

Feedback on rates levy for Wellington's new sludge minimisation facility

Tailrisk Economics

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This paper is a response to the Wellington City Council's request for ratepayer feedback on the use of the Infrastructure Funding and Financing Act 2020 (IFFA) to finance the development of a new wastewater sludge minimisation facility (SMF) at Moa Point. This paper is a short one because there was insufficient time to identify and absorb all of the relevant papers. The Council's news release on the subject was dated 11 April 2022 giving only four working days to respond.

In the consultation news release there is no mention of the capital cost of the project but it appears to be about \$200 million for the selected option. Only illustrative ratepayer costs were disclosed, apparently to disguise the size of the total investment. The Council's Chief Infrastructure Officer, Siobhan Proctor warned, in the publicity release, of further costs increases, so it might be more realistic to think in terms of a capital cost of at least \$250 million.

The project

The current processes is that sewage sludge is pumped from Moa point to the Southern landfill; dewatered; mixed with four parts of solid waste; and then buried. The water is returned to Moa point. With the new Moa point plant the sludge will be dewatered; sanitised; some methane extracted; trucked to the landfill; and then buried. The amount of solids will be the same under either option. The main difference is that the proposed process will have a capital cost of \$250 million and the existing one will not.

The project has been promoted on the basis that it will reduce the amount of sludge going to the landfill by over 80 percent. This is misleading because the current number includes the water that is returned to Moa point. The amount of solid will be the same under both options.

Arguments for the project

The main driver behind the project appears to be the Council's 2017 commitment, with other Councils in the region, to reduce the level of 'waste' per capita from 600kg. to 400 kg. There did not appear to be any serious analysis behind this commitment. The Council identified sewage sludge as one way to get to this target.

The Council also appeared to believe that it could turn human excrement into something 'useful'. It now appears that this is not possible because of probable contamination. The Council appears to have dropped this idea, at least for now.

In the Regional Waste report the Wellington Council said that it would fund the sludge removal process, along with other projects, from the waste minimisation fund, so there would not be a material impact on rate payers. Now that it is apparent that this is a major project with a significant impact on ratepayers the Council does not want to reconsider. The reasoning is that the Southern Landfill is, reportedly, starting to run short of solid 'waste' matter to make up the four to one of sludge ratio. However, there has been no formal report on the matter and no consideration of the options. Some might be:

- Stop discouraging solid matter from going to the landfill. This is not 'waste'. It is a valuable input into the sewage management process.
- Mix cleanfill scappings from the landfill with the sludge.
- Truck in clean fill as required.

As the futures of sludge management and the landfill are clearly interwinned both should have been considered together and the decision on the sludge treatment plant parked until this was done. Otherwise there is a risk that the \$250 million investment could be mostly wasted.

There should have been a serious assessment of other options before proceeding with a multi hundred million borrowing. There was none. The Council appears to be bent on meeting its arbitrary 'waste' reductions targets regardless of cost. All that is said in the documentation, in this regard, is that the Southern land fill is 'not viable in the long term.

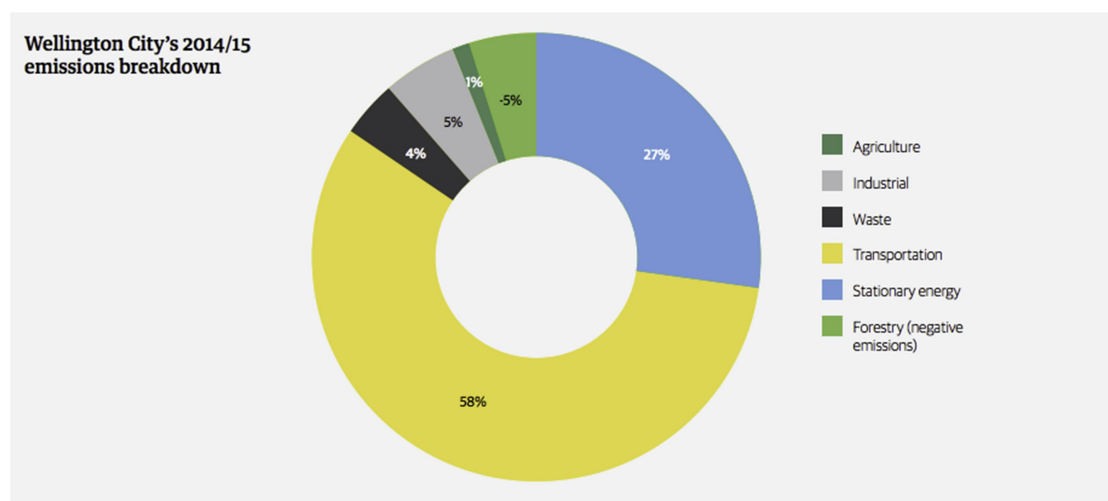
It is also claimed, in the documents that went to the Council's Infrastructure Committee, that Government policy is to increase the cost of sludge and this may make the landfill '*entirely unviable*'. No evidence was given to support this claim, which was intended to leave the impression that the Council was no choice but to adopt the proposal. However, in the Government's recently released consultation paper on the waste levy, there was no sign that the Government was intending to take any such action. The claim appears to be scarce mongering by Council staff.

