

Report 09.343
Date 11 June 2009
File CP/19/07/13

Committee Regional Sustainability
Author Alison Lash

Regional climate change response

1. Purpose

To update the Committee about Greater Wellington's response to climate change and present a discussion document for approval.

2. Significance of the decision

The matters for decision in this report do not trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

Greater Wellington (GW) signed up to the Communities for Climate Protection programme (CCP-NZ) in 2006. Our progress against the CCP-NZ milestones is shown below.

Milestone	Corporate sector	Community sector
Milestone 1: Establish an inventory and forecast for greenhouse gas emissions	Completed July 2007	Completed July 2007, revised February 2009
Milestone 2: Establish emissions reduction goals	Completed April 2008	In progress
Milestone 3: Develop and adopt a local action plan	Completed December 2008	In progress
Milestone 4: Implement the local action plan	In progress	Not completed
Milestone 5: Monitor and report on achievements	Not completed	Not completed

The development of a regional community response to climate change (Milestones 2 and 3) is being conducted as a collaborative exercise among all the councils in the region that is being coordinated by GW.

4. Discussion

4.1 Draft discussion document and delivery of draft plan

Since the selection of a preferred updated inventory, the regional Emissions Reduction and Adaptation Working Group (ERAWG) has been working on the development of reductions targets and initiatives for achieving these targets, as well as on adaptation initiatives. A discussion document has been drafted and is attached to this report (*Attachment 1*). It was discussed at a workshop involving a group of professional experts from Victoria University's Climate Change Centre, NIWA, Otago University's Centre for Sustainable Cities, the Institute of Professional Engineers NZ, Ministry of Agriculture and Forestry and Ministry for the Environment. At a separate workshop, input and comment was also received from the following community groups with a special interest in the climate change area and/or expertise in areas where mitigation and adaptation initiatives might be focussed: Domestic Energy Users' Network, Bioenergy Association, NZ Institute of Forestry, Climate Defence Network, Cycling Aware Network, Living Streets, Forest and Bird, Transition Towns, Organics Aotearoa NZ and Transport 2000+NZ.

As a result of this input, a final draft discussion document has been produced. Its intended audience is the officers in GW and the TAs in the region. There is a great deal of technical information underpinning this document and this is being made available for access via the GW website. Once the Committee's approval has been received for the draft discussion document, it will be circulated to all the TAs in the region. Its contents will be discussed in workshops in July and the feedback received will allow ERAWG to draft a regional climate change action plan in August. At the Committee's suggestion (meeting of 12 May 2009), we will engage the wider community in climate change issues and the draft plan in September/October of this year.

The timeline for the delivery of the final Regional Climate Change Response Plan is as follows:

Date	Action
17 April	Review of discussion document by workshop of professional experts
12 May	Progress report to Regional Sustainability Committee
19 May	Workshop of invited community groups with specific interests in relation to CC issues
10 June	Discussion with Ara Tahi
18 June	Consideration of draft Discussion Document by Regional Sustainability Committee - for approval
19 June	Discussion Document circulated to all councils in region
3rd week July	Council officers' workshop on discussion document

End of August	Draft Plan completed
10 September	Draft Plan to Regional Sustainability Committee for approval
11 September	Draft Plan circulated to all councils.
September/October	Wide community input sought through engagement process
September 2009 to February 2010	GW and TAs incorporate provisions into annual planning process
March/April 2010	Community consultation on plan through annual planning process
July 2010	Final plan drafted

4.2 Structure and aims of draft discussion document

The document has three major sections: background and context-setting information, emissions reductions, and adaptation planning. While GW and a number of the TAs are well-informed about climate change, some of the less resource-rich do not have the time to be able to assemble this information. The aim is to fill those knowledge gaps as well as to engage the better-informed in thinking about the way ahead.

4.2.1 Background science

Climate change science is in its infancy and is evolving very rapidly. Among reputable climate change specialists, there is strong consensus that the current warming phase we are experiencing is highly likely (more than 90% certainty) to be the result of human behaviours. And there is 100% certainty that a global average warming of much over 2°C above pre-industrial levels (about 1.5°C above today's average) would make the lives of humans and many other species very uncomfortable and, in some cases, impossible.

