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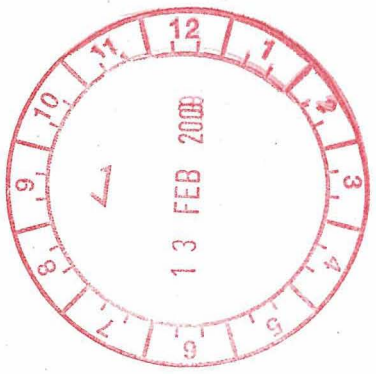

13 February 2009

Hon Sheila Mills MLC
Chair
Standing Committee on Environment and Public Affairs
18-32 Parliament Place
WEST PERTH WA 6005

Dear Hon Sheila Mills MLC

RE: MUNICIPAL WASTE MANAGEMENT INQUIRY SUBMISSION

I have attached to this covering letter a submission prepared by the Eastern Metropolitan Regional Council.

The Environment and Public Affairs Committee is requested to provide an opportunity for the EMRC to present this submission and provide Committee members with some commentary on the submission's recommendations.

I commend the submission to the Committee and hope they find the contents informative. Should you have any queries please do not hesitate to contact Mr Adam Johnson, Executive Manager Waste Management Services on 9424 2223.

Yours sincerely

D.R Färdig

CR DAVID FÄRDIG
Chairman

Att: Municipal Waste Management Inquiry Submission

EMRC

Protecting Perth's Eastern Region

Municipal Waste Management in WA

Submission to Parliamentary Standing Committee

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Executive Summary

This submission makes a number of key points and recommendations in relation to Waste Management in Western Australia. These are summarised immediately after the table of contents.

The management of MSW in WA is not problematic from the point of view of the generation or recycling of MSW, and WA is the national leader in terms of the penetration of MSW processing technology. By the end of 2009, about 25% of all MSW in WA will be processed to recover resources. This exceeds all other states by a significant margin.

Notwithstanding the observation that the management of MSW in WA is not a problem, there remains significant State Government focus upon the sector. This focus leads to stringent requirements, multiple approvals processes and a lack of clarity. The opportunity to provide clarity through a robust waste strategy has not been well adopted by the State Government, and the adoption and implementation of a partnership based waste strategy needs to be at the cornerstone of WA waste management. This waste strategy should be built around incorporating wastes back into the productive economy, a "cradle to cradle" approach.

As part of its commitment to waste management, the State Government need to invest heavily in waste processing infrastructure, particularly of waste subject to the Carbon Pollution Reduction Scheme (CPRS). The CPRS is likely to lead to over $50m per year leaving WA for the Federal Government. Waste processing infrastructure could retain that money in WA. Funding for such projects should come from the landfill levy.

In considering waste management in WA, the State Government needs to consider the roles of all stakeholders in the industry, and in particular, the roles of State Government agencies. The Department of Environment and Conservation needs to be given the opportunity to be a strong regulator, and the Waste Authority the chance to develop innovative policy. This may require the two organisations to be separated, but separation is not essential to achieve the desired outcome.

The role of private sector in waste management needs to be very carefully considered given that the private sector is not well placed to take on long term liabilities associated with waste management. These liabilities can outlast the company that incurred them, and financial assurances would need to be very large to provide sufficient security.

Finally, a Centre of Excellence for Waste Management would be a very sound investment for the State Government, as it would enable all waste industry participants to have access to good, local waste management research across a wide range of disciplinces.

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1 Summary of key points

Key point Publically reported data contains significant discrepancies for the generation and recycling of MSW

Key point MSW is not a large proportion of the waste stream

Key point MSW is not a laggard in the development of recycling capacity

Key point MSW management is not a significant problem for WA on a national scale.

Key point WA is a frontrunner in the implementation of AWT technology for MSW

Key point At Australian levels of landfill levy, there is no correlation between landfill levy and the development of AWT

Key point Landfill levy is not a significant factor for the adoption of MSW recycling in particular states

Key point Policy positions, and particularly informal "understandings" can be rendered irrational by changing circumstances, but do not have a mechanism for challenge and review

Key point Guidelines rarely progress beyond draft stage, and seem to be observed in the breach

Key point Administration of waste matters is complicated by being administered by at least five agencies

Key point The dual approvals process for local laws unnecessarily complicates the development of laws for waste management.

Key point Obligations imposed on Local Government under the WARR Act far exceed the obligations placed on any other waste manager

Key point Waste strategy in WA is not centrally coordinated, but rather driven by the combined actions of individual stakeholders

Key point Waste strategy needs to use partnerships to create a framework where waste services can be developed with the facilitation of State government.

Key point The "cradle to cradle" concept of integrating waste management into industrial production should form the intellectual framework for waste strategy

Key point Recent decisions in relation to landfill levy appear to contradict advice commissioned by the Waste Authority

Key point Landfill levies should be used sparingly, and it should be noted that levies on MSW are not required for environmental externalities and do not drive resource recovery

Key point Landfill levy funds should be rebated back to local government to promote the development of AWT

Key point The development of AWT would slow up to $50 million per year of funds being transferred from WA to the Federal Government as part of the Carbon Pollution Reduction Scheme

Key point Current local government funding from landfill levy funds needs to be substantially increased

Key point State Government needs to commit to apply a large percentage of levy funds to local government to avoid incentives for wasteful Waste Authority expenditure of large levy revenues

Key point Manufacturers should be required to pay for the management of their waste stream

Key point The National Packaging Covenant has substantially shifted from the voluntary scheme of responsibility shared between local, state and federal governments and manufacturing to a system where costs and responsibilities fall on local government

Key point The excessive involvement of regulators in waste management often stifles innovation

Key point Waste management requires a market demand for materials recovered at the sale price

Key point Waste processing plants are generally underpinned by long term waste supply agreements established by local government

Key point Incorporation of commercial waste streams in MSW treatment plants would reduce the unit cost for processing of MSW

Key point Increased waste volumes reduce the unit cost of waste processing.

Key point Aggregation of local government waste to gather enough volume for waste processing is best done by regional councils

Key point The landfill levy together with the cost of permits with the CPRS are not likely to increase the cost of landfill to a level comparable to that for waste processing.

Key point Landfill levies do not lead to reductions in MSW generation.

Key point Financing costs represent in the order of 60% of the total gate fee for waste processing plants. Without the cost of finance, the cost for waste processing is similar to that for landfill.

Key point Landfill levy funds should be used to pay for the waste processing plants.

Key point WA should consider establishing legislated financial incentives for waste processing.

Key point Boom-bust cycles have the effect of locking local government into increasingly expensive recycling services.

Key point Local vertically integrated waste processing firms can better withstand cyclic fluctuations in recycling markets

Key point Diversifying processing options improves waste market resilience

Key point Waste continues to be generated in slumping markets, and thus ceasing waste processing means waste goes to landfill

Key point Sending recyclables to landfill is damaging to long term public education

Key point State Governments can implement EPR schemes without waiting on Federal Government support

Key point The Federal Government does not consider waste management to be critical infrastructure for Federal Government funding

Key point The DEC struggles to play an effective regulatory role

Key point The relationship between the DEC and the Waste Authority appears to be unstable and contributes to regulatory uncertainty for the WA waste industry

Key point The Waste Authority needs to ensure that participants in the WA waste industry are included in the development of our waste system

Key point Councils play a critical intermediary role between the single feasible market participant for waste processing and the citizens

Key point Councils suffer from cost shifting for services from State or Federal Government to Council.

Key point Regional Councils play an important role in achieving scale for the delivery and management of complex waste projects.

Key point The WA structure of Regional Councils is exemplary and held in high regard nationally

Key point WALGA plays a support role for Councils, primarily in policy development, and should be a policy partner for the Waste Authority

Key point FORC is well positioned to deal with operational aspects of policy, and should be liaised with for infrastructure planning and guidelines for waste processing facility operations

Key point The long life of waste facility liabilities combined with the profit motive of the private sector can make private sector provision of waste services problematic

Key point The development of local research capabilities would enhance the WA waste management system

2 Summary of recommendations

MSW is not a core component of the WA waste stream, nor is it a particularly problematic component. It is well serviced by waste processing infrastructure when considered on a national scale, and thus resource recovery from MSW is comparable to other states. MSW is, however, the subject of considerable State Government (with this Inquiry being the latest of a long line of interventions). **The State Government needs to take its focus off the management of MSW, and focus instead upon the truly problematic waste stream, which is C&D waste.**

Legislation has focussed heavily upon MSW, creating substantial interference and overlap between legislation and departments. This interferes with the efficient delivery of services. The State Government should conduct a review of waste legislation to review its application to MSW, seeking to streamline its application and broaden its scope to incorporate C&I and C&D waste. **The development of guidelines and policies needs to be improved, with guidelines progressed from "draft" to "final" and enforced.**

The State Government needs to make a strong commitment to the strategic waste planning process. Since expertise in relation to waste management in WA largely resides outside State Government, the waste strategy needs to proceed from a basis of centrally coordinated partnerships. **We suggest that the concept of "cradle to cradle" should be at the core of a waste strategy. The temptation to for ad-hoc decision making outside the waste strategy must be resisted.**

The landfill levy must be made more targeted, with only that collected which is required for programmes. Where programmes are not targeted, the landfill levy should be reduced for MSW as the key reasons for a landfill levy are disappearing in the context of MSW. The landfill levy should, however, be retained or increased for inert waste. Where landfill levy is to be retained for all waste streams, a large portion should be rebated back to local government for the establishment of waste processing infrastructure.

Extended Producer Responsibility has substantial opportunity to ensure a more equitable distribution of costs for waste management, encouraging manufacturers and waste generators to bear a more complete share of the cost of their decisions. **It is recommended that manufacturers pay for the costs of managing their waste, rather than having these costs carried by local government. This should be a simple payment from manufacturers to the waste sector, rather than alternative schemes to require manufacturers to manage the waste themselves.**

Improving the quality and quantity of waste to be processed improves overall processing economics. Both can be achieved by encouraging commercial waste to be processed at MSW processing plants. This cannot be achieved by local government, as local government has no control over commercial waste. **State Government needs to develop enforceable requirements to encourage the processing of commercial waste, preferably at MSW processing plants to achieve improved plant economics.**

A large portion of the cost for waste processing is made up of the cost of finance for the large capital cost of construction. However, waste processing avoids significant outflows of money from WA to the Federal Government via carbon permits. **It is strongly recommended that the State Government invest all landfill levy funds in the**

construction of waste processing infrastructure that can supplant landfill, and thus retain money from carbon permits in WA. The funds would ideally be invested in local government to avoid problems with the private sector not maintaining the required service over the long timeframe required, though the private sector would make good partner for the operation of waste processing plants.

