Wellington City Council Climate Change Action Plan:

Creating a Carbon Neutral Council and Community
December 2007

"The investment that takes place in the next 10-20 years will have a profound effect on the climate in the second half of this century and in the next. Our actions now and over the coming decades could create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes….

…There is still time to avoid the worst impacts of climate change, if we take strong action now…The evidence gathered by the Review (Stern Report) leads to a simple conclusion: the benefits of strong and early action for outweigh the economic costs of not acting."

Nicolas Stern, in a report prepared for the United Kingdom Treasury Department in 2006.

1. Introduction

The Council understands the risks that climate change presents to our economy, society and environment. These risks are shared on both a micro-community scale and a macro-global scale. The risks can only be mitigated through urgent and sustained action to ***reduce greenhouse gas emissions*** ('emissions') and safeguard the community by ***adapting to changes*** to the environment and economy. Adaptation will be necessary to address impacts resulting from the warming that are already unavoidable due to past emissions. Many forecasted impacts can be avoided, reduced or delayed by mitigation (net emission reductions). Scientists and economists have concluded together that the world needs to reduce emissions between 50%-85% by 2050 in order to keep impacts from climate change to manageable levels.[1]

The challenge to the global community needs buy-in at all levels. To signal our commitment to act on climate change, in June 2007, the Council agreed to the aspirational vision of carbon neutrality for Wellington City Council and for the city as a whole. Achieving carbon neutrality requires a combination of actions that reduce greenhouse gas emissions and actions that offset greenhouse emissions by receiving or trading for 'carbon credits'.

Achieving the vision of carbon neutrality requires setting targets for reducing emissions and more importantly, implementing an action plan that will lead to progress towards the carbon neutral vision. While the mechanism of offsetting is acknowledged as a tool to achieve carbon neutrality, the Council's primary focus with the Climate Change Action Plan ('the Action Plan') is reducing greenhouse gas emissions from Council and community activities. This demonstrates that the Council wants to lead by example rather than rely on the actions of others.

[1] Intergovernmental Panel on Climate Change, 4th Assessment Report, 2007

2. Purpose of the Action Plan

The purpose of the Action Plan is to identify cost-effective initiatives for Council operations and the community that will:

- help the Council achieve its carbon neutral vision
- promote sustainable behaviour.

The Action Plan identifies the Council's priority actions for reducing emissions from Council operations and the community for the 2008/09 fiscal year. The plan will be updated to coincide with the strategic review and outcomes process for the 2009/19 LTCCP.

3. Building on Wellington's strengths

Of the major New Zealand centres, Wellington rates highly in several sustainability indicators. Wellington's compactness leads to higher rates of public transport commuting, active mode commuting and urban density compared to other New Zealand centres. The Action Plan helps Wellington further develop its strengths, reduce emissions and position the city as one of the most sustainable places to live, work and visit in the world. The following list details some of Wellington's strengths:

- Wellington has the highest usage of public transport and active modes for main urban centres in New Zealand.
- Wellington has the highest concentration of the city's employees in the city centre with 70% of Wellington's employment is concentrated in the CBD compared to 26% and 28% for Auckland and Christchurch respectively.
- Wellington has the highest percentage of its population living in the central city areas of all New Zealand centres.
- Wellington's density and compactness means public transport is efficient and user-friendly and it also means the city is more walkable.
- Wellington will be home to a Meridian Energy's wind farm, Project West Wind, that can produce enough energy to meet all of the residential electricity demand for Wellington and neighbouring cities Porirua and Hutt City.
- There is potential for more wind energy in Wellington's boundaries and huge potential to produce marine energy using the strong currents of the Cook Strait. The first resource consent for a marine energy trial has recently been lodged with Greater Wellington Regional Council.
- The New Zealand Stock Exchange based in Wellington will be the home for carbon trading for New Zealand (and possibly Australasia) putting it alongside London and Chicago as carbon trading centres.
- Victoria University, Massey University, Otago University's Wellington campus, NIWA, GNS and Industrial Research Limited provide research centres that focus on climate change impacts, mitigation solutions, and sustainable behaviour. There are already developments in place to link these research institutions more directly to the work of local governments.

- The International Council for Local Environmental Initiatives (ICLEI) has its New Zealand head office in Wellington, which gives the Council close access to its partner organisation.
- For businesses and homeowners, Wellington is a sustainable choice to be located because of its compactness and links to public transport and active modes.
- Todd Energy will help Wellington join cities in New Zealand and around the world that generate electricity from landfill gas when they install their new generator in late 2007. There is potential for this operation to grow over time through strengthening the gas collection network.
- 85% of Wellingtonians currently use the kerbside recycling system.
- Wellington's Karori Sanctuary is a world-first conservation area that is 2km from the city centre and provides fantastic educational and research opportunities for schools and universities.

