STRATEGY AND POLICY COMMITTEE
16 MAY 2013

REPORT 3
(1215/52/IM)

UPDATE OF WELLINGTON CITY'S 2010 CLIMATE CHANGE ACTION PLAN

1. Purpose of report

This report provides an update on progress to date under Wellington City's 2010 Climate Change Action Plan and proposes a programme of work to keep the city and Council on track toward achieving their climate change goals for 2020 and beyond.

2. Executive summary

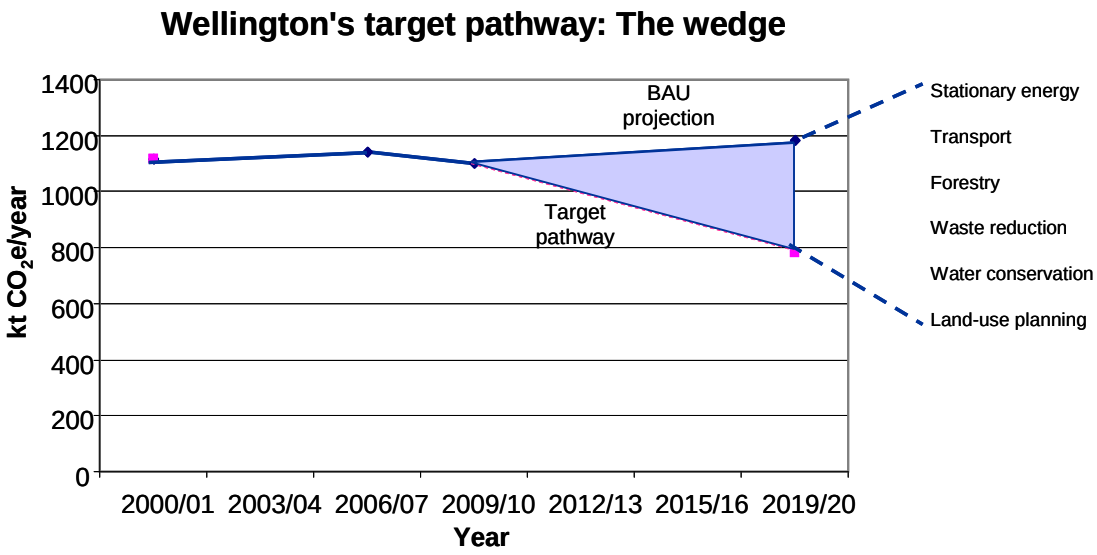
Wellington's ability to deliver on its growing "Smart Capital" reputation for innovation, environmental stewardship, liveability and ability to attract and retain talent must be underpinned by some fundamental credentials. Our city's response to climate change has to be a priority among them. The science is telling us that globally, if we do not change our greenhouse gas (GHG) emissions pathway, we could face a temperature increase of 3.5 to 4^{o}C above pre-industrial levels, causing serious and irreversible impacts on our environment, economy and society. Local government leadership will remain critical to delivering the step change in global emissions that is required.

Wellington City and Wellington City Council have announced ambitious goals for reducing our GHG emissions and improving our resilience on the world stage. We have already seen the benefits to our quality of life from the climate actions we have taken so far (e.g. improvements to housing, land use and transport), and the benefits to our reputation from recent international assessments of our progress. By continuing to deliver on these aspirations Wellington will be:

- Contributing responsibly to global action to reduce emissions
- Improving on the security of our energy supply, the quality of our housing and transport systems, our land-use planning and biodiversity, waste reduction and resilience to sea level rise
- Creating new economic opportunities and making our economy more resilient to both carbon constraints and climate impacts
- Reinforcing our global reputation as a leader.

Wellington City's award-winning 2010 Climate Change Action Plan had an initial two-year work programme which was extended through 2014/2015 through a budget allocation under the Long-Term Plan 2012-22. Under this plan, the city has roughly met and the Council has surpassed the emission reduction targets set for 2010 based on best available information. While direct comparisons are difficult, Wellington currently performs well against New Zealand as a whole and other Australasian cities in terms of GHG emissions per capita.