Markets for recyclables rise and fall in the same way as general commodities markets. Unlike other commodities, the delivery of the waste from which recyclables are covered does not stop, and so long term resilience in recyclables is required to sustain waste processing through downturns. This should be achieved through local vertically integrated waste processing, as well as diversified waste markets. **State Government should utilise the policy tools at its disposal to encourage local, vertically integrated and diverse waste processing infrastructure.**

The Federal Government's role in waste management, whilst limited, is potentially very important. **The State Government should lobby the Federal Government to improve Extended Producer Responsibility outcomes, as well as include waste infrastructure in its considerations of critical infrastructure.** The State Government could take act on both of these matters without the Federal Government.

The role of the State Government agencies in relation to waste management needs better definition, and a table on page 40 provides one model that might be considered. In defining the roles of the agencies, the State Government needs to enable the Department of Environment and Conservation fulfil its primary role of regulation, the Environmental Protection Agency its primary role of environmental assessment, and the Waste Authority its primary role in waste policy development. This does not necessarily require that the Waste Authority be administered separately from the Department of Environment and Conservation, but the roles certainly need clarify if waste management is to progress in WA.

The positive role of local government in waste management needs recognition and support, including local councils, regional councils, the WA Local Government Association and the Forum of Regional Councils. The WA model for local government waste service delivery is held in high regard around Australia, and in particular, the model of robust regional councils delivering infrastructure to member councils.

The private sector needs to continue to be engaged in developing waste management solutions, however this must be done with clear recognition of the limitations of the private sector in some operations that have long term liabilities. These liabilities can long outlive the company that incurred the liability. Without strong regulatory intervention through large financial assurances, the private sector profit motive will see these operations wind up when the liabilities fall due. The scale of the potential liability is very large, and for the Carbon Pollution Reduction Scheme may very easily exceed $33.6 million. The private sector is a sound choice for the operation of waste facilities where long term liabilities can be avoided, however there still needs to be strong waste management expertise held by contract superintendents.

There is a very strong role for local research in waste management, and we recommend the establishment of a Centre of Excellence for Waste Management. The Centre of Excellence would develop research available to all waste industry participants, and help build the overall level of expertise within WA.

3 Introduction

Please find following the submission of the Eastern Metropolitan Regional Council ("EMRC") to the Standing Committee for Environment and Public Affairs Inquiry into Municipal Waste Management in Western Australia. In this submission we introduce ourselves, respond to the terms of reference, and provide some suggestions for directions that we would like to see for waste management in Western Australia. We have not responded to the request for information in relation to resource recovery technologies for want of time.

3.1 About the EMRC

The EMRC is a regional local government in Perth's Eastern Region. We provide a range of services to our six member Councils, which are Bayswater, Bassendean, Belmont, Kalamunda, Mundaring and Swan. The longest running of these services is waste management which has been provided since our inception in 1983. We consider ourselves to be a Centre of Excellence for waste management with a focus on providing cost effective, feasible solutions for member Councils and other customers.

The EMRC currently operates five facilities on behalf of the member Councils. These are:

1. Red Hill Waste Management Facility ("Red Hill")
2. Hazelmere Timber Recycling Centre ("Hazelmere")
3. Walliston Transfer Station ("Walliston")
4. Mundaring Transfer Station ("Mundaring")
5. Chidlow Transfer Station ("Chidlow")

3.1.1 Red Hill

Red Hill is situated approximately 30 km from the Perth CBD, and includes one of Perth's largest landfills with dedicated cells for putrescible waste and contaminated soil, a green waste processing facility and a transfer station where recyclables are aggregated and sent on to material processors. Red Hill is Western Australia's sole Class IV landfill.

Red Hill is run as a commercial operation, and competes strongly in the market for commercial waste. The EMRC has purchased land on the "open market" to ensure that the buffer areas cannot be developed and has the appropriate zoning and licences to operate for several decades, if necessary, at the current waste receival rates.

The landfill is run as a Best Practice facility, with composite lined cells, leachate collection, gas collection for power generation and progressive site rehabilitation and post closure management. The EMRC continues to improve its operations, with improvement being driven internally and by community liaison meetings held bi-monthly at Red Hill. Some of the improvements that have been implemented in the last two years are:

- Relining of three leachate ponds, replacing damaged plastic liners or clay liners with new plastic liners;

- Upgrade of the truck wheel wash facility to further reduce dirt deposition onto Toodyay Road

- Introduction of more aggressive landfill gas collection systems to reduce odour in the surrounding areas;

- Development of an odour monitoring programme;

- Noise baffles on the landfill gas power plant to reduce night-time noise disturbance;

- Extensive investigations into groundwater contamination

None of these improvements were driven by regulatory requirements, but were instead implemented as part of the EMRC's long term view on best practice site operations. Indeed, Red Hill receives very few residential complaints, no non-compliance notices from the Department of Environment and Conservation (DEC), and takes considerable trouble to report any environmental aspects to the DEC as they occur (including landfill fires, groundwater contamination and non-compliant loads). Again, this is in excess of other site operators.

The EMRC has developed a rigorous procedure for the acceptance of Class III and Class IV waste, a procedure far in excess of that demanded by the DEC. This is again to mitigate risks to the EMRC from non-compliant loads, although it does place the EMRC at a substantial commercial disadvantage against operators that have less robust procedures and a general disinterest in the long term fate of potential contamination from their site. Unfortunately, the regulation of contaminated waste movement within WA is quite lax – our regular notifications of Class IV waste "disappearing" has not yet managed to attract the interest of regulators.

Green waste processing is undertaken by mulching and composting green waste received to produce a mulch and soil conditioner. The EMRC also accepts green waste from an organics bin (i.e. third kerbside bin) offered by the City of Bayswater to its residents. Our composting operations are driven by quality requirements for the sale of the mulch and compost. The EMRC is investing substantial human and financial capital into the development of a high quality product, as well as working with the industry to ensure that the overall market for mulch and compost is strengthened. The EMRC hopes to have certification of its mulch and compost against Australian Standard AS 4454 this year.

3.1.2 Hazelmere

Hazelmere is a 10 hectare lot purchased by the EMRC several years ago for the purpose of establishing resource recovery activities. Operations on the site currently involve the recycling of untreated softwoods such as pallets, into a range of products (as sought by the market). Some of the products include:

- Wood chip for particle board manufacture;

- Wood fines for animal bedding (particularly in the poultry industry); and

- Coloured mulch for landscaping.

The timber recycling concept developed from a pilot scale project conducted by the Laminex Group together with a pre-feasibility conducted by the City of Swan, and has been accompanied by strong support from our member Councils, the Laminex Group, and the poultry industry.

Since no member Council generates significant quantities of wood waste, the target market for Hazelmere is industry, and the purpose is to avoid the timber being disposed of to Red Hill landfill, and to reduce waste disposal costs for industry. The facility has been successful in both of these objectives, having recovered 3,300 tonnes to mid December 2008, saving waste generators up to $35.00 per tonne of timber received.

The benefit to our member Councils is that it enables them to support their local industries, and the City of Swan has been particularly active in its support of the facility by providing wood waste collections through its industrial areas. The reduced cost of waste disposal improves the financial resilience of local industries and consequently protects local employment.

Hazelmere is in the process of expanding to also receive hardwoods, with the hardwoods to be used for solid fuel as well as wood fines for animal bedding. In all cases, we have not brought on new products until markets are available. This practice is relatively uncommon in the waste industry, where new waste processing capacity is often developed before markets for the processed product are secured.

A further activity in the process of being developed is a mattress recycling plant, where springs, foam and fabric are separated from mattresses for subsequent recycling (where possible). In particular, foam is a valuable commodity with markets already secured. This programme is driven largely by the potential to save on landfill; mattresses consume substantial volume within the landfill.

In the future, Hazelmere is intended to become an integrated Resource Recovery Park (RRP), with an initial concept plan developed for the RRP. The RRP will include the current timber and mattress recycling as well additional resource recovery. This is currently envisaged to include a Materials Recovery Facility, transfer station for the public, reuse shop, glass beneficiation, education centre and space for commercial developments associated with waste processing.

3.1.3 Transfer stations

The EMRC operates three transfer stations on behalf of the member Councils. In all cases, the relevant member Council leases the land and owns the infrastructure on the site, with the EMRC managing the operations. EMRC management has led to improvements in the operation of all sites, and enabled member Councils to have more input into the site operation. In particular, recycling from the sites has been enhanced in breadth and ease of use.

The integration of waste facility management across Perth's Eastern Region is enabling the EMRC and its member Councils to plan for waste management right across the Region, picking up a role that is periodically attempted metro-wide by the DEC or Waste Authority. The regional waste planning has been developed into the Strategic Waste Management Plan.

3.1.4 Future developments

The EMRC is continually exploring and developing resource recovery activities. These resource recovery activities are required to be commercially viable or reducing a long term EMRC liability. In deciding on wastes to be processed to recover materials, the EMRC may consider wastes that are simple to handle (such as glass), hazardous waste that potentially pollutes the environment (such a fluorescent lights) or low density waste that consumes large volumes of landfill airspace (such as timber or cardboard).

The EMRC is also investigating non-landfill alternatives to waste management (i.e. Alternative Waste Treatment). This is being undertaken by a thorough research and consultation process in which residents are able to provide input at all points, thus ensuring that any system developed meets their needs.

4 Waste management in Western Australia

In responding to the terms of reference, it is worthwhile first reviewing the current waste management situation in Western Australia. This can be observed in statistics, and understood in the policy setting and economics relating to waste management.

4.1 Statistics

4.1.1 Waste generation and recycling

Waste management statistics have long centred on the diversion of waste from landfill, with the goal being to maximise the diversion of waste from landfill. The statistics have also long been inaccurate and poorly reported.

Since it is very difficult to measure the waste not going to landfill (waste reused in manufacture, sold as a by-product or recycled through unreported routes is not reported), a surrogate measure has been the tonnes of waste disposed of to landfill.

In some cases the surrogate is augmented by known recycling, leading to a percentage diversion of the total generated. Furthermore, the surrogate of waste to landfill or total waste generation can be represented as waste generation per capita for interstate comparisons. Interstate comparisons are also conducted on the waste recycled as a proportion of waste generation.

Nevertheless, the statistics are important, as they demonstrate that municipal waste is not the only waste stream generated. Waste is broadly understood to comprise three categories; municipal (MSW), commercial and industrial (C&I), and construction and demolition (C&D). There is no publically available data for 2006/07 generation of C&I and C&D waste, however this data is available for MSW.