4. Weaknesses

There are also some challenges that the Council will be addressing through the Action Plan and other Council policies, which include:

- Despite good usage of public transport and active modes, car ownership and congestion keep increasing leading to growing rates of transport emissions.
- Wellington has the highest water consumption per capita of all New Zealand centres.
- Wellington has a large number of old, poorly insulated homes that take more energy to heat compared to modern homes.
- Poorly designed office buildings and commercial buildings lead to energy consumption wastage through heating, water heating, lighting, air conditioning and ventilation.
- Internationally, nationally and locally, trends show that it is extremely difficult to facilitate sustainable behaviour change in the community through education and awareness campaigns alone (incentives and direct interventions are necessary).
- Even with extensive waste reduction measures in place, the ratio of landfill waste to recycling/composting still remains high.
- There are many regulatory areas that are outside the Council's control that have the potential to reduce emissions greatly: the Building Code, public transport investment and vehicle fuel efficiency standards.

5. Risks

The environmental, social and economic risks that are presented by climate change include:

- more severe and frequent storm events putting strain on infrastructure and causing floods and slips
- sea level rises threatening coastal communities and infrastructure
- changes to precipitation patterns affecting water supplies

- adverse effects on Wellington's and New Zealand's ecosystems from air and sea temperature changes
- risks[2] to the New Zealand economy from:
    - increased energy costs resulting from climate change policies like the Emissions Trading Scheme
    - impacts to the tourism and export industries from the consumer preference relating to carbon miles
    - escalating insurance premiums due to increases in climate related claims
    - increased costs to ratepayers from potential large-scale infrastructure development responding to a climatic risk (e.g. sea walls, major upgrades to the capacity of stormwater network)
    - economic of impact of natural disasters like major storms
    - impacts to New Zealand's primary product industries: agriculture, forestry and fisheries.

6. Principles

The following principles have been developed to guide Council actions on climate change. Some are focused specifically on the Action Plan and others are more broadly intended to guide all Council decision making.

1. Sustainability is the overarching response to the issue of climate change.
2. Emission reduction projects will be prioritised over purchasing offsets in the short-term.
3. The short-term focus should be on Council activities to demonstrate leadership, with community interventions following once Council actions are in place.
4. The work programme on climate change will be dynamic and regularly updated to reflect new research, technology, central government policy, and local and international agreements.
5. Council decisions will consider economic, social, environmental and cultural imperatives for taking action on climate change.
6. Council decisions will consider whole-of-life implications of its decisions, spending and procurement.
7. Emissions analysis, cost-benefit analysis and cost effectiveness will inform prioritisation of climate change actions. The Council should be looking to achieve its emissions reduction targets at the least cost to the ratepayer.
8. Emissions inventories will include measures of all emissions released within Wellington.
9. A whole-of-organisation commitment is required to reduce corporate and community emissions.

[2] There are also opportunities for Wellington (and New Zealand) relating to climate change impacts, climate change policy and global consumer preferences. These are designed to be captured in the actions of the Action Plan.

10. The Council will show leadership in partnering and engaging with businesses, residents and visitors to take action on climate change.
11. The Council will use both information and incentives to promote sustainable behaviour uptake of its staff and in the community.
12. Outcomes and measures will be monitored regularly and reported to Council and the public.

7. Mitigation, adaptation and research

The climate change policy requires work on three key areas:

- **Mitigation** - the prevention or reduction of impacts through reduced emissions.
- **Adaptation** - adapting to address impacts resulting from the warming which is already unavoidable due to past emissions.
- **Research** – research conducted in partnership with local universities and other research institutions, on the potential local impacts of climate change and the best ways to mitigate and adapt to those impacts.

8. Corporate and community action

The Council targets and action plan on climate change is divided into two parts:

1. Corporate targets and actions: the Council should first and foremost demonstrate leadership with its own activities through urgent and comprehensive actions to reduce emissions from its own activities. These actions will target all aspects of Council activities including Council controlled organisations and Council suppliers. The Council obviously has more influence and control over its own activities so corporate action is relatively simpler to implement and monitor compared to community action. Corporate action will focus on reducing the Council's energy consumption, ensuring that sustainability is a key priority for Council procurement decisions and addressing other areas of sustainability such as waste and water consumption.

2. Community targets and actions: the bigger challenge for the Council is supporting the community in reducing its emissions. While the Council's actions for its own activities can provide leadership and direction to the community, the Council needs to work hard to change the behaviour of both residents and businesses alike. This means engaging with the public on several levels and helping to stimulate change in the city and region. The Council's level of influence on reducing emissions from the community varies from sector to sector.

9. Emissions measurement and reporting

Figure 1 below details the emissions profile of the Council by source. Nearly all of Council's emissions come from consumption of four energy sources: electricity, natural gas, diesel and petrol.

