

Responses for 20 Year Waste Strategy September 2019

1. What are the key issues facing the NSW waste system?

NSROC welcomes this 20 Year Waste Strategy which aims to provide a stronger and clearer direction for NSW Government on innovation and investment. From a planning perspective, waste management needs to be considered as a critical issue and as an essential service.

Waste is not considered as an essential service. However, it should be an essential service with an ever increasing population, the metropolitan area of Sydney has very limited infrastructure for the management of putrescible waste and waste transfer.

One of the key responsibilities of the EPA and the portfolio is to ensure that waste management facilities are developed and maintained to match population growth and meet policy goals legislated under the WARR Strategy. Presently, only two landfills can take putrescible waste – one at Lucas Heights and one at Woodlawn.

Despite the WARR Strategy emphasising landfill avoidance, however the perverse effect of the high tax on landfill (ie more than 60% of per tonne disposal cost is returned to the NSW Government via the landfill levy) has been to increase the scarcity of landfill without alternative infrastructure to deal with putrescible waste.

There has been no large-scale investment by Government or Industry in waste management facilities for several years (1), other than the Veolia AWT plant (1). There has been no investment under the NSW Energy from Waste policy.

Slow promotion of innovation and clean technology by the State Government will have a significant long term impact on development/growth and on the overall economy. Prompt action needs to be taken to deliver waste management using a suite of available technologies.

Current waste strategies have not taken a long term strategic view nor properly considered the long term planning and investment required to facilitate the development of waste infrastructure. State owned facilities were sold and only limited assistance is provided to commercial entities interested in developing facilities or creating markets.

Waste Levy

Initial consultation on the 20 year strategy has not looked at investment nor considered the opportunity offered by the waste levy.

The Waste Levy is an instrument established under NSW legislation for the purposes of driving waste avoidance and assisting alternative waste treatments by adding a competitive burden to the price of landfill. The NSW Government's position is that the Levy creates an incentive to seek alternatives to landfill disposal by:

- creating a financial disincentive; and
- hypothecating revenue to industry and councils to assist in infrastructure, education and planning to support the resource recovery industry.²

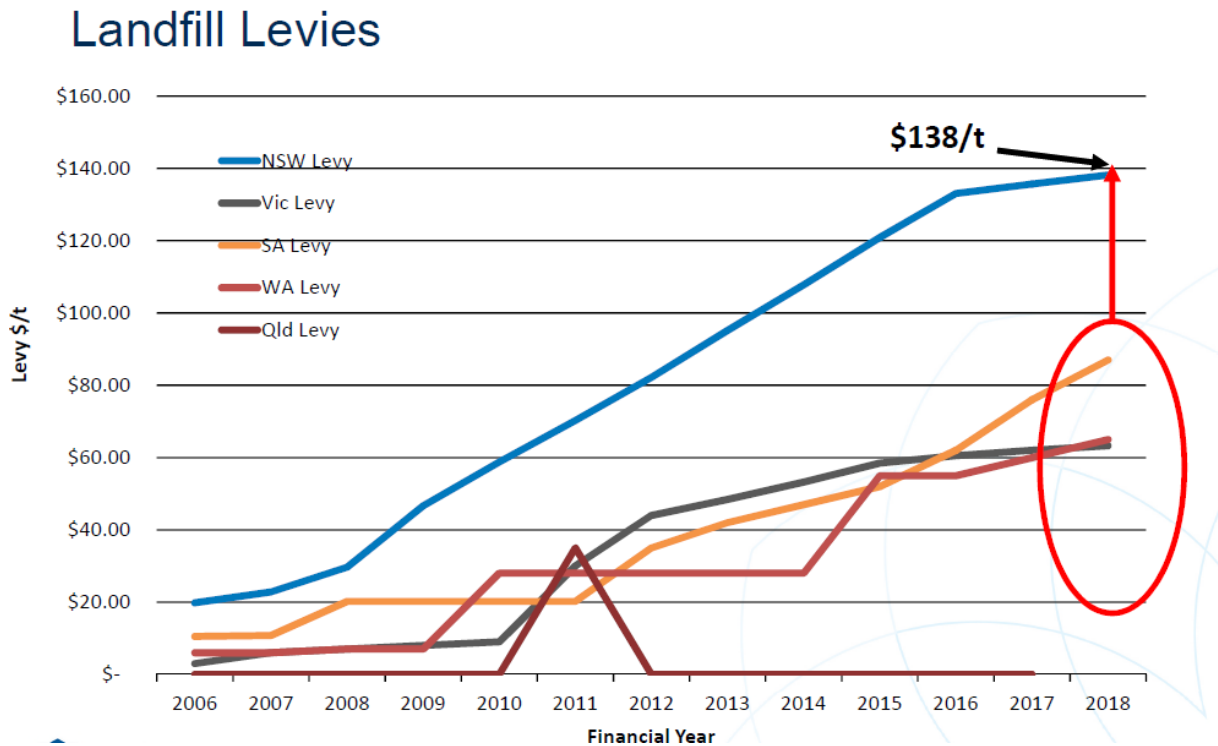
¹ A mixed waste treatment plant in the Shoalhaven has been recently announced (23 January 2019), for commencement in 2021 to treat 150,000 tonnes of waste.

