors is the industrial and market emphasis of ecological modernisation, and its lack of attention to the role of state institutions (Spaargaren & Mol 1992; Blowers 1997). Others like Young (1993, p. 89) see a clear role for government in raising environmental standards, working progressively with industry, responding to community expectations, evaluating, educating and assuming responsibility for the environment. However the fact that there would clearly be an enhanced role for the state 'in managing the transition to an ecologised capitalism' (Boland, 1994, p. 139) bodes poorly for such a transition in Australia. Under its conservative federal leadership, Australia is increasingly 'taking its hands off the wheel' of government, earning for itself the reputation

of environmental policy laggard in the process (Dovers & Lindenmayer, 1997; Crowley, 1997).

It is nevertheless worth exploring ecologically modernist policy as a means of enhancing environmental employment opportunities since any ‘ecoswitchover’, even of the most limited kind, would have employment consequences. Ecological modernisation in the strongest, most ecological sense of the term (see Christoff, 1996, p. 490) would be both a ‘complex social project’, and a ‘politico-administrative response’ to the ecological dilemma (Hajer, 1996, p. 248). The ‘greening’ of employment opportunities could conceivably amount to the same thing, also requiring paradigmatic change and policy innovation. However, even in its weakest, most economistic sense, ecological modernisation describes subtle social shifts, and discursive policy trends with employment generation potential. Whilst it may also be seen as ‘weak’, ‘subtle’ and ‘discursive’, there is no denying the rise of ecoindustrialism that has occurred over the last decade, and the jobs this has generated. Before considering whether this has in fact been Jacob’s ‘double dividend’ at work delivering environmental protection and economic growth, I will describe what is typically meant by green employment, particularly in terms of achieving ecological objectives, in the Australian context.

CREATING GREEN JOBS IN AUSTRALIA

Defining Green Employment

It must firstly be said that despite the environmental employment programs of the last decade, some of which are discussed below, there is no clear understanding of the term ‘green job’ in Australia, nor any clear policy commitment to greening employment (Crowley, 1996a). Whilst the term ‘green job’ continues to be broadly and often reactively applied, it is nevertheless possible to discern categories of environmental employment opportunities, again in the strongest to weakest definition of the term (see Table 2). In Table 2, I have described these in terms of ‘light’, ‘mid’ and ‘deep’ green categories. In the

Australian context at least, green employment discourse originated in the ‘deep green’ job proposals of conservationists who hoped to show that the protection of natural areas could be employment generating. These were designed to overcome powerful and evocative ‘jobs versus environment’ rhetoric, and to date have met with limited though some significant success. However by far the most common use of the term is in its ‘light green’ sense of remedying not preventing ecological decline, describing green jobs as afterthoughts that are created by cleaning up and rehabilitating the mess we have made of the environment.

“take in Table 2”

Ecologically modernist jobs, on the other hand, could be seen to fall between the extremes of ‘deep’ and ‘light’ green as a pragmatic middle pathway to greener jobs (see Table 2). Whereas light green jobs target employment objectives in Australia, and deep green proposals target ecological concern, ecologically modernist jobs potentially target both. In its strongest sense, ecological modernisation would generate jobs through social and economic change that is harnessed and redirected toward environmental efficiency and greener consumer lifestyles (Jacobs, 1994). On the other hand, in its weakest sense, ecological modernisation could simply describe the greening of existing industries, even ecologically damaging ones. Table 2 broadly indicates how ecological modernisation, whilst improving upon light green job outcomes, may nevertheless fail to serve ecological objectives. Ecological modernisation ‘ecologises’ rather than jettisons the growth economy, for instance, reinventing rather than rejecting its ecologically unsound aspects by integrating economy and ecology. This falls well short of the deep green jobs vision for ecologically responsible, socially desirable, culturally feasible and ethically defensible jobs. These would follow a societal transformation that redefines relations with the marketplace in particular (Milne, 1995).