Figure 1: Corporate Emissions by Source (2006) - 12,670 T-CO_2 equivalent

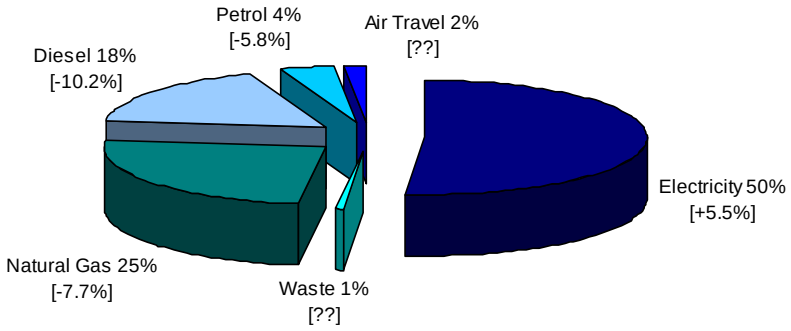


Figure 2 below details the emissions profile from Council operations. The energy used within our building portfolio accounts for 56% of the overall emissions when including pools. The vehicle fleet alone accounts for approximately 23% of the corporate emission profile. It is important to note that the analysis done to generate this picture did not include some of the Council's Controlled Organisations (CCO) such as Wellington Waterfront. Nor did it include specific contracts the Council manages such as those with United Water Ltd or Living Earth Ltd, both of which will have significant impacts on the Council's carbon footprint due to the size of their respective operations. As we endeavour to refine our emission profile, more and more data will get incorporated and is a key part of the ongoing work programme of the Council's Energy Manager.

Figure 2: Corporate Emissions by Sector (2006) - 12,670 T-CO_2 equivalent

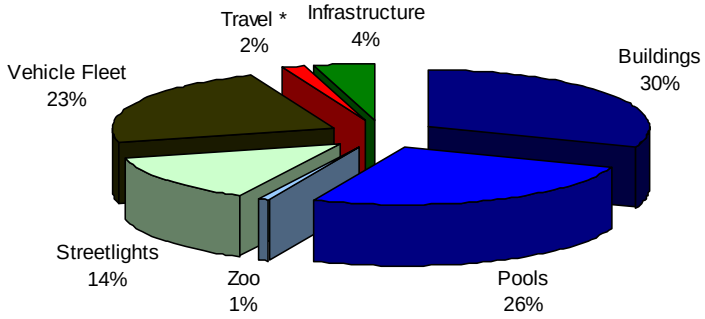
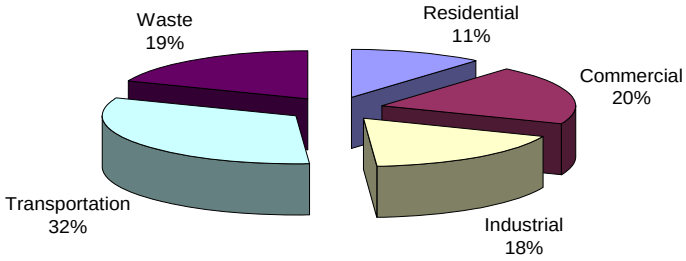


Figure 3 below provides an indicative outline of the city's emissions. The profile is currently being reviewed and will be updated in time for the final Action Plan in June 2008. Not surprisingly, emissions from the transport sector (32%) and emissions from electricity and natural gas use by households and businesses (49%) are the key contributors to emissions in the city.

Figure 3: Community Emissions Profile (2001) – 1,078,794 T-CO_2 equivalent


Waste
19%
Residential
11%
Commercial
20%
Transportation
32%
Industrial
18%

10. Emissions reduction targets

The vision for Council is to achieve carbon neutrality for the Council and community. As one of the principles is to focus on reducing emissions as much as practical before looking to offset, there is no definitive date set for achieving carbon neutrality. This will be reviewed with each 3-year plan as progress is made with reducing emissions. Instead, ambitious reduction targets will drive Council action to reduce emissions. These reduction targets are informed by:

Global research, trends and developments

- the Intergovernmental Panel on Climate Change (IPCC) recommendations to stabilise global emissions by 2015 and then reduce emissions by 50%-85% by 2050 to keep human induced climate change to a minimum
- analysis of emission reduction targets of other Councils, state governments and national governments (see Appendix 1)
- the urgency required to act on climate change mitigation as highlighted in the IPCC reports, the Stern Report and research produced by NIWA
- assumptions that a progressive international treaty on emissions reduction will be reached by key governments in the next two to five years, which will stimulate significant shifts towards cleaner technology, specifically vehicle fuel efficiency, further development of renewable energy technology and carbon sequestration
- growing investment internationally and domestically in more efficient, cleaner technologies that consume less energy
- a major shift by industry and multi-national companies to more sustainable business practices.

Assumption relating to New Zealand government policy

- the Government's goal to have 90% of New Zealand's electricity generation come from renewable sources by 2020
- the introduction of the New Zealand Emission Trading Scheme, which places a price on carbon emissions in order to promote "cleaner", less emissions intensive energy sources and technologies and incentivise forestry over other land use choices
- clear direction that Government Policy will place more emphasis on transport demand management and clear priority given to public transport, walking and cycling
- the Government's goal for average fuel economy to improve by around 25% by 2015 for New Zealand's vehicle fleet
- the outcomes of the Building Code review, which will require improved energy efficiency performances for new buildings and retrofits (households and commercial structures)
- the Government's goal for New Zealand to be a leader in the uptake of electric vehicles
- the introduction of mandatory bio-fuels legislation
- the roll-out of energywise homes initiatives that give incentives for solar hot water heating, clean-heat and insulation retrofits.