² NSW Government 2009, Waste and Environment Levy Operational Guidance Notes.

The Waste Levy for the Sydney Metropolitan Area has increased from \$7.20 per tonne in 1996 to \$138.20 per tonne in 2017-18. NSW has by far the highest tax on landfilling in Australia and has done for many years, as shown in Figure 6.

Despite this, NSW performs only at about the national average in resource recovery, and the gap between waste volumes and waste facility capacity continues to widen.

Figure 1: Landfill Levies, by State



The NSROC experience is that the policy goals of waste avoidance and resource recovery are not being advanced by the Waste Levy, as is evidenced by waste volume growth and by the expanding gap between capacity in waste infrastructure and demand for both low technology and more elaborate forms of waste treatment.

Further, and of great concern to local government, the high rate of the Levy has had the perverse effect of creating a Budget dependency issue, as only about one-third of the total collected through the Levy is returned to local government or industry through waste policy and programs of the total collected of about \$500 million per annum and the rest is absorbed into General Revenue.

Any reduction to General Revenue through lowering the Levy rate or introducing a higher rate of hypothecation to waste management would have to be made up by reduced outlays or higher charges in other, arguably more visible and politically sensitive, portfolios. This is an entrenched structural issue that works against investing in waste management as a priority across spending (rather than regulating) portfolios such as public works and infrastructure.

The inadequacy of the Waste Levy as a financial disincentive is well-documented. The 2012 review of the NSW Waste Levy³ reported that the increases in the Levy had not converted into increased recycling by households. The Levy is noted as:

“... a lack of direct and transparent incentive for households to reduce their waste as the levy is typically collected as a flat rate charge to ratepayers.

and

...Most stakeholders agree that the levy struggles to change householder behaviour, and that other mechanisms should be implemented to assist the levy in driving waste avoidance and resources recovery.”

Waste management charges to residents reflect the actual costs to councils of delivering waste services. These charges are applied across the entire community and are not adjusted for actual consumption of waste services by an individual household.

The Waste Levy operates as a muted signal to households and one with no matching reward or incentive for better waste management behaviour, other than a minor reduction in the waste charge for using a smaller red bin in some council areas.

As a result, the incentive to reduce waste on account of charges that incorporate a taxation component (in the case of NSW, the Waste Levy) is not detectable to residents, as it is dwarfed by the much higher property tax component of council rates.

By way of illustration, in an annual rates notice for a single dwelling unit in the NSROC area of \$1050, the waste management charge is about \$430 a year or 40%. In an environment of increasing rates for other utility services, it is not surprising that household behaviour does not respond to small changes in the waste management charge as the Levy creeps up over time.

