

LEGISLATION, REGULATORY MODELS AND APPROACHES TO COMPLIANCE AND ENFORCEMENT

Briefing Paper No. 6

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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 with your comments.

Please include the phrase *Compliance & Enforcement* in the subject line of your email.

Thank you

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Introduction

This briefing paper considers the legal and regulatory landscapes relevant to the policing of hazardous waste disposal. It 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. As part of the review, the paper considers some of the limitations in present regulatory systems and approaches, and recent recommendations regarding how at least some of these might be positively addressed.

The Legislative Landscape

Laws pertaining to hazardous waste are many and varied. Hazardous waste is dealt with under numerous state, federal and international laws, regulations and codes of conduct, depending upon the type of waste and the stage it is at in its lifecycle. Moreover, the scope of legislation relating to waste has expanded to take into account different purposes.

Early waste legislation in Australia focused on the public health aspects of waste disposal, and protecting the environment from harm, rather than minimising waste itself or fostering re-use and recycling. Since the 1970s, legislation and regulation have gradually come to emphasise waste avoidance, minimisation, and ways of encouraging resource recovery, using a risk-based approach to manage safety and environmental concerns. This change has been in line with a shift in attitudes and expectations across the nation as well as in the international community (National Waste Report 2010: 237).

Complexities of definition and purpose make it difficult to provide a single, comprehensive summary of legislation in this area. Nonetheless, there is some continuity and commonality across specific spheres. For example, Bricknell (2010: 4) notes that ‘while a uniform definition presently remains elusive and the application of laws against environmentally harmful practices varies between (and within) nations, there is unanimity in the types of acts commonly recognised as environmental crimes’. Among these crimes is the illegal discharge, dumping and transport of, or trade in, hazardous and other regulated waste.

As with most transnational crimes, there are various levels of regulation and legal convention in relation to environmental crime. These are summarised in Table 1.

Table 1: Tiers and Types of Regulation

Laws and Legal Instruments

TIER 1	<ul style="list-style-type: none"> • International Instruments Conventions, Protocols, Agreements • <i>eg Basel, Rotterdam, Stockholm, London, Vienna, Kyoto</i>
TIER 2	<ul style="list-style-type: none"> • Regional Instruments - External & Foreign Territories Conventions, Legislation, Regulation • <i>eg Norfolk Island, Antarctica; eg East Timor, Forum Islands (Waigani)</i>
TIER 3	<ul style="list-style-type: none"> • Commonwealth Instruments Legislation, Regulations, Standards, Evidentiary Certificates • <i>eg Hazardous Waste (Regulation of Exports & Imports) Act and Regulations; Standards</i>
TIER 4	<ul style="list-style-type: none"> • National Instruments • Measures, National Policy • <i>eg Movement of controlled waste NEPM; National Waste Policy (2010)</i>
TIER 5	<ul style="list-style-type: none"> • State and Territory instruments Legislation, Regulations, Strategies, Policies, Guidelines, Fact Sheets • <i>e.g. Environmental Protection Acts; Waste-specific State and Territory legislation and regulations</i>
TIER 6	<ul style="list-style-type: none"> • Municipal Instruments • By-Laws, Regulations, Policies, Guidelines, Fact Sheets • <i>eg Local By-laws, Planning regulations, legislation governing landfills</i>

Focus of regulation

<p>INTERNATIONAL MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with transboundary movement and management of hazardous waste • Interpol; Department of Sustainability, Environment, Water, Population and Communities • <i>e.g. Basel Convention. Waigani Convention</i>
<p>REGIONAL MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with regional border control • Department of Sustainability, Environment, Water, Population and Communities; Australian Customs and Border Protection Service • <i>e.g. East Timor, Forum Islands, Antarctica</i>
<p>NATIONAL MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with border control - movement in (imports) and out (exports) of Australia • Department of Environment, Sustainability and Water; Australian Customs and Border Protection Service; Australian Federal Police • <i>e.g. Hazardous Waste Regulation of Exports and Imports</i>
<p>INTERSTATE MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with interstate movement of wastes • State Environmental Protection Agencies; Key stakeholders in the waste management chain • <i>e.g. Controlled Waste NEPM - Basel framework informs hazard characteristics and lists of hazardous substances and materials</i>
<p>INTRASTATE MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with intrastate movement of wastes • State Environmental Protection Agencies; Key stakeholders in the waste management chain • <i>eg State hazardous waste-specific legislation - Basel framework informs hazard characteristics and lists of hazardous substances and materials</i>
<p>MUNICIPAL MANAGEMENT AND MOVEMENT</p> <ul style="list-style-type: none"> • Concern is with domestic hazardous wastes in major waste streams at local level • Councils; Water Authorities; Planning Authorities • <i>e.g. Local By-Laws and planning legislation; legislation governing landfills - Annex II of the Basel Convention lists "other wastes" - eg household waste</i>

In terms of the question of ‘who does what’, a succinct answer is that:

Under the Australian constitution, waste management is the primary responsibility of the states and territories which regulate and manage waste in accordance with their respective legislation, policies, plans and programs. The Australian Government has responsibility for national legislation, strategies and policy frameworks for waste, including measures that give effect to obligations under international agreements (National Waste Report 2010: 237).

Local governments have responsibility for waste management within their local areas as laid down by the regulatory framework of each state or territory. Some local governments have developed their own strategies and regulations on waste management, and programs to implement local sustainability and education outcomes (National Waste Report 2010: 237).

While acknowledging that some states may currently be in the process of reviewing and updating their legislation (and, in some cases, agency titles), the National Waste Report (2010: 238) provides a synopsis of the legislative and regulatory landscape at state and territory levels. This is shown in Table 2.

