

30 January 2020

Landfill levy expansion consultation 2020  
Ministry for the Environment  
WELLINGTON - By email: [LandfillLevyConsultation@mfe.govt.nz](mailto:LandfillLevyConsultation@mfe.govt.nz)

Dear Sir/Madam

## Introduction

Water New Zealand is a national not-for-profit sector organisation comprising approximately 2000 corporate and individual members in New Zealand and overseas. Water New Zealand is the principal voice for the water sector, focusing on the sustainable management and promotion of the water environment and encompassing the three waters: drinking water, waste and storm waters.

As an industry body representing water and wastewater system operators, whose systems are involved in both the management and generation of waste, Water New Zealand welcomes the opportunity to comment on the government's landfill levy consultation.

We support the government's proposal to increase and expand coverage of the levy to catalyse much needed change in New Zealand's waste management. Our submission highlights that the impacts this will have on wastewater treatment operations, including an increase in operating costs of over \$5,000,000 per annum across the sector.

If not mitigated these costs will ultimately be met through increases to rates, the main funding source for municipal water and wastewater operations. In order to offset these costs some of the additional revenue raised through the levy should be targeted towards initiatives to improve management of the sectors wastes. We outline suggestions towards this end in our submission.

Solid and liquid wastewater management systems are inextricable linked. They interact in the following ways:

- Biosolids are removed from wastewater treatment plants. In New Zealand it estimated that more than 300,000 wet tonnes of biosolids per year, with an annual processing cost of \$40M excluding cost of capital. If not beneficially reused such sludge is sent to landfill. 35% of NZs biosolids go to landfills.
- Industrial processes are required to meet wastewater discharge standards that require the removal of sludges and screenings, disposed of through the solid waste system.
- Solid waste can also enter the wastewater system causing blockages and equipment failures. This commonly occurs with sanitary products and wet wipes.
- Landfill leachate can be treated at wastewater treatment plants.
- There is likely future need to have waste treatment systems to deal with contaminants of concern which make their way into wastewater systems, such as polyfluorinated alkyl substances.

Consideration should be given to interactions between solid and liquid waste systems. Such consideration applies in determining the price for disposing of solid waste. If prices become too high the following negative outcomes may occur for the wastewater system:

- If liquid trade waste disposal is a cheaper option than solid waste disposal, industry is likely to cease removing sludges and screenings prior to sewer discharge – this could impact on wastewater treatment plant efficacy.
- Smaller councils may struggle to raise the funds to landfill biosolids, and may defer, or stockpile sludges removed from wastewater ponds and generated in treatment processes. Both practices have negative environmental practices.
- The current practise by some community households of using the wastewater network as a waste route for inappropriate items may be further exasperated in order to keep their solid waste costs down. This will likely to lead to an increase in dry weather overflows of the wastewater networks which is both an environmental and public health hazard.

It is Water New Zealand's view that the price increases proposed are not sufficiently high to alter current practices, however such unintended consequences should be considered in future price setting processes. In addition, the waste levy should be used to fund systems that ensure that levy avoidance behaviour does not lead to liquid waste being disposed of inappropriately.

There are also symbiotic opportunities for liquid and solid waste systems to deliver the types of infrastructure and systems the discussion document suggests could help achieve a lower waste future. Anaerobic digestion and circular solutions are two prime examples.

Anaerobic digestion is a common treatment process for wastewaters as well as solid waste. There are several international examples where municipal wastewater is mixed with high strength organic waste to enhance gas production. One such example is Des Moines Metropolitan Wastewater Reclamation Facility in Iowa, where industrial and food processing wastes are co-digested with municipal wastewater sludges.

Landfill and wastewater treatment plant gases can also be combined for co-generation purposes. For example, in Palmerston North methane generated from the closed Awapuni Landfill is used to supplement biogas from the city's wastewater treatment plant which powers a cogeneration plant big enough to meet nearly all the plants electricity needs.

Circular solutions abound for the reuse of the solid fraction of wastewater treatment processes, known as biosolids. Some examples of biosolids reuse in New Zealand are as use in fertiliser production (bio-boost in new Plymouth) as a feedstock for vermiculture (Taupo, Rotorua, Hamilton and Tokoroa) and for mine rehabilitation in Canterbury. It is estimated that more than half the biosolids produced in New Zealand are currently sent to landfill<sup>1</sup>. Investments in research, standards and facilities are required to enable further reuse.

Such opportunities, if progressed through funding from the increased levy, would bring benefits to both solid and liquid waste management.

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<sup>1</sup> Water New Zealand, *National Performance Review 2017-18*, Wellington 2019  
<https://www.waternz.org.nz/NationalPerformanceReview>

5. Do you think that some activities, sites, or types of waste should be excluded from the landfill levy?

We recommend that the Puketutu Island Rehabilitation Project is exempted from the levy due to exceptional circumstances.

Reference is made to this project in the consultation document, Appendix E: Industrial Monofills, Mangere Biosolids (ie Puketutu Island Rehabilitation Project). Biosolids are beneficially reused in this project to rehabilitate an abandoned quarry and return the landscape to the form of the original Maunga with the support of Iwi and community. The final landform will be gifted to Auckland as a regional park.

An increase in the levy could cost the project up to \$60 million, given the sheer bulk of material required over the next 25 years is 3,000,000 Tonnes. There is no realistic alternate source of this quantity of material to achieve this land rehabilitation. If a levy was applied to the project, this would end land rehabilitation at the site, and taking the biosolids elsewhere would result in more than 100,000 truck/trailer movements through local roads and beyond.