Further, this price signal is practically non-existent in the case of tenants, as waste management charges are paid by the owner and the rents paid are market determined. Even if the domestic waste charge were to be reduced for the smaller household size typical of apartment-dwellers, it is questionable whether the reduction would be passed on in lower rents.

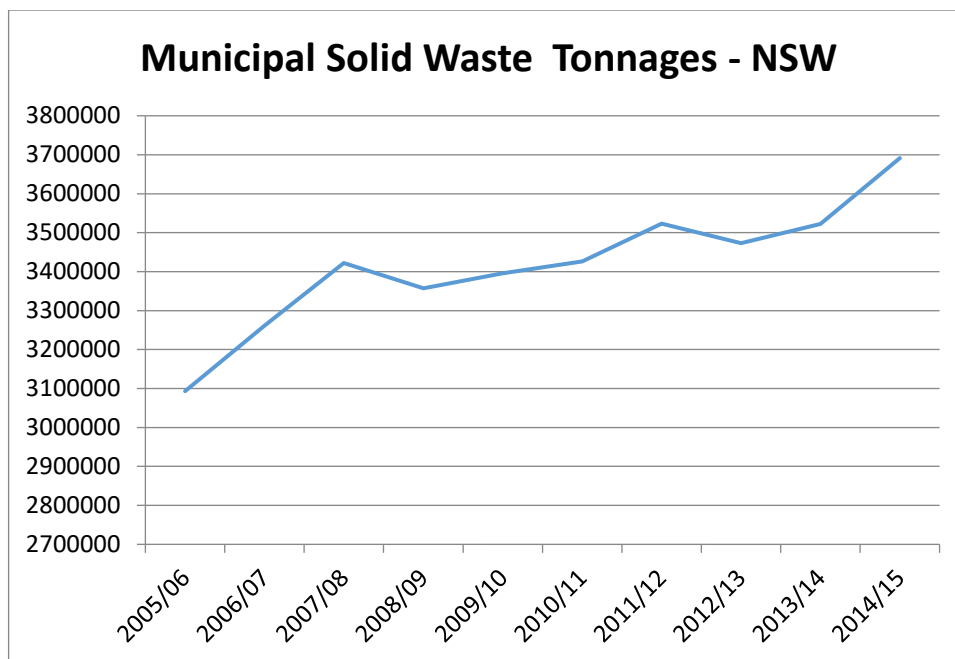
Waste Infrastructure Gaps

Domestic waste (also referred to as Municipal Solid Waste) continues to grow, as shown in Figure 2. Some success is evident from the data indicating waste generation per household has remained steady. However, as population grows, this is not sufficient to reduce volumes.

The NSROC experience is that as population increases, waste grows at much the same rate. Where the economic cycle delivers a significant slowing or growing spurt, this is mirrored in waste generation. Figure 2 demonstrates this during the 2008-09 period of economic contraction. As economic growth is mainly positive, it is unlikely that, in the Australian environment, a slowing economy will retard waste growth over a ten year cycle.

³ Review of the NSW Waste and Environmental Levy, KPMG for the NSW EPA, June 2012

Figure 2: NSW Municipal Solid Waste Tonnage, 2006-2015 (NSW EPA)



The NSW EPA released a consultation paper for the 2017-21 Waste and Resource Recovery Infrastructure Strategy. It included a summary of the gaps in waste infrastructure to 2021, which is replicated at Figure 3⁴. The Figure is based on the (as stated) ambitious assumption that waste generation per capita in NSW in the period to 2021 will remain unchanged from the 2011 rate and only increase at the rate of population growth. This is despite other EPA documents (see Figure 2 above) supporting the case that waste growth is also related to economic growth.

Even accepting this population-based assumption, the facilities gaps are both significant and alarming in relation to household waste streams. Figure 3 replicates some of these data – it is unclear why there is no data on landfill capacity for Sydney.

The landfill availability data in Figure 3 includes regional areas of NSW. For Sydney, in 2021 there will be only two landfill operations for putrescible waste available, one at Lucas Heights in the far south of the Sydney Metropolitan Area, and one at Woodlawn which is accessed by rail and is 250 kms from Sydney. A five year planning and construction timeframe would be realistic in the best of circumstances for a new landfill operation, which means that there will be an inevitable shortfall of some 1.5 million tonnes by 2021.

