3 Threats to effective environmental policy in Australia

Drew Collins[1]
BDA Group

Abstract

Recent decades have seen the accelerated use of market-based instruments for environmental management in Australia. Not all instruments, however, have been well directed, appropriately designed or effectively implemented, leading on occasion to limited environmental gains and high regulatory costs. In this paper the use of market-based instruments for environmental management in Australia is canvassed ahead of a discussion on the emergence of a 'sustainable consumption' ideology which is gaining prominence in policy circles to the detriment of effective reforms.

3.1 Introduction

Recent decades have seen accelerated reforms in environmental policy, associated with increased resource scarcity, increased pressures on the environment and heightened community demands for environmental services and amenity.

In many instances, policy reforms have benefited from the establishment of clear environmental goals, articulation of policy targets and increasing use of market-based instruments (MBIs) to drive down environmental compliance costs and ensure that those who can benefit the most from access to resources are able to do so. On this latter point, Australia is a world leader in the development of resource and environmental markets such as in fisheries, water, water pollution such as nutrients and salinity, and with promising developments in relation to native vegetation and biodiversity.

1 Managing Director, BDA Group, PO Box 4022 Manuka ACT 2603, Email: drewcollins@netspeed.com.au Ph: 02 – 6282 1443.

But not all environmental policy reforms have been well directed, appropriately designed or effectively implemented. Notably, and as discussed in this paper, some MBIs have been poorly applied, and a raft of policies emerging under the banner of sustainable consumption are likely to have dubious benefits. These issues are discussed following a brief overview of developments across several environmental media, particularly water and solid waste management.

3.2 Overview of MBIs for environmental regulation in Australia

Excluding greenhouse gases, air and water pollution control over recent decades have seen significant improvements in controlling point-source emissions, but the application of MBIs has been constrained in some States where regulated activities do not have mass- or load-based discharge limits.

Pollution discharge fees have been introduced in many States, but are typically based only on cost-recovery of licence administration rather than environmental damage costs (as per a Pigovian tax). Some notable emission trading schemes have been established and there have been a number of investigations into more widespread water quality trading under the Australian Government's Coastal Catchments Initiative. The more widespread use of these tools, however, is frustrated by the dominance of diffuse source emissions with associated measurement, enforcement and political difficulties.

Climate change policy has seen the introduction of a raft of energy efficiency incentive programs as well as trading instruments, including the Mandatory Renewable Energy Target scheme (MRET) and the NSW Greenhouse Gas Reduction Scheme (GGRS).

Most have been applied at the State level, but, as identified in the Parer Review (COAG 2002), State policies have generally been poorly targeted and uncoordinated; they compete with each other and create uncertainty. As a result, it is likely that cheaper abatement options exist but are not being taken up.

Encouragingly, the current policy debate is focusing on a broadly-applied emissions trading scheme, but its central rationale — *to maximise compliance flexibility so as to drive down costs* — may be compromised by the multiplicity of policy instruments, 'special case' exemptions and the desire of governments to 'pick winners' under the guise of complementary programs.

To this end, Garnaut (Commonwealth of Australia 2008) has warned that the role of complementary measures is to lower the cost of meeting emissions reduction

trajectories by correcting for market failures, such as in relation to R&D. Once an emissions trading scheme is in place, however, forcing adoption of some measures (such as via the MRET scheme) may displace other low-cost opportunities, increasing the overall cost of climate change responses.

In the area of conserving native vegetation and biodiversity, regulatory limits on clearing have been established in most jurisdictions, although enforcement is at best mixed. The longer-term costs of these restrictions will depend upon available adjustment mechanisms to facilitate high value developments and the rehabilitation and expansion of high-value ecosystems. And MBIs are playing leading roles in providing these adjustment mechanisms, with offset schemes such as the NSW BioBanking and Victorian BushBroker schemes facilitating new development while 'new generation' conservation tenders are, relative to old-style grants programs and input-based incentives (such as for fencing), providing performance-based, cost-effective mechanisms for increasing conservation on private land. For all these adjustment mechanisms, sound metrics, performance auditing and enforcement will be critical.

Water market reforms over recent decades have been substantial. Rural water markets in particular have significantly matured with the introduction of diversion caps, the unbundling of entitlements, inter-state trade, and so on, which have increased the efficiency of rural water use.