Council Targets

	Base Year	2010	2012	2020	2050
Existing Targets	2003	stabilise	---	20%	---
New Targets	2003	stabilise	Carbon Neutral	40%	80%

Community Targets

	Base Year	2010	2020	2050
Existing Targets	2003	stabilise	10%	---
New Targets	2003	stabilise	30%	80%

11. Corporate Action Plan

The Council's Corporate Action Plan on climate change will focus on six key areas in order to reduce the Council's emissions and make the Council more sustainable. The order of the focus areas are loosely related to their impact on the Council's corporate emissions profile. As mentioned previously, prioritisation will focus on cost effectiveness but will also include criteria such as visibility and influence on the community.

1. Council buildings and facilities
2. Council Vehicle fleet
3. Carbon credit opportunities: renewable energy and forest sinks
4. Procurement
5. Street lighting and infrastructure
6. Organisational sustainability

Council buildings and facilities (55% of Council emissions)

Action: Developing Sustainable Building Design Guidelines

Sustainable buildings provide significant environmental benefits as well as operational savings and increased productivity for occupants. The Council will maximise environmental and financial benefits of sustainable building by developing mandatory Sustainable Building Design Guidelines by July 2008 to use during the planning process for:

- new buildings and facilities
- upgrades and retrofits
- renewals.

Council facilities that fit under these categories must either meet specific design rating tools (e.g. Green Star rating tool for office buildings) or performance guidelines for specific building types. The purpose of the guidelines is to optimise energy efficient design and reduce the total cost of ownership of Council assets. This means that Council will identify cost-effective design features that will reduce energy consumption, water consumption and ongoing maintenance requirements. Research shows that a 50% reduction in energy is achievable for office buildings with reasonable additional capital costs. The design focus will be on maximising natural lighting, efficient lighting and heating, energy efficient technology, renewable energy, natural ventilation, recycling rain water and efficient water heating in the most cost-effective manner.

<u>Total cost of ownership</u>
There will undoubtedly be additional capital costs associated with building projects that incorporate sustainable design as a priority with cost premiums ranging between 2%-10% (there are some case studies of sustainable buildings costing less than the standard design). These additional costs are most often paid back within five to fifteen years through significant reductions in operating costs, primarily energy and maintenance. This means that a sustainable building is

cheaper than a standard building over the building life time.[3] As part of the Guidelines, paybacks must be identified during the design phase of the project.

Action: Investigation of incorporating sustainable features into Council housing stock upgrade

The Government is providing $220 million to upgrade the Council's housing stock over the next 10-15 years, which consists of around 2,300 rental properties (over 3% of the city's dwellings). When accepting the Crown offer, the Council agreed to undertake upgrade work focusing on:

- ensuring compliance with the Building Code, particularly seismic strengthening
- improving thermal insulation and ventilation of units
- increasing site and unit safety and security
- upgrading the essential amenities in the units, including replacing kitchens and bathrooms
- improving community facilities provided in the larger complexes
- reconfiguration of approximately 50% of bedsits to 1 and 2 bedroom units.

The Crown funding and Council's ring-fenced housing income is sufficient to fund upgrades to meet the objectives above. The Council will also investigate opportunities to also incorporate additional healthy and sustainable housing initiatives into the upgrades of its stock through the concept design phase in 2008. The priority aim of the investigation is to identify ways to more efficiently heat air and water for the housing units, which would result in reduced emissions.

Designing and constructing sustainable Council housing stock would result in operational savings for the tenants but not the Council. Therefore the Council would not receive the same payback on investment as it would with its own buildings. The benefits would focus much more on building sustainable communities and looking at the whole-of-life impact of Council assets. As part of the investigative work, the Council will identify how to fund the sustainable initiatives through alternative funding sources (e.g. EECA energy efficiency loans) and how costs can be kept to a minimum. The results of this investigative work will be complete by November 2009.

Carbon credit opportunities: renewable energy and forest sinks

Action: Making the most of Wellington's resources: investing in renewable energy technology

Wellington is famous for its wind. The wind swept hills close to our compact urban centre make Wellington one of the top locations in the world for developing wind energy sites. The Council will facilitate the growth of the local renewable

[3] In the Ministry for the Environment's *Value Case for Sustainable Building in New Zealand* prepared by e Cubed Consulting it concludes that for owner occupiers, a 20-year whole-of-life cost view indicates the marginal cost increase of sustainable building is likely to be repaid five or six times by operating cost savings alone.

energy industry and also invest in renewable energy technology for its own operations. The aim is to invest in technology that would either directly power a Council operation or feed into the grid. By feeding power into the grid from renewable energy, we can offset demand required from the national grid.

This action starts out through a range of feasibility studies into strategic projects that have potential to deliver on corporate and community reduction goals. The Council will conduct feasibilities studies in 2008/09 on several projects. The conclusions and outcomes of the studies will feed into either the 2009/19 LTCCP or the 2010/11 Draft Annual Plan. The feasibility studies will investigate options and viability of:

- wind energy in Carey's Gully
- bio-reactor technology in Carey's Gully
- micro-hydro energy from the Moa Point sewage outflow.

