

# POLICING HAZARDOUS WASTE DISPOSAL: KEY TRENDS AND ISSUES

*Briefing Paper No. 7*

This is the final of seven briefing papers stemming from the Policing Hazardous Waste Disposal Project funded by an Australian Research Council grant over the period early 2010 to mid 2012. The purpose of this paper is to highlight the key trends and issues that emerged during the course of the study.

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*Environmental harm is a crime*

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## **We welcome feedback**

We welcome feedback on any of the issues raised in this paper – please email [r.d.white@utas.edu.au](mailto:r.d.white@utas.edu.au) with your comments.

Please include the phrase *Briefing Paper 7* in the subject line of your email.

Thank you

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## **Introduction**

This is the final of seven briefing papers stemming from the ‘Policing Hazardous Waste Disposal’ project funded by an Australian Research Council grant over the period early 2010 to mid-2012.

The purpose of this paper is to highlight key trends and issues that emerged during the course of the study. Before doing so, it is valuable to briefly summarise the contents of the other briefing papers in this series.

### **Briefing Paper #1:**

#### *Policing Hazardous Waste Disposal in Australia*

This paper outlined the project as a whole and identified the four basic questions underpinning the research:

- What is the size and seriousness of problems associated with hazardous waste disposal in Australia?
- Who actually does environmental law enforcement in the area of hazardous waste disposal and under what legislative parameters?
- How is environmental law enforcement of hazardous waste disposal carried out in practice?
- Which agencies are currently involved in collaborative approaches to policing hazardous waste and how well do they work?

### **Briefing Paper #2:**

#### *What is Hazardous Waste and What Makes It Hazardous?*

This paper provides a technical discussion of the definitions of hazardous waste, drawing upon labels and terms used by agencies, legislative definitions, regulatory classifications and narrative descriptions. The paper also describes waste identification decision trees, and the process of waste determination that includes questions such as:

- Which hazard?
- How dangerous?
- How volatile?
- How toxic?
- Transformation value?
- Potential mobility?

**Briefing Paper #3:***Key Vulnerabilities & Limitations in the Management of Hazardous Waste and Its Disposal*

This paper outlines the process of developing a matrix to assess overall environmental regulatory performance, in the context of key vulnerabilities and limitations in the management of hazardous waste and its disposal. A total of 18 variables were identified, some of which included:

- Economics versus ecology
- Characteristics of waste
- Regulatory capture
- Compliance rather than enforcement
- Information management
- Conflicts of interest
- Resources
- Politicisation

**Briefing Paper #4:***Hazardous Waste in Australia: What is the Scale of the Problem?*

This paper explores the issues surrounding the measurement of the scale of the hazardous waste problem in Australia. The scale of the problem can be measured in a number of ways, from the volume of waste generated through to different types of hazardous wastes. The paper considers several key dimensions relating to measurement including:

- The scale of the problem in terms of volume, source/type of waste, and reclassification of waste for direct beneficial re-use
- Movement in and out of Australia, and types of hazardous wastes moving intra and interstate
- The scale of the problem at the national, state and municipal level
- The scale and pace of waste generation in the resources and extractive industries sector
- Excluded waste streams (e.g., radioactive)
- Information and data collection and management

**Briefing Paper #5:***Prosecution and Penalties for Illegal Dumping of Hazardous Waste*

This paper examines prosecution and penalty trends in relation to the illegal dumping of hazardous waste in Victoria, New South Wales, Queensland, South Australia and Tasmania. Data was drawn from the websites of relevant authorities in each jurisdiction, and detailed information was provided on the following elements pertaining to prosecution:

- The prosecution process
- The number of cases heard as well as number of convictions versus non convictions
- Type and spread of monetary penalties imposed
- Requirement or not for offenders to publish their offence in the print media
- Nature and frequency of the various offences committed

**Briefing Paper #6:***Legislation, Regulatory Models and Approaches to Compliance and Enforcement*

This paper provides a summary of how laws and legislation underpin state intervention, and discusses the various models and approaches to regulation in the broad environmental protection area. The paper considers some of the limitations of present regulatory systems and approaches, and recent recommendations regarding how some of these might be positively addressed. The issues discussed in the paper include:

- The legislative landscape at different jurisdictional levels
- The complex regulatory environment pertaining to hazardous substances
- Regulatory models, including different applications of the regulatory pyramid
- Alternative enforcement models stemming from critical review of existing processes and strategies

As indicated in this review of the content of the briefing papers, the project as a whole has covered a wide range of issues and dealt with diverse concepts, statistics and information. The purpose of this final paper is to provide a succinct summary of the most significant trends and issues we identified as part of the overall study.