More recently, the reform agenda has shifted to reducing the environmental impacts associated with water use and trade. Barriers to trade, however, such as exit fees and quotas, are impeding further economic and environmental gains, largely due to fears for the loss of irrigated production and flow-on impacts for attendant communities. But as noted by Watson (2008), 'an implication of public interest in the environmental consequences of water use is that contraction of irrigation *not* just adjustment is the order of the day'.

Watson and others have also noted that the costs of environmental water secured through 'savings' achieved by investment in infrastructure have generally exceeded the value of the water (as discussed further below), and many claimed savings are illusory when reductions in groundwater recharge and return flows are accounted for.

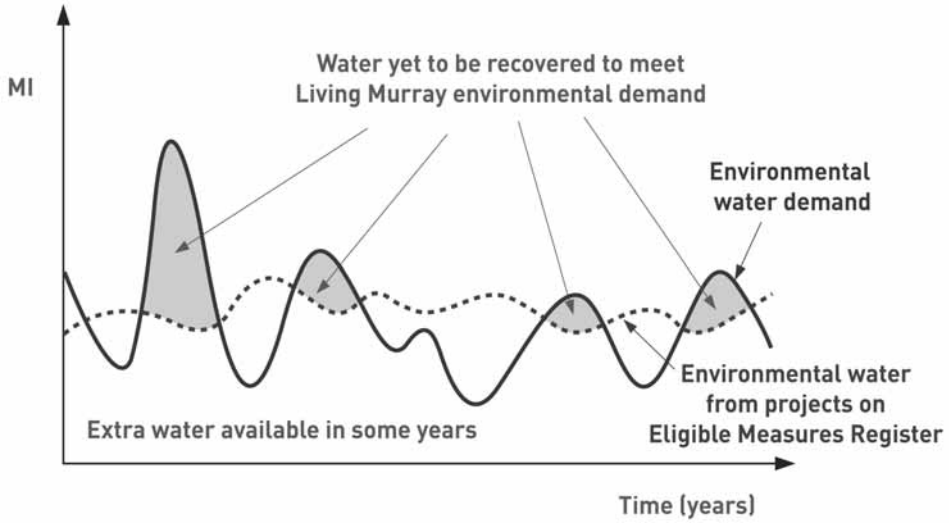
But with the dire state of the River Murray, particularly the Lower Lakes, water buybacks have now taken centre stage. Following a successful pilot buyback of 20 GL of water by the MDBC in 2007, the Australian Government purchased 35 GL on the lower-connected Murray in early 2008, has purchased Toorale Station on the Darling River with its 14 GL water licence, and in September is initiating a second

round of buybacks focussing on the Queensland and northern New South Wales areas of the Basin.

While this market approach has considerable merit, its success will ultimately be judged on the environmental improvements it can deliver. In this regard, governments appear to be chasing water without clear implementation plans. That is, for many environmental sites where water is sought, such as some of the 'Living Murray' icon sites, there is a mismatch between water availability under the irrigation licences being purchased and the environmental watering demands of the sites (such as the need to top up medium-size flood events to deliver water 'over bank' to riparian forests and wetlands).

For example, BDA Group (2006) noted that much of the water needed under the Living Murray First Step will be to meet irregular environmental watering demands both in frequency and size. As much of the water already recovered is of high reliability (notwithstanding climate change implications), the temporal profile of the outstanding water required is even more exaggerated (see figure 3.1).

Figure 3.1 Stylised overview of water recovered and needed under the Living Murray Initiative



Some of these problems will be overcome through a complementary works program that will improve the effectiveness of delivering environmental water.

Otherwise there is a view that environmental water can be traded on water markets to rebalance holdings, perhaps through the use of derivative type instruments such as options contracts. As environmental water is, however, often needed opportunistically, early in irrigation seasons when announced allocations and trade

volumes are low, trading on 'spot' markets will pose difficulties. In the case of options, difficulties in defining triggers that establish whether the environment or irrigator gets the water will be the problem. This is because environmental water demands are not necessarily well correlated with metrics around which irrigators would be confident to develop risk strategies — such as announced allocation, rainfall or dam storage levels.[2] Ultimately, more fundamental property right reforms may be needed to ensure a robust sharing of water between the environment and consumers.