However, even where the data is available, it varies between reports. By considering the following three reference reports, all published or about to be published by the DEC, and each ostensibly for the same period (2006/07), the differences are clear:

1. *Review of Total Recycling Activity in Western Australia 2006/07*
2. *Zero Waste Plan Development Scheme (ZWPDS) Phase 1 Report 2006-2007*
3. *Assessment of Waste Disposal and Material Recovery Infrastructure for Perth*

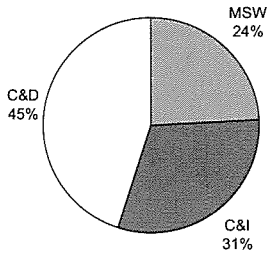
Report 1 is silent on waste to landfill, and thus waste generation, report 2 deals with MSW only, and report 3 deals with waste from the metropolitan region only. Nevertheless, the following discrepancies for MSW can be summarised:

Measure	Report 1	Report 2	Report 3
MSW to landfill – Perth 06/07	N/A	654,910	715,000
MSW recycled – Perth 06/07	N/A	266,640	390,000
MSW recycled – WA 07/07	408,390	338,200	N/A

Key point **Publically reported data contains significant discrepancies for the generation and recycling of MSW**

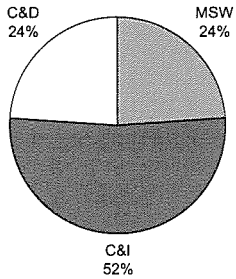
Notwithstanding the above points, an approximation of total MSW, C&I and C&D waste generation in WA can be developed, and thus the relative proportions of each waste type to the whole of WA waste generation. This is done using the highest number reported in the relevant category from the three reports available, and leads to the following chart:

Total waste generation by type



Clearly, municipal waste is not the most significant type of waste generated (that is C&D), and makes up less than one quarter of the WA waste stream. Notwithstanding the smaller generation of MSW, as much MSW is recycled as C&D waste, demonstrated in the following chart:

Total waste recycling by type



The relative recycling proportions as a percentage of total waste generation for each type are:

- MSW: 30%
- C&I: 52%
- C&D: 16%

The point of presenting this data is to demonstrate that MSW is neither a large proportion of the waste stream, nor is it a laggard in the development of recycling capability. This is not reflected in policy discourse (discussed in 4.2 below).

Key point **MSW is not a large proportion of the waste stream**

Key point **MSW is not a laggard in the development of recycling capacity**

4.1.2 Comparison with interstate waste data

The Productivity Commission conducted an Inquiry into Waste Management in 2006, and its report dated 20 October 2006 provides a good reference for waste generation and recycling across the Australian States and Territories in 2002/03. This data is presented below for the five mainland States in terms of waste generated and recycled per capita for each waste stream, as well as waste recycled as a proportion of total generation. It is notable that the data for waste recycling in WA is substantially below the data reported by the WA DEC; as a result, the WA data presented is that discussed above.

Generation per capita				
	MSW	**C&I**	**C&D**	**Total**
NSW	497	627	695	1,820
Vic	466	558	727	1,751
Qld	471	259	315	1,046
WA	**642**	**817**	**1,192**	**1,804**
SA	393	443	1,412	2,248

Recycling				
	MSW	**C&I**	**C&D**	**Total**
NSW	173	204	495	872
Vic	151	354	396	901
Qld	120	57	132	310
WA	**194**	**423**	**194**	**810**
SA	154	307	951	1,412

Recycling as proportion of generation				
	MSW	**C&I**	**C&D**	**Total**
NSW	35%	33%	71%	48%
Vic	32%	63%	54%	51%
Qld	26%	22%	42%	30%
WA	**30%**	**52%**	**16%**	**31%**
SA	39%	69%	67%	63%

In short, the data demonstrates that there is not a significant difference in municipal waste generation and recycling between the States, however WA is a substantial laggard in C&D recycling. This reinforces the point made above that MSW management is not a significant problem for WA on a national scale.

Key point **MSW management is not a significant problem for WA on a national scale.**

4.1.3 Alternative waste treatment plant provision

The treatment of waste by alternative waste treatment (AWT) is uneven across Australia. According to the Productivity Commission, there are five AWT plants in Australia for the processing of MSW. The submission from the WMAA NSW Alternative Waste Treatment Working Group suggests that three of these are in NSW. As the remainder of the WMAA NSW Alternative Waste Treatment Working Group submission on the Productivity Commission website (http://www.pc.gov.au/projects/inquiry/waste/docs/submissions) is corrupted, the remaining two can only be inferred to be the two WA plants (SMRC in Canning Vale and Atlas Group in Mirrabooka). However, given that there is an additional plant known to be in Cairns, it appears that there is a total of six plants receiving MSW in Australia, two of which are in Perth.

According to the WMAA NSW Alternative Waste Treatment Working Group submission, the total MSW treatment capacity in NSW is 230,000 tonnes per year. The report *Assessment of Waste Disposal and Material Recovery Infrastructure for Perth* suggests that the capacity for the two WA plants is 181,000 tonnes per year. The July/August 2008 issue of Inside Waste states that the Cairns plant has a capacity of 110,000 tonnes per year.

It should be noted that both NSW and WA have new AWT processing capacity being added. In NSW, a further 310,000 tonnes of processing capacity is being constructed at Eastern Creek (WSN Environmental), Penrith (Sita), Woodlawn (Veolia), and Coffs Harbour (Biomass Solutions) bringing the total capacity to 540,000 tonnes per year. In WA, a further 155,000 tonnes of processing capacity is under construction at Brockway (Anaeco) and Neerabup (Sita), making the total capacity 336,000 tonnes per year.

The AWT processing capacity as a proportion of total waste generation in the State which have AWT is tabulated below:

State	**MSW generation**	**Current AWT**		**Total including new plants**	
	Tonnes/yr	Tonnes/yr	% of total MSW	Tonnes/yr	% of total MSW
NSW	3,326,000 (02/03)	230,000	7%	540,000	16%
WA	1,353,000 (06/07)	181,000	13%	336,000	25%
Qld	1,742,000 (02/03	110,000	6%	110,000	6%

That is, by the end of 2009 when the new WA AWT plants are completed, WA will have a quarter of its MSW waste treated through an AWT plant. This is a substantially higher proportion than all other States with AWT.

Key point **WA is a frontrunner in the implementation of AWT technology for MSW**

4.1.4 Landfill levies in different States

Landfill levy is argued to be a significant driver for AWT. The Productivity Commission has tabulated landfill levy in the mainland States in 2006. This table is reproduced below:

Location	**Type of waste**	**NSW**	**Vic**	**Qld**	**WA**	**SA**
		$/tonne	$/tonne	$/tonne	$/tonne	$/tonne
Metropolitan	MSW	22.70	7	0	3	10.80
	C&I and C&D	22.70	11	0	1	10.80
Rural	MSW	15	5	0	0	5.40
	C&I and C&D	15	9	0	0	5.40

This table indicates that, contrary to expectations, at Australian levels of landfill levy there is no correlation between landfill levy and development of AWT, nor is it a significant factor for the adoption of MSW recycling in particular states. It would appear that factors other than landfill levy are required to explain the waste situation in a given State. These factors are considered to comprise the policy setting and economics.

Key point **At Australian levels of landfill levy, there is no correlation between landfill levy and the development of AWT**

Key point **Landfill levy is not a significant factor for the adoption of MSW recycling in particular states**

4.2 Policy setting

Waste management is a paradoxical field of extensive regulation ranging from detailed operational requirements (fencing heights on waste management facilities, thickness of soil to be placed on waste) to broad strategic imperatives (requirements to provide particular services). This regulation is complex, crossing the *Environmental Protection Act* 1986 ("EP Act") and the *Waste Avoidance and Resource Recovery Act* 2007 ("WARR Act"). Where local government is involved, the *Local Government Act* 1995 ("LG Act") is also brought in.

In parallel to the hard regulation runs an additional strand of soft policy. Policy also ranges extensively explicit strategy to encourage recycling of particular products (i.e. green waste processing) through to general "understandings", such as an "understood" ban on waste incineration. There is often no clear rationale for why various policy positions are held, and they may even be defended in the face of changing circumstances rendering the policies irrational. There does not appear to be a transparent mechanism for challenging and reviewing policies, specifically because they are not necessarily held formally.

Key point **Policy positions, and particularly informal "understandings" can be rendered irrational by changing circumstances, but do not have a mechanism for challenge and review**

Further to regulation and policy exists guidelines. These guidelines might be "best practice" guidelines, or "codes of practice", or "standards". Guidelines commonly do not progress beyond a "draft" stage, and seem to be observed in the breach.

Key point **Guidelines rarely progress beyond draft stage, and seem to be observed in the breach**

The different levels of policy interact in many and varied ways, often with frustrating effect. This frustration is added to by the administration of waste matters through at least five agencies: Department of Environment and Conservation, Department of Local Government, Department of Health, Waste Authority and Environment Protection Authority. Each has its own objectives, objectives that sometimes are at odds with each other, sometimes even at adds within a particular agency.

Key point **Administration of waste matters is complicated by being administered by at least five agencies**

With all of the variation in policy and administration, it often feels that policy for waste management is set by practitioners, and the standard of waste management at a given site depends heavily upon the integrity of the operator. Similarly, the extent of resource recovery is

driven by waste managers rather than regulators. These are points that we wish to draw out in more detail below.

4.2.1 Legislation and regulation

To understand MSW management in Western Australia, it is important to understand the effect of various pieces of legislation. The primary legislation as it relates to the MSW, as indicated above, is

- *Environmental Protection Act* 1986
- *Waste Avoidance and Resource Recovery Act* 2007
- *Local Government Act* 1995

The legislation has effects that lead to similar matters being covered several times by different agencies. An example is the development of a local law, a matter with which the EMRC has had recent experience.

Development of local laws

Where a local government wishes to develop a local law in relation to any waste service, be it waste collection or the administration of a waste management facility or any other matter, the local law is to be approved under both the WARR Act and the LG Act.

The procedure for obtaining such approval does not appear to have been settled, notwithstanding the fact that the WARR Act has been in existence for over 12 months. It appears that the approval is to be literally obtained from both the Department of Environment and Conservation (under the WARR Act) and the Department of Local Government and Regional Development (under the LG Act), that is, two separate approvals from two separate agencies. There is no legislative timeframe within which approval is to be granted or withheld.

The grounds for refusal or amendment of a local law under the WARR Act are not explicit. It appears that the consideration of a local law encompasses factors beyond simple drafting and consistency with legislation, however those factors would appear to depend upon the officer(s) considering the local law.

The challenges presented by the local law assessment process are extensive. A local law is typically developed to augment infrastructure and service provision, providing the fine grained tools to ensure that services are utilised as designed. As a result, local laws will be unique to each local government, and as a result, require considerable background knowledge prior to making substantive changes. This background knowledge is obviously unlikely to be held by officers of either department responsible for the assessment, making for inefficient assessment.

The dual approval process appears to be a hangover from the days of waste being covered under the Health Act, and intended to protect public health. Grounds for refusal or amendment could, thus, be expected to centre on public health matters. The WARR Act is broader in its ambition, and so the assessment of a local law could turn on matters of "resource efficiency". Whatever that might mean.