It is evident that current policy settings and the Waste Levy in particular are not delivering the prompts for either government funding or private investment necessary to fulfil the requirement to expand waste infrastructure so as to efficiently manage Sydney's waste through resource recovery.

⁴ Waste and Resource Recovery Infrastructure Strategy 2017-21, Draft for Consultation NSW EPA.

Figure 3: NSW and Sydney Metropolitan Area: Waste Facilities: Capacity to 2021

	<u>Putrescible landfill</u>	<u>Non-putrescible landfill</u>	<u>Mixed waste treatment</u>	<u>Garden Organics Processing</u>	<u>Putrescible Organics Processing</u>
2021 known capacity ('000 tpa)	NSW 3,180	NSW 2,924	763	1,133	972
2021 Projected throughput ('000 tpa)	NSW 2,438	NSW 2,165	1,768	1,520	984
<u>2021 Gap</u>	NSW 742 Sydney: no data published	NSW 759 Sydney: no data published	-1,005 Sydney -558 tonnes	-387 Sydney -273 tonnes	-12 Sydney -266 tonnes

(NSW EPA, 2017)

MSW landfill diversion policy goals for the 2014-2021 period are not realistically achievable with current facilities (NSROC Councils have been at or about 55% but expected to reduce with the loss of AWT diversion, the goal is 70%). Any improvement to the status quo in the coming Strategy period will require either substantial waste reduction or the introduction of new collection, treatment, resource recovery (including energy) and recycling systems. These are not simple matters for establishing in or near metropolitan Sydney.

Following last year's revocation of the exemption for the application of mixed waste organic outputs to land, there is no longer any lawful reclamation of resources from mixed waste through AWT. Furthermore, the current Energy from Waste Policy has not yet encouraged industry to invest in the technology in NSW. As well as the impact on resource recovery policy goals, these factors raise the issue of whether there is sufficient landfill space. This form of investment has not been fostered under Waste Less, Recycle More programs because of the EPA's view that new landfills are not a desirable form of waste management.

2. What are the main barriers to improving the NSW waste system?

NSROC welcomes this 20 year strategy which will provide a clearer direction for NSW Government to ensure innovation and investment. From a planning perspective, waste management needs to be considered as a critical issue and as an essential service, not as an afterthought.

The current WARR KRAs and performance metrics are in urgent need of review as they have not been changed much for 10 years and achievement for municipal waste residential waste is persistently below target.

Continuing a Strategy with the similar goals, metrics and assumptions as to the waste industry's participation in a market, which is constrained by limited sites and high approval risks, is not supported by the evidence of recent years.

All programs and KRAs in place over the last ten years should be evaluated to assess the goals against the results. This assessment should be stratified to focus on waste streams and geographic areas that are in greatest need of program stimulus to achieve change.

As the recovery targets for municipal waste have not been met, all options for change should be considered:

- Change the KRAs to include broader goals such as resource recovery in all forms, including energy; greenhouse gas emission reduction; waste reduction for problematic geographies and settlement types (eg MUDs).
- Change the programs to more specifically target problem products, areas, waste streams, including prohibition of some packaging.
- Alternative programs need to be evaluated against current approaches to determine a benefit-risk ratio that is transparent and shared. It is not practicable to continue to refine the last decade of programs that have delivered marginal benefits and not in areas where they would have the most impact. For example, Metropolitan Sydney suffers most from the externalities of insufficient and inadequate waste infrastructure, and with very limited local facilities. So data analysis and goal setting need to be at levels other than ‘all MSW’ and ‘all NSW’.

.3. How can we best reduce waste?

All levels of government as well as Industry need to be involved. Producer responsibility/product stewardship schemes can design out waste early in the production cycle once manufacturers and retailers are required to contribute towards the disposal costs of their products.