In the case of urban water security, reforms are clouded by the relatively high capacity of households to pay, a lack of competition in supply and constraints on urban rural water trade. Collectively, these are resulting in unduly high budget and opportunity costs. As Watson (2008) notes, 'recycling, desalination and rainwater tanks are put forward as universal solutions to urban water shortages in Australian capital cities when their application is manifestly location-specific'.

The commissioning of a desalination plant for Sydney essentially as a drought reserve is contrary to the economics of the option, which to be competitive would be as a base load supplier rather than a drought reserve with expensive mothballing in between. The preference of the ACT Government for an enlarged dam, and large-scale sewage recycling, to augment drinking water supplies ahead of purchasing cheaper and perhaps more secure water from irrigators sourced from the Tantangara Dam — given the extent of storage and ability to carry water between years — provides another example.

Related to this, and as saliently put by the Productivity Commission (2008), 'there is effectively no market for water in Australia's cities. The charging regimes of monopoly utilities reflect production costs, but not the scarcity value of water. Instead, restrictions are placed on particular water uses and these impose substantial hidden costs on many households'.

With regard to solid waste management, policy in Australia is seemingly not premised on standard public policy intervention criteria of market failure and a net benefit test. This even appears the case where MBIs are used. A pertinent example here is a recent increase in the NSW landfill levy.

In 2005, the NSW Government announced an increase in the waste disposal levy, almost trebling the levy in the metropolitan region, with no mention of its addressing landfill externality impacts (New South Wales Government 2005). Rather, the rationale was to raise revenue to fund environmental water buybacks, with any reductions in waste disposal to landfill viewed as a secondary benefit, as

2 See Scoccimarro and Collins 2006 for an empirical analysis of this issue.

increased waste recycling was argued to provide 'upstream' resource conservation benefits.

The Productivity Commission (2006) in its Waste Inquiry has already commented on the tenuous arguments that such upstream benefits may be significant and that they can be realised through policies such as a landfill levy employed late in supply chains. What has received little attention is whether such levies are sound policy instruments for revenue raising, given potential regulatory burdens. BDA Group (2004) argues:

> The use of charges or levies as fiscal instruments to raise revenue has received little attention in the economics literature directed at waste policy. This is because such instruments do not have an economic basis — they are not designed to promote behavioural change and 'internalise externalities'. Indeed, taxation theory suggests that an efficient fiscal tax is one where behavioural changes are minimised, as this will impose less economic costs on the economy and ensure that the revenue base is not undermined.
>
> When using charges or levies on waste management practices to raise revenue for waste programs, the key economic question for government is whether or not established State fiscal instruments would be more efficient in raising revenue. (p. 73)

The Business Roundtable on Sustainable Development (2006a) estimated that the total net economic costs imposed on the NSW community from the proposed levy increase are some $260 million in present value terms. This excludes the environmental costs associated with increases in illegal dumping and/or the costs of an enhanced anti-dumping enforcement program.

3.3 Emergence of a 'sustainable consumption' ideology

The emergence of a 'sustainable consumption' ideology appears to conflict with economic efficiency principles that have hitherto guided the rationale for and nature of government interventions. This is examined in this section of the paper, which draws on the work of Bennett and Collins (2008).

The concept of sustainable development is widely recognised as an important goal of public policy and, to this end, many State and Federal statutes require sustainability principles to be incorporated into policy processes and administration.

Sustainability has largely been interpreted as a capital[3] stock issue where the challenge is to identify the optimal temporal path of using capital resources. But application is difficult at an operational policy level due to an inability to measure

3 Where capital can be natural, human or built.

capital stocks and rates of use, let alone to determine the use of the resources that will maximise resource-use efficiency within as well as between generations.

In the light of prevailing views across some of the citizenry, therefore, that we are currently consuming 'too much', governments have adopted a pragmatic policy focus to reduce pressures on the resource base — so that we are at least moving toward more sustainable resource-use patterns, albeit towards an ill-defined goal.

That is, sustainability policies have emphasised 'doing more with less'. Governments have looked to apply this dogma across supply chains, with a long policy history of promoting technical efficiency in input use at the production stage and maximising resource recovery at the waste disposal stage.

Promoting technical efficiencies

Incentives for technical efficiencies (e.g., in water and energy) are being provided along supply chains, without due consideration of the relative efficiency of incentives and the extent to which they will be passed along supply chains.