In all, the dual approvals process introduces an extraordinary degree of complexity into the business of making laws to enhance waste management activities.

Key point **The dual approvals process for local laws unnecessarily complicates the development of laws for waste management.**

4.2.2 Strategic direction

Waste management in Western Australia is to ostensibly be guided by a State strategic direction. This has historically been largely restricted to municipal waste, a restriction that is reflected in the framing of the WARR Act. Section 40(2) of the WARR Act requires that local government develop a "waste plan" to demonstrate how waste services will achieve consistency with the waste strategy. Where the waste plan does not achieve the objectives of the waste strategy, the local government can be compelled to amend its waste plan, or have a waste plan prepared for it.

A similar obligation is not placed on any other waste manager, with the closest to such an obligation being the provision under section 35 of the WARR Act for "any entity" to be requested to provide a report on its compliance with the waste strategy. Where that entity does not comply with the waste strategy, the entity's failure is reported in the Annual Report of the DEC; hardly a compelling deterrent.

Key point **Obligations imposed on Local Government under the WARR Act far exceed the obligations placed on any other waste manager**

Nevertheless, even if it is accepted that it is reasonable for local government to prepare a waste plan in compliance with the waste strategy, there is no such waste strategy to comply with. Furthermore, where a strategy is developed, the general trend seems to be one of initial action, with announcements, events and launches, followed by a period of general lethargy where the strategy is progressively sidelined whilst different stakeholders pursue their own agenda and then finally the strategy is abandoned for a new and improved version. At which point the cycle resumes.

This perhaps cynical evaluation of waste strategy in WA is the reason for a failure of strategy in driving any substantive change. Rather than being centrally coordinated, strategy in WA forms from the combined outcomes of a large number of individual actors. This is not necessarily a problem, but undermines the idea of a central Waste Authority setting the direction for waste management across WA.

Key point **Waste strategy in WA is not centrally coordinated, but rather driven by the combined actions of individual stakeholders**

For instance, an outsider's observing waste practices in WA would draw the conclusion that there is a strategy that mixed MSW is to be composted. After all, there are large sums of money invested, and to be invested, in such plants. There is, of course, no such strategy. Indeed, the closest there is to a current WA waste strategy (the 2004 Strategic Direction for Waste Management in WA) emphasises waste avoidance. The "draft Interim Standard for Organics Applied to Land" has the effect of discouraging mixed MSW composting, as does the zeal of the DEC in prosecuting odour complaints at the Canning Vale plant, particularly when contrasted with the DEC's actions at other highly odorous facilities. The February 2008 "Draft Position Statement on Recycled Organics" completes the picture by providing belated recognition to a situation that has unfolded in a policy vacuum; strategy has been formed by the cumulative actions of many individual players.

If waste strategy in WA is to be effective, it must recognise the relatively unique situation in the State, where much of the expertise in relation to waste does not reside in State

Government as it may in NSW or Victoria. Instead, local and regional local government shares this expertise with the private sector. As a result, waste strategy centrally decreed will fail. Instead, it needs to proceed from a point of centrally coordinated partnerships, creating a framework within which the relevant stakeholders can develop waste services with the facilitation of State government. The 2004 Strategic Direction was a good start at this.

Key point **Waste strategy needs to use partnerships to create a framework where waste services can be developed with the facilitation of State government.**

The current model of State Government engagement appears to be one of ad-hoc decision making. This might be driven by a desire to establish driven by a particular bit of infrastructure at short notice (such as the idea of 2008 for local glass beneficiation to be established within a year), or a need to spend a large sum of money within a short period of time, or what appear to be political concerns around particular waste collection systems. None of these approaches are conducive to rational, inclusive planning, nor are they even possible within the strictures of local government. Continuing to follow an unplanned and ad-hoc decision making approach discourages stakeholder engagement with the State Government; this reluctance to engage in one of the key reasons why recent initiatives are more likely to have failed than succeeded.

In developing a waste strategy, we believe that agreement on a sound intellectual framework should be established. This framework is an enunciation of the objectives of the strategy, goals to achieve. In the past, the intellectual framework has been "Zero Waste", or later translated to "Zero Waste to Landfill" or "Towards Zero Waste". This never resonated as a foundation for a strategy – it builds off a notion of restraint and restriction, is contrary to nature in its final incarnation, and never actually developed further.

A more robust framework is an idea developed in *Cradle to Cradle: Remaking the Way We Make Things* by Michael Braungart and William McDonough of explicitly integrating waste management into the industrial production cycle. Within this context, the generation of waste is not the problem, indeed nature can be highly wasteful in its abundance. An example given is cherry blossom – a tree adhering to the waste hierarchy would/should optimise its resources and just make a few flowers?.

The challenge as put by Braungart and McDonough is to ensure that wastes are cycled back into the economy at an equivalent or higher value use; they are refined as they pass through the system, and thus being wasteful is fine provided the waste is refined back into new products. As a means for structuring discourse regarding waste management, "cradle to cradle" encourages value adding to waste at every point, creating robust, local economies and creating a solution from the dual problems of pollution arising first from resource extraction, and then from waste disposal. Since it does not mandate particular solutions, but instead suggests a worldview where waste is considered holistically, "cradle to cradle" is a useful intellectual framework for waste strategy.

Key point **The "cradle to cradle" concept of integrating waste management into industrial production should form the intellectual framework for waste strategy**

4.2.3 Landfill levy

The landfill levy was introduced in WA in 1998. The rationale for landfill levies is summarised in a paper from the former Waste Management Board published in December 2005 entitled "Resourcing the Zero Waste Vision: A Discussion Paper on the Landfill Levy and the Programs it Funds", with three reasons given for landfill levy. These are to ensure that:

- landfill prices reflect the full environmental cost of landfilling;
- increased landfill pricing acts to reduce our reliance on landfill and encourage resource recovery and waste avoidance;
- sufficient funds are available to resource the programs required to achieve the State's Zero Waste vision.

Of these, only the first point is based on what might be considered a rational economic basis. It is sensible that the full environmental cost of landfilling be incorporated into landfill prices, as otherwise these environmental "externalities" will skew decision making in relation to waste management.

An Inquiry into Waste Management conducted by the Productivity Commission in 2006 suggested that greenhouse gas emissions were the most important of the environmental externalities, essentially making up all of the environmental externalities. The introduction of the Carbon Pollution Reduction Scheme enables a price to be put on greenhouse gas emissions, thus removing greenhouse gas emissions as an externality, and thus much of the "environmental externality" argument for the landfill levy.

The remaining two points suggest that a landfill levy is to be established to fund resource recovery, and government programmes around resource recovery, with no independent valuation of the public good of such a programme (including prioritisation against other potential uses of the funds).

The argument of landfill levy driven resource recovery in the field of municipal solid waste is clarified by a report entitled "Landfill Levy Review" prepared by Four Scenes for the Waste Management Board and dated 5 November 2007, in which it is argued that "[levy] rate rises for putrescible waste [i.e. MSW] are unlikely to have much effect on waste diversion from landfill", and that the primary explanation for the diversion of municipal waste from landfill is the redistribution of levy funds via rebates to Councils. The report does concede that landfill levy rate rises are likely to be more effective in diverting inert waste from landfill.

Notwithstanding the cogent arguments contained in the Four Scenes report, in 2008 the current Waste Authority decided to freeze programmed levy rate increases for inert waste, but continue with levy rate increases for municipal waste. Coupled with the abandonment in July 2006 of the Resource Recovery Rebate Scheme for Councils and imperfect replacement with the Strategic Waste Initiative Scheme and Strategic Waste Management Plan funding, the decisions in relation to the landfill levy almost directly contradict the findings of the Four Scenes report regarding what an effective landfill levy should look like.

Key point **Recent decisions in relation to landfill levy appear to contradict advice commissioned by the Waste Authority**

The changed circumstances discussed above suggest that the landfill levy should be substantially revisited. There are two ways to do this; reduce the levy, or rebate more levy funds collected to local government.

Reduce MSW landfill levy

Unless very targeted in their application and the programmes that it is to fund, landfill levies should be used sparingly as they are, in effect, a productivity tax. At $50,000 for an employee, a landfill levy of $20/tonne is equivalent to the loss to the economy of one employee per 2,500 tonnes of waste generated per year. This is not a substantial quantity of waste for the manufacturing sector, but with total C&I waste to landfill in WA approaching 1,000,000 tonnes/year, the landfill levy at $20/tonne could lead to the removal of 400 jobs from the productive economy.

Furthermore, the two primary arguments for a levy on MSW have been removed. The Carbon Pollution Reduction Scheme ensures that environmental externalities are included in landfill pricing, and thus the environmental aspect of the landfill levy is redundant. The arguments and observations regarding landfill levy being an ineffective means of diverting MSW from landfill remove the resource recovery argument.

On the other hand, as the landfill levy is an effective tool for diverting inert waste from landfill, levy on inert waste should be retained or increased. Since rebates to Councils have been demonstrated to be the most effective means of diverting municipal waste from landfill, the levies collected from inert waste should be explicitly rebated to Councils. This could be conducted through the funding of Strategic Waste Management Plans as currently envisaged.

Key point **Landfill levies should be used sparingly, and it should be noted that levies on MSW are not required for environmental externalities and do not drive resource recovery**

Rebate more levy funds

The alternative to reducing the MSW landfill levy is to continue increasing the levy, but ensuring that the funds collected are rebated back to local government to promote the development of AWT. This would close the gap in the costs of AWT development by first making landfill more expensive (and thus make AWT more attractive), and reducing the cost to develop AWT.

Key point **Landfill levy funds should be rebated back to local government to promote the development of AWT**

Encouraging the development of AWT that diverts organic waste from landfill has the benefit of avoiding payments into the CPRS, and thus retains wealth within the WA economy rather than transferring it into federal accounts. The annual transfer from WA to federal accounts through the CPRS alone could be in excess of $50 million. Encouraging the expenditure of the landfill levy domestically to build AWT which avoids CPRS expenditure very quickly stems this outflow of money.

Key point **The development of AWT would slow up to $50 million per year of funds being transferred from WA to the Federal Government as part of the Carbon Pollution Reduction Scheme**

For such a programme to be effective, it would need to substantially increase the amount of funding provided to local government. The current offering of a little less than $260,000

in the 2009 Pilot Regional Funding Program for Local Government is, frankly, inadequate. Given the scale of investment required to develop waste processing infrastructure, the EMRC expects that rebate funding in the order of tens of millions of dollars should be made available to local government for such facilities.

Key point **Current local government funding from landfill levy funds needs to be substantially increased**

The alternative is that landfill levy collections will continue to rise to the $20/tonne proposed for 2015 in the "Resourcing the Zero Waste Vision" report. Since the levy will not lead to substantial reductions in waste generation, the amount of levy collected will rise to quite staggering quantities, potentially in excess of $40 million per year. The *Waste Avoidance and Resource Recovery* Act prevents the expenditure of landfill levy funds on projects other than waste management projects recommended by the Waste Authority and approved by the Minister for Environment, meaning that the landfill levy escalator creates an extraordinary amount of discretionary expenditure.