Table 2: Examples of Australian legislation governing waste and the environment

New South Wales		
Agency	Legislation	Waste Strategy
Department of Environment, Climate Change and Water	<i>Protection of the Environment Operations Act 1997</i> (amended 2008) <i>Protection of the Environment Operations (Waste) Regulation 2005</i> <i>Waste Avoidance and Resource Recovery Act 2001</i> <i>Contaminated Land Management Act 1997</i> <i>Ozone Protection Act 1989</i> <i>Pesticides Act 1999</i> <i>Radiation Control Act 1990</i>	Waste Avoidance and Resource Recovery Strategy (WARR 2007)
Victoria		
Environment Protection Authority (EPA); Sustainability Victoria	<i>Environmental Protection Act 1970</i> <i>Environment Protection (Amendment) Act 2006</i>	Towards Zero Waste Strategy (2005)

	<i>Environment Protection (Distribution of Landfill Levy) Regulations 2002</i> <i>Sustainability Victoria Act 2006</i> <i>Environment Protection (Industrial Waste Resource) Regulations 2009</i>	
Queensland		
Department of Environment and Resource Management (DERM)	<i>Environment Protection Act 1994</i> <i>Environmental Protection Regulation 2008</i> <i>Environmental Protection (Waste Management) Policy 2000</i> <i>Environmental Protection (Waste Management Regulation) 2000</i> <i>Environmental Protection Act 1986, Waste Avoidance and Resource Recovery Act 2007</i> <i>Waste Avoidance and Resource Recovery Levy Act 2007</i>	Queensland's Waste Reduction and Recycling Strategy 2010-2020
Western Australia		
Department of Environment and Conservation; Waste Authority	<i>Environmental Protection Act 1986, Waste Avoidance and Resource Recovery Act 2007</i> <i>Waste Avoidance and Resource Recovery Levy Act 2007</i> <i>Waste Avoidance and Resource Recovery Regulations 2008</i> <i>Environmental Protection (Controlled Waste) Regulations 2001?</i> <i>Environmental Protection (Rural Landfill) Regulations 2002</i> <i>Contaminated Sites Act 2003</i>	Draft Waste Strategy (currently under public consultation)
South Australia		
Environmental Protection Authority (EPA); Zero Waste South Australia	<i>Environment Protection Act 1993</i> <i>Zero Waste SA Act 2004</i> <i>Radiation Protection and Control Act 1982</i> <i>Nuclear Waste Storage Facility (Prohibition) Act 2000</i> <i>Plastic Shopping Bags (Waste Avoidance) Act 2008</i> <i>Environmental Protection</i>	Waste Strategy 2005-2010

	<i>Regulations 2009 Environment Protection (Waste to Resources) Policy 2010</i>	
Tasmania		
Department of Primary Industries, Parks, Water and the Environment Environmental Protection Authority (EPA)	<i>Environmental Management and Pollution Control Act 1994 Pollution of Wasters by Oil and Noxious Substances Act 1987 Environmental Management and Pollution Control (Waste Management) Regulations 2010 Environmental Management and Pollution Control (Waste Management) Regulations 2010</i>	The Tasmanian Waste and Resource Management Strategy 2009
Australian Capital Territory		
Department of the Environment, Climate Change, Energy and Water (regulatory & monitoring)	<i>Environment Protection Act 1997 Waste Minimisation Act 2001</i>	ACT Sustainable Waste Strategy 2010-2025 (draft)
Northern Territory		
Department of Natural Resources, Environment, the Arts and Sport (NRETAS).	<i>Waste Management and Pollution Control Act 2007 Nuclear Waste Transport, Storage and Disposal (Prohibition) Act</i>	Re-thinking Waste Disposal Behaviour and Resource Efficiency Interim Action Plan (2007)

Tabulated from: Bricknell , Table 4 (2010: 26), National Waste Report, Table 4.6 (2010: 238).

There is also a wide range of legislation governing waste management. For example, at the Commonwealth level this includes (as of 2011):

Hazardous Waste (Regulation of Exports and Imports) Act 1989

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

At the state/territory level, Victoria provides an illustrative example:

Environment Protection Act 1970 (amended 2006)

Environment Protection (Industrial Waste) Act 1985

State Environment Protection Policies (SEPPS)

Environment Protection (Industrial Waste Resource) Regulations 2009

Environment Protection (Distribution of Landfill Levy) Regulations 2002

Waste Management Policy (Siting, Design and Management of Landfills) 2004

Industrial Waste Management Policy (Protection of the Ozone Layer) 2001

Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1999

Industrial Waste Management Policy (National Pollutant Inventory) 1998

Waste Management Policy (Ships' Ballast Waste)

Waste Management Policy (Solid Fuel Heating)

Waste Management Policy (Used Packaging Materials)

Industrial Waste Resources Guidelines

Notifiable Chemical Orders (NCOs)

Australia is party to a number of international conventions and agreements relevant to waste that have been reflected in national legislation, strategies and policy frameworks (National Waste Policy 2010). United Nations Conventions, to which Australia is a party, provide a basis for action by individual nations on waste-related matters. These include:

- Basel Convention (overarching instrument on the movement of hazardous waste)
- Stockholm Convention (Persistent Organic Pollutants)
- Rotterdam Convention (Prior Informed consent (PIC) international movement of hazardous chemicals and pesticides)
- Agreements to reduce ozone-depleting substances
 - Vienna Convention (protection of the ozone layer)
 - Montreal Protocol (protocol on substances that deplete the ozone layer)
 - Kyoto Protocol (UN Framework Convention on Climate change)
- Legally binding instrument on Mercury (seeks to reduce use, encourage alternatives, provide for safe management and storage (National Waste Policy 2010))

Table 3 provides a summary of Commonwealth legislation that is linked to key international instruments relating to waste.

Table 3: Commonwealth Legislation relevant to International Instruments

Regulation	Purpose	
<i>Commonwealth</i>		
<i>Hazardous Waste (Regulation of Exports and Imports) Act 1989</i>	To regulate the export and import of hazardous wastes	Implements the 1989 Basel Convention
<i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i>	to regulate the import, export and manufacture of ozone depleting substances (ODSs) and synthetic greenhouse gases (SGGs),	implements the Montreal Protocol and subsequent amendments;
<i>Environment Protection (Sea Dumping) Act 1981</i>	regulate dumping of wastes and incineration at sea and implement the London Convention	The Act covers all vessels, aircraft and platforms in Australian waters and Australian vessels and aircraft operating in any other seas or oceans
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>	prohibit the release or emission of specified substances	Implements the MARPOL 73/78 Convention

Source: Bricknell (2010: 25).

The first three statutes and associated regulations are enforced by the Australian Government Department of Sustainability, Environment, Water, Population and Communities. The fourth statute is enforced by the Australian Maritime Safety Authority. Legislation on marine pollution (by ships) also exists at the state and territory level (except in the ACT) and in Western Australia, there is an additional statute prohibiting sea dumping (Bricknell 2010: 25-26).

Complex Regulatory Environment

The complexity of the legislative and regulatory environment is demonstrated in Table 4, which shows the many different parties involved in the regulation of industrial, agricultural and veterinary chemicals.