However, meeting the city's 2020 target of a 30 percent reduction below 2001 levels will require a major shift in behaviour, investment and action by the city. In its leadership role, the Council will need to make the case for the value of meeting our targets in alignment with *Wellington 2040*, Our Living City and our Economic Development Strategy; trigger the "pressure points" for the big shifts; grow business and community ownership and commitment; improve how we measure our progress to inform decision making; and advocate for change in



areas outside of the Council's direct control. This effort can be used to develop a clear agreed pathway (e.g. a "wedge diagram") for bridging the gap between our current emissions trajectory and our 2020 target.

For the city to deliver on its goals, officers recommend a three-stage process over the next two years (through 2014/15):

1. **Boost** – Issue a 2013 Climate Change Action Plan that aligns with *Wellington 2040*, consolidates existing initiatives, integrates new initiatives (e.g. proposed Smart Energy Capital initiatives) and improves how we measure our progress

2. **Engage** – Launch a multi-stakeholder process to build the case for meeting our city's 2020 target, agree an approach for meeting the target that supports our future goals, agree an approach for adaptation and advocate for supportive central/regional government policies

3. **Achieve** – Issue a 2015 Climate Change Action Plan that has an agreed pathway to 2020 and that is supported by broad business and community commitment, investment under the Long-Term Plan 2015-25, strong linkages to economic development and partnerships across the city and region.

Officers also recommend updating the Council's 2010 Carbon Management Policy to reflect changes in the carbon market and to explore options for using the revenue from the sale of forestry units to support native vegetation

initiatives. We propose to prepare a separate report to Councillors with more detailed recommendations on that policy.

3. Recommendations

Officers recommend that the Strategy and Policy Committee:

1. *Receive the information.*

2. *Note that effective action on climate change underpins Wellington's strategic aspirations, economic development and global reputation as New Zealand's "Smart Capital."*

3. *Agree in principle to issue a Wellington City 2013 Climate Change Action Plan for the period 2013/14 through 2014/15 that consolidates and extends existing climate-related initiatives and integrates new initiatives including:*

    (a) Smart Energy Capital initiatives, subject to approval under the 2013/14 Annual Plan
    (b) Participation in the UN-Habitat City Resilience Profiling Programme and UNISDR Making Cities Resilient Campaign
    (c) Relevant research partnerships undertaken through the Council's Our Living City work programme
    (d) Full exploration of emission reduction opportunities through a refresh of the Wellington Transport Strategy which is being undertaken
    (e) Increased business, community and Maori participation as part of engagement under the Council's Our Living City work programme.

4. *Agree to lead a multi-stakeholder process to define a pathway for meeting the 2020 target that delivers value to the city, has broad public ownership and support and will form the basis for a Wellington City 2015 Climate Change Action Plan.*

5. *Note that officers will commission an updated greenhouse gas emissions inventory and projections for the city through a collaborative regional approach, with the Council's share funded from the existing budget allocation.*

6. *Note that officers will commission periodic external certification of the Council's corporate greenhouse gas emissions inventory funded from the Council's existing budget allocation.*

7. *Note that as additional inventory information becomes available, the Council may wish to revise the expression of the targets for both the city and Council in order to correct for historical data gaps, and this can be done without weakening target ambition.*

8. *Direct officers to provide ongoing advice on opportunities to advocate for improved regional and central government policies that will support Wellington's climate change objectives.*

9. *Direct officers to provide advice on options for revising the Council's 2010 Carbon Management Policy to reflect changes in the carbon market and to enable the use of revenue from forestry unit sales to support native vegetation initiatives.*

4. Background

This section is organised as follows:

- Rationale for updating the Climate Change Action Plan
- Climate change and the city's strategic framework
- Overview of Wellington City's 2010 Climate Change Action Plan.

