NEW INITIATIVE (A)

Project title: Bioreactor Feasibility Study

Background: this initiative was considered by committee as part of the climate change paper in December 2007. The initiative aims to identify the best option for the sustainable disposal of sewage sludge given the decision to not extend the current composting contract. The feasibility study will provide assessment of likely costs, benefits and revenue of options, including the introduction of a bioreactor.

It is recommended that the initiative be included in the draft annual plan.

1. The Proposal

This proposal seeks funds to assess a number of options for the future disposal / use of Wellington's sewage sludge. These options include, but are not limited to:

- converting organic waste (primarily sewage sludge) into electricity or LPG using a bioreactor
- working with Porirua City Council in a joint approach for the disposal of sewage sludge. Specifically looking at options for a sewage drying plant.

These investigations will assess both the financial and environmental costs and benefits of the options, and will result in a recommendation for the way forward for the disposal / use of Wellington's organic waste.

Proposal Costs

	Operating expenses $000									
Project Component	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Feasibility study	*50*	-	-	-	-	-	-	-	-	-
Total	*50*	-	-	-	-	-	-	-	-	-

The capital costs for a bioreactor is being investigated. Any costs would be off-set overtime through income generated from the sale of energy. The feasibility study would assess the likely return on investment.

3. Project Outline

The majority of Wellington City's sewage sludge is piped to Carey's Gully, where it is dewatered to a 'spadeable' consistency then mixed with other waste products and converted into compost.

The composting operation has been problematic and the Council recently decided not to extend the composting contract.

There are a number of options available for the disposal of sewage sludge, including: landfilling[1], the development of a sludge drying plant and converting sewage sludge into energy through the use of a bioreactor.

Bioreactor: The most likely process for this conversion is through digestion, where organic waste is allowed to decompose in a sealed environment, and the gases that are produced are captured and can be converted to electricity or LPG for on-sale.

Nova Gas, operating through subsidiary Bay of Plenty Electricity, has recently invested in an electricity generation plant utilising landfill gas. This means that the infrastructure for the transmission of electricity from Carey's Gully will be in place and operating before next financial year.

Drying plant: Porirua City Council is currently looking at options for installing a sewage drying plant at the Porirua site. We will look at the feasibility of whether a joint arrangement would be beneficial to both Councils.

4. Conclusion

The composting operation has been problematic and the Council recently decided not to extend the composting contract. The Council has a number of options for the disposal of sewage sludge and it is recommended that funding be approved for a feasibility study to review options and costs, and determine the best way forward.

1 Council has stated that there is no intention to landfill sewage sludge in the future.