Emmissions reductions

One of the main arguments for the new facility is that it is consistent with the Council's emissions reduction objectives. The Infrastructure was Committee was told:

'The City cannot achieve carbon and waste objectives unless sewage sludge is removed from the Southern landfill.'

The statement about carbon objective is obviously exaggerated . Sewage emissions are a small fraction (4 percent) of Wellingtons emission's and could be offset by a small amount of forest plantings.



The following statement on the amount of emissions savings from the new plant was made in the business case.

- the current system for sewage sludge management has estimated carbon emissions of 4000t CO₂-e per annum for year 2023. This project aims to reduce the amount of sludge and produce a 'better' end product that is less susceptible to degradation at its disposal point (and therefore reducing greenhouse gas emissions. In real term benefits, it is difficult to project the decline of carbon emissions as current sludge in the landfill adds to the landfill in future. However it is expected that the landfill in the future will have at least 50% less carbon emission (equivalent sic) associated with its (to treat and dispose.

As emission abatement was claimed to be one of the primary project outputs this was hardly a detailed and convincing exposition. We would expect that the additional truck journeys, at least, to be explicitly accounted for. However, if we take the two thousand tons of carbon equivalent saved per year as a given, emissions would add to 60,000 tons over a 30 year span. Even ignoring the time

value of the abatement benefits, the cost per ton, with a capital cost of \$250 million, is over \$4000. This compares with the current emissions trading scheme price of \$79.

Most likely the scheme will not reduce New Zealand's emissions at all. The reason is that New Zealand has an emissions trading scheme. The Government sets its emissions targets consistent with its Paris obligations. The market set the carbon price. Say it is \$100. Emitters with a cost of abatement of under \$100 will stop their emissions. If the Council comes along and reduces emissions by 2000 tones, at a cost of \$4000 a ton, the effective demand and hence the price and will fall. Someone, at the margin, who otherwise would have abated their emissions, will continue emitting, offsetting the Council's reduction. The Council will have done nothing except push the cost of 60,000 tons of emissions reductions from \$100 to \$4000 per ton.

Of course the Councils' zero emissions plans, which just relate to its Wellington City target, is a silly piece of self indulgence. The Council has neither the obligation (that sits with the New Zealand Government) or the capacity, to deliver on a net zero target for Wellington. All the Council is likely to do is spend on expensive and/or ineffective abatement projects which may have little or no impact on New Zealand's overall emissions. Whether net zero is achieved in Wellington or not is irrelevant from a Paris perspective. There will inevitably be unders and overs across New Zealand because policy is set on a national basis.

Risk management arguments

There are a number of risk management arguments scattered through the various documents. In the end they do not come to much. The worst that can happen with the status quo is that the sludge will have to be trucked to the landfill. The worse that can happen with the new plant is that it breaks down and the sludge has to be trucked to the landfill.

Population growth

It is argued that the new plant is necessary to meet the demands of a growing population. However sludge volumes are not currently growing with the population. The Multi-criteria assessment report noted that the sludge volume fell moderately over 2015-20. More importantly there was no suggestion, in any of the documents that the sludge pumping system is nearing some capacity constraint, or could do so with any realistic population growth

Conclusion

The futures of sludge management and the future of the landfill are clearly interwined and both should be considered together. The decision on the sludge treatment plant parked until this is done. Otherwise there is a risk that the \$250 million sludge treatment investment could be wasted.