Rationale for updating the Climate Change Action Plan

Responding effectively to climate change presents a significant challenge for policy makers. If the world continues on its current emissions trajectory, global temperatures could increase by 3.5 to 4°C above pre-industrial levels by the end of the century, threatening the fundamental welfare of humans and other species that have evolved to thrive under today's conditions.[1] International negotiations have delivered only slow progress. Local government leadership is becoming increasingly critical to help drive change at the point where emissions occur through decisions on stationary energy, transport, land use and waste.

This is an important time to do a stocktake of Wellington City's 2010 Climate Change Action Plan and determine how it needs to evolve with the changing context. Key developments since 2010 include:

- *A growing body of scientific research reinforcing the risks from climate change driven by human activity*. Updated findings will be reported in the Fifth Assessment Report from the Intergovernmental Panel on Climate Change (due in 2014).

- *A decision by the New Zealand government to decline the second commitment period under the Kyoto Protocol*. Instead, the government will take a non-binding target under the UN Framework Convention on Climate Change (UNFCCC) and work towards a new international agreement for the period from 2013 to 2020. This target has not yet been announced.

- *Changes to the New Zealand Emissions Trading Scheme (NZ ETS)*. In 2012, the government amended the scheme to extend weaker transitional pricing provisions and to exclude biological emissions from the

[1] Potsdam Institute for Climate Action Research and Climate Analytics. 2012. *Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided*. Washington, DC: World Bank.

agriculture sector pending a review in 2015. The domestic price of emissions has recently hit new lows, taking with it the price incentive for action to reduce emissions. After 2015, New Zealand will not be able to trade with the Kyoto carbon market, which will impact on the operation of the NZ ETS.

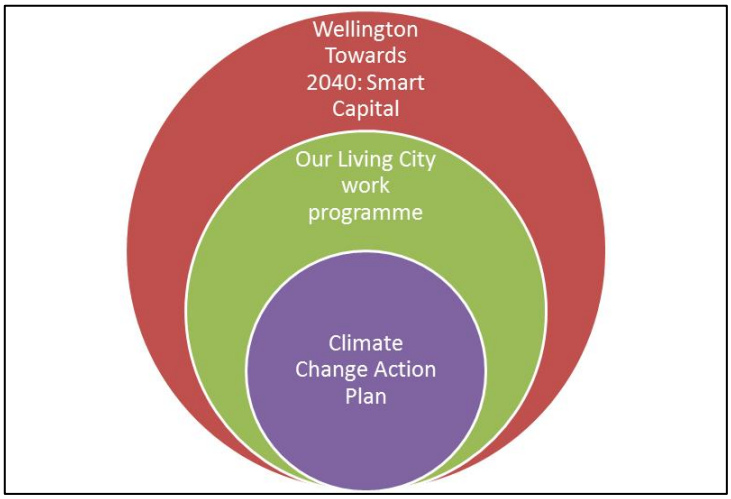
Current central government policies will not help deliver on the city's 2020 target in some of the ways envisaged in 2010. This presents an opportunity for Wellington City Council in partnership with residents and others to exercise leadership in demonstrating the benefits of smart actions on climate, implementing innovative approaches and advocating for meaningful national action.

Climate change and the city's strategic framework

Smart actions to reduce GHG emissions and adapt to the impacts of climate change can help the city to build on its strengths and achieve its broader strategic objectives under *Wellington Towards 2040: Smart Capital* (*Wellington 2040*), the Our Living City work programme and the Economic Development Strategy. For example, they can:

- Help make our city's environment, economy and society more resilient
- Promote biodiversity, effective land-use planning and improved air and water quality
- Safeguard human health
- Improve housing quality and transport efficiency
- Enhance energy security
- Reduce waste generation and inefficient use of non-renewable resources
- Incentivise technological innovation
- Generate new economic opportunities.