## Key Trends and Issues

The research involved a combination of desktop reviews of relevant literature in the areas of hazardous waste, environmental regulation and law enforcement, and interviews with representatives from environmental protection agencies in Victoria, Tasmania, Queensland, and Western Australia, employees of local councils and health departments, and individuals associated with national environmental regulators and crime fighting bodies. In some cases we spoke with individuals at different agencies on up to three separate occasions over a two-year period. We are especially grateful to the Australasian Environmental Law Enforcement and Regulators neTwork (AELERT) for assisting us in establishing relevant contacts in various states.

### General Observations

Our first and most crucial observation is that we were continually impressed with the commitment and dedication of those we interviewed who were directly involved in environmental law enforcement. Most officials worked under conditions that were less than ideal in terms of resources, staffing levels, administrative structures and political context. Yet, there was genuine concern about issues pertaining to environmental health and wellbeing, and for doing the best they could do in their efforts as environmental regulators.

At the coalface of practice, however, there were interesting admissions and limitations. For example, our initial concern was with ‘hazardous waste’ as broadly defined, including radioactive waste and clinical waste. We quickly discovered that not only are different waste streams regulated by different bodies (e.g., clinical waste by health departments), but that those commissioned to regulate hazardous waste within the EPA sectors did not really know too much about how other waste streams were regulated and by whom.

Another observation, particularly at the beginning of the study and before the revamping of regulatory processes at the Victorian EPA, is that most environmental regulation was directed at dealing with licenses and permits – that is compliance in relation to legal disposal of waste. Not only was there less attention given to illegal dumping of hazardous waste, there was little emphasis on enforcement as such. In part this was reflected in other ways as well.

For instance, practitioners narrated the following experiences that have disturbing implications for environmental law enforcement practices:

- In one state, the regulators phone up the plant the day before an inspection, and when they do arrive for an inspection, if they are told it is not ‘convenient’ or to ‘come back tomorrow’, they go away and come back later
- In one state, the compliance and enforcement section was told by the government minister that particular companies were important economically to the state and they were told to close their file on them, which they then had to do
- In one state, the intention was to prosecute offenders in the Supreme Court but the unit was told to push it back to the Magistrate’s Court as it was too expensive to take things to the higher court

All of these examples point to difficulties of regulation culture, of enforcement powers and of costs. In our conversations we were often struck by the frustration of committed officers who wished to engage in proactive, substantial actions in support of their endeavours to protect the environment. A number of specific trends and issues also emerged over the course of the study, and it is to these that we now turn.

### Interfaces

Hazardous waste moves across jurisdictions and is covered by many different laws and statutes at different jurisdictional levels. Such interfaces include international/national; national/state/territory; state/state/territory; and state/territory/local. Each area of interface involves different stakeholders and actors. What occurs at and within each particular level has impacts and flow-through effects for other levels and jurisdictions.

#### Example 1:

The presence or absence of a suitable treatment facility will determine the movement and transport history of specific kinds of waste. This, in turn, influences the potential for criminal (e.g., breaking the law in a criminally harmful way) or illegal (e.g., breaching the law through non-compliance with a licensing regime) disposal of the waste.

Example 2:

The introduction or level of a waste levy will influence the movement or otherwise of specific kinds of waste. It also shapes the degree and type of illegal disposal that occurs, due to the impost generated by waste levy costs.

Inter-governmental interfaces may be bogged down by inadequate information-sharing and/or inter-agency protocols that create bureaucratic ‘red tape’. Conversely, criminal organisations and individuals engaged in illegal activity often have the advantage of speed and flexibility in decision-making and actions. The nature of the interfaces – including their complexity and questions relating to boundary ambivalence (i.e., who precisely is responsible for what and when?) – can work against systematic and coherent responses to illegal disposal threats.

