

CHAPTER 10

EXPORT POTENTIAL

10.1 The potential export market estimated for the year 2000 is \$6 billion per year, but North America and Western Europe supply about 70 per cent of the waste management technologies and services.¹

10.2 Australia's close proximity to Asia could be beneficial in relation to the export potential of waste disposal technologies for export overseas. The rapid growth in the economies of countries in the Asia-Pacific region, coupled with its high population growth, has placed considerable stress on the environment.²

10.3 Australia has bilateral agreements on the environment with a number of countries, including Indonesia, Singapore and Japan.³ These agreements cover information exchange, cooperation and areas of collaboration.⁴ EMIAA has an agreement with Singapore to improve cooperation and encourage joint ventures in the Asian region.⁵

10.4 The Centre for Applied Colloid and Biocolloid Science at the Swinburne University of Technology is putting together an initiative to establish an internationally recognised Asia-Pacific regional vehicle for collaboration in waste management, environmental research, the training, technologies and the systems approach to waste management of the whole problem.⁶ It is envisaged that this initiative would be of value to industry, government and the communities.⁷

¹ Victorian Government, Submission No.83, p.6.

² Department of Environment, Sport and Territories, Supplementary Submission No.69, p.2.

³ Ibid, p.6.

⁴ Ibid, p.6.

⁵ Ibid, p.6.

⁶ Mainwaring, Evidence, p.763.

⁷ Ibid, p.763.

10.5 The Department of Environment, Sport and Territories pointed out that Australia had expertise in solid and hazardous waste management, water treatment, environment management needs of urbanisation and resource extraction and processing, environmental management services to small and isolated communities, managing the impact of tourism, site rehabilitation, ozone protection, drinking water supply, establishing effective regulatory regimes and environmental impact assessment, and other environmental and technical consulting services.⁸

10.6 The Waste Crisis Network emphasised that there was also a market for products of a cleaner production focus, which could also provide export benefits in an increasingly environmentally concerned global market, rather than just focusing on the waste disposal technology.⁹

Barriers to Expanding the Export Market

10.7 In 1991 the Prime Minister's Science Council released a paper, *Commercial Opportunities in Waste Management*, which discussed the impediments to the successful internationalisation of the local waste management industry.¹⁰

10.8 There were a number of barriers to Australia's entry into these markets. Australian industry must compete with that in countries such as the United States, Germany and Japan, where strong environmental industries enjoy greater government assistance than in Australia.¹¹ Canada's Green Plan provided \$CAN100 million, while the United

⁸ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.2.

⁹ Munoz-Figueroa, Evidence, p.417.

¹⁰ Office of Chief Scientist, *Commercial Opportunities in Waste Management*. Papers prepared for the fourth meeting of the Prime Minister's Science Council 20 May 1991, AGPS, Canberra.

¹¹ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.1.

States Environmental Technology Initiative provided \$US36 million in 1994.¹²

10.9 Other barriers included: a smaller domestic market; access to capital; government procurement policies; lack of uniformity and low level environmental standards, lack of demonstrated Australian technologies; reluctance of Australian public sector acceptance of innovative technologies and systems; a low level of research and development; and inadequate information and promotion.¹³ The Committee was told that public authorities were being directed towards full quality assurance accreditation, thus dealing with recognised parties, making it more difficult for smaller organisations to enter the market.¹⁴

10.10 The Victorian Government considered that commercial opportunities were hindered by the fragmentation within the industry and the general lack of cooperation between enterprises in the development of technology.¹⁵ There was, however, cooperation on some issues of mutual interest through industry associations, such as the Environmental Management Industry Association of Australia.¹⁶

10.11 Countries preferred to deal with enterprises which had demonstrated the commercial viability and technical capabilities of their processes.¹⁷ The Committee was given the example of one company which lost a \$1.2 million contract because overseas companies had demonstrated their technological competence.¹⁸ Before investing in a new technology, groups look at the track record in performance and the

¹² Ibid, p.3.

¹³ Ibid, p.1.

¹⁴ Cloete, Evidence, p.558.

¹⁵ Victorian Government, Submission No.83, p.6.

¹⁶ Ibid, p.6.

¹⁷ CEDEC Pty Ltd, Submission No.9, p.5.