Figure 1: Work programme relationships



Having an effective climate change strategy is integral to Wellington's development as an eco-city under *Wellington 2040* and supports its international reputation for environmental sustainability and high quality of life. It also aligns with Wellington's international reputation for outstanding research on climate change by NIWA and the city's universities.

In this regard, Wellington City's Climate Change Action Plan is a distinct document but does not stand apart from the city's other strategies. Instead, it is

fully embedded within and integrated across them, creating both opportunities and challenges for implementation. This relationship is illustrated in Figure 1. It will remain important to assess the full range of benefits from the Climate Change Action Plan across the Council's policy portfolio.

Overview of Wellington City's 2010 Climate Change Action Plan

The 2010 Climate Change Action Plan encompassed both mitigation (i.e. reducing GHG emissions) and adaptation (i.e. preparing to manage the impacts of climate change). The plan demonstrated the city's commitment to action on climate change with a two-year work programme (through 2011/12) across seven key action areas: adaptation, buildings and energy, land transport, waste, Council operations, forestry and aviation. The seven action areas were underpinned by ten high-level objectives which remain relevant to the city's current strategic framework:

- Resilient communities
- Renewable energy capital
- Growing sustainable transport
- Early adopter of electric vehicles
- Centre of excellence for clean technology
- Green office hub
- Warm, efficient homes
- A city of forests
- Resources from waste
- Carbon neutral vision.

The 2010 plan included GHG emission reduction targets for the short and longer term. These targets were first developed under the Communities for Climate Protection Programme and evolved over the period from 2005 to 2010. As a result, the city and the Council use a different target accounting methodology from the one applied by the New Zealand government under its international agreements. The emission reduction targets are summarised in Table 1.

Table 1: GHG emission reduction targets for Wellington City and Wellington City Council

Scope	Base year	2010 (2009/10)	2013 (2012/13)	2020 (2019/20)	2050 (2049/50)
Wellington City	2001 (2000/01)	Stabilise (0% increase)	-3%	-30%	-80%
Wellington City Council	2003 (2002/03)	Stabilise (0% increase)	NA	-40%	-80%

The plan was a category award winner in the Ministry for the Environment Green Ribbon Awards 2011.

Under the Long-Term Plan 2012-22, the Council allocated additional funding for three priority initiatives over the period 2012-2015: the Home Energy Saver Programme, the Warm Up New Zealand: Heat Smart (Warm Up Wellington) programme and work on a sea level rise risk assessment and draft Climate Adaptation Strategy.

5. Discussion

This section is organised as follows:

- Progress from 2010 to 2013
- The pathway to 2020
- A proposed plan of action
- Updating the 2010 Carbon Management Policy.

5.1 Progress from 2010 to 2013

Mitigation actions

The Council and the city have undertaken action to reduce emissions across all seven of the areas contained in the 2010 plan. The particularly significant contributors to Wellington's performance include:

- The Home Energy Saver and Warm Up Wellington programmes
- Increased commercial investment in green buildings and renewable generation
- Improvements in public transport and reductions in travel in cars/vans
- Revegetation activities on public and private land
- Increased waste recycling and composting
- Actions within the Council to improve the energy efficiency of its buildings and vehicle fleets and reduce its water consumption
- The relatively low level of industrial and agricultural production in Wellington
- The slowdown of the economy following the global financial crisis.

Highlights are detailed further below.

Energy efficiency: The Home Energy Saver programme, which provides free household sustainability assessments to residents, was launched in August 2011. The Council's Warm Up Wellington programme is a partnership with the Energy Efficiency and Conservation Authority (EECA), the Sustainability Trust and the Capital and Coast District Health Board to provide insulation subsidies to low-income households. The Council's funding since 2011 has contributed to 974 assessments under the Home Energy Saver programme and 393 retrofits under Warm Up Wellington (through April 2013). The benefits from these activities for human health, housing quality and energy savings add significantly to their contribution to emission reductions. Regarding commercial buildings, the Council is supporting EECA with the implementation of NABERS-NZ, an

environmental rating tool for commercial buildings, and is working with the New Zealand Green Building Council on promoting Green Star buildings. The Council has implemented a number of energy efficiency initiatives across its operations, including improvements to lighting controls and levels in the Civic Square complex, installation of efficient boilers at the Freyberg Pool and Begonia House in the Botanic Gardens, improvements at branch libraries, a new chiller for the City Gallery and air conditioning system for the Contact Centre, and installation of a thermal blanket on the pool at the Wellington Regional Aquatic Centre.