*Our relationship with council has been quite fraught, because there’s a big jurisdictional grey area, so there’s stuff that both of us agree is their job, there’s the stuff that both of us agree is our job, and there’s the stuff in the middle that we kind of say is more them, and they kind of say is more us. And depending on the council, that grey area shifts (study participant, 2011).*

More profiling is needed of both who is generating waste (including size of firms), and who is disposing of it and how (including the so called ‘low end rubbies’). Moreover, there is a need to develop further:

- A waste data base (national through to local)
- An intelligence data base
- Mapping of waste (especially rural and remote)

The development of such data sources would need to be accompanied by use of trained intelligence analysts to interpret patterns and trends, generate and circulate comparative reports, and develop strategic responses to emerging issues.

*...one of the things the new system will give us is much better capacity ...to track the Directors as well, so you could have the same people running the same companies in different states, but with different names. So now we’ll actually be able to track all of the company directors and interact in that way.*

*And the idea is with the annual performance statements, is that they're signed off by the CEO [study participant, 2012]*

### Innovative Monitoring and Investigation Methods

Most innovation surrounded how best to track hazardous waste in its movement from one location to another. Two broad measures were utilised, one relying mainly on technology, the other on human resources.

#### Example 1:

The use of 'data dots' allows for particular hazardous waste vehicles and materials to be identified and then re-identified at a later date. 'Data dots' are small markers that can be unobtrusively placed on hazardous materials and transportation vehicles and that can be used to track where waste has been and where it has ended up. In a similar vein, electronic tracking systems (rather than paper-based) are being introduced that provides an immediate record of movement, storage and disposal.

#### Example 2:

The use of multidisciplinary teams ensures wide coverage and incorporates investigative skills that combine scientific and technical expertise, investigative expertise and expertise in detection of illegality and criminality. This increases the likelihood of identifying potential problems in disposal, and the main actors engaged in the inappropriate disposal methods.

Related to issues of monitoring are matters pertaining to the measurement of harm (both directly and indirectly impacting upon the environment). More work is required to both measure the extent of environmental harm related to illegal and inadequate disposal of hazardous waste, and the economic benefit obtained from non-compliance in this sector. The commercial advantage derived from committing the environmental offence can be gauged in terms of costs that would have been expended for capital works, avoided compliance costs, competitive advantage derived, and economic savings from delaying or avoiding pollution control expenditures. Measuring harm is also relevant to the development of novel remedies – such as restorative justice [that focuses on repairing the harm to the environment, relationships and community] and problem-solving approaches – which are particularly salient for dealing with environmental harms.

*I saw pictures the other day of cars coming into one of our national parks, trailer loaded, photograph of car coming out, empty trailer. They've then found the pile of waste with the blue tarp still with it, but is it going to stand up in court that yes, that is the person's load. If there's nothing in the waste to tie into that person...so it is prima facie to say, well you drove in with it and you've come out without it, therefore you have dumped it. But if you've got the rego number you know where the bugger is and you can then data dot him, particularly if he's a commercial operator. You data dot him and then when you see him when he repeat offends, just go and find one dot and he's gone (study participant, 2012).*

### Institutional Culture

The institutional culture surrounding regulation, compliance and enforcement activities has a great bearing on how work to monitor, investigate and prosecute illegal disposal of hazardous waste is carried out in practice. There appears to be regular 'pendulum swings' in which activity oscillates between hardening and greater use of a 'big stick' approach versus the relative relaxing of controls and the shift toward self regulation by industry. Simultaneously, there is a push in some jurisdictions toward professionalisation of environmental law enforcement, a move which would help to institutionalise a more consistent approach to the policing of hazardous waste disposal.

#### Example 1:

Organisational and cultural change often occurs from the 'top down', particularly where leadership is of a charismatic nature and efforts are made to provide clear role definitions for all concerned. But we also witnessed a strong push for organisation and cultural change from the 'middle up'. The institutionalisation of change is a major challenge for those who wish to see sharper and smarter forms of regulation and intervention in regards to illegal activity in the sector.

#### Example 2:

Acknowledgement of different types of expertise and the importance of multi-disciplinary teams may be aligned with the movement toward professionalisation of environmental law enforcement. Clear defined areas of expertise, supported by

ongoing training and education, can instill a strong sense of mission and independent critical thinking.