Action: Partnering with Todd Energy to optimise landfill gas generator

Todd Energy (through its subsidiary company Nova Gas) has owned the rights to the landfill gas at the Southern Landfill since 1995, when a deed agreement was signed with the Council. Under the deed, Todd Energy has the responsibility to install gas collection infrastructure and destroy the landfill gas. The Council also has obligations to assist Todd Energy with earthworks and other aspects of installing the gas collection infrastructure. Until recently, Todd Energy has destroyed the gas through two large combustion flares, converting the powerful greenhouse gas methane into the less potent carbon dioxide (methane absorbs 23 times more radiation than carbon dioxide).

Todd Energy is in the process of installing a 1MW generator to convert the landfill gas into electricity. This is a fantastic development that is possibly the first in many renewable energy initiatives near the landfill site. The Council has assisted Todd Energy with in-kind earthworks for the generator site and also by working with Todd Energy to find the most suitable location for the generator.

The Council will continue to partner with Todd Energy by providing in-kind support and earthworks to optimise the efficiency of the gas collection network and the output of the generator. This is a win-win partnership for the Council and Todd Energy with Todd Energy gaining revenue from electricity generation and Wellington being home to another renewable energy project. It also helps to alleviate the Council's levels of obligations relating to possible outcomes of the Emissions Trading Scheme and enhances the sustainability of the Council's landfill operations.

Action: Permanent Forest Sink Initiative

The Council owns several hundred hectares of reserve land that meets the criteria for receiving forest sink credits under Government's Permanent Forest Sink Initiative (PFSI), which opens in December. The Council will be preparing an application to PFSI by March 2008 and also investigating other ways to best utilise and grow Council land as a forest sink, whilst delivering on other objectives relating to biodiversity, sense of place and recreation.

The Council will investigate partnership opportunities with neighbouring landowners through the application process. This would build on work already

being developed relating to coordinated pest management controls for the major land-owners in southwest Wellington.

Council vehicle fleet (25% of Council emissions)

Action: Sustainable fleet management

The Council will centralise and update its vehicle procurement processes to ensure fuel efficiency and total cost of ownership are prioritised while maintaining or increasing safety standards and Council operations. The aim of the new fleet procurement standard will be to:

- reduce emissions with vehicle replacement
- reduce fuel consumption with vehicle replacement
- reduce the total cost of ownership of vehicles.

Part of this initiative includes reviewing the turn-over of Council vehicles and looking to replace old vehicles with modern, more efficient vehicles. While there is a significant capital cost to replacing older vehicles, this cost will be partially offset from the savings made on maintenance and the increased fuel efficiency and productivity of the fleet. The new vehicle procurement standard and recommendations on policies for retiring older vehicles will be completed by July 2008.

Procurement

Action: Sustainable Procurement

The Council spends approximately $230 million each year (75% of its total revenue) on a diverse range of goods and services including:

- building design
- vehicles
- infrastructure construction and maintenance
- ICT Hardware
- facilities maintenance
- office paper and stationary supplies
- legal and financial advice.

There is significant potential for the Council to better manage it's overall spend with suppliers and require stronger environmental performance and reporting. A robust and comprehensive commitment to sustainable procurement will lead to

resource efficiency, environmental sustainability, sound labour practices, sound health and safety practices and value for money.

Sustainable procurement will require changes in the way the Council conducts its procurement practices and in the way our preferred suppliers conduct business across a range of activities. It will lift the quality and standards of Council suppliers as a whole and improve reporting provided by suppliers.

The cost of implementing a sustainable procurement framework cannot be accurately calculated given that each supply category review will involve different variables. The costs and benefits will have to be assessed on a case by case so that specific products and contractual services can be weighed-up against each other. For example, the costs and benefits of adopting environmental sustainability as a key weighting priority for paper supply will be assessed when this contract comes up for renewal.

Of particular significance in the draft revised Procurement Policy is the focus on whole-of-life considerations. Significant cost savings and other related benefits from this approach are likely in the medium to longer-term from savings made on areas like energy consumption, manufacturing, maintenance and waste management. The Council will look to adopt best-practice procurement methods by learning from:

- previous Council procurement experiences
- the Govt3 programme
- Ministry for Economic Development's procurement standards for core government departments
- procurement methods of businesses.

This Action Plan already highlights two key procurement standards that will be implemented to prioritise emissions reduction and total-cost-of-ownership principles: the Sustainable Building Design Guidelines and the Vehicle Procurement Standard. Aside from building design and vehicles, examples of other key focus areas include:

- street lighting technology
- facilities maintenance
- trades
- paper products and timber products
- ICT equipment and printing/copying equipment
- infrastructure services, materials and equipment (e.g. roading, drainage)
- energy contracts
- travel.

Organisational Sustainability

Action: In-House Sustainability Plan

The Council will be developing an in-house sustainability plan to engage Council staff and allow staff to take ownership in delivering initiatives. As part of the plan, the Council will look to have leaders in the organisation that promote and encourage their colleagues to make changes in the work environment. The first actions to take place under this plan are the Organisational Travel Plan and changes to the Council's internal waste management systems. Both actions are explained in more detail below.