Table 4: Regulation of Industrial, Agricultural and Veterinary Chemicals

<p>International legislation – import of hazardous chemicals</p> <p><i>Industrial Chemicals (Notification and Assessment) Act 1989</i></p>

Industrial, agricultural and veterinary chemicals

Agricultural and Veterinary Chemicals Act 1994

Agricultural and veterinary chemicals

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

Ozone depleting substances

Trade Practices Act 1974

Product safety and labeling

Customs (Prohibited Imports) Regulations 1956

Banned chemicals at the border

TGA Group of Regulators

Australian Government Department of Health and Ageing

Overarching responsibility for regulating therapeutic goods, *chemicals* and gene technology

Therapeutic Goods Administration (TGA)

Regulation of therapeutic goods in Australia

Office of Chemical Safety (OCS)

Regulates industrial chemicals in Australia

Office of the Gene Technology Regulator (OGTR)

Regulates gene technology in Australia

Other Regulators and Instruments

Australian Pesticides and Veterinary Medicines Authority (APVMA)

Australian Government Authority responsible for the assessment, registration and regulation of pesticides and veterinary medicines (EPHC 2010)

National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

Regulates the introduction of new industrial chemicals into Australia, assesses existing industrial chemicals on a priority bases and assesses the potential occupational health and safety, public health and environmental risks associated with their introduction (EPHC 2010)

Department of Sustainability, Environment, Water, Population and Communities

Has a role in chemicals management in Australia. The Department undertakes environmental risk assessments of industrial and agricultural chemicals for consideration in the overall assessment carried out by NICNAS and the APVMA (EPHC 2010)

Food Standards Australia and New Zealand

Located within the Australian Government's Health and Aging Portfolio – sets food standards for Australia and New Zealand (DECC NSW 2009)

Frameworks

National Framework for Chemicals Environmental Management (NChEM)

The National Framework includes a Ministerial Agreement on Principles for Better Environment Management of Chemicals and a chemicals action plan for the environment

Strategic Approach to International Chemicals Management (SAICM)

A policy framework for international action on chemical hazards

National Chemical Reference Guide

Containing data on environmental standards and guidelines in Australia for over 600 chemicals, and environmental criteria for chemicals in the air, water, soil, sediment and biota

Programs

Collection programs at municipal level

ChemSafe Homes Tasmania – Hobart City Council – free household chemical drop off service

Source: Tabulated from National Waste Report (2010:179); Department of Environment, Climate Change and Water, NSW (2009); Environment Protection and Heritage Council (2010).

Also of note are the **National Environment Protection Measures [NEPM]** relating to waste or hazardous waste movement between States and Territories:

- *Movement of Controlled Waste Between States and Territories Measure (as varied 2010)*
- *National Environment Protection (Assessment of Site Contamination) Measure 1999*
- *National Environment Protection (National Pollutant Measure) 1998*
- *National Environment Protection (Used Packaging Materials) Measure 2005*

Interpretation and implementation of NEPMs can vary from each State and Territory, and there can be confusion between states, regulatory bodies and within industry sectors over responsibilities, data collection, and the tracking of inter and intrastate waste movements. In part, this reflects the specific differences in state/territory definitions and data collection. For example, the National Waste Report (2010: 1) notes that ‘it does not cover gaseous, liquid or radioactive waste, and it does not explicitly cover biosolids (the solid waste from sewage treatment plants), although data presented for some jurisdictions include disposal figures for biosolids’ and that ‘radioactive wastes are generally not included in the Municipal (MSW), Commercial and Industrial (C &I) and Construction and Demolition (C & D) (National Waste Report, 2010: 25).

Regulatory Models

It is rare that the state uses coercion solely or even as the key lever of compliance to environmental laws. Rather, a wide variety of measures are used, frequently in conjunction with each other, as a means to deal with environmental harm. Likewise, a range of agencies

are assigned the task of ensuring compliance and enforcing the law vis-à-vis environmental protection.

The regulatory landscape is made up of many different stakeholders and participants. These include, for example, businesses, employees, government agencies, communities, shareholders, environmentalists, regulators, the media, trade customers, financial institutions, consumers and the list goes on. The role and influence of various people and agencies is shaped by factors such as resources, training, information, skill, expertise and legislation. These are also affected by the type of regulation that is the predominant model at any point in time.

In the specific area of environmental regulation, the general trend has been away from direct governmental regulation and toward ‘softer’ regulatory approaches. The continuum of regulation, from strict regulation through to no regulation, is illustrated in Table 5 (White, 2008). Measures include Environmental Impact Assessments (EIAs) and Environmental Management Systems (EMSs) through to voluntary adoption of good environmental practices. Generally speaking, systems of regulation range from on the one hand ‘command and control’ regimes through to on the other hand systems based upon voluntary compliance and reliance upon ‘free market’ mechanisms.

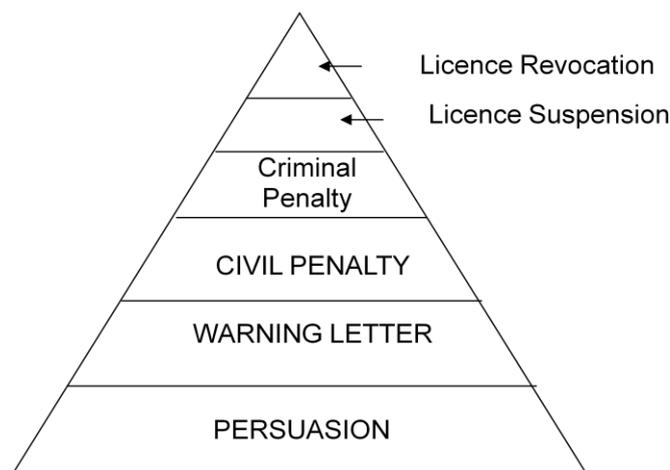
Table 5: Regulatory Field and Systems Regulation

Strict RegulationNo Regulation		
<i>Command & Control Regulation</i>	<i>Self Regulation</i>	<i>De-Regulation</i>
Direct regulation	Strong or weak codes of practice	Indirect or no regulation
Licenses and permits Setting of standards Environmental Impact Assessments (EIA)	Standard setting Industry-based compliance Environmental Management Systems (EMS)	Voluntarism Property-rights Incentive-based

Source: White (2008).

