

6. BURWOOD LANDFILL GAS UTILISATION PROJECT

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This report seeks Council approval in principle to proceed with the Burwood Landfill Gas Utilisation Project, provided emission reduction units (aka 'carbon credits' or 'greenhouse gas credits') are secured through Central Government's 'Projects to Reduce Emissions Programme' and that with these carbon credits, the development is viable (viable means at no net cost to the Council and takes into account any risks associated with the project).

BACKGROUND

A summary of relevant matters is provided below to provide a background to the issue:

- In November 2002 a report on Burwood Landfill Site Management noted the possibility of the Council selling greenhouse gas credits. Landfills generate methane as organic material decomposes, and methane is a greenhouse gas contributing to global warming. If it is collected and burnt, the methane is converted to carbon dioxide. Methane has twenty-one times the effect of carbon dioxide and as such is one of the worst greenhouse gases.
- The New Zealand Government has developed a 'Projects to Reduce Emissions Programme', designed to reduce greenhouse gas emissions by supporting projects that provide emission reductions in the Kyoto Protocol's first commitment period, 2008-2012 (examples of suitable projects are wind or hydro power generation and the burning of landfill gas to create energy). More details can be found at www.climatechange.govt.nz.
- Under the Kyoto Protocol, carbon credits can be traded and prices currently range from \$20 per CO₂ equivalent tonne (government certified emission reduction units) down to \$1 per CO₂ equivalent tonne (uncertified). In August 2004 Council staff met with representatives from the Dutch Government who were in New Zealand seeking opportunities to purchase government certified emission reduction units at around \$10 per CO₂ equivalent tonne, for the period from 2008 to 2012. This establishes that the market for carbon credits is real and is likely to develop further with time. More details can be found at www.carboncredits.nl.
- The New Zealand Government can add value to the Council's carbon credits through what is effectively a certification process, by the allocation of emission reduction units. The next tender round for the Government allocation of these units closes in October 2004. The Government process is aimed at providing a financial incentive for projects that will reduce greenhouse gas emissions, but that are financially marginal and therefore need the incentive to proceed.
- A theoretical model of landfill gas emissions, based on the amount of biodegradable matter in Burwood Landfill, predicted that up to 1,800m³ per hour of methane could be generated from the landfill over the next 10 years. On average, this equates to around \$4,000,000 worth of carbon credits over five years (2008-2012 at \$10 per CO₂ equivalent tonne). To verify the quantity and quality of that gas, ten wells were drilled into the Landfill and from May 2004 a portion of the landfill's gas has been collected and burnt.
- The Council is now investigating the completion of this project. This would include the construction of more wells and the utilisation of the landfill gas as an energy source (eg using the landfill gas instead of LPG to heat the swimming pool at QEII Park). This development could secure emission reduction units under the Kyoto Protocol, because it goes above and beyond any resource consent requirements for the Landfill and because it would replace the use of non-renewable energy.

This report seeks Council approval for an application to be lodged with the New Zealand Government for emission reduction units based on the Burwood Landfill Gas Utilisation Project.

PROPOSAL TO COMPLETE THE LANDFILL GAS PROJECT

It would be prudent for the Council to lodge an application for emission reduction units in October 2004 with the New Zealand Government, given the nature of the development being considered. However, in order for the Government to award these units to the Council, they must be given confidence that if the credits are given to the City Council, the project will proceed. This assurance can be supplied by the Council agreeing, in principle, to undertake the project provided it is proved viable. This assurance must be provided now because the Council will not meet again until after the

closing date for proposals (the tender round is open between late August and October 2004). Councillors should note that the final decision to proceed would only be made once a full and detailed proposal with costs and a sensitivity analysis (including the scenario where the Kyoto Protocol does not come into force) is provided to the Council.

Preliminary estimates on the cost of the proposed project put the net cost, including repayments for capital, the sale of carbon credits and the sale of energy, at close to zero (ie no net cost to the Council). Further work is ongoing, and the results of that work would be included in the application for emission reduction units.

SUMMARY

The Council is in a good position to be awarded emission reduction units (carbon credits) from the Government under the Kyoto Protocol for its Burwood Landfill Gas Utilisation Project. To be awarded these credits the Council must lodge an application to the Government in October 2004 and give an assurance that should credits be awarded and the project is proved viable, the project would be completed. The Council can give this assurance by agreeing to the following resolutions.

Staff

- Recommendation:**
1. That Council instruct staff to lodge a proposal for emission reduction units with the New Zealand Government's 'Projects to Reduce Emissions' 2004 tender round.
 2. That Council approve in principle, proceeding with the Burwood Landfill Gas Utilisation Project provided the project receives emission reduction units and that with these units the project is viable (viable means at no net cost to the Council and takes into account any risks associated with the project).
 3. That a report detailing the costs and risks associated with the Burwood Landfill Gas Utilisation Project is received by the Council prior to a final decision being made about proceeding with the project.

Chairman's

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