Action: Organisational Travel Plan

The Council will implement an organisational travel plan (OTP) to promote sustainable modes of transport for the journey to and from work by Council staff. It will be targeted at employees and visitors who are both willing and able to make a change to sustainable transport. Examples of measures include those that:

- reduce the need to travel - by using technology (such as telecommuting[4], audio and video conferencing) and location of facilities (e.g. neighbourhood centres)
- provide alternatives to single occupancy car use - encourage ridesharing, public transport, walking and cycling
- change the time of travel e.g. through supporting consideration of flexi-hour arrangements, where appropriate.

Action: Sustainable Waste Disposal for Council Operations

The Council currently has recycling in place with in the Civic Complex and some locations in the suburbs. This project will upgrade the Council's current waste systems for all Council staff. The new system will be rolled out in stages starting with the Civic Complex and then moving onto other locations. The upgrades will include the following key components:

- implementing food waste recycling
- ensuring that standard recycling was in place in all Council buildings and facilities
- down-sizing the compactor in the Civic Complex to a smaller skip bin
- removing desk rubbish bins from staff to incentivise recycling and composting
- making staff (not cleaners) responsible for emptying their waste into the appropriate wheelie bins.

Street lighting and Infrastructure

Action: Kilbirnie Street lighting Trial

The Council is upgrading a small amount of aging street lighting infrastructure in Kilbirnie to a modern, more efficient standard. The Council will be trialling new lighting technology (that has only recently been imported to New Zealand) coupled with new control technology. The street lighting technology being trialled

[4] This measure is dependent on access to reliable, fast broadband connections.

has the potential to deliver significant financial benefits to Wellington through two avenues:

- a different billing system
- reduced energy consumption from a more efficient lighting solution.

The monitoring results of the trial will inform the Council's future decisions about whether a wider roll-out of this technology will be beneficial financially and environmentally. These recommendations will be made to inform either the 2009/19 LTCCP or the 2010/11 Draft Annual Plan.

12. Community Action Plan

The Council's Community Action Plan on climate change will focus on six key areas in order to reduce the community's emissions and make the Wellington community more sustainable:

1. Transport and urban development
2. Sustainable behaviour change
3. Wellington as centre of excellence for research and development
4. Adapting to Climate Change: environmental, economic and social changes
5. Waste
6. Advocacy and facilitation for renewable energy generation and sustainable technology

The role of the Council as a leader and educator of community opinion, underpins all these areas.

Transport and Urban Development

Action: Continuing Travel Demand Management Implementation

The Council's Bus Priority Plan aims to increase mode shift from single passenger vehicle trips to bus trips, which will reduce congestion and reduce the amount of fossil fuels burned up on our roads. To be effective, the bus priority work must be implemented in conjunction with increased frequency of bus services and upgrades to modernise the bus fleet. The bus priority work will complement implementation of the action plans for walking, cycling and parking.

Bus Priority - Stage 1: Development of bus lanes on Taranaki, Courtenay, Cambridge

The Bus Priority measure will require strategic community engagement and consultation as there are several competing interests related to bus lane dedication. The speed of the Bus Priority work relies heavily on public acceptance of bus lane roll-outs. Funding is already in place for this initiative and the work is programmed to start in 2008.

Bus Priority – Stage 2: Bus Priority Stage 2: Alternative routes from Courtenay Place to Lambton Quay

As with stage 1, the speed at which stage 2 progresses will depend on community engagement. Funding is already in place for this initiative and the work is programmed to start in 2008-09.

Council will develop Walking and Cycling Plans by June 2008

The Walking and Cycling Plans will facilitate the transition of trips from the private car to walking and cycling.

Household Travel Survey

The Household Travel Survey is a comprehensive and detailed survey that will identify travel behaviour trends for Wellington commuters and residents. The Survey will be used to inform decision making leading into the 2009/19 LTCCP on how to best leverage the Council's investment and resources relating to travel demand management and road space allocation.

Action: Compact Growth

Having compact urban form is a pivotal component of the city's urban development strategy. Encouraging growth in this manner will ensure that:

- the city's vibrant central area is maintained
- key town centres are strengthened and matured
- residents have greater accessibility to public transport and amenities
- the city is more walkable
- residents have greater transport choice and do not need to rely on private vehicle trips for commuting or for shopping.

To date Council has delivered this by clearly defining the urban edge through the District Plan and promoting new development (such as infill housing) to be located within existing urban areas.

There is a need to do much better however, particularly in the way we manage residential infill housing and intensification. To this effect, the review of infill housing identifies a need to be much more sophisticated about the location of residential infill in order to improve efficient use of resources and in order to support wider council aims to improve urban design quality and locate development where we have the infrastructure (growth spine, centres, community facilities, work, transport routes).

While District Plan rules set the baseline, a wider range of tools will be necessary to ensure that we fully achieve the Council's objectives, including quality of urban design and sustainable building design and construction. One of the potential opportunities is to facilitate demonstration projects in key areas or engage in joint ventures with developers and agencies such as Housing New Zealand.