Clearly there are jobs to be created as much from muddling towards, as there are from actually making, policy choices to achieve superficial (light green), pragmatic (mid green) or fundamental (deep green) ecological improvements. In other words we can as much

point to a range of green job types that have already emerged (over the last decade in particular), as we can call for a range of employment policy initiatives to better achieve ecological objectives. However, it is also clear that substantial employment gains remain to be made from deliberate policy choices across the ecological spectrum of remedying ecological decline, greening industry and preserving nature (see Table 2). There are grandiose claims made for green employment potential after all by Renner (1992) who suggests that green jobs offer an employment antidote to pervasive structural unemployment that characterises advanced industrialised economies the world over. To such claims, Jacobs (1994) offers two crucial, sobering caveats, however, i.e. i) green jobs don't happen by themselves, but require proactive environmental policy; and ii) specific measures must mitigate the loss of jobs in any transition to ecological sustainability.

Green Employment Outcomes

On the scale from deep to light green, Australian environmental employment policy initiatives are generally couched in the light green rhetoric of rehabilitation, resource dependency, and enhanced economic growth (Crowley, 1996a). Before the current conservative federal government took office in 1996, hundreds of thousands of jobs had been created by combining labour market programs for the long term unemployed with national revegetation programs, such as the Decade of Landcare (1990-2000). However these programs have also been much criticised, even by their own administrator, Greening Australia, for devaluing the ecological restoration profession, for failing to create 'real jobs' in environment industries, and for failing to achieve even the most basic ecological objectives (Crowley, 1996a; Bitá, 1995, p. 8). Towards the mid-1980s, labour market programs were joined by employment growth in 'the mid-green' industries of energy efficiency, eco-tourism, waste management, land management and clean production. Before the current Asian crisis, these industries boasted one of the fastest areas of job growth in Australia, turning over \$3 billion annually, and were poised for annual growth rates of a further 4.5% per annum (Bitá, 1994; Bitá & Cant, 1994).

For Australia's conservationists, green politicians and environmental activists alike, there are nevertheless significant problems, in terms of achieving basic ecological objectives, with both the official green jobs programs to date and the environment industry in its fledgling form. They argue that green jobs have a much wider application than landcare and ecological restoration, and that labour market programs need to make synergistic links with the private sector to realise green employment potential (ACF-ACTU, 1994). Many of the criticisms of the landcare program may well have been met by the previous Federal Government's \$A1.46 billion 'New Work Opportunities' environmental employment package with its regional, community focus, the future of which is now in doubt. The environment industry, on the other hand, although comprising those industries whose activities should make a positive contribution to ecologically sustainable development (CWLTH, 1994, p. 13), may in fact thrive on the management of ecological decline (Kell, 1995, p. 21). There is a great difference between air pollution reduction and control, between waste minimisation and management, and between the prevention and the remediation of land contamination, for instance, which is lost in the current industry definition.

Green employment to date has included not only federal landcare and ecological restoration initiatives, and emergent jobs in the environment industries, but also to a limited extent the job outcomes of efforts by environmentalists to achieve ecological sustainability. Structural adjustment job creation packages have been negotiated, albeit all too rarely, in exchange for the protection of significant natural regions as National Estate and World Heritage Areas (Toyne, 1994). As well, the local employment initiatives implemented during the short-lived Tasmanian Labor-Green 'Accord' state government, and initially advocated by the Tasmanian Greens, have proven the value of ecologically benign solutions to regional unemployment problems. Indeed five Tasmanian Greens were returned to State Parliament at the 1992 election largely on the basis of the respect their 'Business and Industry' strategy, (which aggressively marketed clean, green, local industry), commanded in the small business community (Crowley, 1996c, p. 534). There is no doubt, however, that the best known environmental employment research and pilot program efforts in Australia have

been those of the Green Jobs Unit created by the Australian Conservation Foundation - Australian Council of Trade Union (ACF-ACTU, 1994 & 1995; Crowley, 1996a).

ECOLOGICALLY MODERNIST EMPLOYMENT?

Restructuring for Jobs & Environment

It is nevertheless fair to say, even from the most cursory inventory of green jobs in Australia, that, in terms of 'light' to 'deep' green job opportunities, ecologically modernist employment is the least realised and the least understood. The only restructuring that has occurred with any impact upon green job creation has been a restructuring of federal labour market programs to combine the policy objectives of unemployment relief and ecological restoration. Until recent budgetary cuts, and despite the criticism noted above, these combined objectives produced innovative local partnerships in ecological restoration which drew conservative rural communities into a sophisticated conservation equation (Campbell, 1994). But ecologically modernist employment, especially in the strongest sense of economic restructuring to achieve ecological ends (Stilwell, 1997), remains unexplored territory. Besides the work of the Green Jobs Unit and the Sustainable Industries project that this spawned, ecologically modernist jobs are most likely to follow industry driven moves towards 'best practice' in environmental management (AMC, 1992; Johnson, 1997). Such job creation is self-directed, piecemeal, and voluntary, occurring in the absence of any moves by the state towards ecological sustainability, yet would still be ecologically modernist in Huber's narrow, industrial sense.