For example, urban water efficiency incentives are often narrowly applied with seemingly no relationship to resource values. Incentives selected from initiatives of the Australian and Victorian Governments demonstrate the range of cost-effectiveness. The Australian Government's *Community Water Grants Program* Round 1 projects averaged $3,297/ML, while Round 2 projects have averaged $6,170/ML. The cost-effectiveness of recent Victorian urban water efficiency initiatives ranges from $770/ML saved under the AAA shower head rebate, $9,069 under the rainwater tank rebate, $23,061 under the high pressure rebate) to $33,395 under the AAA dishwasher rebate.[4]

Rural water savings have also come at greatly varying cost, and generally at a cost in excess of the market value of the water. For example, the cost of infrastructure projects under the Living Murray initiative has generally been around $3,000/ML and up to $5,000/ML, much higher than the purchase price of water entitlements under the MDBC 2007 Pilot Environmental Water Purchase Project, which was conducted in a period of low-water availability and higher entitlement prices (MDBC 2008).

Similar experiences can be found with Australian Government initiatives. For example, included in their Water Smart Australia Program is the Wimmera–Mallee pipeline project at a cost of $4,864/ML and the Bendigo Bounty regional

4 Derived from Victorian Government 2004.

reclaimed-water project at a cost of $7,209/ML recovered. By comparison, water purchases have been much cheaper. Under Water for the Future the Australian Government has committed $3.1 billion to purchase water in the Murray–Darling Basin over 10 years. A public tender in the first half of 2008 yielded 35 GL of water, with the price of high-security water purchased averaging $2,124/ML and general security water averaging $1,131/ML.[5]

Of perhaps greater concern is that technical production efficiencies are now being widely promoted through, at best, poorly-constructed partial productivity measures such as the 'carbon footprint', 'food miles', 'virtual water' (the volume of fresh water used to produce a product, including the sum of water use in the various steps of the production chain), and so on. These measures are being paraded in an evangelical manner to the community, using up the available goodwill and financial wherewithal that might otherwise be used to tackle genuine reforms. At least the previous generation of partial productivity measures — such as gross margin/ML which was wrongly used to vilify the rice industry — had some technical rigour.

Maximising resource recovery

The driving mantra of waste policy in Australia has been the 'waste hierarchy' which decrees that waste avoidance is preferable to reuse, which in turn is preferable to recycling, which is preferable to disposal. The hierarchy is premised on maximising material recovery without any regard to the societal costs of doing so, with its inevitable end-point of 'zero waste', which has been adopted as a policy target in several jurisdictions.

The failure of the Productivity Commission's Waste Inquiry (2006) findings to have any impact on the 'religion' of waste policy is rooted in the 'sustainable consumption ideology' that has gained prominence in the community.

Its genesis is noted by the Business Roundtable on Sustainable Development (2006b):

> In the 1980s the creation of waste became regarded as 'wasteful' and a poor reflection on a consumption-driven society. Reducing waste disposal through recycling became a driving force across many communities in developed economies. Reducing waste was heralded as a further step in the move to sustainable economies.
>
> Communities were keen to embrace broader sustainability practices, and waste reduction was seen as a material way this could be done at an individual and household level with opportunities for everyone to contribute. The mantra 'think global, act local' had real relevance for the community when it came to waste and the environment.

5 www.environment.gov.au/water/mdb/entitlement-purchasing/overview.html (accessed 24/7/08).

> Such community aspirations encouraged governments to broaden the rationale behind waste policy goals, beyond disposal externalities to include upstream life-cycle impacts associated with waste materials. (p. 3)

Some governments are now questioning this policy rationale, as they face significantly increasing costs to realise ever-increasing levels of waste 'recovery'. But governments which have promoted the concept of a 'waste crisis' and the benefits of recycling to the community now find they are captured by community demands for further waste reduction initiatives. Accordingly, sensible waste policy will continue to be elusive until more informed notions of sustainability are accepted by the broader community. And such cultural change must start with government.

Sustainable consumption in a robust policy process

From the perspective of a policy commentator, the critique of sustainable consumption policies will continue to be frustrated by the failure of governments to establish operational inter-generational equity goals, beyond the generalisations of the Brundtland Commission and other writers.