Action: Following Through with the Broadband Vision

The Council's vision is to have a high capacity, open access, symmetrical broad band network available city-wide by 2012 so that all residents, businesses and organisations have access to these benefits. The benefits of high capacity broadband go well beyond faster internet speeds and more television channels. Based on research and case studies, there are significant opportunities achieve meaningful emissions reductions through improved telecommunication services and access. The specific applications that can help to reduce emissions include:

- energy sector innovations (e.g. such as "smart metering", remote appliance power management, presence based power) which enable energy savings
- improved telecommuting choices (e.g. enabling individuals to work at home)

- real-time freight management that allows freight to be assigned to unladen or under laden vehicles or rail-cars
- high definition video-conferencing reducing the need for flight travel or motor travel
- linking renewable energy supplies and active load management of heating, cooling and other appliances in buildings and homes, which allows renewable energy to contribute an increased component of the electricity supply
- tele-medicine/online health services (e.g. remote diagnostics or surgery, linking elderly patients with a video nurse) that reduces the need for a patient to travel to a medical centre or a medical professional to a patient
- online education/e-learning (e.g. enabling schools to increase subject availability through videoconferencing).

Action: Advocacy

The Council will actively advocate for regional transport policies and investment programmes that reduce carbon emissions.

Adapting to Climate Change: environmental, economic and social changes

Adapting to the effects of climate change is arguably the Council's most important role in terms of climate change planning. Council can manage infrastructure and influence development to ensure that our city is not at significant risk from climate change impacts. This means planning to reflect the forecasted environmental effects appropriately, namely:

- managing the risks to coastal communities and infrastructure from sea level rise and storm surge
- ensuring that provisions are in place for the increased frequency and severity of major storms such as adequate stormwater capacity, flood prevention and slip mitigation
- taking climate change impacts into account with planning decisions, especially in flood prone areas, coastal areas, landslide vulnerable areas and water storage.
- ensuring that Wellington has a continuous adequate water supply in the event of rainfall patterns changing sufficiently to affect water storage provisions.

Aside from the physical impacts, there are also major economic and social risks from climate change and climate change policy. These include:

- impacts to New Zealand economy from increased costs of fossil fuel derived energy (e.g. emissions trading scheme)
- impacts to the tourism and export industries from the negative perception of carbon miles
- escalating insurance premiums due to increases in climate related claims
- increased costs to ratepayers from potential large-scale infrastructure development (e.g. sea walls, major upgrades to the capacity of stormwater network)

- economic impact of natural disasters such as major storms
- impacts to New Zealand's primary product industries: agriculture, forestry and fisheries.

Making Wellington a Centre of Excellence for Sustainable Technology and Research

The Council has the opportunity to partner with industry, research institutions and universities to ensure that Wellington is New Zealand's leading centre of research and design for sustainable technology and climate change. This will mean supporting the development of renewable energy technology in the city and region and growing expertise in other areas such as energy efficiency and green building design. Wellington is one of the few capital cities in the world that could become a net exporter of renewable electricity in the medium term (2020) with the growth of wind farms in the city boundaries and the massive potential for harnessing marine energy from the Cook Strait.

One of the largest contributions the Council could make to Wellington's and New Zealand's emissions profile is to facilitate the development of more large scale renewable energy projects in Wellington. This does not mean that the resource consent process should be circumvented. On the contrary, it means that the Council should work with interested parties to ensure that options for renewable energy projects in Wellington are explored and acted upon.

Another way to make Wellington a 'centre of excellence' is to promote the New Zealand Stock Exchange (NZX) as the centre of carbon trading in Australasia. As the centre for carbon trading centre for Time Zone 1, Wellington will benefit from the growth of industry and expertise relating to carbon trading. It will also put Wellington's name on the map alongside Chicago and London as carbon trading centres. Renewable energy research and development and industry relating to carbon trading will be prime cluster areas to focus on for the Regional Economic Development Agency.

Other key relationships and partnerships the Council will attempt to develop are:

- *Local Industry:* Partnering with key business and industry leaders in the Wellington Region to deliver joint projects, share knowledge and promote Wellington as a sustainable business hub.
- *Partnerships with Victoria University and Massey:* strengthening collaboration to work on shared outcomes and projects.
- *New Zealand Climate Change Centre*: role of facilitating and coordinating collaborative research to address New Zealand's needs and advise government, local government and businesses on science-based tools for adaptation and mitigation.
- *Sustainable Cities Centre*: will work in partnership with councils and communities to develop knowledge to address key urban issues, particularly reducing emissions.

- *ICLEI partnership*: working to maximise potential with the ICLEI partnership and developing a Wellington based awards scheme to recognise sustainability in Wellington.

Sustainable Behaviour Change

Action: Social Marketing Campaign - Facilitating Sustainable Behaviour Change in the Community

The climate change story is ongoing. While we cannot stop the effects of what we have done in the past, we can influence the future by facilitating sustainable behaviour change from residents and businesses. Taking action on climate change starts with understanding why we need to do it. There are already several solutions that exist and these can bring about other positive benefits such as economic growth, financial savings and improved local environments.