Ecologically modernist employment is best achieved where governments set the pace of ecological restructuring, and are supportive of industry moves towards ecoindustrialism, as they have been in the Netherlands and Japan. For this to occur, governments must appreciate the resilience of the ecological challenge and the need to restructure economic and industrial processes to achieve ecological ends (Boland, 1994; Blowers, 1996; Hajer, 1996). As Spaargaren and Mol (1992) explain, ecological modernisation seeks at the very least to write ecological value and sustenance into the production process. It is reformist in

the sense of remedying rather than rejecting the industrial basis of the ecological crisis with another round of industrial innovation (Hajer, 1996). But would this 'ecologising' of industry and the growth economy create jobs? 'Yes' because environmental regulation would stimulate investment and therefore employment (Jacobs, 1994). 'Yes' because a clean environment will require new industries and new jobs (Repetto, 1995). 'Yes' because there are more jobs in environmental sustainability than in resource depletion (Renner, 1992). Governments must also actively manage the transition to sustainability, as Jacobs argues above, using public policy adjustment measures to ensure that aggregate employment levels are not adversely affected (Repetto, 1995).

Green economists argue that industrial restructuring and development is an inexorable process, which sees the shrinkage of jobs in mature industries and the creation of jobs in emergent ones, and which should be harnessed to achieve ecological ends (Renner, 1992). Repetto (1995, p. 23) argues that the annual employment shifts in today's market economies that are occurring in response to demand variations and technological change, dwarf any shifts attributable to environmental policy. Massive structural change has occurred anyway over the last thirty years, Jacobs concurs, as the advanced economies have post-industrialised, with service sector employment displacing the dominance of manufacturing (Jacobs, 1994). There is now broad societal agreement on the desirability of sustainable development, which advocates the shifting of economic and social restructuring towards environmental efficiency, and should see greener employment outcomes, But government must encourage tendencies toward environmental efficiency, to counter pressures in the opposite direction, if Jacobs's 'double dividend' of environmental protection and economic growth is to be achieved. He advocates regulatory environmental policy measures; green public spending on infrastructure and job creation; eco-tax reform to shift the tax burden towards environmental impact; and environmental research and development support (Jacobs, 1994).

The Double Dividend in Australia?

Langmore and Quiggan (1994) cite the i) controlling of pollution and managing of waste; ii) greening of technology; and iii) conserving of nature, as sustainable development objectives that deliver green jobs in Australia. Respectively, these objectives create i) light green jobs by remedying ecological decline; ii) ecologically modernist jobs by technological innovation; and iii) deep green jobs by preserving ecological integrity (Table 2). Whilst the burgeoning opportunities are in pollution control and waste management, worth billions of dollars and expanding rapidly, this is an industry (as mentioned above) that thrives on ecological decline. Research by the Green Jobs Unit shows job growth in the pollution control and waste management industry between 1988-1993 at a startling 107% (Kell, 1995: 22). Potential growth in the pollution control industry promises to create a further 20,000 jobs by the end of the decade, while Australia's capture of only 2% of the world's market by then would generate \$8 billion of business and potentially 150,000 jobs. Meanwhile, employment in Australia's more broadly defined 'environment industry'ⁱ was conservatively estimated in 1992 to comprise 2.5 to 5% of the paid labour force, i.e. 200,00 to 400,00 jobs (ACF-ACTU, 1994; Kell, 1995; CWLTH, 1994).