Collaborations, culture and training are interlinked. It was suggested that the mandate of protecting the environment needs to be highlighted at an organisational level, and that agencies and individuals need to earn respect through assessment across three broad areas:

- Being held accountable for outcomes by the wider community, through performance measures relating to air, water and land quality;
- Being transparent in relation to an assumed intelligent audience (e.g. affected community, the general public), by acknowledging both successes and failures; and
- Ensuring that statutory duties are performed well, which in turn opens up space for innovation

These can be seen as vital elements of professionalised and accountable practices, and as reinforcing a positive regulatory and enforcement culture at the organisational level.

#### Training linked to Authoritative Powers

Authority to use coercive powers varies around the country, as does the training accompanying the associated use of these powers. In some jurisdictions relatively junior officers may have full coercive powers mandated as part of the job description/role; in others, the degree of coercive powers is dependent upon training and supervisory selection processes. Issues were apparent in regards to training processes and the development of professional expertise.

#### Example 1:

Training associated with the use of coercive powers could be linked to the professionalisation of environmental law enforcement and the idea of a career progression. It is also important from the point of view of risk management and risk aversion, insofar as coercive powers demand careful application.

Example 2:

The importance of training and sufficient time to gain experiences so as to develop expertise in the job is obliquely reflected in the phenomenon of poaching of well trained and experienced staff. This occurred both in terms of cross-state government agency poaching of highly regarded professional personnel, and their movement into well paying jobs in the private sector.

*That's one of our objectives is the credible threats. So at the moment we struggle [as an agency] with being a credible threat, and I think most jurisdictions have that problem. And that's what this is all about. It's having clear requirements, which is what these guys are focused on, and making sure they know what's going on. The credible threats, that's what we're looking at (study participant, 2011)*

### Professionalisation of Environmental Law Enforcement

Professionalisation refers to a process of becoming a profession. The hallmarks of a profession include occupational autonomy, pre-service and continued professional development in terms of training and education, social status, and an ethos of service to the community. For those working in the broad area of environmental law enforcement, including the policing of hazardous waste disposal, work-related issues included, among other things, financial remuneration, status, a career path and adequate professional training.

Example 1:

Professionalisation linked specifically to enforcement activities was seen to ideally incorporate three key areas: a process orientation (e.g., especially in regards to 'chain of evidence'); environmental scanning (e.g., with respect to the broader context in which activities take place); and people skills (e.g., interpersonal communication).

Example 2:

Professionalism was tied to particular ways of working in the environmental law enforcement arena. Ideally, 'good practice' should incorporate multi-skilled individuals and multi-disciplinary teams. Success depends upon the nature and dynamics associated with each element.

In an area where lack of political will and inadequate institutional resources are not uncommon, one bulwark against creeping bad practice is professionalisation. In this regard, the establishment of a national environmental law enforcement authority was mooted as one way in which to promote suitable investigative standards, high caliber training, occupational accreditation and workplace ethics.

Analysis of the key traits of good environmental investigation would reveal crucial elements of best practice (e.g., environmental forensics thorough to general crime detection abilities), allow for effective recruitment and retention strategies, and the effective deployment of officers. Moreover, these officers would have an appreciation of the importance of gathering information, transforming it into intelligence, and producing evidence which is legally admissible.

*Regulators should educate themselves about the motivations and reasons (excuses and justifications) for non-compliance (and compliance) and the strategies (behaviour) of different sized 'actors' in order to inform their own enforcement and prosecution strategies (field notes based upon interview with study participant, 2012)*

### Natural Resource and Extractive Industries

The 'elephant in the room' in terms of policing hazardous waste disposal is linked to the national and regional economic importance of the natural resource and extractive industries. Mining of oil, gas and minerals, and forestry, in particular, generate considerable hazardous materials. Yet, due to issues such as remoteness and the tendency toward self regulation (in some industries), questions can be asked about how adequate the policing of hazardous waste is in relation to the big economic players. More concrete data is needed in regards to the extent of hazardous waste in rural and remote areas, and on private lands, public lands, and in waterways.

Another issue relates to the fact that these industries operate 24 hours a day, 7 days a week (for 365 days a year) versus the 8 hour shift of public servants in regulatory agencies, most of whom work 5 days a week (the majority Monday-Friday).

Example 1:

Large corporations have considerable economic and political leverage and this can sometimes translate into a light regulatory touch in relation to potential breaches of legislation or illegal disposal of hazardous waste. Regulators have, in some instances, been told to ‘back off’ certain companies by government ministers when particular corporate [and state economic] interests were at stake.