The problem can be clearly demonstrated by the current expenditure of the Waste Authority, which struggles to allocate $10 million in a year. In 2007/08, $8.3 million was spent of $12.8 million received. Estimates for 2008/09 indicate no expenditure at all, resulting in almost $27 million accumulated at 30 June 2009. Quadrupling the sum available could only create wasteful expenditure where the Waste Authority attempts to "use it or lose it". Creating or maintaining an incentive for government to squander tens of millions of dollars per year is poor public policy. A firm commitment to apply a defined, and large, percentage of levy funds to local government helps resolve this problem.

Key point **State Government needs to commit to apply a large percentage of levy funds to local government to avoid incentives for wasteful Waste Authority expenditure of large levy revenues**

4.2.4 Extended Producer Responsibility

Local government has long argued that a large part of the costs of waste management would be dealt with by product stewardship or extended producer responsibility schemes (there are apparently differences in the two terms, but since commentators disagree on what those differences are, this document will use the term extended producer responsibility, or EPR).

This is obviously true. Part of the cost associated with waste management is incurred in managing waste streams that can be directly traced back to a particular manufacturer (such as computers), rather than managing generic wastes (such as food waste). If manufacturers contributed to the cost of managing their products upon disposal, there would be savings for local government. The savings are particularly important where waste streams are of high toxicity within standard disposal pathways (household hazardous waste, fluorescent lamps) or of high perceived value (electronic waste), as the costs associated with properly managing these wastes is high.

The current model is for such costs to be borne almost solely by local government, and is thus spread evenly across society (essentially having society subsidise the behaviour of the few that use the materials which require expensive management). This is not only unfair, but is poor economics as it removes incentives for polluters make decisions that create less pollution.

An alternative that is regularly proposed and ridiculed by manufacturers is for manufacturers to be responsible for the waste itself. That is, wastes are collected and delivered back to the manufacturers. This is a position that is strongly argued by supported, and often considered to be the whole of the case for EPR. Supporters argue that such a model will encourage manufacturers to change product designs to enable simpler recycling. Detractors point out that such a model is logistically and economically inefficient, imposing an irrational burden on society.

We tend to agree with the detractors of such a model – manufacturers are best keeping to their core business of manufacturing, with waste services to be provided by those with expertise in waste management. We do, however, believe strongly that EPR has a role to play in waste management using a very simple model. Rather than requiring manufacturers to manage waste itself, they should be required to pay for the management of their waste stream.

Key point **Manufacturers should be required to pay for the management of their waste stream**

Our suggested model enables current logistically and economically efficient collection models to be retained (these are models that are strongly supported by manufacturing), but removes the cost burden from local government. This model is along the lines of the German "Green Dot" recycling system, but rather than explicitly creating a second system for management of recyclables (the German system is called the "Dual System"), local government is rebated by manufacturers for the costs of managing recyclables. Manufacturers may elect to collect these costs from their consumers through a deposit system, but are more likely to simply increase the cost of supplying the product.

The suggested model is stronger than the current National Packaging Covenant, originally intended to be voluntary scheme of shared responsibility. This has somehow changed to a system where the costs and responsibilities fall upon local government, with State and Commonwealth governments joining with manufacturers in claiming credit for the contribution of nominal sums to large materials recovery plants (the remainder funded by local government), and minor reductions in packaging used.

Key point **The National Packaging Covenant has substantially shifted from the voluntary scheme of responsibility shared between local, state and federal governments and manufacturing to a system where costs and responsibilities fall on local government**

It is worth noting that the model for the National Packing Covenant, the Dutch Packaging Covenant was abandoned at the end of 2005, and the voluntary approach replaced by the "Management of Packaging, Paper and Cardboard Decree". Australia continues to persist with the voluntary approach, an approach that is only effective because local government takes a lead role in developing and funding leading edge waste collection arrangements (undertaken by both local government and contractors).

4.2.5 Regulatory stifling of innovation

Improvements to the waste management system are broadly stifled through the regulator's desire to hold control of waste. Examples of this include:

- Requirements to test recycled product far in excess of what would be required of virgin product, even though the virgin product is just as likely to be contaminated.

This is exemplified and particularly damaging in markets for recycled aggregate and soil, where the margins are thin and excessive testing can make a business unviable;

- Regulations on the use of recycled product that exceed those imposed for virgin product. The use of waste products as fertiliser is heavily controlled, with various systems required to demonstrate the requirements of the land, monitoring of soil health and so on. The use of manufactured fertilisers do not have any of the same type of regulations.

- A prohibition on using MSW generated compost as a fertiliser unless extensive regulatory requirements are fulfilled. These requirements stem from concerns regarding lead in the compost from batteries. Compost would replace superphosphate which is high in cadmium; the risks of cadmium contamination (regulated through agriculture departments) is controlled through a system of self-regulation.

- Heavy restrictions on controlling the flow of materials entering the markets. Regulators usually make it difficult to stockpile materials, processed or otherwise, requiring generators to sell their product as it generated irrespective of the state of the markets.

- More onerous approvals processes once waste materials are an input into manufacturing processes.

All of these have origins in a small number of rogue operators which, typically, have become established to service waste generators seeking to avoid high waste disposal costs. The "solution" has had the effect of stifling genuine innovation in the field and of making the market extraordinarily difficult to work in for anything other than landfill disposal. In short, the "solution" drives the system away from a cradle to cradle approach.

Key point **The excessive involvement of regulators in waste management often stifles innovation**

4.3 Economics

Society has reached a point where it can manage wastes safely and economically by disposal to landfill, and now seeks to do better in recovery materials for reinserting into the productive economy. This is no new phenomenon; recovery of valuable materials has been undertaken ever since there was waste.

The new aspect has been recovery within a rapidly accelerating and globalising economy, where centres of production are often far removed from centres of consumption, and raw resources can typically be extracted far more efficiently than they can be recycled. The native state is therefore one of a "single pass" economy; materials are extracted from the environment, consumed once, and then placed back into the environment. The single pass economy has only come about over the past 50 to 100 years, and the general social reaction has been one of disapproval. To gain such little value from materials extracted from the environment feels inefficient to society, notwithstanding the insistence of economists that markets will drive the most efficient resource solution. The reason for the "newness" of current recycling programmes is that they are implemented against heavy odds.

Nevertheless, the economics of waste management require a market demand for materials at the sale price. The sale price is determined by the cost of production, the demand for materials by the overall strength of markets into which the materials are reinserted.

Key point **Waste management requires a market demand for materials recovered at the sale price**

4.3.1 Cost of production

Producing materials from the waste stream is unique in production, as the raw materials are delivered to the processing site, and the processing site is paid to receive the materials. This highlights the dual role of waste processing plants; they both generate a product of value to the economy, but also add value to the economy by removing products from it.

The economics of waste processing are tight because of the relatively high costs of separating valuable materials from a heterogeneous waste stream, combined with the low value of the materials separated and the relatively low economies of scale. This means that waste processing plants are unable to set prices at a level that enables them to compete in the open market; plants are invariably underpinned by long term waste supply agreements with disposal fees above the prevailing market price for disposal to landfill. Such contracts are almost entirely established by local government – industry very rarely sees fit to dispose of waste at rates higher than is necessary.

Key point **Waste processing plants are generally underpinned by long term waste supply agreements established by local government**

If it is decided that waste processing is a desirable public good, justifiable because of its dual role of dealing with society's wastes and its ability to generate products for reinsertion into the productive economy, then the cost of production needs close management. This can be achieved by addressing each of the factors making it unviable:

- Reducing the waste stream heterogeneity, separating and treating single waste streams, or removing problematic contaminants prior to processing;
- Increasing the value of materials separated, potentially by producing materials to a particular specification for high value markets. This is discussed in more detail in section 4.3.2;
- Improving the economy of scale, largely by ensuring that the plant receives large volumes of waste; and
- Reducing the cost differential between landfill and waste processing, done by either increasing the cost of landfill or reducing the cost of waste processing.

Reducing waste stream heterogeneity

The waste stream heterogeneity can be reduced by having waste generators sort the waste for separate collection. This is currently undertaken for recyclables; the householder sorts waste into a separate bin. Some Councils, such as the City of Bayswater, provide a bin for the separate collection of garden waste. There is obviously a limit to how many different waste streams are collected separately; each separate bin incurs costs in bin purchase and emptying, and so some more concentrated waste streams (such as household batteries) are sorted and taken to drop-off centres.

The key factor in cost control is to maximise the purity of the separated waste stream, and thus local government spends substantially on waste education around contamination control. A further avenue not often explored is the incorporation of waste streams from commercial and industrial operations. These waste streams can be of a higher quality than MSW waste streams, and may in some cases be put through commercially operated waste processing plants.

The incorporation of commercial waste streams in MSW treatment plants is uncommon because the cost of disposal is typically higher than the landfill alternative, and industry has no compulsion to do anything other than landfill. Furthermore, the WARR Act explicitly excludes local government from the management of anything other than MSW, thus only State Government is able to plan for the management of commercial waste. All of these combined inhibit the establishment of a more homogeneous waste stream, and thus increase the unit cost for processing of MSW.

Key point **Incorporation of commercial waste streams in MSW treatment plants would reduce the unit cost for processing of MSW**

Increasing the value of materials separated

Adding value to materials recovered from the waste stream can improve the financial viability of the process. Value adding needs to consider, however, the additional cost incurred in value adding, the size of the markets that might receive the products and so on. This is a complex subject, and is discussed in more depth in section 4.3.2.

Improving the economy of scale

Much of the cost associated with waste processing plants is fixed, and thus the cost per tonne of waste processed reduces as more waste is put through the plant. It is for this reason that local governments grouped together into regional councils; each council does not have sufficient volume individually to enable cost-effective waste processing, but the aggregated volume is sufficient for a waste processing plant.

It is important to note that the regional council does not necessarily need to operate the waste processing plant, it can contract out the operations based on the aggregated volumes. Nevertheless, the volumes are brought together by the regional council, and the contract for its processing will typically be administered by the regional council.

Key point **Increased waste volumes reduce the unit cost of waste processing.**

Key point **Aggregation of local government waste to gather enough volume for waste processing is best done by regional councils**

Again, local government is limited in the amount of waste it can bring to a waste processing plant. It cannot ensure the delivery of C&I or C&D waste. Indeed, local government only controls less than one quarter of all waste in WA, making attempts at waste consolidation difficult, and entailing large transport costs to draw together sufficient waste to enable a waste processing plant. The inclusion of C&I waste would vastly improve the situation.