The previous Federal Labor Government supported green jobs by: financing green jobs in landcare and ecological restoration; supporting the Green Jobs Unit; and establishing an Advisory Council on Environmental Employment Opportunities (Crowley, 1996a). It acknowledged that employment in green industries such as energy efficiency, eco-tourism, waste management, land management and clean production represents one of the fastest areas of job growth in Australia (Bita, 1994, p. 5; Bita & Cant, 1994, p. 2). However the findings of its 'Inquiry into Environmental Policies which Stimulate Employment Growth' remain an unimplemented blueprint to greener jobs. These include a breadth of recommendations, ecologically modernist and otherwise, that call for strong state action in recognition of environmental degradation as a national problem that needs national action (see Appendix One). As I argue elsewhere, and with the exception of a series of electorally driven decisions in the 1980s, the political will is simply lacking in Australia for the centralisation of environmental policy formation and implementation (Crowley, 1997). Hence the difficulties with devising and implementing federal industry standards, for

instance, that use fiscal and other measures to stimulate cleaner production rather than just better waste management.

The current federal government has not distinguished itself by any commitment to greener jobs. It has cut labour market funding that underpins light green jobs in landcare by \$1.7 billion over four years despite recommendations made by the 'Inquiry into Environmental Policies which Stimulate Employment Growth' to double funding. Its commitment to light green jobs in landcare comprises a \$42 million Green Corps program creating 3,500 jobs over three years, although these are short term, lowly paid, and offered to young people rather than the long term unemployed (Gordon, 1996). It has also declared its contentious \$A1.25 billion Natural Heritage Trust fund (NHT), set up to administer environmental projects and financed by the part sale of the country's telecommunications system, to be a jobs creation 'bonanza'. 'Thousands of jobs' will be created by combining environmental and employment objectives in rural and regional Australia over the next five years in vegetation, rivers, biodiversity, land, coast and clean seas programs (Hogarth, 1997). It now appears that this has also been a 'green barrelling' exercise, with funding predominantly being channelled towards job creation in the federal government's own rural heartland (Kerin, 1998).

CONCLUSIONS

Ecologically modernist job potential does provide a contrast to both rhetorically light green and fundamentally deep green employment opportunities as Table 2. shows. Indeed the term itself provides a useful theoretical bridge, as does sustainable development, between these extremes. The difficulty with applying the concept of ecological modernisation remains however, not least because it is still so broadly interpreted and contested. In Huber's narrow sense, industry is throwing the 'ecological switch' to transform its processes with job creating consequences. This is certainly a global phenomenon which is also seeing Australian industry move towards improved environmental standards. More broadly, Weale describes ecologically modernist discursive innovations and policy shifts.

In his sense, ecologically modernist employment is the result of over three decades of awareness raising about environmental concern in Australia and around the world.

Ecologically modernist employment can be recognised in both Huber's narrow sense and Weale's broader sense in Australia.

What is less recognisable in the ecologically modernist description of integrative employment opportunities is the reactive sense of green jobs that persists in Australia and which is so far removed from a proactive green employment agenda (see Table 2). Australia is yet to appreciate the job benefits of environmental amenity and protection, for instance, and sees its environment industry predominantly as one that remedies, not prevents, ecological decline. For a country that has undergone so much economic restructuring and reform over the last twenty years, Australia remains surprisingly protectionist of its natural resource exploiting industries. Outdated 'job versus environment' rhetoric continues to garner mainstream political support, and to thwart to environmental policy innovation that would otherwise generate greater efficiencies in natural resource usage. Australia is for instance wedded to burning coal before investing in renewable energy, chipping its remaining native forests before investing in plantations, and building more freeways before considering a carbon tax.

This is where Huber's sense of ecological modernisation as self innovation fits with the Australian weak state practice of responding to industry, state government and public pressure before innovating itself. Jacobs (1994) would conclude that Australia has missed the boat in terms of realising green job opportunities because its lack of environmental efficiency has already lost it competitiveness and will ultimately cost jobs. The state support that props up environmentally unsound industries by way of protection, privileged resource access and infrastructure could well be redeployed to develop eco-friendly industries and industry standards. It is obvious from Table 2 that there are a number of environmental employment fronts upon which the federal government could take action, some more challenging and requiring greater structural adjustment than others. Jacobs (1994), Kell (1995), Renner (1992), Repetto (1995) and others are emphatic about the

importance of government policy, incentives and regulation to job growth in environmental employment.

