

Proposal to introduce a Clean Heat Project for Kaiapoi and Rangiora

April 2006



**Environment
Canterbury**
Your regional council

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Purpose of this proposal

The purpose of this document is to provide the basis for a consultative process for the proposed commencement of a Clean Heat Project in Kaiapoi and Rangiora.

The Clean Heat Project is an incentives and assistance project designed to encourage and assist homeowners currently using open fires and coal and wood burning appliances to change to cleaner forms of heating. It has been running in Christchurch since 2003.

Kaiapoi, and to a lesser degree Rangiora, like Christchurch and other towns and cities, have a significant air quality issue in wintertime. The National Environmental Standards (NES) requires a significant improvement in that air quality by 1 September 2013. That is, to have no more than one exceedence of the PM₁₀ standard of 50µg/m³ by 1 September 2013. The consequences of not meeting the NES standards will fall on the industrial/commercial sectors, or those that require resource consents for air emissions.

The Clean Heat Project is only one of the tools available to achieve improvements in air quality in Kaiapoi and Rangiora. Regulations and education/marketing will also need to be part of the range of techniques considered.

Air quality in Kaiapoi and Rangiora

Suspended particulate concentrations at Kaiapoi have exceeded the air quality guideline for PM₁₀ of 50µg/m³ between 17 and 41 times each year since 1999. In Rangiora the air quality guideline for PM₁₀ has been exceeded between 6 and 11 times each year. These exceedences occur during the months of May to August on days when meteorological conditions are characterised by low wind speeds and temperature inversions. The meteorological conditions most conducive to high pollution typically occur in the early evening period. This coincides with the time of day when emissions of PM₁₀ are highest, as many households in Kaiapoi and Rangiora light their burners at this time.

In 1997, a survey of emissions to air in Kaiapoi found that 51% of households in Kaiapoi relied on woodburners for home heating, 6% open fires and 3% multi-fuel burner. Overall the domestic heating sector was responsible for 96% of PM₁₀ emissions in the Kaiapoi airshed. The same survey in Rangiora found that 62% of households in Rangiora relied on woodburners for home heating, 6% open fires and 1% multi-fuel burner. Overall the domestic heating sector is responsible for 62% of PM₁₀ emissions in the Rangiora airshed.

How many conversions

The number of conversions that will be needed for Kaiapoi and Rangiora to meet the 2013 NES standards has not yet been accurately determined. During 2006, Environment Canterbury is carrying out an emissions inventory (which estimates the extent and sources of air pollution) and an emissions projections exercise (which will predict the number of appliances that need to be removed).

Kaiapoi and Rangiora have in the order of 5,000 properties that contain an open fire or coal and wood burning appliance. This number will be more accurately determined, for each of Kaiapoi and Rangiora, through the emission inventory work being carried out.

An initial estimate of the number of appliances that would need to be removed is in the order of 2,500 (rounded up from an estimate from the Ministry for the Environment as presented to a meeting of the National Air Quality Working Group in Christchurch on 6 July 2005). That is likely to be a conservative number, and the emission inventory and projections work could well determine that more than 2,500 will need to be removed. That work will also determine how many conversions are needed in each of Kaiapoi and Rangiora. What also needs to be determined is how many of those can be replaced with low emission woodburners. In Christchurch, only 20% of the replacements can be low emission woodburners. Until the projections exercise is undertaken, it is assumed that this is likely to be the case in Kaiapoi, and possibly Rangiora, as well.

Clean Heat project

The Clean Heat Project is designed to encourage and assist homeowners to voluntarily convert from open fires and coal and wood burning appliances to approved clean heat appliances. The project is provided in advance of considering the introduction of regulatory requirements to make those conversions. The project also recognises that individual homeowners are being asked to make a change to their heating source for the benefit of cleaner air for the wider community.

The Project would be funded from a targeted rate across the area that would benefit from the conversion of existing appliances. This is likely to be the urban areas of Kaiapoi and Rangiora, but could be extended to larger areas of Waimakariri District in order to spread the cost across the wider community.