Reducing the cost differential between landfill and waste processing

Landfill is typically substantially less expensive than waste processing plants. Typical costs of waste disposal to landfill are about $65/tonne, a significant increase from 5 years ago when they were around $40/tonne. The gate fee for a waste processing plant is in

the order of $150/tonne (depending, obviously on the scale, technology and other factors). Thus, the gap in disposal costs is about $85/tonne.

The landfill levy is argued to represent an opportunity to bridge the gap in disposal costs. Even at the $20/tonne sought for 2020, the landfill levy will not come close to overcoming the cost differential. Even the cost of permits within the CPRS are not likely to increase the cost of landfill by more than $20/tonne, and so the cost differential remains about $45/tonne.

Key point **The landfill levy together with the cost of permits with the CPRS are not likely to increase the cost of landfill to a level comparable to that for waste processing.**

In some jurisdictions, most notably Victoria for hazardous waste, the landfill levy has been increased markedly to close the gap. This is a relatively crude means of achieving the desired outcome, as it necessarily imposes a cost upon the whole of society without necessarily achieving an improved outcome. It does, however, have the attraction of not attempting to prescribe a particular solution, and so reducing the generation of waste might be just as likely a response as the establishment of waste processing infrastructure.

In reality, the reduction of waste generation is rarely the response to increasing waste disposal fees, particularly for MSW where waste disposal fees are levied as a standard rate for all irrespective of waste generation. There is no financial incentive for the householder to reduce waste. Even if waste disposal fees were levied on householders, such as "pay by weight", the cost of waste management would only be in the order of $200/year, still not high enough to change behaviour. Electricity and water charges, typically higher than this, do not lead to significant reductions in household electricity and water consumption.

Key point **Landfill levies do not lead to reductions in MSW generation.**

The same price insensitivity applies to industry. Industry will choose the least expensive waste disposal option but will not generally choose to generate less waste in the face of increasing disposal costs; waste management is usually an insignificant component of the overall costs for industry. This only changes when disposal costs increase substantially, as they did for hazardous waste in Victoria. Increased disposal costs led to a drop in waste to landfill.

The second approach for closing the gap between landfill and waste processing is rarely, if ever, fully deployed. This approach is to invest sizeable sums of money in the construction of waste processing infrastructure. A waste processing plant represents a large capital outlay, typically in excess of $50m but potentially well over $100m. At the lower end of the scale, the cost of financing such an investment can be in the order of $90/tonne. That is 60% of the mid-range gate fee, $150/tonne gate fee. If the cost of finance could be removed, then the cost for waste processing reduces to $60/tonne, and waste processing can compete directly with landfill.

Key point **Financing costs represent in the order of 60% of the total gate fee for waste processing plants. Without the cost of finance, the cost for waste processing is similar to that for landfill.**

This analysis then suggests a strategy for the deployment of considerable waste processing infrastructure across WA. All levy funds collected should be directed to pay for the construction of waste processing plants. Long term contracts for the supply of waste are then no longer required, and the possibility of C&I waste augmenting the MSW supply

becomes a distinct possibility. Under this scenario, local or State government should own the infrastructure to avoid it being closed down for reasons unrelated to the performance of the plant (such as the ACI glass plant in Spearwood being closed down because ACI needed to remove a quantity of glass from the market equivalent to the plant's capacity – notwithstanding the plant having received funding from the State government). The infrastructure might, however, be operated by the private sector under contract.

Key point **Landfill levy funds should be used to pay for the waste processing plants.**

The final approach for reducing the gap in disposal costs between landfill and waste processing is through legislated rebate, tariffs and penalties. For instance, the United Kingdom has legislation prescribing a landfill disposal allowance. This allowance is able to be traded, but where it is exceeded, a substantial penalty is applied. Furthermore, highly attractive tariffs are paid for the generation of heat and power from waste. The suite of legislated incentives has created an economic environment where waste processing plants have a payback period of less than 5 years. This becomes extremely attractive for investors, and should be investigated for WA.

Key point **WA should consider establishing legislated financial incentives for waste processing.**

4.3.2 Markets for materials

The current slump in markets for recyclables has highlighted a long-standing problem with recycling in particular, and waste processing in general. Whilst markets are strong, prices for recyclables rise and the range of products recycled increases. The market fills with a whole array of companies eager to establish new services for collection, promising good payments for products collected, and being fairly relaxed on contamination.

When the boom turns to bust, the market rapidly contracts. In 2008, the markets turned from being highly profitable, with materials in high demand, to being a net loss maker and recyclers either refusing to collect materials, or only doing so if they are paid. Given the long lead time required to educate the public in how to separate and what is recyclable, most councils will accept the new conditions and pay rather than stopping the materials from being recycled. As a result, each boom and bust cycle has a ratchet effect where local government is locked into increasingly expensive recycling services.

Key point **Boom-bust cycles have the effect of locking local government into increasingly expensive recycling services.**

The situation is exacerbated in WA because of the almost complete absence of any reprocessing infrastructure in the State. As a result, glass, paper, cardboard, plastic, steel and other commonly collected materials are sent either interstate or, more commonly, overseas. When markets slump, the purchasers commonly reject the materials on the grounds of quality (irrespective of whether there has been any actual quality deterioration). That rejection usually occurs upon arrival at the destination. The long transport distances mean that the supplier has incurred large transport costs that cannot be recovered.

This problem would be partially resolved by the establishment of local reprocessing capacity, as the costs of transport are alleviated, and reprocessing might enable value-adding of the product. Where there is vertical integration across the business, that is the

waste manager has a financial stake in the reprocessing, then the overall viability of the process improves. For instance, reprocessing might lose money, but these losses may be less than the alternative available to the waste manager. The business operating a reprocessing plant alone would soon shut-down in the face on continued losses. The vertically integrated business, on the other hand, improves its profitability by reprocessing to reduce its loss.

Notwithstanding the above discussion, and primarily the benefits of vertical integration in the waste management field, there will come a point at which the product generated must be sold into international markets. Thus, a slump in these markets will impact upon reprocessing irrespective of its location in the world, local reprocessing is no shield. Better protection from market slumps is the provision of a diversity of waste reprocessing avenues. Thus, rather than relying upon all glass being sold into bottle manufacture, and designing the reprocessing plant to service this industry alone, it would be prudent to develop markets in (for instance), brick manufacture, sand blasting and water filtration. Even better, developing markets that might be expected to be sustained or even strengthened in a weakening economy would make the reprocessing highly resilient.

Key point **Local vertically integrated waste processing firms can better withstand cyclic fluctuations in recycling markets**

Key point **Diversifying processing options improves waste market resilience**

Of course, the simple option is "let the market decide", and in the case of minerals extraction this is sound. If markets slump, mines close. Slumping markets do not stop waste from being generated. And thus the market's decision would be to leave or landfill materials during a market slump. Landfill of these materials might be valid except for the long lead time in public education around recycling. People will long remember the months or years when all of their efforts in sorting waste came to nought, and convincing them to resume sorting when the market picks up is a long process, a process typically near completion when the markets fail (again).

Key point **Waste continues to be generated in slumping markets, and thus ceasing waste processing means waste goes to landfill**

Key point **Sending recyclables to landfill is damaging to long term public education**

There is, thus, a compelling argument for Government intervention to develop resilient markets for recycled materials. This resilience could and should be achieved through a combination of building vertically integrated operations, and a diversity of markets. Again, the experience with ACI suggests that the private sector is not particularly interested in a diversity of markets. Indeed, the natural trajectory for business is to develop monopolies irrespective of the social cost. This is not that case for local government, and so local government should be central to any strengthening of local materials reprocessing.

4.4 Recommendations

MSW is not a core component of the WA waste stream, nor is it a particularly problematic component. It is well serviced by waste processing infrastructure when considered on a national scale, and thus resource recovery from MSW is comparable to other states. MSW is, however, the subject of considerable State Government (with this Inquiry being the latest of a long line of interventions). **The State Government needs to take its focus off the management of MSW, and focus instead upon the truly problematic waste stream, which is C&D waste**.

Legislation has focussed heavily upon MSW, creating substantial interference and overlap between legislation and departments. This interferes with the efficient delivery of services. The State Government should conduct a review of waste legislation to review its application to MSW, seeking to streamline its application and broaden its scope to incorporate C&I and C&D waste. **The development of guidelines and policies needs to be improved, with guidelines progressed from "draft" to "final" and enforced**.

The State Government needs to make a strong commitment to the strategic waste planning process. Since expertise in relation to waste management in WA largely resides outside State Government, the waste strategy needs to proceed from a basis of centrally coordinated partnerships. **We suggest that the concept of "cradle to cradle" should be at the core of a waste strategy. The temptation to for ad-hoc decision making outside the waste strategy must be resisted**.

The landfill levy must be made more targeted, with only that collected which is required for programmes. Where programmes are not targeted, the landfill levy should be reduced for MSW as the key reasons for a landfill levy are disappearing in the context of MSW. The landfill levy should, however, be retained or increased for inert waste. Where landfill levy is to be retained for all waste streams, a large portion should be rebated back to local government for the establishment of waste processing infrastructure.

Extended Producer Responsibility has substantial opportunity to ensure a more equitable distribution of costs for waste management, encouraging manufacturers and waste generators to bear a more complete share of the cost of their decisions. **It is recommended that manufacturers pay for the costs of managing their waste, rather than having these costs carried by local government. This should be a simple payment from manufacturers to the waste sector, rather than alternative schemes to require manufacturers to manage the waste themselves**.

Improving the quality and quantity of waste to be processed improves overall processing economics. Both can be achieved by encouraging commercial waste to be processed at MSW processing plants. This cannot be achieved by local government, as local government has no control over commercial waste. **State Government needs to develop enforceable requirements to encourage the processing of commercial waste, preferably at MSW processing plants to achieve improved plant economics**.

A large portion of the cost for waste processing is made up of the cost of finance for the large capital cost of construction. However, waste processing avoids significant outflows of money from WA to the Federal Government via carbon permits. **It is strongly recommended that the State Government invest all landfill levy funds in the construction of waste processing infrastructure that can supplant landfill, and thus retain money from carbon permits in WA. The funds would ideally be invested in local government to avoid problems with the private sector not maintaining the required service over the long timeframe required,**

though the private sector would make good partner for the operation of waste processing plants.

Markets for recyclables rise and fall in the same way as general commodities markets. Unlike other commodities, the delivery of the waste from which recyclables are covered does not stop, and so long term resilience in recyclables is required to sustain waste processing through downturns. This should be achieved through local vertically integrated waste processing, as well as diversified waste markets. **State Government should utilise the policy tools at its disposal to encourage local, vertically integrated and diverse waste processing infrastructure**.