The biosolids used in this project are treated specifically to achieve the rehabilitation purpose, namely through the addition of lime, a significant treatment process employed specifically to make the product usable for the project. The lime processing would not occur if the material was taken to conventional municipal landfill.

12. What do you think about the levy investment plan?

We do not agree that funding should always be discrete rather than ongoing. Illegal dumping requires operational funding for compliance activities that are necessary to ensure that increases in the waste levy do not result in levy avoidance activities elsewhere. One example of the need for operational funding (discussed later in this submission) is to finance a liquid waste tracking scheme.

We are supportive of the proposal to have an advisory body established for large scale projects. This group should have a process for seeking input of stakeholders to provide input into where particular needs.

Areas where our sector requires funding to support waste management are to:

- Support development and uptake of industry biosolid guidelines. Industry led guidelines have been under development for several years, with some engagement from the Ministry of Environment. Further support is required to ensure the adoption of the guidelines. The development of an associated certification scheme would help build trust in users that biosolids could be safely reused.
- Investigations into reuse options for biosolids.
- Support for a tracking scheme for hazardous wastes. Government support for the WasteTrack system ([www.wastetrack.co.nz](http://www.wastetrack.co.nz)) has been withdrawn with no alternative system to replace it. This increases the likelihood of illegal hazardous waste disposal.

13. *If the Waste Minimisation Act 2008 were to be reviewed in the future, what are the changes you would like a review to consider?*

The WMA should be expanded so that revenue from the levy can be spent on the following activities in addition to waste minimisation:

- **Compliance and enforcement to reduce illegal dumping.** For example, funding schemes such as WasteTrack ([www.wastetrack.co.nz](http://www.wastetrack.co.nz))
- **Ensuring waste is disposed of correctly.** For example, a Water New Zealand proposal to run a national-wide wet wipes campaign, to ensure correct disposal of wet wipes (to solid waste rather than down toilets) failed the waste minimisation funding criteria. While the campaign would have reduced the volumes of unsanitary waste (when flushed to sewer wipes intermingle with human effluent and other sewage that clog systems and are removed as solid waste) it did not explicitly minimise waste volumes overall and so was not eligible for funding.
- **Improvements to baseline data and monitoring** that will facilitate future reuse options.
- **Treatment facilities for existing and emerging contaminants of concern.** For example, there is currently no facilities in New Zealand for the destruction of polyfluoroalkyl substances (PFAS). The presence of these substances is widespread and linked to a number of human health issues.
- **Development of product stewardship and producer responsibility schemes.** Funding could be used to enshrine the principal of “polluter pays” with requirements for manufacturers, importers, wholesalers and retailers to share responsibility for their products at the end of life. In addition, fast track and extend the six priority products being considered under existing product stewardship disposal, additional products could be considered. One example is wet wipes, which are often inappropriately labelled as flushable. Support is needed to implement flushability standards currently under development by industry.

14. *Do you agree that waste data needs to be improved?*

Yes. In our sector there is a need to improve information on both the volumes of biosolids, liquid industrial wastes, and contaminants. This requires a mix of research and funding for operational programmes, such as liquid waste tracking scheme to improve understanding.

16. *What are the main costs and benefits for you of the proposals to increase the levy rate for municipal landfills, expand the levy to additional sites and improve waste data?*

We estimate an increase in the levy rate from \$10 to \$60 would cost the sector in excess of \$5,200,000.

The principal cost impact of this proposal on our industry relates to increased wastewater disposal costs. A recent survey estimated New Zealand<sup>2</sup> is producing approximately 300,000 wet

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<sup>2</sup> Rob Tinholt, WaterCare Services Ltd, *The Value of Biosolids in New Zealand – an Industry Assessment*, Auckland 2019

tonnes of sludge, with a dry solids content of approximately 18%. Of this 225,000 wet tonnes have no further dewatering. Other facilities dewater to 90% dry solids (Other than one facilities use of a solar drier this comes at high carbon use cost). 34.7% of sludge produced is disposed of to landfill. The total landfill disposal volume is therefore estimated as 83,424 tonnes/annum as follows:

$$83,424 \text{ tonnes} = 34.7\% \times \left( 225,000 \text{ tonnes} + \frac{75,000 \text{ tonnes} \times 18.5\%}{90\%} \right)$$

The current levy born by the wastewater sector (and ultimately ratepayers) for this disposal based on a levy rate of \$10 is \$834,245. This would rise to \$5,005,475 by 2023 if a \$60 levy is applied, increasing annual operating costs to rate payers by \$4,171,229.17.

Drinking water treatment also produce sludges. The latest available industry estimate suggested 20,769 tonnes of dry solids was disposed of to landfill<sup>3</sup>. This equates to a current levy cost of \$207,690, which would rise to \$1,246,140 under a \$60 levy. This cost is likely to be conservative as it is likely the wet weight of disposed sludges is higher.

The sludge produced by drinking water facilities is a combination of organic material from surface water sources and the chemicals required in the processes. The use of chemicals is crucial to the processes in order to remove the organic material and pathogens and provide safe reliable drinking water.

Due to the chemical content within this sludge from drinking water facilities, disposal at a class A landfill is the only option available. There is no feasible process available to separate the chemical content of the sludge.

These large cost increases highlight the importance of targeting the levy at initiatives which will reduce waste management costs for water and wastewater systems.

Yours sincerely,



John Pfahlert  
Chief Executive

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<sup>3</sup> Water New Zealand, *National Performance Review 2016-17*, Wellington 2018  
<https://www.waternz.org.nz/NationalPerformanceReview>