Environmental degradation and employment uncertainty are likely to remain challenging policy concerns for the modern industrial state. They are both distinctive features of late modernity, symptomatic of economically constrained policy. Both have reached various levels of crisis that will intensify into the new millennium. Both are massively global in scale, yet respond to locally appropriate solutions. Both are more typically dealt with reactively, rather than proactively by policy makers. Both face difficulties in appealing to good conscience rather than commercialism or self interest. Both require long term planning and market intervention rather than laissez faire policy. This paper has argued the theoretical utility of ecological modernisation in analysing Australia's environmental employment record. It has found that ecological modernisation, by integrating economic and environmental concerns, has enormous job creation potential. It has also found that Australia is yet to appreciate this, given its limited appreciation of both green jobs and proactive environmental policy.

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Environmental Policy Discourse

1970s+ environmental impact

1980s+ sustainable development

1990s+ ecological modernisation

Table 1: Discursive Environmental Policy Eras

	Deep Green	Mid Green	Light Green
<i>mode</i>	proactive	integrative	reactive
<i>scope</i>	long term	intermediate term	short term
<i>nature</i>	transforming	reforming	conforming
<i>objective</i>	redefine growth	'ecologise' growth	enhance growth
<i>operation</i>	rejectionist	reinventionist	accommodationist
<i>aim</i>	ecological sustainability	ecological modernity	sustainable development
<i>jobs</i>	preserving nature	greening industry	remedying ecological decline

Table 2: Green Employment Typology

APPENDIX ONE

Implementing Environmental Policies to Stimulate Employment Growthⁱⁱ

Contrary to federal policy and practice that has confirmed State custody of environmental issues in Australia, the House of Representatives Standing Committee Inquiry [HRSCI] into 'Environmental Policies which Stimulate Employment Growth', mentioned above, finds environmental degradation to be a national problem that needs to be addressed on a national scale. It supports the establishment of a National Environmental Protection Council, and recommends that all federal industry, economic and employment measures include sustainable development and environmental protection statements. A high level federal inter-agency co-ordinating group is recommended to secure interdepartmental cooperation and consultation on environmental policies and programs with job creation potential. Such a group, including the environment, industries and treasury portfolios, is also recommended to develop options for using fiscal measures to stimulate both cleaner production in industry, and the development of an Australian environment industry.

The HRSCI further recommends environmentally sound purchasing policies; national environmental standards; and environmental management certification.

Recommendations on waste management and minimisation include landfill charges, recycled content requirements, tax reduction or exemption for recycled products, and the rationalisation of energy efficiency and renewable energy promotion programs. A National Pollution Inventory is recommended as a community 'right-to-know' measure, with mandatory reporting requirements to provide the public with sufficient information to be able to assess the environmental performance of particular sources of pollution. Other energy measures include the examination of carbon taxation and its implications for industrial activity and employment creation, and the establishment of a National Renewable Energy Strategy to incorporate a previously developed renewable energy sources and systems research strategy.

Quite a few of the Inquiry's recommendations address the national 'landcare' program, including the suggestions that funding be at least doubled to \$A200 million per year, and that funding to State agencies be subject to the appointment of dedicated landcare officers and regular reporting of their numbers. Other concerns are that landcare participants receive structured training, that landcare based labour market programs be regularly and closely monitored and evaluated, and that priority funding be available for landcare groups in drought affected regions. Priority labour market funding is also recommended for rural areas with high unemployment, and for Regional Environmental Employment Programs should these begin to deliver significant employment and environmental benefits. The Inquiry is aware of the potential for labour market trainees to displace employed environmental professionals and suggests this be investigated, as should the employment implications of national biodiversity measures, feral pest eradication, Aboriginal lands restoration and maintenance, and ecotourism industry development and standardisation (CWLTH 1994).

Notes

ⁱ There is no precise or agreed definition of this industry. It is commonly described as diversified, and comprising those industries whose activities make a positive contribution to ecologically sustainable development. More narrow descriptions employed for example by the OECD focus on pollution control, waste management (CWLTH 1994: 13). Activities undertaken within the more narrowly defined environment industry typically include air pollution control; water and waste water treatment; waste management; contaminated land remediation; energy management; environmental monitoring and instrumentation; environmental services; noise and vibration control; and marine pollution control (Jacobs 1994:20).

ⁱⁱ Summary of recommendations in Crowley (1996a:624-625).