Two general models stand out when it comes to regulation in general and environmental regulation in particular. The first is Ayres and Braithwaite's notion of 'enforced self regulation' (1992). This is based upon a regulatory pyramid (see Figure 1). The usual pyramid of sanctions has an extensive base with the emphasis on persuasion that rises to a small peak of harsh punishment. In the case of business transgressions, to take an example, the progression up the pyramid might include persuasion, a warning letter, a civil penalty, a criminal penalty, license suspension, and license revocation. By combining different forms of regulation, Ayres and Braithwaite (1992) reconstitute the usual regulatory pyramid such that the bottom layer consists of self-regulation, the next layer enforced self-regulation (via government legislation), the next layer command regulation with discretionary punishment, and at the top, command regulation with nondiscretionary punishment.

Figure 1: The Regulatory Pyramid



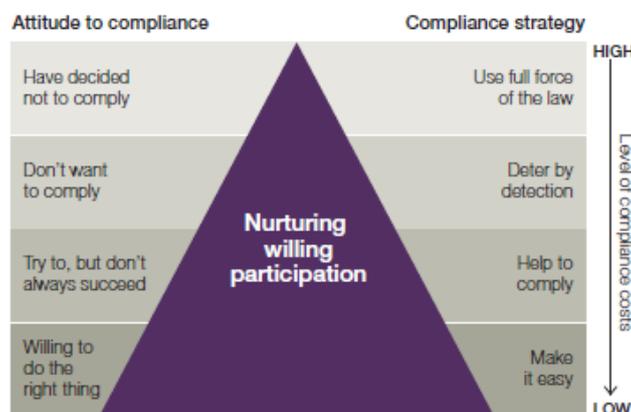
Building upon the insights of these and other writers, Gunningham and Grabosky (1998) argue that what is needed is 'smart regulation'. This basically refers to the design of regulation that still involves government intervention, but selectively and in combination with a range of market and non-market solutions, and of public and private orderings. The central thesis of 'smart regulation' is that recruiting a range of regulatory actors to implement complementary combinations of policy instruments, tailored to specific environmental goals and circumstances, will produce more effective and efficient policy outcomes. Essentially this means incorporating into the regulatory field the full schedule of regulatory options, from

direct regulation associated with command and control approaches through to voluntary schemes and economic incentive approaches (see Gunningham & Grabosky, 1998).

A number of issues arise in relation to how measures linked to the enforced self-regulation pyramid and smart regulation are utilised in practice. Questions can be asked regarding the standards of what is deemed to be acceptable; the flexibility required in devising appropriate safeguards and strategies at local/site level; how to enact total management planning; what constitutes adequate monitoring; who is to do enforcement and compliance; what penalties and consequences are to consist of; how a plurality of instruments rather than a single approach is to be coordinated; how to deal with a culture of reluctance to use punitive measures against corporate misconduct; the general corporate immunity from prosecution and penalty; and why and how the extent of regulation varies according to size of firm.

A sophisticated model of regulation is provided by the Australia Taxation Office, which builds into the model a wide range of significant variables (Figure 2).

Figure 2: The ATO Model



Source: ATO Compliance Program 2011-2012

The ATO uses a constellation of factors which shape the capacity and inclination of firms to comply. These include

- *business factors* (key players, contractual arrangements, flexibility of contracting, membership in industry associations, record keeping standards, full time/part-time, set up costs, degree of competition, number of businesses/individuals);

- *industry factors* (hourly rates, working patterns, unionisation, status);
- *sociological factors* (age, sex, views of government, culture – distrust of government, knowledge of rules);
- *economic factors*(economic uncertainty, variability of income) and
- *psychological factors* (attitudes, gambling mentality, folk heroes, peer pressures, victims, paperwork overload, use of cash) (see Shover et al., 2001).

What detailed examination of particular forms of regulation show, and what explorations of different approaches to environmental regulation acknowledge, is that how regulation is carried out in practice, and whose interests are reflected in specific regulatory regimes, is basically an empirical question. That is, regulatory performance cannot be read off from an abstract understanding of regulation theory as such. Nevertheless, environmental regulation models directly influence the scope and possibilities of environmental regulation as it gets translated into practical measures at the ground level. The adoption of particular environmental regulation models thus helps to shape the methods and behaviour of regulators. In ideal terms, the two key models of regulation discussed here would incorporate a range of actors and measures in order to ‘keep things honest’, presumably in ways that would be to the advantage of all stakeholders.

However, the continuing degradation of the environment today is linked to the dominant regulation and enforcement framework itself, one that puts the stress on self-regulation and de-regulation. This is reflected in state policies and practices. For instance, very often the preference on the part of state authorities is for education, promotion and self-regulation rather than imposition of directive legislation and active enforcement and prosecution (White, 2008). Yet, to be effective those in charge of regulation and enforcement must be willing to utilise the ‘big stick’ and to monitor compliance systematically and diligently. For example, persistent and continuous inspections, accompanied by substantive operational powers (including use of criminal sanctions), can in fact lead to rapid positive changes in polluting practices (see Commission for Environmental Cooperation, 2001; White, 2011).

Snider (2000) describes how in Canada, despite policy directives specifying 'strict compliance', a permissive philosophy of 'compliance promotion' has reigned. Given the tone of mainstream regulation literature (that offers a theoretical justification for enlisting private interests through incentives and inducements), it is hardly surprising that persuasion is favoured at the practical level. Close examination of self-regulation models, however, finds evidence of regulatory failures, and this, in turn, indicates that governments cannot totally abdicate responsibility when a regulatory problem requires a state response (see Priest, 1997-98). Certain conditions are necessary if self-regulation, as such, is going to offer an effective form of regulation (see Ayres & Braithwaite, 1992). The tendency, however, is for governments to shed regulatory functions and responsibilities and to rely upon the rhetoric and cost savings afforded by self-regulation (including at the international level, as illustrated by the powerful role of the International Standards Organisation in driving government policy responses vis-à-vis environmental regulation).

It is essential to consider the financial and political environment within which regulators are forced to work. For example, while never before in history have there been so many laws pertaining to the environment, it is rare indeed to find extensive government funding, resources and personnel being put into enforcement and compliance activities. The fiscal crisis of the state, as manifest in massive budget cuts in Greece, Italy, Spain, Portugal, Ireland, Britain, and the United States, also bears with it a crisis in the regulatory field. Environmental Protection Agencies struggle with inadequate monies and de-moralised officers as departmental belts are tightened and priorities are placed elsewhere.