Renewable generation: Wellington supplies renewable electricity to the national grid through West Wind (142 MW capacity) and also to the local grid through the Brooklyn Turbine (0.225 MW capacity) and Southern Landfill Gas Generator (1 MW capacity). Meridian's Mill Creek wind farm, currently under construction, will have an installed capacity of 60 MW. The Council has mapped building solar radiation across the city to facilitate solar energy uptake, and further work is underway to improve the accessibility of the information.

Transport: The Council's approach to city transport focuses on ensuring that the system works efficiently while encouraging more use of public transport, cycling, walking and other initiatives such as car pooling. The Council has encouraged mode change through asset creation (e.g. shelters and bus priority lanes, cycle-friendly sump grate covers, signals and controls). Upgrades to Manners Mall and the Golden Mile have included bus priority measures and relocated parking areas. Walking and cycling policies promote healthy alternatives to vehicular travel. The Council is collaborating with Greater Wellington Regional Council and the New Zealand Transport Agency on the Public Transport Spine Study. The Council has also implemented measures to reduce emissions from its staff travel.

Waste: In the waste sector, the Council has boosted recycling programmes and provided waste education services, helping to reduce its landfilled waste. The Siemens Green City Index study of seven major cities in Australia and New Zealand reported that Wellington had the lowest rate of waste generation in the region (250 kg waste per capita compared to the index average of 427 kg), and led the regional index for recycling (53% of waste compared to the index average of 42%).[2] The Kai to Compost programme, a food waste collection service for medium to large organic waste producers in Wellington city, now has 100 collection sites. In 2012, it diverted 788.2 tonnes of food waste from landfill, and this year diversion is expected to be around 1,000+ tonnes.[3]

Forestry: The Council has enrolled public forest land under the Permanent Forest Sinks Initiative and has also registered post-1989 forest land in the NZ ETS. The Council has shared its expertise with these initiatives with other councils to support their participation.

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[2] Economist Intelligence Unit. 2013. *Australia and New Zealand Green City Index: Results for Wellington*. Munich: Siemens AG.

[3] Personal communication from Meagan Miller, Waste Education Officer, Wellington City Council, 2 May 2013.

Innovation: The Council has encouraged innovation and the development of fledgling markets for climate-friendly technologies. It supported the Victoria University "First Light" House, which achieved third place in an international competition for sustainable design. It completed a trial of New Zealand's first production electric vehicles successfully in partnership with key businesses. It has encouraged development of a Marine Energy Testing Centre, although the future of this remains unclear. It is installing a 5 kW solar photovoltaic array on the Karori Recreation Centre as a demonstration project in collaboration with EECA.

Water: In March 2011, Wellington City Council formally adopted its Water Conservation and Efficiency Plan to manage the City's demand for water services over the coming years. The overriding benefit of reducing demand is that, not only does it lessen the need for new source water, but it also reduces energy for treatment and pumping and therefore reduces GHG emissions, reduces the extraction of water from the environment and reduces the risk of effluent discharging into the environment.

It is important to recognise the contribution toward climate change mitigation that has been made by individuals, institutions, community organisations and businesses across Wellington. A few leading examples include the investments in new wind generation and IT-related emission reductions by Meridian Energy, the Kiwibank Sustainable Home Loan programme, construction of new Green Star-rated buildings, Moore Wilson's solar installation, Z Energy's corporate sustainability and biofuels initiative, the emergence of social entrepreneurs, carbon forestry activities, and the growing youth climate movement.