The Clean Heat Project in Christchurch offers a range of incentives. These target different groups with different levels of subsidy or assistance. The current incentives are:

- **Full Assistance**

Full Assistance is provided to low income owner-occupiers who it is expected will have the greatest difficulty funding the conversion to cleaner forms of heating. Full Assistance provides for the full cost of the conversion. To qualify, the property owner must have a Community Services card. The conversion includes the boarding up or removal of the existing open fire or coal or wood burning appliance, the provision and installation of a Clean Heat Approved heating appliance, and the retrofitting of necessary insulation. The participant selects from a range of new appliances for which Environment Canterbury has negotiated contract prices, which include the project management and arrangement of the installation work.

- **Subsidy**

Subsidies towards the cost of the conversion are offered to owner-occupiers who do not qualify for Full Assistance. The subsidies include \$500 towards the new appliance (\$300 towards a night store heater), \$3.50 per square metre towards insulation costs, and \$100 towards the cost of boarding up or removing the existing open fire or coal or wood burning appliance. Appliances and energy efficiency measures are offered at contracted prices obtained by Environment Canterbury, and includes the project management and arrangement of the installation work. Alternatively, participants may purchase a Clean Heat approved appliance and energy efficiency measures from approved retailers and installers, and receive the subsidies in the form of a discount on the installed cost from those approved retailers and installers.

- **Landlord Subsidy**

The Landlord Subsidy is provided to encourage landlords to participate by offering a higher level of subsidy (40% of the cost). Appliances and energy efficiency measures are offered at contracted prices obtained by Environment Canterbury, and includes the project management and arrangement of the installation work. Provision can be made for landlords who wish to upgrade to a different approved technology than the one offered but they must meet the full cost differential.

- **Clean Heat Loan**

The Clean Heat Loan is offered as an alternative to the two subsidy options. Rather than a subsidy, Environment Canterbury provides an advance of the capital cost (by way of a loan) of the installation project. The loan (capital cost only, no interest) is repaid over a period of 10 years through a targeted rate that applies only to those properties that choose to take up the loan.

The targeted rate applying to any particular property is determined depending on a \$200 band within which the "total installation cost" falls. The targeted rate is 10% of the lowest amount of that \$200 band, and applies for 10 years. For example, a total installation cost of \$2,720, falls within a targeted rate band of \$2,600 to \$2,800, will pay a targeted rate of \$260 for 10 years.

The "total installation cost" includes the assessed cost of the installation of the chosen heating appliance, any necessary insulation, the boarding up or removal of the existing open fire or coal or wood burning appliance, and a \$150 administration fee. The targeted rate commences in the financial year (1 July) following the installation of the appliance and insulation.

Participants in the loan option are required to sign a contractual agreement, agreeing that:

- the recovery of the total installation cost will be by way of a targeted rate on their property;
- Environment Canterbury can, if it considers necessary, register a caveat against the title to secure repayment of the loan;
- any outstanding balance of the loan will be repaid if the property is sold within the 10 year period, unless that sale is to a related person.

The maximum loan for any one conversion is \$4,200 including GST.

MainPower warm homes insulation programme

MainPower has been running an insulation retrofit programme (called Warm Homes) for low income households in the North Canterbury and Kaikoura region. This has so far installed insulation in 185 homes in Kaiapoi and Rangiora.

Reasonably practicable options

There are a number of options available for consideration:

1. Full Package (full range of incentives - full assistance, subsidy, landlord subsidy, and loan)

Number of conversions over 7 years2,500
Number of conversions in year 1357
Targeted rate on average residential property in year 1\$70

This would provide a seven-year programme until 2013 with the full range of incentives (full assistance, subsidy, landlord subsidy, and loan), as provided in Christchurch. Based on an assumption of 2,500 conversions, and assuming that 33% would qualify for full assistance, the total cost of that would be approximately \$5.806 million. This would enable approximately 357 conversions per year.

The targeted rates required to fund the package, based on a first year figure of \$630,000, would be \$28.61 per \$100,000 capital value. For the average residential property in Kaiapoi and Rangiora (\$245,000), this would mean a targeted rate of \$70 in the first year.