Climate change effects most likely to be felt in the Wellington region over the next 100 years are temperature rises, sea level rise, changed rainfall patterns, increased storm intensity and higher wind speeds. These effects will not be uniform across the region. There will probably be seasonal variations and the most noticeable and damaging effects may be increases at the extremes: more very hot days and fewer frosts, more droughts and risk of forest fire in eastern areas, more westerly winds and higher storm surges.

The National Institute of Water and Atmospheric Research (NIWA)'s advises that its models do not yet allow totally reliable projections at the regional level for rainfall and storm changes. However, they are confident that we are likely to see at least 0.5m of sea level rise (SLR) by 2100 and very possibly 1m. Storm surge effects are not included in these figures. Further, recent peer reviewed research from several sources around the world paints a graver picture as information is assembled on the behaviour of land-based ice-sheets and glaciers. The view of NIWA scientists is that the upper bound of the range of probability for SLR by 2100 is likely to increase as better data is collected, possibly to as much as 2m.

A preliminary discussion of the implications of these potential developments for the region is included in the draft discussion document.

4.2.2 Emissions reductions goals

The document examines the three major sources of emissions for the region – transport, stationary energy and agriculture – as well as waste which, although its contribution is small, has been identified as an area for mitigation action because it is almost completely under the control of local government. Forestry as a carbon sink to offset emissions has also been considered.

Following the section of the document which analyses the regional emissions inventory (adopted by the Committee at its meeting in February 2009), a range of possible percentage reduction goals are presented. These goals have been developed by ERAWG based on a combination of assumptions about likely central government steps to achieve their target of 50% reduction in national emissions by 2050 (“50 by 50”) and theoretically possible reductions resulting from known or potential new technologies. There are three issues with setting such goals for the region.

First, the size of the contribution of any eventual central government initiatives in any of the focus areas is very difficult to gauge in the absence of any clear indication as to how they will achieve their 2050 target. This means a rather large component of the reduction goal is completely outside the influence of the local authorities in the region.

Secondly, some of the figures in the inventory are derived by applying national averages to the regional population. As yet, sources of information which has been adjusted for regional factors are lacking for these focus areas. Such national averages will not be sensitive to any gains we may make at a regional level in emissions reductions.

Further, quantifying with any accuracy the likely impacts of initiatives on emissions percentages would require a fairly major modelling task which would slow the process of putting a response plan in place and may be beyond the resources of local government in the region in the current economic circumstances.

As a result of these issues, setting percentage reductions goals as required by the CCP-NZ programme may be a case of setting ourselves up to fail. The response of the professional experts with whom we discussed our ideas was to suggest a move away from percentage reduction goals and towards targets which will be indicators for emissions reductions (e.g. the proportion of electric vehicles in the region, trends in the number of solar HW consents, percentage of landfill gas capture) which will be more within the sphere of influence of local authorities. We propose to workshop this concept with the region’s local government officers.

4.2.3 Mitigation initiatives

A suite of initiatives which will mitigate emissions has been developed and presented under the heading of each of the focus areas: transport, non-transport energy, agriculture, waste and forestry. The initiatives are divided into categories in relation to how councils might implement them: leadership (including advocacy), planning, pricing, regulatory and funding.

As with the reduction goals, these initiatives reflect the thinking of the ERAWG members based on what is theoretically possible resulting from known or potential new technologies and some behaviour changes. Because of the collaborative nature of this exercise, the initiatives are presented as a suite of suggested possibilities from which councils can choose as they develop their own climate change programmes. It is envisaged that some of these ideas may be dropped from the draft plan as a result of TA officer input and new ideas may be included. The expression of these ideas is necessarily at a fairly high level on the assumption that councils will wish to develop their own ways of implementing them. For instance, a suggested initiative aimed at achieving a low carbon vehicle fleet is to put pricing incentives in place. An *example* of differential parking charges is given but this is not the initiative suggested. Rather, the non-specific generic initiative is preferred to allow councils to develop ideas appropriate for their situation.