The following measures have not delivered all of the outcomes that were envisaged in the 2010 plan:

- *The Business Energy-Saver Programme:* This involved a partnership between the Council and EECA through EECA's Energising Business programme. The uptake by Wellington businesses was very low so the project was discontinued.

- *Electricity generation from sewage sludge*: This pilot project was completed but did not prove to be a feasible option.

- *Waitangi Park Wind Turbine*: This was returned to Vector when the water treatment system it was powering was removed.

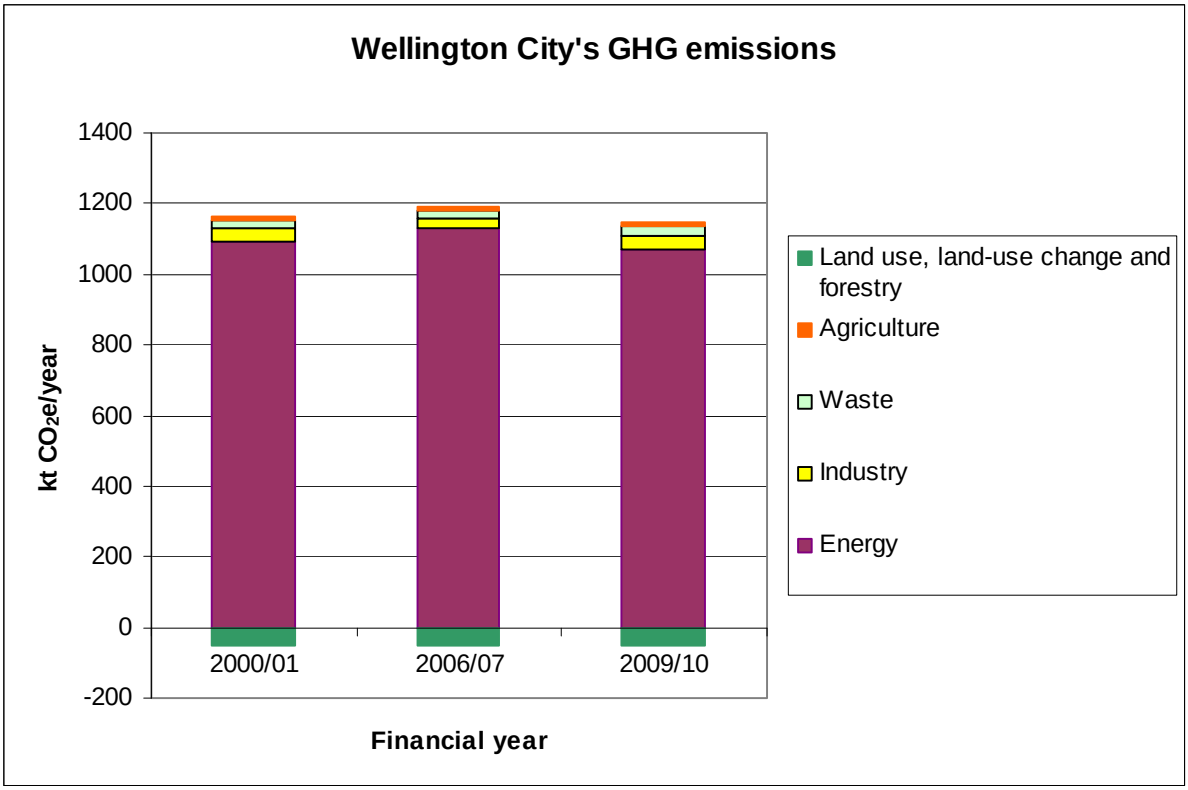
- *Council advocacy for regional/central government polices*: The following types of changes to regional/central government policy have not materialised: higher energy-efficiency standards in the Building Code, home energy ratings, feed-in tariffs, road-pricing instruments, higher fuel-efficiency standards and support for new transport fuels.