Address waste avoidance and reduction of problem wastes in specific programs for citizens, wholesalers and producers actions by prohibitions or separate collection systems/drop-off options

The communities of northern Sydney are already showing responsive behaviour to waste reduction, likely in part as a response to the communications efforts of the ABC’s War on Waste.

For example, although the latest published EPA Local Government data reports are from 2014/15, NSROC has specific data from earlier this year for five of its member councils showing that per capita tonnes of residual waste generated have declined over the last three years despite steady increases in population.

Figure 4. Northern Sydney Waste Alliance Councils – MSW, Clean up waste tonnage volumes 2016-2019

Year	MSW	Clean up	Total
2016-17	79,550	10,364	89,914
2017-18	76,061	11,011	87,072
2018-19	75,380	11,077	86,4576

This data indicates receptiveness by consumers and residents to participate in initiatives like segregation of waste for re-use, if collection systems and end-markets are in place.

Increasing Clean-up waste tonnages further reinforces the willingness of the community to separate and deal with residual waste other than by red-lid bin disposal.

A ban on single-use plastic bags and Styrofoam could be measures adopted by NSW Government that would be well-received by the community.

Reducing putrescible waste through measures to extend the scope of community drop-off centres is also likely to be well taken-up. For example, small appliances and textiles. Both product streams cause problems for AWT and have markets that could be expanded through government stimulus.

Other opportunities the strategy could support include:

- More sophisticated economic modelling of the real cost of current waste management, including factoring in the externalities of transport of waste across cities and regions.
- Devising new forms of regulation and taxation that create effective incentives to households to reduce waste (such as differential waste charges based on volume).
- Identifying priority sites for waste management and applying consistent, whole-of –government and cross-jurisdictional decision-making instruments, including shared budget commitment, to signal to the market that governments recognise both the necessity and the opportunity the waste management industry offers.
- Supporting differential methods of collection and recycling as between urban areas primarily composed of single-unit dwellings and areas dominated by multi-unit dwellings.
- Collecting and disseminating better quality and current waste data would improve both policy and investment decisions.

4. How can we recycle better?

Recycling has become static over the years from 2006 to 2015 for NSW. This is also the experience of the NSROC Councils, where recovery from household waste has remained at 50-55% for several years.

Landfill diversion is not recycling and the environmental consequences of sending separated plastic waste off shore has arguably been much worse than would have occurred if that plastic had been captured in a properly designed landfill.

The community strongly supports recycling and has demonstrated willingness to participate but needs more support. State wide waste avoidance and resource recovery campaigns would assist the whole community and encourage better waste behaviour as a social norm.

A whole of government approach is needed at State level to reduce planning impediments and to the sharing of risk. Government has a role in infrastructure provision in the case of Sydney, where the market acting alone cannot meet community needs and policy aspirations. Market formation, industry development and innovation incentives for the waste management industry are needed, to

trigger a catch-up period in Australian waste infrastructure provision, which lags the capacity and technology available in other developed Western economies.

The EPA strongly supports Food and Garden Organics (FOGO) collection and services to address the volume of organic material in mixed waste. However, metropolitan councils with increasing numbers of multi-unit dwellings (MUDs) are legitimately concerned that there would be high levels of contamination in any FOGO service. The 20 Year Waste Strategy would need to demonstrate a collection and processing mechanism to create a valuable product for which there is an identifiable end market for FOGO. The recent changes in exemptions affecting AWTs occurred after more than 15 years of support for the land application of the product. Industry will be understandably nervous about investing millions of dollars in infrastructure in support of metropolitan FOGO collections without certainty that a viable and marketable product can be obtained in heavily urbanised environments.