Many contemporary regulatory approaches attempt to recast the state's role by using non-government, and especially private sector, participation and resources in fostering regulatory compliance in relation to the goal of 'sustainable development'. Analyses of these new regulatory regimes, however, offer equivocal results in terms of effectiveness. For example, analysis of Canadian environmental law and policies reveals a patchwork of legislative and regulatory measures that fundamentally fail to protect the environment (Boyd, 2003). At its broadest level, the ways in which regulation works or does not work is fundamentally shaped by systemic imperatives and philosophical vision. For instance, Boyd (2003) contrasts a model of regulation based upon an effort to mitigate the environmental impacts of an energy and resource intensive industrial economy, with that based upon ecological principles that are

oriented to decreasing the consumption of energy and natural resources. However complex the laws and regulations in the first scenario, they cannot succeed in achieving sustainability because the system as a whole is inherently geared to growth in energy and resource consumption. In the latter case, the emphasis is on restructuring the economy to incorporate ecological limits, and thus to reduce environmental harm over time.

Approaches to Compliance and Enforcement

Issues of compliance and enforcement are at the heart of the regulatory project. The intent of legislation and regulation is to shape behaviour in particular directions. When this does not occur, it sometimes signals a failure in regulatory practices.

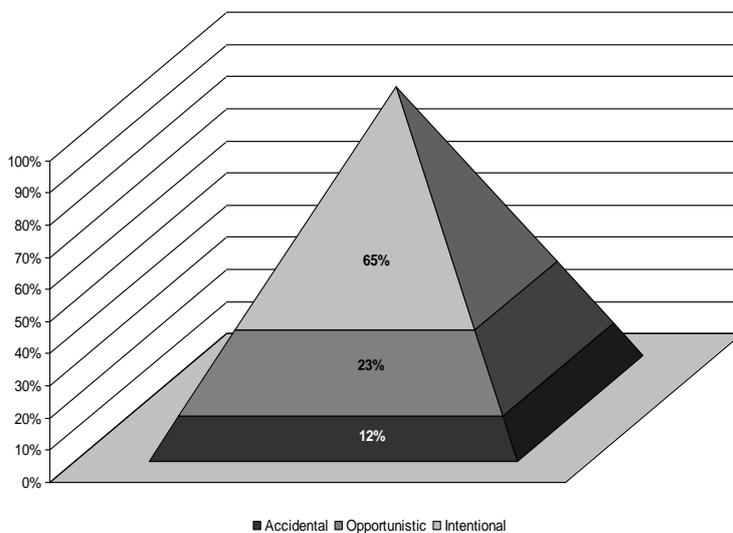
The Problem of Non-Compliance

A review conducted by the Queensland Department of Environment and Resource Management (DERM) examining motivations for non-compliance in the waste industry (Greenfield 2009: 8), found three main reasons for non-compliance:

- **Economic motivations** – money to be made from non-compliance, and the cost of compliance;
- **A lack of enforcement** – the legislation is not enforced; they don't think they will get caught;
- **Ignorance** – people don't understand how to obey; people don't know about the laws

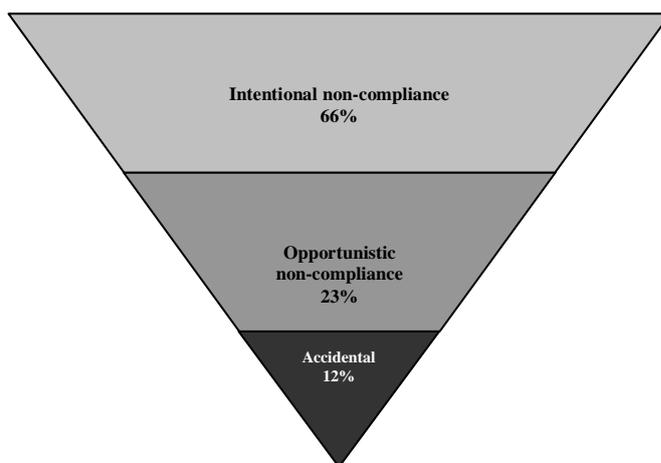
‘Further exploring the significance of these findings, this translates to more than 88% of the non-compliant population intentionally, knowingly, and willingly breaking the law’ (see Figure 3) (Greenfield 2009: 11).

Figure 3: Understanding non-compliance in the waste sector



‘Consequently, and working on minimum averages, experts involved in this study have found that the ‘shape’ of the compliance pyramid in relation to waste issues to be inverse (see Figure 9) (Greenfield 2009:11). In other words, the bulky portion of the pyramid was at the top (66% Intentional Non-Compliance) and the slim portion at the bottom (23% Opportunistic Non-Compliance).

Figure 9: Understanding non-compliance in the waste sector



More general commentary has pointed out that due to their dual functions as regulator and enforcer, EPAs and their equivalents have been charged in the past with adopting too

conciliatory a relationship with the entities they are meant to be scrutinising (Bricknell 2010: 47). In response to this charge, as well as issues pertaining to regulatory capture, Hayman and Brack (2002: 22) advocate a number of measures could help improve the effectiveness of domestic enforcement programmes including:

- a clear national control regime;
- effective national capacity building;
- targeting flagrant violators;
- increasing sanctions and introducing probation penalties;
- improving case processing times;
- encouraging compliance through positive incentives;
- involving supply and processing chains in the enforcement process

According to Hayman and Brack (2002: 22) ‘criminal profiling is vital for focused enforcement efforts’.

Compliance means the state of conformity with the law. The mandate of most environmental protection agencies is not only to enforce compliance through use of criminal prosecutions, but to forge strategic alliances and working partnerships with industries, local governments and communities in support of environmental objectives. Often these are framed in terms of economic, and perhaps, social, objectives as well. However, as emphasised in a Western Australian review of environmental protection:

‘Speak softly and carry a big stick’ is an appropriate aphorism for today’s environmental regulator, but to be effective there must be certainty that the big stick can and will be used and the how, why and where of its use. It is the anticipation of enforcement action that confers the ability to deter (Robinson, 2003: 11).

Bearing these sentiments in mind, it is instructive to briefly consider recent findings from a Victorian review of EPA practices.