¹⁸ Ibid, p.5.

success in marketing the product.¹⁹ EMIAA agreed that Australia did not have the credibility because it did not have an extensive track record.²⁰

10.12 There was also a reluctance in Australia to use technologies which had been proven elsewhere.²¹ The Committee was told that the government should provide incentives and encouragement to enterprises to overcome the conservatism of Australians towards locally developed technologies, which had in the past required overseas entrepreneurs to launch their processes.²² The Committee was told that Australia had all the technology but it was not being adopted partly because of governments' aversion to risk.²³

10.13 SRL PLASMA Limited were of the view that, because in Asia:

the current priority seems to be on water and sewerage treatment, it is unlikely that the treatment of hazardous waste will receive priority attention in the next few years. Furthermore, there is less community consultation with the result that existing technologies (namely HTI) are seen to be "acceptable" by the authorities i.e. the market is nowhere near as developed or sophisticated as is the case in Europe or North America.²⁴

10.14 Key government policies identified by the OECD included export credits and financing schemes, advisory services, market information services, and trade fairs and missions.²⁵ The Department of

¹⁹ Robertson G (1993) *Incineration With Energy Recovery of MSW: The biofuel of the 21st century*. Paper presented to the Asian Industrial Technology Congress '93 Conference on Environmental and Related Materials Technology, Hong Kong 21-22 May 1993, p.2.

²⁰ Cole, Evidence, p.520.

²¹ Bridle, Evidence, p.122.

²² Institute of Chemical Engineers in Australia, Submission No. 13, p.2.

²³ Bridle, Evidence, p.119.

²⁴ SRL PLASMA Limited, Submission No.20, p.9.

²⁵ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.3.

Environment Sport and Territories pointed out that these activities should be continued and extended in Australia if the waste disposal and environment industry was to develop further.²⁶ The Victorian Government considered that there were some early signs that the willingness or capacity of firms to diversify to provide integrated waste management services, including waste minimisation, could influence the long term success.²⁷

Overseas Interest

10.15 The Chamber of Manufactures of New South Wales believed that there were enormous opportunities for export trade in environmental technology, equipment and model environmental protection programs, which would be exploited by targeting waste disposal problems in developing countries.²⁸ CEPA considered that few countries were aware of the environmental capabilities which existed in Australia.²⁹

10.16 The Chamber called for:

the development of an Environmental Industries Development Plan to set the directions and priorities for Australia's commercial and export development in environmental and waste management industries.³⁰

10.17 There is scope for the participation of Australia in international clearinghouses on environmental technology, trade missions and international conferences.³¹ CEPA was involved in the establishment

²⁶ Ibid, p.3.

²⁷ Victorian Government, Submission No.83, p.6.

²⁸ Chamber of Manufactures of New South Wales, Submission No.67, p.3.

²⁹ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.5.

³⁰ Chamber of Manufactures of New South Wales, Submission No.67, p.11.

³¹ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.5-6.

of a database on the environmental management capabilities in Australia.³²

10.18 There has been some success by Australian enterprises. The announcement of the ball mill process for the destruction of a wide range of scheduled wastes had attracted significant world wide interest, and these avenues were being pursued by CRA Limited.³³ CRA had had inquiries from Germany, Canada, USA, Asia and other companies in Australia.³⁴

10.19 BCD Technologies was the first commercially operating unit in the world and had therefore attracted international attention.³⁵ Delegations from nine countries have inspected the facility, and there have been numerous other inquiries.³⁶ BCD Technologies estimated that the Asian market for this process was \$150 million.³⁷

10.20 In 1989 Lohning Brothers Consulting Engineers (NSW) Limited signed an agreement with Manila's City Mayor to build a waste incinerator and generation plant.³⁸

10.21 The PLASCON process has lower atmospheric emissions than those proposed for incinerators and meets all the requirements for safe and cost effective disposal of a range of substances, but the major constraint on the commercialisation of export markets was the lack of reference sites in Australia.³⁹ This was considered important because:

³² Ibid, p.6.

³³ CRA Limited and the University of Western Australia, Supplementary Submission No.16, p.3.

³⁴ CRA and the University of Western Australia, Submission No.16, p.7.

³⁵ BCD Technologies, Submission No.50, p.vii.

³⁶ Ibid, p.vii.

³⁷ Ibid, p.vii.

³⁸ Templeton J (1990) 'Rubbish dump used to provide Manila with electricity' *Waste Management* July 1990, pp.4-5, p.4.

³⁹ SRL PLASMA Limited, Submission No.20, p.10.