2. Subsidy and Loan only (limited range of incentives – subsidy and loan)

Number of conversions over 7 years2,500
Number of conversions in year 1357
Targeted rate on average residential property in year 1\$39

This would provide a seven-year programme until 2013 with a limited range of incentives. The most practicable range of incentives would be to provide for the subsidy (possibly including the slightly higher subsidy landlord subsidy) and the Clean Heat Loan. It would exclude full assistance, which is the most expensive to provide. Using the same assumptions as the full package above, the total cost would be approximately \$4.2 million. This would enable approximately 357 conversions per year.

The targeted rates required to fund the package based on a first year figure of \$350,000, would be \$15.90 per \$100,000 capital value. For the average residential property in Kaiapoi and Rangiora (\$245,000), this would mean a targeted rate of \$39 in the first year.

This is very similar to the current average cost per year of the full package scheme in Christchurch. Full assistance may be able to be added in the future when the likelihood and extent of Central Government funding is known.

3. Build on MainPower Warm Homes initiative (targeted full assistance)

Number of conversions over 1 year 155

Targeted rate on average residential property in year 1 \$39

This would provide a first year programme. Properties that have been already insulated through the MainPower Warm Homes insulation retrofit programme, could be offered a Clean Heat approved appliance. This is a modified and targeted form of full assistance. Assuming the same level of targeted rates as Option 2 (\$39 for the average residential property), the project could convert approximately 155 homes in a year. A variation of this option would be to provide for less than 155 homes that have been already insulated through the MainPower Warm Homes insulation retrofit programme, with the balance of the funding available used as in Option 2 for subsidy and loans. The extent of the project beyond 2006/07 could be re-examined through the 2007/08 annual plan, as in Option 4.

4. Delay until 07/08 annual plan

This would enable a number of other factors to be clearer. The number of conversions estimated to be required in Kaiapoi and Rangiora would be known from the emission inventory and projections work. The likelihood and level of Central Government funding would be clearer. The extent of regulatory interventions proposed for Kaiapoi and Rangiora would also be clearer. Whatever Clean Heat Project that was then designed would need to be funded over 6 years rather than 7 years.

5. Regulation only

This would rely on future regulatory processes through the Proposed Canterbury Natural Resources Regional Plan - Chapter 3: Air quality (e.g. bans on the use of open fires, removal of existing older woodburners), without any Clean Heat subsidies being made available.

6. Do nothing

This would await the consequences of the National Environmental Standards (NES). It could be that future governments will amend or remove the NES. The consequences of not meeting the NES standards will fall on the industrial/commercial sectors, or those that require resource consents for air emissions.

Table Comparing Options

Option	Advantages	Disadvantages
Full package	<ul style="list-style-type: none"> • Same as Christchurch • Provides full range of packages • Most likely option to succeed in getting conversions 	<ul style="list-style-type: none"> • Expensive, beyond ability of ratepayers to fund
Subsidy and loan only	<ul style="list-style-type: none"> • More affordable • Full assistance could be added if Central Government funding 	<ul style="list-style-type: none"> • Less likely to achieve enough conversions
Build on MainPower warm homes	<ul style="list-style-type: none"> • Builds on successful local initiative • Deals with most needy first • Keeps options open • Will have more information available 	<ul style="list-style-type: none"> • Reduced timeframes to achieve conversions, but will have started
Delay to 07/08	<ul style="list-style-type: none"> • Will have more information available • Keeps options open 	<ul style="list-style-type: none"> • Reduced timeframe to achieve conversions
Regulation only	<ul style="list-style-type: none"> • Avoids costs of Clean Heat 	<ul style="list-style-type: none"> • Regulation without incentives will be difficult
Do nothing	<ul style="list-style-type: none"> • Avoids costs of Clean Heat • Assumes things will change 	<ul style="list-style-type: none"> • Significant economic consequences of not meeting NES • Delays significant improvement in cleaner air

Provision in Draft 2006/16 LTCCP

The Draft 2006/16 Long Term Council Community Plan (LTCCP) has made provision for the funding of Option 2 above. That is, the provision of a targeted rate across the Kaiapoi and Rangiora urban areas to fund a Clean Heat Project in Kaiapoi and Rangiora that provides for a subsidy and a loan package, over the seven year period through to 2012/13. It was necessary for the Draft LTCCP to make some provision. The inclusion of Option 2 in the Draft LTCCP is not meant to imply that that is the choice that will be made through this consultation process, but is provided to enable community discussion of such a programme to be implemented prior to any regulatory initiatives.