The point has been made that our emissions in this part of the world are so small as a proportion of global emissions that reducing them will have almost no impact on how climate change plays out and that the region should, therefore, not focus on mitigation actions. The countervailing view is that if we wish to influence the major players to reduce their emissions, we must pull our (small) weight and be seen to do so. These arguments spring from differing value judgments and it is not the role of ERAWG to pronounce on them. ERAWG does hold the view, however, that many of the mitigation initiatives offer to individuals opportunities for action which can have a powerful positive psychological effect. One of the major challenges associated with action on climate change is the demotivating feelings of hopelessness and helplessness it can generate in “ordinary” people. Making a few behaviour changes can reduce these feelings with positive outcomes for the community. The value of maintaining positive attitudes in the face of what could be major challenges if global emissions cannot be brought under control should not be underestimated.

4.2.4 Adaptation planning

Due to the lags in the climate system, some effects of global warming are now inevitable – such as sea level rise – and some are already happening – such as average temperature increases. Preparing for climate change effects which are in the pipeline is akin to preparing for a major earthquake: we know the base sea level is rising, we just don’t know how fast or how far; we know average regional temperatures will go up, we just don’t know by how much. As with earthquakes, we know the effects of climate change in our region could range from relatively mild to very significant and that the impacts will be felt in our communities, our economy and our environment. What differentiates the climate change planning exercise is the fact that there is not a lot of experience to draw on from past events and the whole world is likely to be experiencing the effects pretty much at the same time

In the Wellington region the greatest climate change impacts are likely to be *seen* in the areas of sea level rise, flooding and erosion, invasive pest plant and animal species, and loss of vulnerable native ecosystems. They are likely to be *felt* in the areas of human health and social effects.

Arguably, our ability to manage the stresses in our communities will be the single biggest determining factor for success in managing all the other challenges. Difficult economic times and divisions over the allocation of scarce resources (such as water) may well destabilise some of our communities, emphasising current divisions and creating new ones. Building resilience in our communities will require a long-term approach and should begin soon even though some of the potential stressors may not occur until some decades into the future.

The current lack of clarity about the changes in rainfall makes it difficult to predict just how severe the effects of flooding and erosion might be in this region. However, we have some greater clarity around sea level rise which will be steady and irrevocable. Given that much of our vital infrastructure in this region – State Highway 1, the main trunk railway line, the regional airport – and a good deal of our housing are to be found on the narrow, low-lying strips between the hills and the sea, some early and thorough work is needed to establish the level of risk and analyse the costs and benefits of the various options available for response.

A suite of possible initiatives to support the community to respond to specific climate change effects is given at the end of the document. These range from building on current initiatives such as dune protection and key native ecosystem support and protection to major physical and social engineering responses such as migration away from vulnerable areas of roads and rail links, and communities. It should be noted that some initiatives need to be actioned in the near term while others can wait some time. Some of the early actions will have impacts in the short-term, the benefits of others will not be seen for some decades.

Critical to our success in managing the effects of climate change will be early and comprehensive analysis of the risks and development of options, and a commitment to options which will leave future generations as much room to manoeuvre as possible.

5. Conclusion

A great many core business activities of local authorities are related to climate change, whether or not they carry that label. For many years, councils have been charged with ensuring that our environment is managed sustainably and much of their daily activities are designed to do just that. Councils around New Zealand, and our region is no exception, are already engaged every day in programmes and initiatives which will have considerable positive impacts on greenhouse gas emissions levels and will assist their communities to adapt to climate change.

It should be remembered that our region already has characteristics or systems in place which will make it easier to manage our way through the challenges ahead than for some other regions in New Zealand or, indeed, the world. It is very likely that many of our responses to the challenges posed by climate change will be built on the foundation of systems, mechanisms and characteristics already present in our communities.

6. Recommendations

That the Committee:

1. ***Receives the report.***
2. ***Notes the content of the report.***
3. ***Approves the attached Discussion Document for circulation and discussion with officers of all the councils in the region***
4. ***Approves the development process for the Regional Climate Change Response Plan***

Report prepared by:

Report approved by:

Alison Lash
CCP Project Manager

Jane Bradbury
Divisional Manager

Attachment: Draft Regional Climate Change Response Discussion Document