It is also unfortunately the case that Australian technology is not as well regarded as that developed in Europe.⁴⁰

10.22 The BCD Process developed by Technosafe Waste Disposal Pty Ltd has had considerable overseas success:

The technology of BCD Process as it has been developed by Technosafe Waste Disposal has been sold to the EBARA CORPORATION of Japan who have purchased the license rights from the United States, and Technosafe is now recognised, world wide, as the leader in BCD Technology. Other companies who have purchased the license rights for the process have already contacted us with the view to purchasing the technology developments that we have achieved. In addition to this, the Australian Defence Industries who have purchased the license rights for most of the European countries, the United Kingdom and Russia have approached Technosafe for a sub license to operate the process in Australia and Technosafe's technology that will enable them to fully utilise the process in other countries where they are licensed to operate the BCD Process.⁴¹

Commercialisation

10.23 After technologies have been developed, there are a number of non-technical hurdles to be overcome in the commercialisation, which relate to community expectations and understanding and the gaining of government approvals.⁴²

10.24 If Australia is to be internationally competitive, then the costs of waste disposal must also be competitive.⁴³ Australia has an excellent track record in inventive capacity and has the highest number of patents per capita in the world.⁴⁴ Mr Bridle attributed the failure to commercialise was related to:

⁴⁰ Ibid, p.10.

⁴¹ Technosafe Waste Disposal Pty Ltd, Submission No.20, p.2.

⁴² Illawarra Technology Corporation Ltd, Submission No.22, p.14.

⁴³ ICI Chemicals and Plastics, ICI Australia Submission to the Independent Panel on Intractable Waste, November 1991, p.7.

⁴⁴ Bridle, Evidence, p.119.

big governments' procurement policies and the ability of government to finance commercial demonstration plants.⁴⁵

10.25 The Department of Industry Science and Energy also emphasised the importance of demonstration projects in achieving success in the Asian market.⁴⁶ There was a need to sensitise the Australian market to the benefits and opportunities to create a market drive.⁴⁷

10.26 The Committee was given the example of Memtec who have established promising export markets for their micro-filtration technology.⁴⁸

10.27 In Victoria, private companies and public sector organisations, such as Melbourne Water, were selling consulting services in a wide range of overseas markets, particularly in China and in South and South East Asia.⁴⁹ In their submission, the Victorian Government provided a list of niches which they believed provided opportunities. These included waste and environmental audits; efficiency of existing waste management systems; low cost and small waste management systems; minimisation and prevention of waste; improved process for fuel and energy production from waste; and 'waste' as a 'resource' for other products.⁵⁰

⁴⁵ Ibid, p.119.

⁴⁶ Wells, Evidence, p.203.

⁴⁷ Stuart, Evidence, p.203.

⁴⁸ Clean Up Australia Ltd, Submission No.78, p.2.

⁴⁹ Victorian Government, Submission No.83, p.7.

⁵⁰ Ibid, p.7.

Assistance to Enterprises

10.28 Access to capital has been identified by the Industry Commission and the OECD as well as the industry as a significant barrier to the export of new technologies.⁵¹ It was pointed out that risk capital was easy to raise in some parts of the world but with a disproportionate share of ownership required by venture capitalists.⁵²

10.29 The Chamber of Manufactures of New South Wales suggested a number of possible areas where companies could be assisted. The Chamber suggested the establishment of a Loan Guarantee Programme, a Capital Equipment Grant Programme, a Special Investment Incentive Scheme, a Competitive Investment Allowance Scheme, a Special Export Support Programme and a Corporate Export Support Tax Credit System.⁵³ The Chamber also suggested the establishment of a facilitation network to promote information and awareness, feasibility and planning studies and a cooperative approach.⁵⁴

10.30 The Industry Commission report, *Environmental Waste Management Equipment, Systems and Services*, also found that some Australian enterprises lacked resources, management and marketing skills.⁵⁵ The Department of Environment, Sport and Territories pointed out that marketing strategies needed to overcome cultural and trade barriers, such as those in the Asia Pacific region.⁵⁶ CEPA was assisting the Australian Environment Management Export Corporation (AUSTEMEX) through the Environment Cooperation with Asia Program, by funding the employment of a Project Development

⁵¹ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.3.

⁵² Scott, Evidence, p.158.

⁵³ Chamber of Manufactures of New South Wales, Submission No.67, p.11.

⁵⁴ Ibid, p.11.

⁵⁵ Industry Commission (1993) *Environmental Waste Management Equipment, Systems and Services*, AGPS, Canberra.

⁵⁶ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.6.

Manager working on the environment management project opportunities in the Asia Pacific region.⁵⁷

10.31 The Committee was given the example of one company which had a joint venture in the USA and had an order of \$100 million for two plants per year for the next ten years. The point was made that it was not unusual for Australians to have their experience go overseas before it was used here.⁵⁸

10.32 It was pointed out to the Committee that industry focus was on the economics and infrastructure in Australia, which needed to be correct to maintain the competitiveness of Australian manufacturing.⁵⁹

10.33 Molten Metal Technology (MMT) is an American company which has a number of commercial-scale, pilot-scale, bench-scale and lab-scale demonstrations.⁶⁰ MMT has been funded through customer paid research, private placements and public offerings for more than \$US142 million since 1990. The approach has not been used in Australia to the same extent.