The focus of the Council should be making climate change easily understood and a prominent issue for the public. It is also necessary to increase the awareness and buy-in of what needs to be done to control climate change. This work will focus on changing people's behaviour, attitudes and perceptions of climate change and sustainability.

The challenge of getting residents and businesses adapt sustainable behaviours in significant numbers is significant. It will require a comprehensive communications and engagement plan. The Council will need to encourage and enable Wellington residents and businesses to adopt more sustainable lifestyles/behaviours such as:

- reducing the amount of energy required to heat, cool and light buildings
- changing travel modes or vehicle technology to reduce emissions from transport activities
- reduce waste going to landfill, especially organic, paper and plastic wastes
- increase water conservation.

The specific projects that will be developed in 2008/09 include:

- engagement with community groups to raise awareness of climate change and environmental issues and also provide motivation and information for changing behaviour
- building more capability in existing environmental community groups to deliver effective interventions
- developing social marketing tools to use to the community that will raise awareness, engage the public and motivate people to change.

Action: Eco Advisor

The role of the Eco Advisor is facilitate the growth of green building design and developments in the community through providing better information and improving access to incentives. The Eco Advisor is funded through grants from the Department of Building and Housing and existing resources.

Action: Consent Incentives for Sustainable Building

The Council will provide a two-year pilot scheme where incentives are provided through the consent process to homeowners that choose sustainable building solutions for areas like water heating and distributed energy generation. The funding will be available for 2008/09 and 2009/10 with a potential review of funding for the 2009/19 LTCCP if the scheme is highly successful. The Council will look to provide incentives for around 100 households per annum through this trial programme.

Action: District Plan Incentives

Council will identify what types of incentives can be provided through the District Plan (e.g. increased height allowances) in exchange for sustainable building design features. The work will look at setting height and bulk limits that are deemed to be acceptable, and make sustainable design a requirement for achieving these maximum allowances. The key areas of focus will be:

- areas of intensification like suburban centres and residential infill
- "greenfields" development
- central city area development targeting commercial buildings and apartments.

As part of these District Plan reviews, the Council will look to remove barriers that preclude or strongly discourage sustainable building features. One improvement might be to clarify the status of roof-mounted wind turbines in terms of determining whether they should be exempt from height limits as is currently the case with TV aerials, chimneys, and "decorative features".

Action: World Environment Day

The Council will play a coordination role with the Ministry for the Environment and community groups in planning the 2008 United Nations World Environment Day, which is being hosted by the New Zealand Government and centred in Wellington. The Council will develop events and coordinate activities to raise awareness of environmental issues, particularly around the theme of reducing dependence on fossil fuel based energy. The programme of events will present a fantastic opportunity to showcase Wellington to an international audience.

Action: Wellington Energy Advice Centre

The Ministry for the Environment is supporting a one year project submitted by the Energy Efficiency Community Network (EECN) to develop and pilot a network of Sustainable Energy Advice Centre (SEAC). The Wellington based Sustainability Trust, as a member of EECN, is interested in being the first Trust to develop a SEAC. The Council will provide assistance and support to the Trust during the pilot to ensure maximum outreach to the community. The SEAC will be linked to the following related processes:

- Home Energy Rating Scheme (HERS)
- an energy advice line established by Energy Efficiency and Conservation Authority (EECA) later in 2007
- national websites (e.g. Smarter Homes and sustainability.govt.nz)
- energy company initiatives

- Sustainable Households initiatives provided by EECA (e.g. solar water heating grants, insulation grants and loans, clean heat grants and loans).

The Council will use the experience (plus the findings from the building incentives programme and Wellington Healthy Homes programme) to identify how the Council can provide cost-effective household interventions that compliment some of the initiatives being developed by EECA and other agencies. These recommendations will be included in the 2009/19 LTCCP.

Action: Wellington Healthy Homes Project

The Wellington Healthy Homes Project is a joint project between Wellington City Council, EECA and the Capital and Coast District Health Board. The project is being delivered by the Sustainability Trust. The aim of the project is to provide insulation retrofits to 400 low-income families in Wellington City. The lessons learned from this project will be used to identify the most cost effective interventions for the 2009/19 LTCCP.

Waste

Action: Maximising Potential of Compost Plant: Subsidising Organic Waste Disposal

Around 30% of the total waste being sent to Wellington's landfill is organic. Adjusting the gate price for green waste and food waste will lead to increased provision of organic waste collection services for residential and commercial customers. Diverting organic waste to the compost plant will minimise the amount of methane produced from landfill activities.

The Government is bringing through the Waste Minimisation and Resource Recovery Bill through Parliament, which is proposing to bring a landfill levy. The Council will wait for more clarity on the outcomes of the Bill so that levy funding can be used to fund any subsidisation of organic waste disposal. Options for organic waste disposal fees will be presented through the Solid Waste Management Plan, which will be completed following the finalisation of the Bill.

Action: Public Place Recycling

The Council will be delivering the Public Place Recycling Trial over the next three years using Government grants. The initiative will raise awareness on sustainable behaviour with the public and also promote Wellington as a sustainable city to visitors.