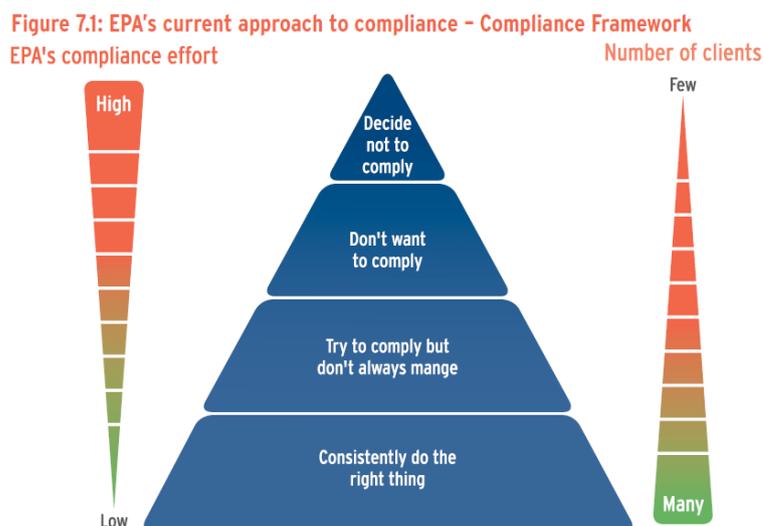
EPA Victoria: A recent evaluation

In 2011, EPA Victoria commissioned an independent review of its regulatory approach and compliance and enforcement activities. The Review found that:

- EPA had become confused as to the role of compliance and enforcement and had reduced the importance and prominence of these activities. This had limited EPA’s ability to act strategically and resulted in the organization becoming fractured, reactive and inconsistent. It had also resulted in a loss of confidence from community and business in EPA’s ability to protect the environment (EPA 2011: 2).
- The Review also found that there was a significant under-investment in the number of authorised officers and their training and support. A reactive strategy, limited procedures and lack of accredited training meant that EPA had not adequately supported authorised officers to consistently and effectively apply and explain the law (EPA 2011: 2)

It was observed that ‘The framework implies a risk-based regulatory approach, where compliance and enforcement activities are based on assessment of the likelihood of noncompliance with environmental laws – and thus by inference the degree of environmental risk posed by the regulated entity. The model does not expressly refer to environmental risk or harm (see Figure 4 – figure 7.1)’ (Krpan 2011: 79).

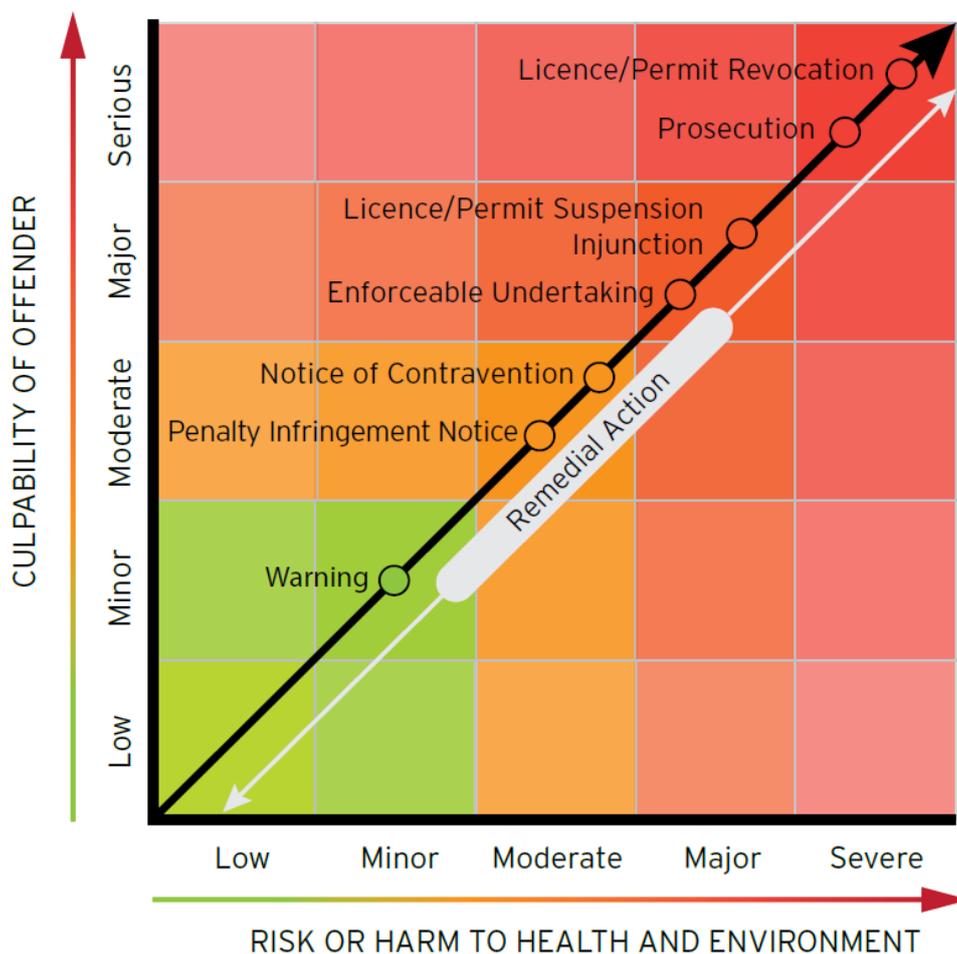
Figure 4: EPA Victoria’s Approach to Compliance Before the Review



After the review a number of organisational and cultural changes were proposed. These were presented as alternatives to the purely risk-based model that had driven previous EPA policies and practices (and which is akin to the traditional regulatory pyramid discussed earlier). Basically it was argued that the severity of the EPA’s enforcement response should be proportionate to any environmental harm or potential harm, and that the nature and characteristics of the perpetrators likewise be taken into account. This translates into an enforcement model that concentrates on harm (see Figure 5).

Figure 5: An Alternative Enforcement Model

Figure 7.5: Enforcement response



Source: Krpan (2011: 97).

In support of implementation of this model, the Victorian EPA review recommended that the agency:

- significantly increase the level of compliance monitoring, including the number of authorised officers

- increase the level of enforcement and prosecutions
- re-establish its core role as an environmental regulator and adopt eight principles, to define how EPA Victoria will be a ‘modern regulator’ and significantly increase its focus on compliance monitoring and assurance
- broadly promote a social duty of care to the environment and broaden its reach beyond sites that it licenses, putting more effort into educating the community and businesses
- adopt a risk-based and responsive regulatory model, and clearly communicate its activities in the context of its regulatory role
- make smarter, more targeted and transparent decisions to tackle the issues that pose the greatest risk to human health and the environment
- provide more clarity on its approach to regulation, compliance and enforcement, by making the law and standards more accessible and publishing new policies on how enforcement decisions will be made
- refocus its energy on building staff expertise and knowledge (including establishing an operational support team), and using that expertise to support duty-holders to comply with the law and to provide necessary advice (EPA Victoria 2011: 2)

The Review recommended that the EPA target enforcement effort on the most significant harm to the environment, by considering, *consequence* and *likelihood*:

Consequence: *The risk or harm to health and environment.* This is categorised into low, minor, moderate, major and severe. Consequence takes into account actual or potential impacts on human health, environment and amenity. It considers the scale and duration of any harm or impact and the level of public concern (EPA Victoria 2011: 5)

Likelihood: *The chance that non-compliance will occur.* This also has five categories; low, unlikely, possible, likely and certain. Likelihood takes into account objective elements of (a) the track record of the business – past incidents, inspections, enforcement and pollution reports – (b) systems in place to identify and manage environmental risk, (c) capability of the business and its operators and (d) the level of

resources dedicated to environmental management, compliance and maintenance.