5 Roles and responsibilities

5.1 Stakeholders

The Terms of Reference for the Inquiry refer to two stakeholders in waste management: Regional Councils and the Waste Authority. A full picture of waste management is only possible if all stakeholders are considered. These stakeholders can be grouped as:

- Federal government
- State government
- Local government
- Social and private sector

Each has a distinct role. In some cases, better defining the roles would serve to considerably strengthen the management of waste in WA. In other cases, stakeholders might be better used for improved waste management.

5.2 Federal Government

The Federal Government can have two primary roles in waste management: regulator and facilitator.

5.2.1 Federal Government as regulator

The role of the Federal Government in waste management is circumscribed by the provisions of the Australian Constitution, and thus largely restricted to the implementation of Commonwealth legislation to enact international agreements (such as the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal) and management of EPR schemes that rely upon collecting levies at the point of import (such as the *Product Stewardship (Oil) Act* 2000).

These two areas have, however, created relatively large fields of potential responsibility. The international agreements around climate change, such as the Kyoto Protocol to the UN Framework Convention on Climate Change, have enabled the Federal Government to develop the Carbon Pollution Reduction Scheme (CPRS). The CPRS will have significant impacts upon the waste management industry in general, and local government in particular.

The product stewardship legislation already in place for used oil also creates the possibility of similar legislation, levied at the point of import, for a range of further products. Indeed, EPR schemes have generally been left to the Federal Government to implement, though the South Australian Container Deposit Scheme demonstrates that federal involvement is not critical to an EPR scheme.

Key point **State Governments can implement EPR schemes without waiting on Federal Government support**

The Federal Government needs to work closely with all stakeholders associated with waste management, though in practice tends to restrict its consultation to large private sector operators and State Governments. The Federal Government rarely consults well with local government, although implementation of many federally designed schemes is usually left to local government.

5.2.2 Federal Government as facilitator

The Federal Government has a large potential to facilitate investment in waste management infrastructure. This, to date, has not been taken up. An example is the determination by Infrastructure Australia that the most important areas for infrastructure investment are water, transport, telecommunications and energy sectors, and by inference, waste is not sufficiently important for funding. This is disappointing given the substantial social and environmental gains that can be made from waste infrastructure investment, and the difficulties currently experienced by waste facility operators in securing funding. Waste needs to be recognised as a piece of critical infrastructure in the same way as water and transport.

Key point **The Federal Government does not consider waste management to be critical infrastructure for Federal Government funding**

5.3 State Government

In Western Australia, the primary State Government organisations associated with waste management are:

- **Department of Environment and Conservation**. Regulator
- **Environmental Protection Authority**. Environmental assessment of significant new proposals.
- **Waste Authority**. Policy.

5.3.1 Department of Environment and Conservation

The Department of Environment and Conservation (DEC) is primarily the regulator of waste management operations. It issues works approvals and licences for operations, and ensures compliances with the approval or licence. The DEC also provides administrative support for the Waste Authority, and it's the lead agency in the administration of the WARR Act.

The DEC clearly struggles under the burden and potential conflict of interest in its varied roles. It is under-resourced to provide an effective regulatory role, making the industry almost self-regulating. This is not too problematic where organisations such as local government are self-interested in running sites well; their motivation comes from being around to deal with any problems. The private sector is motivated by making profits quickly, and may decide to achieve this by running sites as poorly as it can get away with.

Without an effective regulator to ensure appropriate levels of performance, the inevitable consequence is that competition is geared against local government. This is observed time and again at Red Hill when Class IV waste, consigned to Red Hill, does not make it to site. Since there is no other Class IV landfill in WA, the non-delivered waste is reported to the DEC. The EMRC is not aware of any action being taken to investigate the final destination of the Class IV waste.

Key point **The DEC struggles to play an effective regulatory role**

The additional role of the DEC as administrator of the Waste Authority and WARR Act creates further conflict. Regulation unnecessarily interferes with the development of policy, and can lead to situations of excessively conservative and prescriptive policy development. Rather than focussing upon outcomes based policy, setting broad parameters within which proponents can develop individual responses, the policy that comes through the DEC seeks to define process as well as outcomes.

Finally, the role of the DEC as administrator creates enormous tension between the DEC and the Waste Authority. It has been apparent for some time that the DEC and the Waste Authority have struggled to find a way to share their respective roles in the field of waste management. The bureaucratic uncertainty places a significant restriction on current development, and dissuades proponents for future developments from proceeding.

Notwithstanding the above points, there is no compulsion for the Waste Authority to be separate from the DEC if the problems can be resolved through other means. To consider Victoria and NSW, both states initially decided to establish a separate agency akin to the Waste Authority, but neither has retained that separation. In the Victorian case, Ecorecycle Victoria became part of a broader sustainability agency, with regulatory responsibilities remaining with the Victorian EPA. In the NSW case, Resource NSW was merged with the regulator. Both states appear capable of waste strategy.

Key point **The relationship between the DEC and the Waste Authority appears to be unstable and contributes to regulatory uncertainty for the WA waste industry**

5.3.2 Environmental Protection Authority

The Environmental Protection Authority (EPA) conducts environmental assessment of significant projects through Part IV of the *Environmental Protection Act* 1986. The EPA has, in the past, been excessively biased towards particular waste processing technologies (in particular composting) to the detriment of thermal processes such as pyrolysis or gasification. This has been expressed quite simply to the effect that a waste processing plant involving composting and at an existing waste facility does not need to go through Public Environmental Review. A thermal waste processing plant does need to go through the Public Environmental Review process irrespective of its location.

The logic behind this bias seems to be that there is more experience with composting, and that it is less likely to cause community concern. In fact, composting and thermal waste processing are both widespread and well proven technologies internationally, and in particular in Europe. Neither is necessarily better or worse than the other, both can perform well, and both can cause significant environmental impacts if not appropriately sited, designed and managed.

Instead of forming an opinion on waste processing technology, we believe that the EPA should form an opinion on the environmental parameters permissible for a waste processing plant. Further, these parameters must be comparable to those established for similar plants such as landfills, general composters, power plants and the like. We strongly encourage the EPA to build expertise in what reasonable parameters might be, and expect that the EPA will work with the DEC to formulate a set of parameters that can be managed in a regulatory context.

5.3.3 Waste Authority

The roles of the Waste Authority are defined quite clearly in the WARR Act 2007. The primary role is to establish a "waste strategy", however equally important roles are in the establishment of "codes of practice" and administering the landfill levy funds.

As discussed in section 4.2.2 above, waste strategy is important to frame the way in which waste is managed in WA. It sets the scene within which stakeholders make operational decisions, and as such, it needs to be developed in consultation with all stakeholders. It must also be long term and persisted with notwithstanding minor amendments to reflect changing circumstances.

The importance of waste strategy is broadly understood across government. It can, however, be ascribed an importance out of proportion to its real potential to drive change. It merely establishes a broad plot of the story to be developed in more depth by industry participants. The other two statutory roles for the Waste Authority flesh the story out more. Codes of practice establish the rules of behaviour, the grammar of the story, and well targeted funding develops characters for the story. Finally, a role that is not legislated, but is important in the success of any similar agency around the world, is the Waste Authority's role in developing connections across the sector, linkages between government and operator, community and regulator.

Notwithstanding the importance of each of the above four elements, they do not form the whole of the story (to continue the analogy). The story is formed from the individual actions of all participants. For participants to develop a coherent, rational system of waste management in WA, all participants must feel that the story is their own, that they have had the opportunity to inform the plot, the grammar and the character development, that the connections are there for them to make, and the system theirs to improve.

Key point **The Waste Authority needs to ensure that participants in the WA waste industry are included in the development of our waste system**

5.4 Local Government

In Western Australia, the primary Local Government organisations associated with waste management are:

- **Councils**. Operator, direct liaison with citizens.
- **Regional Councils**. Operator, undertakes projects on behalf of Councils for citizens in the Region.
- **WA Local Government Association**. Policy, provision of support across Councils.

- **Forum of Regional Councils**. Informal coordination across Regional Councils.

5.4.1 Councils

Fundamentally, Councils provide services. This may be through a contract, it may be through a regional Council, or it may be in house, but all Councils act as the intermediary between citizens and the service delivery agent. Councils determine the quality of service sought by their citizens. Councils assess if contractors can provide that service, and provide the aggregation of citizens to enable the service to be delivered cost-effectively.

Because waste management requires aggregation for scale, citizens are largely unable to purchase from a competitive market. There can be only one market participant, the most cost effective one for the expectations of the community as a whole. This is decided by the Council.

The point is reiterated here because of its importance, and to explain the challenges facing local government. The private sector cannot build a waste handling infrastructure and then sell it on to citizens. Council must be an intermediary. The State Government cannot build infrastructure and have the infrastructure used by citizens. Council must be an intermediary. Waste is not a bulk commodity like electricity, sewage or water that is interchangeable. Citizens care about their waste service, whether they have one, two or three bins, whether the bins are emptied daily, weekly or monthly, and what happens to the waste once collected. On the other hand, waste is not a personal service like groceries, clothes or cars, where individual citizens can choose and acquire the service for themselves. Waste requires economies of scale, for people in low cost areas to subsidise those in high cost areas, but also for people to have some say in what the service looks like for them. This is the role of Council.

Key point **Councils play a critical intermediary role between the single feasible market participant for waste processing and the citizens**

In pointing out the significance of Council in providing waste services, it must be also highlighted that the scope of service sought to be provided has been increasing at a rate that far outstrips funding available. Otherwise known as "cost-shifting", it is regrettably all too common for State or Federal Government to build a community expectation for a Local Government provided service, but not fund that service. Alternatively, State or Federal Government will seek to leverage its funding through "influencing" local government to implement substantive parts of its own programme. Common examples are costs of waste education, on-going implementation of programmes after the initial establishment funding has ended, recording and the provision of information on waste generation and disposal, and even the review and assessment of monitoring data. Few of these issues have long term funding from regulators, notwithstanding the fact that regulators usually receive landfill levy income ostensibly for the implementation of these programmes.

Key point **Councils suffer from cost shifting for services from State or Federal Government to Council.**

5.4.2 Regional Councils

There comes a point in the work of Councils at which they are too small to achieve the economies of scale for sound infrastructure. This might occur in environmental projects –

the work of a single riverside Council will be less effective than if it is coordinated with its neighbours. A similar principle applies to waste management. Acquiring and operating a large waste management facility is difficult for a single Council, but achievable for a grouping of Councils. The grouping achieves the scale which funds operational and policy excellence, attracting and retaining the staff needed to develop waste management on behalf of all Councils.

It is because of the ever increasing complexity of waste management that Regional Councils must be considered to reside at the centre of the WA waste management infrastructure. Private sector operators, an alternative centre, are interested in maximising profit alone (or should be), and thus need to be guided by "train-tracks" of rules. The entity laying the tracks needs to have as clear, if not clearer, understanding of the problem as the operator it seeks to harness. Regional Councils can dedicate the time to understanding the complexities of a challenge, and act as the intermediary on behalf of member Councils. This is no small feat; notwithstanding the close interaction between Councils and Regional Councils, Regional Councils continue to learn how to improve levels of service delivery. This is possible with the open relationship between member Councils and their Regional Councils. It is far more difficult between a Council and its contractor.

