

## 8. INVESSEL COMPOST PLANT

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Corporate Plan Output: Solid Waste	

The purpose of this report is to advise the Committee of the Compost Subcommittee's deliberations concerning the establishment of an invessel compost plant.

### BACKGROUND

Councillors are aware from a series of reports over the past two years that the Waste Manager has been working with a Subcommittee (Councillors O'Rourke, Wright, Howell and Close) to negotiate with a Japanese businessman (Mr Hazaka) about the possibility of setting up an invessel compost plant in Christchurch. Mr Hazaka has been keen to set up a 'demonstration' plant here that would be capable of processing all of our greenwaste that is currently open air windrowed together with food waste from industry and residential properties. Eventually biosolids could also be processed when/if the Council decided to cease application to forest. Note that the Council's current resource consent does not allow open air windrowing of putrescibles or biosolids. It is important to note also the Council needs to move from open air windrowing to invessel composting for the following reasons:

- to enable the processing of putrescibles (food wastes, offal and the like) into compost instead of allowing them to be landfilled where they generate leachate and gas;
- to further the Council's goal of zero waste to landfill by 2020;
- to enable the processing of biosolids so as to eventually add more value than forest application;
- to substantially reduce dust and odour problems which are on the increase at the compost plant site and which are a concern under our resource consent operating conditions.

The Hazaka technology is not unique and is used by other companies, for example the American IPS technology is similar and is used in the Wellington City Council plant. The principal driver for our negotiations with Mr Hazaka, rather than other providers of invessel technology, has been Mr Hazaka's strong desire to establish a plant in Christchurch using his own capital. Naturally this possibility of 'free' capital has appeared very attractive to the Council.

A large amount of effort and time has been invested into the Hazaka negotiations. During the course of these talks, the ground has gradually changed from Mr Hazaka appearing to offer to provide 100% of the capital costs of plant set up, to the point where he now is insisting that the Council provides all of the capital. This is a serious change of tack. Another significant matter is that Mr Hazaka has always insisted that if he were to set up a plant in Christchurch it would have to process 100% of our waste stream including all the biosolids. As talks have progressed the Subcommittee has become more and more uncomfortable with a large scale plant for two principal reasons.

Firstly our biosolids can be applied to the forest for around \$20/tonne whereas processing through an invessel plant will cost considerably more than this by a factor of four or five. Secondly the Subcommittee has come to believe in a cautious approach with the establishment of a four or five lane compost plant instead of an initial 18 lanes or so. The smaller plant would process only part of our waste stream at startup, then it would be expanded later on a staged basis as more is learnt about the most efficient methods of operation and the best blend of input materials. In addition it is going to take some time to convince industry to divert their organics from landfill to a new compost plant, and also time to divert domestic organics from black refuse bags into the plant (note the latter could eventually happen by kerbside collection service).

Taking all of the above factors into consideration together with various other intractable problems that emerged during the negotiations, the Compost Subcommittee has resolved that the Waste Manager write to Mr Hazaka thanking him for his interest in our waste and composting issues and advising him that we intend to progress a small prototype invessel compost plant independently. The Waste Manager will also pursue the question of whether or not Mr Hazaka would consider franchising his technology to us to use in a small prototype plant. It should be noted that franchising is not hugely important to us as we will be well able to set up our own technology with appropriate advice from other existing sources.

#### **THE WAY FORWARD**

The proposed action plan forward is as follows:

	<b>Item</b>	<b>Action &amp; Timing</b>	<b>Source of Funds</b>
(a)	The existing windrow hardstanding area is to be extended to provide more windrowing space which is required for steadily increasing green waste quantities.	Construct 2000	\$125,000; 2000/01 \$125,000; 2001/02 WMU capital budget
(b)	The existing shredder and screen will be replaced and may be relocated to a position that fits in with the eventual set up of an invessel compost plant. They may be also enclosed to reduce dust and odour problems	Replacement 2000	Operational funds on 2000/01 WMU budget
(c)	A feasibility study will be done on the establishment of a prototype invessel compost plant including input and output quantities, capital and operating costs, time frame, budget requirements and the like. This will be reported to City Services Committee in October/November 2000 in time for inclusion of capital funds in the 2001/02 budget process.	Report to Oct/Nov City Services Committee	\$50,000; 2000/01 WMU operational budget for feasibility study to establish required future funding

#### **CONCLUSION**

Whilst at first consideration it might seem that the Hazaka negotiations have been unproductive, this is not the case. The negotiations have resulted in the Council gaining a deeper understanding of the most appropriate way to change from open air composting to an invessel operation from aspects of both understanding invessel technology and understanding the issues associated with diverting our organic waste streams away from the landfill into the compost plant (ie diversion of green waste, industrial organics and residential organics). In addition the negotiations have resulted in the Subcommittee deciding to adopt a lower risk more cautious approach with a small prototype startup plant that is capable of expansion in stages.

## SUMMARY

Negotiations with Mr Hazaka that have occurred over the past two years have lead to a greater understanding of invessel compost technology and greater understanding of the issues associated with diverting more organic material from the landfill into the compost plant. The Compost Subcommittee have for the reasons outlined in this report decided on a feasibility study for a lower risk small startup invessel plant that is capable of staged expansion rather than a full scale plant. The small startup plant is unlikely to be an Hazaka Plant for the reasons explained in this report, though the use of some Hazaka technology in a smaller plant is still being pursued.

**Recommendation:** That the Waste Manager report back to this Committee through the Compost Subcommittee with the results of a feasibility study on the establishment of a small startup invessel compost plant later this year. This report will indicate future operational and capital budgeting requirements for such a plant.

### Chairman's

**Recommendation:** That the above recommendation be adopted.