

DIRECTIONS FOR THE WASTE MANAGEMENT INDUSTRY

**Paul F. Howlett, President, Waste Management Association of Australia
Joint Managing Director, Wright Corporate Strategy**

Abstract

The changes that are emerging within the waste management and resource recovery industry can be seen in most jurisdictions, to varying degrees. In Europe, strong regulatory regimes are driving change through economic imperative, whilst in the USA free market philosophies are fostered within regulatory frameworks that set relatively high level environmental outcomes.

In Australia, we are progressing along a path of change that blends bits of both the European and the US approach, in our own unique formula. In this regard, NSW can be considered as one of the jurisdictions in Australia setting the pace in waste management and resource recovery reform.

There is clear evidence that the waste management and resource recovery industry must embrace higher levels of technology, raise the level of technological capacity of its employees, and present a coherent and competent picture of its capabilities to the community and the key decision makers.

To emphasise the issues in this paper, the reforms in NSW are used as a guide to the directions for change that are emerging, and a basis for considering the response from the industry to those pressures.

Keywords

Waste Management, Resource Recovery, Industry Training, Industry Development.

The Scene for Change

The Waste Act of 1995 introduced several significant and far-reaching changes into the management of solid waste in NSW:

- the creation of Waste Boards;
- formalisation of the 60% waste reduction target;
- opening for private sector ownership of putrescible waste facilities;
- the creation of SWAC (State Waste Advisory Council);
- sharply increased waste disposal levy.

Through the Waste Act, the Government established a new platform for managing wastes and resource recovery in NSW. A framework of planning and management responsibility was established along with a new regulatory regime. The Government clearly signaled its desire to reduce the amount of waste disposed of as waste, to make waste generation more expensive and to open up the opportunity for private sector ownership of facilities.

In this latter aspect, the Government was giving due regard to the progressive trend to farm out to the private sector the ownership and operation of urban infrastructure, and towards smaller government.

The Waste Act is now 5 years old and by legislative requirement is under review.

Setting the scene for that review, the NSW Government has completed a number of major strategic initiatives:

- commissioned the Alternative Waste Management Technologies & Practices Inquiry;
- commissioned the Container Deposit Legislation Inquiry;
- commissioned the Independent Public Assessment - Landfill Capacity and Demand;
- approved the first privately owned and operated putrescible waste landfill.

In parallel, the private sector has responded to demands for alternative waste processing and management options with:

- the Bedminster system at Port Stephens;
- a composting and residual waste management system at Hastings;
- the mixed waste SWERF at Wollongong;
- achieving approvals for a biodigester waste to energy plant in Parramatta;
- achieving approvals for the Woodlawn putrescible waste landfill.

In the background, the Waste Boards are working to introduce resource recovery waste processing systems for the residual waste stream:

- Western Sydney - pretreatment of residual waste as a precursor to resource recovery;
- Southern Sydney - treatment of mixed residual waste with recovery of economically viable resources;
- Hunter - treatment of mixed residual waste with recovery of economically viable resources.

Through these moves the Government, the Waste Boards and the private sector are working on an agenda for on-going change in waste and resource recovery management in NSW. There is a noticeable shift away from managing disposal issues to creating an environment for diversion for beneficial use and avoidance. The notion of targets for reduction in disposal has been rejected, but the clarification of landfill capacity has put pressure on the amount of waste that can be tolerated over the next two decades.

The finite capacity of existing landfills was determined and a buffer of capacity created. The Government clearly rejected the notion of permitting excess capacity, to maintain both social, financial and political pressure for diversion and avoidance. Thus there is a collective move from all stakeholders to seek out options for diverting resources into avenues for beneficial use and for minimising waste at source.

In respect of these all these shifts, there is a growing emphasis on streams of resources, and a lessening emphasis on mixed waste or mixed resources.

Implementing The Waste Inquiry

Within this framework of change, the Minister for the Environment formed the Waste Inquiry Implementation Taskforce requesting the outline for an implementation plan based on the recommendations of the Waste Inquiry.

The working group focused on initiatives required in three key areas – supply side, system integration and markets. It identified key barriers in each of these areas

which, if addressed are likely to result in the more efficient use of our resources. The barriers identified were:

- information and knowledge (e.g. data, analytical tools, perception, options, access to data) for decision making by all stakeholders;
- surety of supply – especially in the commercial sector;
- fiscal barriers that prevent resource recovery;
- imbalances in economic settings that favour virgin over recovered resources;
- poor efficiency in logistics (e.g. planning of infrastructure, collection densities, transport efficiencies);
- poor integration of institutional arrangements.

Using the barriers as a starting point a range on specific initiatives were identified which could help to break down the barriers.

To further focus the outcomes into areas where significant gains could be achieved in reasonable timeframes, three key streams of resources which are dominant in most mixed waste streams, were targeted - organics, paper & cardboard and wood.