The Review proposed eight principles by which EPA should undertake its regulatory role. The principles provide a benchmark against which the community can judge the EPA's performance. They also provide a basis for the EPA to measure its own effectiveness as a regulator. The principles and their regulatory impact are:

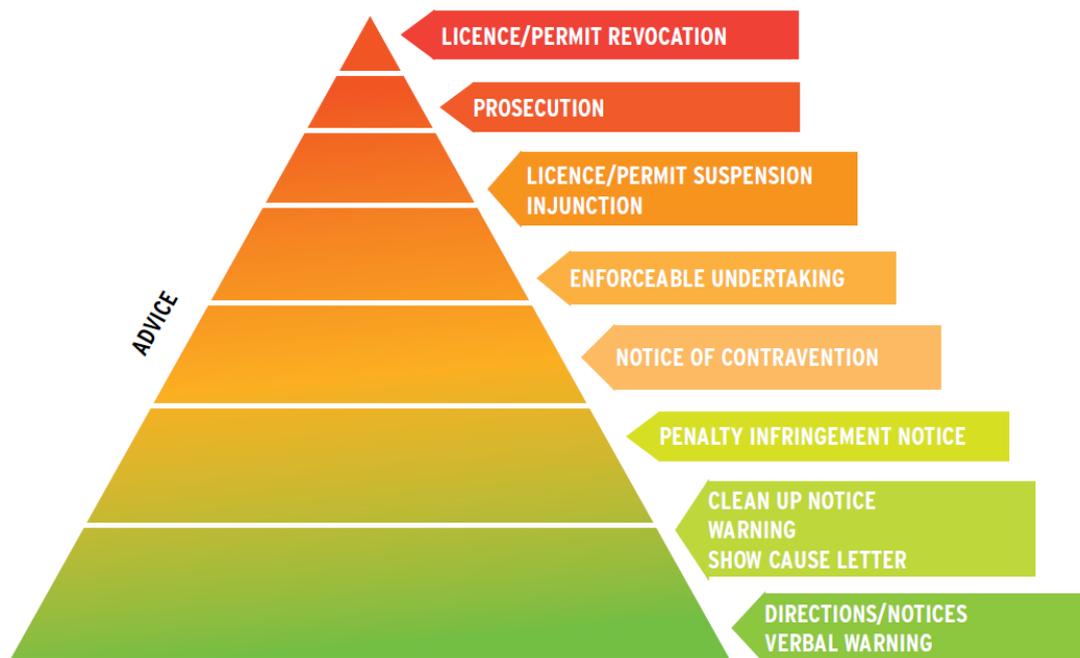
- Targeted:** Compliance and enforcement activities will be targeted at preventing the most serious harm.
- Proportionate:** Regulatory measures will be proportional to the problem they seek to address.
- Transparent:** Regulation will be developed and enforced transparently, to promote the sharing of information and learnings. Enforcement actions will be public, to build the credibility of EPA's regulatory approach and processes.
- Consistent:** Enforcement should be consistent and predictable. EPA aims to ensure that similar circumstances, breaches and incidents lead to similar enforcement outcomes.
- Accountable:** To ensure accountability, compliance of duty-holders, enforcement decisions and the conduct of authorised officers will be explained and open to public scrutiny.
- Inclusive:** EPA will engage with community, business and government to promote environmental laws, set standards and provide opportunities to participate in compliance and enforcement
- Authoritative:** EPA will be authoritative by setting clear standards, clarifying and interpreting the law and providing authoritative guidance and support on what is required to comply. EPA will be prepared to be judged on whether individuals and business understand the law and their obligations. EPA will also be an authoritative source of information on the state of the environment, level of compliance with the laws it regulates, key risks and new and emerging issues.
- Effective:** Enforcement will seek to prevent environmental harm and impacts to public health, and improve the environment. Enforcement action will

be timely, to minimise environmental impacts and enhance the effectiveness of any deterrence (EPA Victoria 2011: 3)

The Victoria review included an ‘indicative hierarchy of enforcement tools currently in use by EPA to indicate an escalating regulatory intervention that would correspond with the level of environmental risk (including consequence) posed by a breach or incident’ (see Figure 6 – 9.1) (Krpan 2011:79).

Figure 6: Victoria EPA Enforcement Tools

Figure 9.1: A hierarchy of EPA enforcement tools



Source: Krpan (2011: 120)

To put the enforcement issues slightly differently, and as argued by Robinson (2003) in the WA review of environmental protection, prosecution ought to be an equal partner in the enforcement tool box, and should be neither the first nor the last resort, but the appropriate response to a particular set of circumstances.

Conclusion

As described in this paper, the legislative landscape for dealing with hazardous waste is tiered, complex, and complicated by the nature of the substances themselves, as well as the diversity of agencies involved in their regulation and management. As the discussion of regulatory systems, pyramids, issues and approaches demonstrates, there are ongoing matters that require both theoretical consideration and practical application. Many questions remain and concerted attention will be required across various interest areas.

Questions to Consider

- What does effective legislation look like?
- Who is involved in framing up legislation?
- Who is the intended audience for legislation?
- Which generators have the most leverage to influence legislation and “negotiate” compliance?
- Do certain generators influence how legislation is framed?
- How do regulators balance over-implementation and enforcement of legislation with minimising harm to the environment?
- What motivates generators to comply with the legislation?
- Is the legislation onerous? (e.g., too long, too much to take in, ambiguous)
- How easy (or difficult) is it to interpret the requirements of the legislation?
- Does waste regulation promote re-use and recycling at the expense of preventing environmental harm?
- How do different size generators respond to regulation? (e.g. TNC’s vs SMEs)
- Are financial deterrents effective – that is how much do they hurt in proportion to the ‘pocket’ of the perpetrator ?
- Do self-reports, predominantly relating to less serious environmental breaches actually mask more serious breaches?
- Who is auditing the documented accounts of self-report (e.g., emissions)?
- Environmental Protection Authorities work an 8 hour day, many transnational corporations work a 24 hour day – what are the implications of this for ‘good practice’ regulation?