Key point **Regional Councils play an important role in achieving scale for the delivery and management of complex waste projects.**

We also believe that, in considering the role of Regional Councils in waste management, the Committee should recognise the enormous success of Regional Councils when contrasted with the experience in NSW and Victoria. In both of those jurisdictions, the regional groupings are too loose to withstand any tension that might arise between member Councils. To reduce these tensions, the groups then shy away from addressing difficult issues, rendering them of limited effectiveness. The experience with these groups is that they are generally dominated by a single Council, often the largest or the richest, and the action taken is usually restricted to loose planning, general strategy and some sketchy industry intelligence.

In addition to the effect of the loose structure on a group's effectiveness, it also has important implications legally regarding the ability of the group to form joint and binding tenders. A loose grouping undermines the ability for a tenderer to be sure that it will get the critical mass it seeks to provide the prices sought. This places an extraordinary amount of risk on the tenderer. However, the corollary is that, if Councils commit to the provision of certain tonnages for a service or a facility and there are penalties for lesser tonnages, there is a disincentive to minimise the generation of waste which should be the object of the exercise.

The WA structure for Regional Councils is, we believe, an exemplary model and referred to favourably by the Productivity Commission. By making the Regional Council an entity in itself which is controlled by the member Councils, the risk for tenderers is better partitioned, and the Regional Council is able to provide better service to its member Councils. Rather than being a talk-fest where action is eschewed, it can take on the difficult waste management problems that the individual member Councils do not have the personnel or financial resources to manage. Such a model would appear to be entirely consistent with State Government rhetoric regarding amalgamations of Councils to achieve service efficiencies.

Key point **The WA structure of Regional Councils is exemplary and held in high regard nationally**

5.4.3 WA Local Government Association

The WA Local Government Association (WALGA), and specifically the Municipal Waste Advisory Council (MWAC), plays an important role of support to Councils. To date this has been primarily achieved through developed broad policy on a range of Council waste management matters, and promoting these policies to State Government. MWAC is an important policy partner for the Waste Authority in ensuring that its work connects effectively with local government.

MWAC is also developing the capability to provide support of a more operational nature, giving Councils the guidance required to enhance their operations. Again, this is often focussed on ensuring that Councils can adequately respond to requirements of the DEC, but could also be self-initiated. The need for such a service is especially pressing where a Council is under-resourced, including for regional areas.

Key point **WALGA plays a support role for Councils, primarily in policy development, and should be a policy partner for the Waste Authority**

5.4.4 Forum of Regional Councils

The Forum of Regional Councils (FORC) is a relatively new body, and seeks to provide a means for the voluntary coordination of Regional Council activities in relation to waste management. Its focus is upon waste processing infrastructure, and has the potential to lead to the establishment of strategic infrastructure by each Regional Council which, together, forms a network of facilities that deal with the entire MSW waste stream. There is obviously no similar body for the consideration of C&I or C&D waste.

Whilst FORC does have some ability to deal with "pure" policy discussion, it is best positioned to deal with operational aspects of policy. That is, the Waste Authority should be consulting closely with FORC to ensure that its plans for waste infrastructure are consistent with FORC's assessment of infrastructure needs. Similarly, the EPA should be consulting with FORC to ensure that parameters for the operation of waste processing facilities are reasonable.

Key point **FORC is well positioned to deal with operational aspects of policy, and should be liaised with for infrastructure planning and guidelines for waste processing facility operations**

5.5 Social and private sector

In Western Australia, the primary social and private sector organisations associated with waste management are:

- **Private operators**. Operator.
- **Non-Government Organisations**. Policy guidance, input into operational parameters.
- **Research Institutions**. Innovation, evidence to support improvements.

5.5.1 Private operators

In a waste management system that focuses upon recovering materials for reinjection into the economy, the private sector will be ultimately and intrinsically involved in the management of materials. Manufacturing in Australia is, by and large, undertaken by the private sector and as the destination for recovered materials, manufacturers must be engaged in how materials are recovered.

This need not, however, mean that the private sector is directly involved in the processing of waste. In WA, the private sector's in relation to MSW management is largely restricted to the provision of collection services under contract, and the operation of a few landfills. The major metropolitan landfills are run by Local Government. This situation is relatively unique to WA, perhaps shared with Tasmania. All other States have a high level of private sector penetration into the provision of waste disposal services.

The presence of the private sector in the provision of waste disposal services can be problematic because of a combination of two factors: the long life of waste disposal liabilities, and the profit motive of the private sector. Landfill liabilities in particular can long outlive the company which incurred the liability. In conjunction with the need to maximise profit, the private sector has a powerful incentive to not make provisions for long term future costs. Regulators attempt to deal with these liabilities by regulation and requirements for financial assurance, however experience in WA suggests that regulatory measures could be enhanced.

A particularly pressing example is the Carbon Pollution Reduction Scheme. Waste deposited today incurs liabilities for methane emissions for over 50 years into the future. Under the current design of the CPRS to commence in 2010, this liability also applies to waste deposited in the past. A recent report by Hyder Consulting for the Federal Government indicates that in the extreme case of a landfill operating from 1975 and closing at the commencement of the CPRS, thus having no opportunity to recover carbon costs from customers, the site closes with an unfunded liability of $33.6 million. Irrespective of the green credentials of the operator, it is unlikely that a private sector firm could cover this shortfall. Instead, it is most likely to declare bankruptcy to avoid the charge. This is obviously not an option available to local government.

Key point **The long life of waste facility liabilities combined with the profit motive of the private sector can make private sector provision of waste services problematic**

Where the conjunction of long term issues can be avoided, such as where liabilities are not long term, or where the private sector is limited to a contracting role in a site where liabilities are long term, the outcomes can be good. Given clear boundaries for what is acceptable and unacceptable, there is no inherent reason for the private sector to provide a bad service, and the profit motive combined with a competitive environment can ensure that the costs to the community are minimised. The challenge is establishing the boundaries, through a contract or adequate regulation, to ensure that the service provided meets the needs of the community. As indicated above, the development and management of contracts for waste services is a specialised skill, and some smaller Councils can need support to do this.

The private sector may also be considered as a provider of large waste processing infrastructure. This is common in the UK, where Private Public Partnerships (PPPs) are widespread. A similar model could be used here, with either State Government or Local Government as the Principal for the PPP. Again, such arrangements need to build upon a substantial body of expertise; the Principal needs to be aware of the risks associated with

such contractual arrangements, and have the expertise to both develop contracts that mitigate the risks, as well as assess tender submissions.

5.5.2 Non Government Organisations

Non Government Organisations (NGO's) can and should be encouraged to provide advice in relation to the full range of waste management activities. NGO's can contribute to policy debate, providing a useful counterpoint to industry associations, just as they can mobilise to deal with specific operational issues at a particular facility. All stakeholders would do well to engage NGO's to the best of their ability.

5.5.3 Research Institutions

The role of research in waste management is often overlooked, with "innovation" being built from research done by others, typically overseas. In some cases this can be effective. There are, however, sufficient cases where circumstances are unique to Australia to warrant local research to respond to local needs. Examples are how to best deal with the "tyranny of distance", how to best develop waste management law to reflect the Australian, rather than European, legal system, and how to communicate waste management improvement to the Australian public.

Key point **The development of local research capabilities would enhance the WA waste management system**

Some work is done in Australia in waste management system improvements. For instance, Australia has strong research abilities in the management of landfill gas, and specifically its oxidation within the capping layer to reduce greenhouse impacts. In general, waste research is not well connected to waste sector activities, and in particular, policy developers, regulators and operators only rarely seek advice from researchers.

We believe that there would be a great deal of value added the overall waste management system if a Centre of Excellence for Waste Management were developed. This Centre of Excellence would provide national support, but a base in Perth would enable it to build off substantial expertise in materials processing (specifically in relation to minerals processing) and utilise the relative isolation of WA to research and test a range of policy and communication measures. Making the Centre of Excellence available to all stakeholders, including State and Local Government, the private sector and NGO's, would further enhance its utility.

5.6 Model for stakeholder involvement

We strongly suggest that the State Government develop and agree upon a model to understand stakeholder involvement in waste management. This should help drive a best practice waste management system. We have developed a model that might be used in discussions, seeking to ensure that stakeholders are incorporated in their field of competency, and striving to gain the best possible access to high level expertise. The model is below.

Table 1: Suggested model for stakeholder involvement

Agency	Legislation	Policy/strategy	Assessment	Regulation	Operation
Primary	Federal Government DEC	Waste Authority WALGA	EPA	DEC	Council Regional Council Private sector
Support	Waste Authority WALGA	NGO DEC Regional Councils	NGO DEC Regional Councils	NGO	NGO
Centre of Excellence					

This model might be developed into a more or less complex form, but it should be discussed.

5.7 Recommendations

The Federal Government's role in waste management, whilst limited, is potentially very important. **The State Government should lobby the Federal Government to improve Extended Producer Responsibility outcomes, as well as include waste infrastructure in its considerations of critical infrastructure.** The State Government could take act on both of these matters without the Federal Government.

The role of the State Government agencies in relation to waste management needs better definition, and a table on page 40 provides one model that might be considered. In defining the roles of the agencies, the State Government needs to enable the Department of Environment and Conservation fulfil its primary role of regulation, the Environmental Protection Agency its primary role of environmental assessment, and the Waste Authority its primary role in waste policy development. This does not necessarily require that the Waste Authority be administered separately from the Department of Environment and Conservation, but the roles certainly need clarify if waste management is to progress in WA.

The positive role of local government in waste management needs recognition and support, including local councils, regional councils, the WA Local Government Association and the Forum of Regional Councils. The WA model for local government waste service delivery is held in high regard around Australia, and in particular, the model of robust regional councils delivering infrastructure to member councils.

The private sector needs to continue to be engaged in developing waste management solutions, however this must be done with clear recognition of the limitations of the private sector in some operations that have long term liabilities. These liabilities can long

outlive the company that incurred the liability. Without strong regulatory intervention through large financial assurances, the private sector profit motive will see these operations wind up when the liabilities fall due. The scale of the potential liability is very large, and for the Carbon Pollution Reduction Scheme may very easily exceed $33.6 million. The private sector is a sound choice for the operation of waste facilities where long term liabilities can be avoided, however there still needs to be strong waste management expertise held by contract superintendents.

There is a very strong role for local research in waste management, and we recommend the establishment of a Centre of Excellence for Waste Management. The Centre of Excellence would develop research available to all waste industry participants, and help build the overall level of expertise within WA.