That is, where sustainability policies are to go beyond correcting market failures that are impeding the economically efficient use of resources, and seek to promote inter-generational equity goals, effective policy requires those goals to be clearly articulated. Such explicit determinations of inter-generational equity trade-offs would appear well beyond the sophistication of the current sustainability debate. Therefore, these trade-offs should continue to be implicitly made on a case-by-case basis through an informed political process, rather than pursuing the nebulous notion of sustainable consumption. As noted by Bennett and Collins (in press):

> For governments to identify a specific consumption pattern that would align with an efficiency/equity optimal use of resources poses the same informational challenges as faced by the market. It requires knowledge of the full range of production possibilities across the economy, their technical conversion efficiency, knowledge of the nature, extent and location of production externalities ranging from environmental to public health to social amenity and so on. It necessitates similar knowledge in relation to transport, storage and distribution possibilities. Moreover it requires knowledge of consumer wants and relative preferences, the values they place on convenience, hygiene, fashion, etc., as well as knowledge of waste management, recycling and disposal opportunities.
>
> Given the information deficiencies and asymmetries that governments face in trying to determine a desirable consumption pattern for even a single commodity — given production and consumption substitution effects — a policy approach directed at identifying and promoting 'preferred' consumption patterns would appear doomed.

And even if it were possible, given the dynamic drivers behind resource conditions, production efficiencies and consumer demands, any identified consumption pattern would be but a snapshot in time. This would be as useful in setting resources policy as a single stock market index number would be to guide industry policy.

So while observed consumption levels may be useful from an environmental reporting sense, indicating (possible) shifts in pressures on the resource base, they provide limited value to policy makers and should not be allowed to cloud sustainability policy. Meaningful sustainability policy must relate back to the underlying resource base, regardless of where in supply chains policy interventions are judged to be effective and efficient. That is, in some instances sustainability objectives may be best promoted through policies at the consumption stage of supply chains, but seeking to promote a specific consumption outcome in its own right is not only misguided, but may lead to perverse sustainability outcomes!

Accordingly, policy principles that relate to sustainability in its broader sense of fostering the optimal use and allocation of resources are preferable to those based on a notion of fostering sustainable consumption *per se*.

3.4 Concluding comment

MBIs are being widely employed to promote environmental policy goals. They will only deliver cost-effective gains, however, when they are appropriately directed, designed and implemented. Narrowly-based incentives, particularly those directed at influencing specific consumption choices rather than underlying resource-management problems, will rarely be the best policy intervention.

Accordingly, environmental policies should not be based on narrow and simplistic premises such as 'doing more with less'. Indeed, community goodwill is often being squandered on government promoted tokenism — change a few light bulbs, separate your recyclables, get a new showerhead — rather than garnering support for more fundamental reforms.

References

BDA Group 2004, *Analysis of Levies and Financial Instruments in Relation to Waste Management*, Report to Zero Waste South Australia, October.

—— 2006, *Issues and Options in Applying Market-based Measures in the Living Murray First Step*, Report to the Murray-Darling Basin Commission, Canberra, March.

Bennett, J. and Collins, 'The policy implications of sustainable consumption' *Australian Journal of Environmental Management*, in press.

Business Roundtable on Sustainable Development 2006a, *A National Waste Management Policy Framework*, Submission to the Productivity Commission Waste Inquiry, Support Document 6: Case studies with negative economic impact: Case study 3 — landfill levy.

—— 2006b, *A National Waste Management Policy Framework*, Submission to the Productivity Commission Waste Inquiry, Support Document 1: Evolution of the current approach to waste management.

Commonwealth of Australia 2008, *Garnaut Climate Change Review*, Draft Report, June.

Council of Australian Governments 2002, *Energy Market Review: Towards a Truly National and Efficient Energy Market*, Final Report (W. Parer, Chairman).

MDBC (Murray Darling Basin Commission) 2008, *Brief Assessment of the Merits of Purchasing Water Entitlements During a Time of Low Water Availability*, MDBC Publication no. 31/08.

New South Wales Government 2005, *City and Country Environment Restoration Program*, Department of Environment and Conservation, Sydney.

Productivity Commission 2006, *Waste Management*, Report no. 38, Canberra.

Scoccimarro, M. and Collins, D. 2006, *Using Market-based Instruments to Secure Water for Environmental Flows*, Land and Water Australia Research Project BDA4 under its Environmental Water Allocation R&D Program.

Victorian Government 2004, *Securing Our Water Future Together*, White Paper, Department of Sustainability and Environment, Melbourne.

Watson, A. 2008, 'Water policy — outside looking in', prepared for Outlook 2008, Canberra, March.