Social considerations

The proposed Clean Heat Project will make it easier for homeowners to convert their existing open fires and coal and wood burning appliances to cleaner forms of home heating.

Kaiapoi, and to a lesser degree Rangiora, have a significant air quality problem, most of which is caused by home fires. Air pollution can be associated with a range of significant health problems, including respiratory diseases, asthma attacks, reduced immunity and even premature deaths. Nuisance effects are also common such as irritation to eyes and nose e.g. itchy eyes, sneezing, coughing and odours.

Environmental considerations

Cleaning up the air in Kaiapoi and Rangiora will have significant environmental advantages. As well as the social and health consequences, the environmental image of Kaiapoi and Rangiora will be enhanced by improving its air quality.

Central Government has recently introduced a National Environmental Standard (NES) for air quality. This requires the reduction of particulate matter (PM₁₀) in the Kaiapoi and Rangiora airsheds so that by 1 September 2013 there is no more than one exceedence per year of 50 micrograms of PM₁₀ particulate per cubic metre of air on a 24-hour basis.

The Clean Heat Project will be one of the tools to help Kaiapoi and Rangiora to meet that 2013 NES standard.

Cultural considerations

The Council is not aware of any cultural issues that should be taken into account in the consideration of this proposal.

Economic considerations

The consequences of Kaiapoi, and/or Rangiora, not meeting the 2013 NES standard, (or a straight line or other path to 2013) would be that Environment Canterbury will not be able to, or will be severely limited in being able to, issue resource consents for significant new or replacement air discharges under the Resource Management Act. This could have significant impacts on the economic growth and development of Kaiapoi and/or Rangiora.

The Clean Heat Project also has positive economic consequences from the injection of commercial activity into the local economy. The conversion of over 2500 properties provides financial opportunities and jobs in the heating appliance, insulation, installation, and local government sectors of the economy. The total project could spend more than \$5 million over a period of about 10 years.

Period and process for submissions

This Discussion document is being considered alongside the consultation process for Environment Canterbury's Draft 2006/16 Long Term Council Community Plan. It has been released as a companion to the Draft LTCCP, and is open for submissions for the same period. Submissions will be received from 1 April 2006 until 4pm, 1 May 2006.

The Council will hold a meeting towards the end of May 2006 to hear presentations from those who want to be heard. The results of those hearings will be fed back to the Council at the same time as for those of the LTCCP in June 2006.

Have your say

Submissions can be posted, emailed or made online.

Name:	Phone No:	(home)	(business)
Address:	Fax No:	(home)	(business)
		Email:	
Signature:		Date:	/ /

Please specify page number

What are your submissions? (State clearly whether you support or oppose specific points and give reasons)

What decisions do you seek? from Environment Canterbury

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Send your submissions to:

Clean Heat Waimakariri Consultation, Environment Canterbury, PO Box 345, Christchurch or
email: plan@ecan.govt.nz or
make comments online on our website: www.ecan.govt.nz

Submissions on the 'Proposal to introduce a Clean Heat Project for Kaiapoi and Rangiora'.

Submissions should be received by:
4pm, 1 May 2006.

Submissions on the 'Proposal to introduce a Clean Heat Project for Kaiapoi and Rangiora' will be considered in late May 2006.

Do you wish to be heard in person?

Yes No

If you have indicated you want to be heard in person, we will contact you to arrange a hearing time and advise venue details.

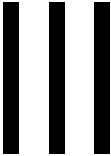
Remember, the clearer you can be, the easier it will be for Environment Canterbury to understand your concerns and take them into account.

- Please continue your comments on separate pages if necessary

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