Example 2:

Much of the exploitation of natural resources takes place outside of the metropolitan areas. If EPAs and other relevant enforcement bodies do not have adequate staff and material resources (e.g., transportation vehicles), then this will affect when, where, how often and under what circumstances, the policing of hazardous waste will occur.

*Scale of the hazardous waste problem in Australia is unknown because there is no reliable data, we only know about the legal stuff; an unknown amount of hazardous waste is flying under the radar because there is no knowledge of it or sites are unlicensed; there is also skepticism as to whether ‘the big end of town’ is being captured [field notes based upon interview with study participant, 2010].*

Compounding the difficulties of regulation and environmental law enforcement in relation to large corporations is the economic co-dependency that may exist between toxic generators and communities. Such communities are more tolerant where they rely on industry for direct employment. This, too, can affect regulatory posture and engagement in such situations.

Related to industry development is the notion of shifting the goalposts in order to accommodate local processes. This can sometimes involve moving contamination thresholds up or down to suit local circumstances (and is also a legacy issue, see below).

*One of the things that’s happened as a result of that activity, is that we allow the management of contaminated soils differently in that area that we would in the rest of the state so there’s a notifiable chemical order for mine tailings, arsenic mine tailings, that says that you can reuse arsenic contaminated sand in a variety of ways, at arsenic contamination levels much higher than you*

*would be able to do in the rest of the state. And they've done a whole lot of toxicity and bio availability testing and a number of things to make the case for these higher levels. So it's one of those cases where something in the region has happened historically, and now there's a whole different management regime around reuse of soils, and even landfill has different acceptance of categories for contaminated soils than any other landfills in the state (study participant, 2011).*

How to best deal with a transgression when it occurs can also be problematic. The penalty imposed should be proportionate to the harm caused and also to the size of the company/'corporate purse', sufficient to represent a significant deterrent rather than a slap on the wrist.

### Horizon Issues

Several emerging over the horizon issues were identified. Two of the more prominent ones are the problems of legacy wastes and stockpiling (by small and large industries); and the potential for involvement of organised crime groups in the hazardous waste disposal industry. The first issue concerns waste that accumulates and/or that is transformed into a hazard over time. This includes materials from mine tailings through to tyres.

*I haven't had any involvement with the mining industry, but I suggest that's where the big stockpiling would be (study participant, 2011).*

Compounding the problem of legacy waste and present day stockpiling is the issue of the geographical size of some states (such as Western Australia and Queensland) and the remoteness of potential dumping sites. Assessment, monitoring and intervention in regards to existing and possible hazards have obvious human resource implications, not to mention political, social and economic ramifications.

The second issue relates to who the emerging players are in the waste disposal field generally, and the possible systematic intrusion of criminal interests into this area within Australia.

*...if I'm right in assuming that organised crime is responsible for the deliberate environmental crimes that are committed in the state, it's actually [necessary] for an enforcement model that understands...that you're dealing with organised crime. Organised crime is exceedingly sophisticated, it has fantastic legal advice and fantastic ways of hiding proceeds. So the model needs to understand that's what you're dealing with here (study participant, 2012).*

When it comes to horizon issues more generally it is necessary to give consideration not only to the volatility of industrial stockpiles (e.g., chemicals, tailings) but also to their mobility – can they ooze, dissipate, be diluted, seep into a water table, or traverse jurisdictional borders? Under what circumstances might toxic harms move (e.g., the flow of chemicals and heavy metals from industrial zones into local waterways such as occurred in Brisbane during flooding) or gain mobility in the event of co-occurring natural and technological disasters (like Fukushima).

## **Conclusion**

We conclude this briefing paper by once again acknowledging the hard work and dedication of those engaged in the policing of hazardous waste disposal in Australia. Throughout this project, however, we have been struck by the lack of resources, staff numbers and generally the inadequate institutional arrangements that prevent the enabling, fostering and development of really strong enforcement units, cultures and practices. An independent institutional regime is vital in this respect. If anything, this study demonstrates the need for political will and system-wide infrastructure support for work that is essential to the health and wellbeing of our nation. Without these, the effectiveness of the policing of hazardous waste disposal will be significantly compromised.