Current Government Programs

10.34 It was pointed out that Australia's aid and export programs offered an opportunity to assist the industry.⁶¹ The Committee was told that the scale of funding approvals for programs from the Australian International Development Assistance Bureau did not match the time-scale.⁶²

⁵⁷ Ibid, p.6.

⁵⁸ Lohning, Evidence, p.281.

⁵⁹ Australian Chamber of Commerce and Industry, Submission No.70, p.1.

⁶⁰ Molten Metal Technology, Submission No.25, p.1.

⁶¹ Department of Environment, Sport and Territories, Supplementary Submission No.69, p.4.

⁶² Ibid, p.4.

10.35 The Department of Environment, Sport and Territories said that:

the Australian environment industry has indicated to CEPA that it believes that the traditional emphasis in initiatives such as the Development Import Finance Facility (DIFF) and the Export Finance and Insurance Corporation (EFIC) on funds for large projects is no longer totally appropriate, particularly in the environment management industry, and discourages a number of small companies. This should include expansion of DIFF and EFIC funding to include allocation of funds to a larger number of small scale technology projects. They have also expressed concerns over the length of process involved with AIDAB to approve and assess aid projects proposals.⁶³

10.36 A number of initiatives in the Government's White Paper on Employment and Growth were designed to assist the environment management industry.⁶⁴ Measures included were designed to stimulate innovation and commercialisation in science and technology; improve access to finance for smaller firms; make government assistance programs more accessible; provide funding and incentives for research and development; encourage investment in environmental infrastructure; provide extra resources for Austrade's offshore marketing; provide concessional tax rates for Pooled Development Funds; extension of infrastructure bonds; and the Asia Infrastructure Consortia program.⁶⁵

Trade in Low Level Hazardous Wastes

10.37 The Chamber of Manufactures of New South Wales supported the trade in low level hazardous materials, which had an estimated export value of \$2 billion.⁶⁶ The Chamber emphasised their view that

⁶³ Ibid, p.4.

⁶⁴ Ibid, p.4.

⁶⁵ Ibid, p.4.

⁶⁶ Chamber of Manufactures of New South Wales, Submission No.67, p.9.

substances having a commercially recoverable content should not be regarded as wastes but as resources or products.⁶⁷

10.38 The Australian Chamber of Commerce and Industry was also concerned about the maintenance of the export market for secondary materials which could not be used in Australia but had significant value to overseas purchasers.⁶⁸ They were also concerned that the Basel Convention on the Transboundary Movements of Hazardous Wastes would place increasing constraints on this market.⁶⁹ The Chamber considered that recycled paper, plastics and metals such as ferrous scrap, tin and zinc could be included in an export ban under the Basel Convention.⁷⁰

10.39 The Chamber pointed out that potential problems with the export of these materials might be overcome if the Government recognised the distinction between 'wastes' and 'products', including valuable recyclables.⁷¹ Should this market cease to exist then the disposal costs for these products would need to include the loss of export earnings, the cost of domestic disposal, and long term costs of changing manufacturing processes to minimise hazardous residuals.⁷²

10.40 The Australian Chamber of Commerce and Industry also pointed out that the application of the Basel Convention might also threaten the import of secondary material, such as chemicals and metals used by Australian industries, which would be crucial if alternative domestic supplies were not available.⁷³ It was pointed out that metals and scrap were not included under the international convention.⁷⁴

⁶⁷ Ibid, p.9.

⁶⁸ Australian Chamber of Commerce and Industry, Submission No.70, p.2.

⁶⁹ Ibid, p.2.

⁷⁰ Ibid, p.p.2-3.

⁷¹ Ibid, p.3.

⁷² Ibid, p.3.

⁷³ Ibid, p.p.3-4.

⁷⁴ Environmental Management, National Affairs, August 1994, p.2.

10.41 The Independent Panel on Intractable Waste found that where imports of a particular material replaced local production, the waste problem was not solved but transferred back to the country of origin.⁷⁵ Accordingly this should be considered in approving the import of these products.

10.42 CSIRO and Pacific Power pointed out that if the import of transformer oil containing PCBs was not possible, their process for regenerating transformer oils would need to be exported.⁷⁶ They planned to operate a prototype for about 12 months to gain the operating experience and confidence to enter the export market.⁷⁷

⁷⁵ Independent Panel on Intractable Waste 1992 *A Cleaner Australia, Volume 1 Findings and Recommendations*, 6 November 1992, p.21.

⁷⁶ Ekstrom, Evidence, p.428.

⁷⁷ Ibid, p.428.