References

- Australian Government Department of Resources, Energy and Tourism (2011). *Offshore Petroleum Legislation, Regulation and Guidelines*.
<http://www.ret.gov.au/resources/upstream_petroleum/offshore_petroleum_regulation_and_legislation/offshore_petroleum_legislation_regulation_and_guidelines/Pages/OffshorePetroleumLegislationRegulationandGuidelines.aspx> (accessed December 2011).
- Australian Taxation Office (ATO 2011). *Compliance Program 2011-12*. Australian Government. Australian Taxation Office.
- Ayres, I. & Braithwaite, J. (1992) *Responsive Regulation: Transcending the Deregulation Debate*. (New York: Oxford University Press).
- Bartel, R., Martin, P. and Stone, C. with White, R. and Heckenberg, D. (2011). *Harmonising Australia's Environmental Laws : Scoping of Harmonisation of Environmental Regulation and Regulatory Practice across jurisdictions in Australia*. The Australian Centre for Agriculture and Law, University of New England. February 2011.
- Black, J. (2001), 'Managing Discretion' Paper delivered at Australian Law Reform Commission Conference, *Penalties: Policy, Principles and Practice in Government Regulation*, Sydney.
- Boyd, D. (2003) *Unnatural Law: Rethinking Canadian Environmental Law and Policy*. (Vancouver: UBC Press).
- Bricknell, S. (2010). *Environmental Crime in Australia*. AIC Reports. Research and Public Policy Series, 109. Australian Institute of Criminology. Australian Government.
<<http://www.aic.gov.au/documents/2/1/1/%7B211B5EB9-E888-4D26-AED4-1D4E76646E4B%7Drpp109.pdf>> (accessed 14 November, 2011).
- Department of Environment, Water, Heritage and the Arts (DEWHA 2010). *National Waste Report*. Produced by the Environment Protection and Heritage Council (EPHC), March 2010.
<http://www.ephc.gov.au/sites/default/files/WasteMgt_Nat_Waste_Report_FINAL_20_Full_Report_201005_0.pdf> (accessed November 2011)
- Department of Environment Climate Change and Water (DECC 2009). *National Chemicals Management*. (last updated 29 January 2009).
<<http://www.environment.nsw.gov.au/pesticides/natnlchemicalsmgmt.htm>> (accessed February 2011)
- Environmental Defender's Office WA (Inc) (2007). *Waste Management in Western Australia: current law and practice and recommendations for reform*.
<<http://www.edowa.org.au/files/submissions/EDOwastemanagementreport.pdf>> (accessed December 2011).
- Environment Protection and Heritage Council (EPHC 2011). Chemicals.
<<http://www.ephc.gov.au/taxonomy/term/26>> (accessed February 2011)

- EPA Victoria (EPA 2009). *Industrial Waste Resource Guidelines : Asbestos Transport and Disposal*.
[http://epanote2.epa.vic.gov.au/EPA/Publications.nsf/2f1c2625731746aa4a256ce90001cbb5/1f937e8fcca502b3ca2575fb001f5f52/\\$FILE/IWRG611.1.pdf](http://epanote2.epa.vic.gov.au/EPA/Publications.nsf/2f1c2625731746aa4a256ce90001cbb5/1f937e8fcca502b3ca2575fb001f5f52/$FILE/IWRG611.1.pdf) (accessed 2 February, 2011)
- Environmental Protection Authority (EPA 2011). *Compliance and Enforcement Review: Overview of key themes and recommendations for EPA Victoria*.
<[http://epanote2.epa.vic.gov.au/EPA/publications.nsf/2f1c2625731746aa4a256ce90001cbb5/f8c52611baf24a4aca257837000a9fc8/\\$FILE/1367.pdf](http://epanote2.epa.vic.gov.au/EPA/publications.nsf/2f1c2625731746aa4a256ce90001cbb5/f8c52611baf24a4aca257837000a9fc8/$FILE/1367.pdf)> (accessed December 2011).
- Greenfield, R. (2009) Examining Motivations for Non-Compliance: Waste Disposal Project. Department of Environment and Resource Management (DERM), Queensland. November, 2009.
- Gunningham, N. & Grabosky, P. (1998) *Smart Regulation: Designing Environmental Policy*. (Oxford: Clarendon Press).
- Hayman, G. & Brack, D. (2002). *International environmental crime: The nature and control of environmental black markets*. Workshop report. Royal Institute of International Affairs.
<http://ec.europa.eu/environment/docum/pdf/02544_environmental_crime_workshop.pdf> (November 2011)
- Krpan, S. (2011a). *Compliance and Enforcement Review: A Review of EPA Victoria's Approach*. February, 2011. EPA Victoria.
<[http://epanote2.epa.vic.gov.au/EPA/publications.nsf/2f1c2625731746aa4a256ce90001cbb5/2c81c8735bc744d9ca25783700094c64/\\$FILE/1368.pdf](http://epanote2.epa.vic.gov.au/EPA/publications.nsf/2f1c2625731746aa4a256ce90001cbb5/2c81c8735bc744d9ca25783700094c64/$FILE/1368.pdf)> (accessed December 2011).
- Priest, M. (1997-98) 'The Privatization of Regulation: Five Models of Self-Regulation', *Ottawa Law Review*, 29(2): pp.233-302.
- Robinson, B. (2003) *Review of the Enforcement and Prosecution Guidelines of the Department of Environmental Protection of Western Australia*. (Perth: Communication Edge).
- Shover, N., Job, J. and Carroll, A. (2001) *Organisational Capacity for Responsive Regulation*, ANU/ATO, Centre for Tax System Integrity, Working Paper No 15.
- Stafford, S.L. (2008). *Should you Turn yourself in? The Consequences of Self-Policing*. STAR Workshop, 15 January, 2008. The College of William and Mary. Research supported by EPA (US) Star Grant R831036.
<http://www.epa.gov/ncer/events/calendar/2008/jan14/stafford_011408.pdf> (accessed December 2011).
- White, R. (2008) *Crimes Against Nature: Environmental Criminology and Ecological Justice*. Devon: Willan Publishing.
- White, R. (2011) *Transnational Environmental Crime: Toward an eco-global criminology*. London: Routledge.