Councils have very low contamination rates for their garden organics collections, processing is relatively straightforward and processors have a ready market for the end product. However, the addition of food organics into that bin requires a more advanced form of processing (typically under cover or in-vessel). A report on organic bin audits across NSW in 2018 for the EPA⁵ indicated that on average 98% of garden-only waste was diverted from landfill, whereas the diversion of food waste averaged 38% of the available food and varied between 5% and 78%. The report also indicated that (where detailed data was available) approximately 50% of residents are not putting food in the FOGO bin. Contamination in FOGO bins averaged 2.6% by weight (but varied from 0.04% to 17.8%). Contamination of all waste streams in MUDs is a major concern for councils and contamination of FOGO would be expected to be similar. Penrith, which is essentially the only metropolitan council providing significant FOGO services, does not offer the service to MUDs.

Industry is prepared to invest but needs more certainty and there needs to be more support for the growth of domestic markets with a contribution towards value adding industry that can offer employment in the local economy.

Environmental regulation alone is not a sufficient role for government in waste management in 21st Century Australia, characterised by growing urban populations, higher density living and immature markets for both the production and consumption of materials recovered from domestic waste.

The Waste Levy presents as a logical source of funding to improve recycling because of the clear nexus between a tax on landfilling spent to improve resource recovery among other alternatives.

5. What are the main opportunities for improving the NSW waste system?

A long term strategy that supports investment could create significant improvements to NSW's waste system. A whole of government approach is needed, similar to those achieved for Premier's Priorities where agencies work together to achieve outcomes. Waste is an essential service impacting the whole community every day. It remains unnoticed because of efficient systems that have been developed to manage it. However, sustainability and conservation of valuable resources is changing the priority which requires a different response.

Working together, the Federal Government and State Government support for a circular economy, mandated recycled content, innovation and risk taking could all contribute to improving the waste

⁵ Analysis of NSW Food and Garden Bin Audit Data, Rawtec for NSW EPA, May 2018

system. We do not need a perfect response but a practical and reasonable solution. In the metropolitan setting, District Plans all support the retention of existing waste facilities in urban services areas, as well as encouraging innovative methods of improving resource efficiency and recovery.

Further achievement in diverting the volume of domestic waste going to landfill will have to come from addressing the residual waste stream, either/both by reducing generation or ensuring that facilities to transform the beneficial portion of the waste into marketable products, including energy.

Current market and policy settings are failing to deliver adequate waste infrastructure (transfer stations, landfill sites, processing and treatment works) for the current volumes of domestic waste generated by the population of metropolitan Sydney.

Waste policy is currently aspirational rather than implementable in relation to domestic waste because recycled paper, glass and other dry goods and garden wastes have reached a plateau as shares of total domestic waste.

Facilities to recover resources from residual waste are one million tonnes short of annual demand for Sydney alone. By 2021, there will be one landfill site located in the Greater Sydney Metropolitan Area when there is a five year development horizon required for any new landfill site. This will result in high costs to transfer waste and increased risks with cross-State waste transfer.

The NSW Waste Levy as currently passed through and spent by governments, has not been effective in resolving the policy, market and investment challenges facing waste management in Australia's largest city, home to close to 20 per cent of the nation's population. Current reliance on a high landfill tax has not delivered, and is unlikely to deliver, a sufficient price signal to reduce growth in putrescible domestic waste.

Local government is a willing partner in waste management improvements and is prepared to apply community resources to long-term improvements in waste management outcomes. However, local government does not have legislative power or funding to ensure that a competitive market is operating fairly. Other levels of Government need to adjust their policies so as to provide both 'carrot and stick' signals to ensure that Industry meets the needs of the Australian community in a cost-efficient manner, particularly in urban areas where most people live and therefore, where most domestic waste is generated.

6. Are there any additional views or information you would like to provide about waste in NSW?

The management of waste and recycling can be innovative. Waste can be used for a range of products and purposes. At the moment, waste management is limited by a lack of medium to long term vision, planning and investment. With a lack of investment in the sector, costs will increase and the impact on the environment is likely to be more significant, i.e higher the cost, higher the rate of illegal methods of disposal.

NSROC appreciates the opportunity to provide comments on the 20 Waste Year Strategy which could potentially, provide a clear direction for NSW Government, including a medium to long term approach on innovation and investment. Waste management needs to be considered as a critical essential service with related infrastructure, which requires to be integrated in strategic planning.