The overall focus of the recommendations of the Taskforce can be broadly encapsulated within the concept “**breaking down the barriers**”. In brief, the recommendations aim to:

- change mindsets which box activities according to the traditional waste streams of municipal, commercial & industrial and construction waste;
- tap into synergies in service needs between various waste generators;
- build-up the information and data throughout the system;
- clarify and strengthen roles and responsibilities;
- recognise the legitimacy of the full range of resource recovery options.

Implications for Industry

(a) Technology

Along with increasing expectation of performance quality, managing operations within sophisticated licensing regimes and growing costs of waste disposal, comes the demand for more technological sophistication from the resource recovery and waste management industry. This technological demand will be targeted at improving what we already do in managing wastes – collection, transportation, and disposal – plus, reducing costs, improving environmental outcomes and implementing new technologies and practices for handling, streaming, and processing wastes and recovered resources.

In the traditional areas for waste management, signs of this are already evident in collection systems and in landfill management. For kerbside collection, the thrust has been to achieve higher levels of efficiency, less contamination and reduced costs. Mechanisation has been a key tool in this trend. At landfills, the demands for greater environmental performance have necessitated more comprehensive management systems, and more technology in leachate and gas management. Also there are pressures to reduce costs through more efficient use of plant, smarter systems for cover and capping and maximising void utilisation.

These trends can be expected to continue at both the collection and disposal points. It is not unreasonable to expect that new approaches to designing and managing the logistics of collections will be required – especially those servicing the commercial sector.

And there are be significant demands for new technologies in the integration of waste management activities, especially in the areas of beneficial processing and resource recovery. The additional funds that are flowing into the waste sector, plus government drives to reduce disposal options will ensure that technology demand will remain high for some time to come.

To meet these demands in technological sophistication the industry will need to move forward in a number of areas, such as:

- more significant levels of training for employees at all levels within organisations;
- placing greater demands on technology providers to develop and deliver systems;
- fostering more technology interchange;
- building awareness in the community of the technological capabilities of the industry.

(b) People

The thrusts of cost reduction, improved performance in existing waste management activities and more innovative and sophisticated technology, will require fewer, more highly skilled and knowledgeable people in the waste management sector. There will be requirements for more training, implementation of competencies, linking of remuneration to competencies and performance, and a need for greater dissemination of knowledge across the industry.

As accreditation of waste managers becomes a requisite for operating in the industry, so the skills and training of the people will become more formalised, registered and audited. There will be higher levels of accountability and greater risks associated with errors. This trend will be heightened with the advent of greater post-consumer product stewardship. If the waste management sector plays a significant role in product life-cycle, then the skill mix of the people within the industry will change along with the accountabilities and responsibilities.

The industry will need to embrace training and education across its ranks. Existing skill levels are generally inadequate to fill the demands that will be placed on the sector. It is essential for the industry to demonstrate that it can rise to meet these challenges and provide technologically skilled and competent people. This will require:

- implementation of the waste management competencies that have been developed and approved by the Australian National Training Authority (ANTA);
- upgrading these competencies and relevant support material to accommodate changes in technologies and practices;
- introducing formal tertiary courses in waste management and resource recovery;
- developing and encouraging scientific and technological excellence in institutes of learning and research;
- fostering a new breed of resource manager to enter the industry.

(c) Industry Structure & Profile

The markets for the waste management industry will grow in several dimensions in response to the driving forces. There will be new market opportunities for waste management service providers in the integration of waste management and resource recovery activities. Technology providers will see opportunities to meet the demands of the industry and supporting service providers will see opportunities in the areas of training and technical support.

For the operators there will be opportunities to implement the new technologies associated with waste management and resource recovery, and there will be new markets created within the existing client base. As waste generators are pressured to reduce waste, and assume higher levels of responsibility for products after the consumer phase, so the tasks that must be undertaken will progressively fall outside the core business areas of the generators. The waste management industry is well positioned to fill these emerging market gaps in the area of cleaner production and post-consumer product management.

Overlying these market developments will be the growing demand for unifying views on wastes and resources management to be prepared and presented. Debate will rage at state and national levels and informed views must be inserted into this debate to ensure that the path forward is appropriate and comprehensively canvassed with accurate facts and information.

The industry must respond in a pro-active manner:

- establishing strategic alliances with other specialists in the environment management sector;
- developing smarter ways of delivering services;
- establishing a strong and competent profile for the industry in the minds of the community and decision makers;
- preparing and implementing a strategic agenda for industry development;
- reinforcing and supporting the associations that represent the industry and its interests.

Conclusion

The waste management and resource recovery industry in the midst of a time of rapid change. Waste generators are being pressured to reduce the amount of waste, and the waste industry is being challenged with capturing unwanted resources and diverting them to beneficial use.

The opportunities ahead lie in high value adding services when compared with many of the current services delivered by the industry. To take advantage of these improved business conditions, the industry must respond by improving the level of its use and understanding of technology, improving the capabilities of its people, and improving the image of the industry with the key decision makers.