8. BIOSOLIDS STRATEGY

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PURPOSE OF REPORT

1. The purpose of this report is to present the final report from the Biosolids Strategy consultation process carried out for the Council by a coalition led by the University of Canterbury. Approval is sought to progress this issue by developing an issues and options report centred on the preferred outcomes of the University report (Attachment 1).

EXECUTIVE SUMMARY

2. Biosolids produced from the Christchurch Wastewater Treatment Plant (CWTP) are primarily used as cover material at Burwood Landfill. The need for cover material at Burwood will cease, once the rehabilitation of the landfill is completed in mid-2008.

3. Through a team lead by the University of Canterbury, consultation was conducted with the public on a future strategy for biosolids reuse and disposal. The University of Canterbury and associated team had a need and the funding to pilot a new type of consultation process – the Scenario Workshop method. A very successful consultation process has been completed and the Council now has a very clear community preference for the future use of biosolids. The community preference is very strongly weighted towards the use of biosolids for energy generation with land application (not on food crops) and incineration distant secondary options. A clear proviso with energy generation is the tight control of any discharge of contaminants to air.

4. Those consulted felt strongly that the Council should:

   - step up community education on the impacts of the public's behaviour and products they purchase on the waste stream,
   - have programmes that encourage the reduction in both domestic and industrial wastes and contaminants at source, continue research into potential hazards and future options for biosolids management, and
   - investigate the feasibility of decentralisation of wastewater treatment.

   The support for land application was based on the desire to return nutrients to the soil and was contingent on removal of a full range of contaminants from the waste stream.

5. The Council now has a clear direction with which to assess the issues and options associated with implementing the use for energy production of the 30,000 tonnes per year of biosolids (as 20% dry solids) produced each year at the wastewater treatment plant.

FINANCIAL AND LEGAL CONSIDERATIONS

6. If other options are not implemented, the bulk of the biosolids produced at the CWTP will have to be sent to Kate Valley for disposal, at a cost of at least $3.54M per annum at the current landfill charge and transportation costs.

7. The volume of biosolids disposed to Kate Valley will not be beneficially reused. This will result in a failure to meet, or to make reasonable progress towards meeting, the New Zealand Waste Strategy target for biosolids:

   > *By December 2007, more than 95 per cent of sewage sludge currently disposed to landfill will be composted, beneficially used or appropriately treated to minimise the production of methane and leachate.*

8. A total capital sum of $22M has been included in the draft 2006/16 LTCCP spend between 2006 and 2009 for construction of a facility to process the biosolids.

9. The financial and legal implications will be further assessed through the issues and options stage that is about to commence.

STAFF RECOMMENDATIONS

It is recommended that the Council:

(a) Receive the report “Invitation to Design the Future - Christchurch Scenario Workshop on Biosolids Management” (Attachment 1).

(b) Thank Dr Joanna Goven and her team for the work and report.

(c) Request that staff now develop the issues and options for fulfilling the agreed strategy and report back to the Council with options and recommendations for implementation.

BACKGROUND ON BIOSOLIDS STRATEGY

10. Biosolids are the organic solids that have been recovered from the wastewater treatment plant processes and treated so that they are suitable for reuse in the environment. Approximately 30,000 tonnes of biosolids (as 20% dry solids) are produced per year at the Christchurch Wastewater Treatment Plant (CWTP). Currently, biosolids produced from the CWTP are chiefly reused in two ways:

    - as cover material at Burwood Landfill, which accounts for 90% of the reuse of the CWTP biosolids; and
    - as a soil conditioner, spread in designated areas of Selwyn Plantation Board forests.

11. The use of biosolids as cover material at Burwood Landfill is limited to the duration of the rehabilitation of the closed landfill. It is expected that by mid-2008 there will be no further demand for cover material at Burwood Landfill. Current consents for the application of biosolids to forest plantations will not provide sufficient capacity for the volume of biosolids now used as cover material at Burwood. There is little or no need for cover material at Kate Valley, given the abundant supply of natural cover produced from the construction of that site. This will result in at least 30,000 tonnes of biosolids (as 20% dry solids) for which an alternative must be found.

12. If new uses cannot be found for the 30,000 tonnes per year of biosolids that are now used as landfill cover material, the biosolids will have to be disposed of at Kate Valley as waste, at an annual cost of at least $3,540,000 at the current landfill charge and transportation costs. This does not include the cost of transporting the biosolids to Kate Valley.

13. A programme for planning work is needed to prepare for the draft LTCCP 2006/16 capital budget spends of $400,000 in 2006/07, $10,000,000 in 2007/08 and $11,600,000 in 2008/09. This will include an issues and options report for biosolids management to be written in early 2006.

COMMUNITY CONSULTATION ON BIOSOLIDS

14. Earlier this year, community consultation on the management of biosolids was conducted, led by the University of Canterbury. A seminar on the process used for the consultation was presented to the Council on 4 October 2005. In brief, the consultation consisted of two stages.

15. In stage I, six “birds of a feather” workshops were held in June and July 2005. For these workshops, relatively homogeneous groups were asked to consider four scenarios. In addition, a web-based workshop was also offered for members of the public who were unable to attend the June and July workshops. From the Phase 1 workshops, preferred visions for biosolids management were developed.

16. In the second phase of the consultation, participants for all Stage I workshops were brought together to create strategies derived from the criteria developed during the Stage I workshops. Four major possible options for managing biosolids were identified:

    - thermal treatment (incineration)
    - energy production from combustion
    - land application, excluding use in the food chain
    - land application without any food chain restrictions

17. There was a very clear preference for use of biosolids for energy generation, with nearly 75% of participants supporting this option. Support for this option was tied to a provision that emission of contaminants into the air are strictly controlled and monitored. Land application (excluding use on food crops) and incineration were distant secondary options, with 17% and 10% of participants, respectively, supporting these options. There was no support for unrestricted land application.

18. Results from the stage I and stage II workshops are provided in greater detail in Attachment 1.

NEXT STEPS

19. Issues and options should be identified for the energy generation preference identified from the consultation, which will form the basis of a report back to the Council later in the year with options and recommendations for implementation.