- *Memorandum of understanding with the aviation industry*: This work was initiated but has not yet produced an outcome.

Emission reduction targets

Based on the best available information, as of 2009/10, the city had roughly achieved its target to stabilise its emissions at 2001 levels. This is illustrated in Figure 2.

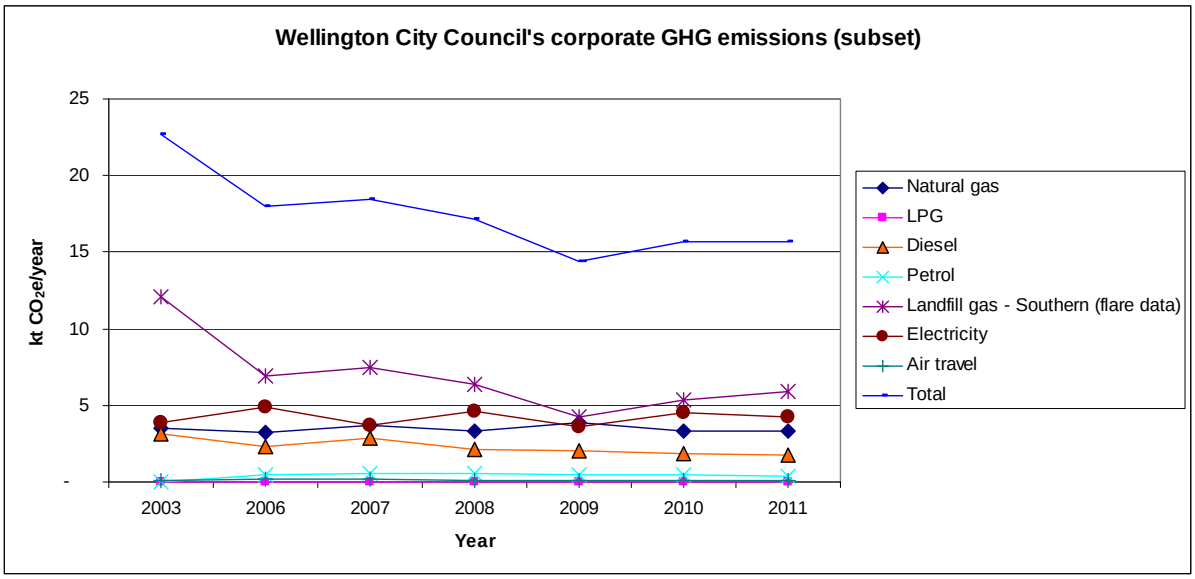
Figure 2



As of 2010/11, the Council had reduced a core subset[4] of its emissions by an estimated 30 percent relative to a 2003 baseline. This is illustrated in Figure 3. The major driver is a reduction of landfill emissions.

[4] Although the Council is maintaining a broader inventory, full data were not available for the 2003 base year and the trend line in Figure 3 has been calculated on the basis of about 55 percent of the Council's current emissions in order to permit comparison.

Figure 3



However, there are limitations to the data and methodologies applied in both the city and Council inventories and these findings could change with more complete data series and updated methodologies. This issue is addressed later in the paper.

The city's performance of roughly stabilising emissions on a net basis between 2001 and 2010 surpasses national performance, at least on a basis including full accounting of forestry. Nationally, there was a 9.5 percent increase in net emissions including forestry (although a 0.3 percent reduction in gross emissions excluding forestry) from 2001 to 2010. As calculated, the city's per capita gross emissions (excluding forestry) in 2009/10 were about 5.8 t CO_2e per capita per year, compared to a national figure of 16.4 t CO_2e per capita per year in 2011. There are significant differences in methodologies between the city and national inventories, however, so this comparison should only be made loosely. Wellington also performed well on CO_2e emissions per capita in the Siemens Green City Index for Australia and New Zealand,[5] although there was an error by the authors in data reporting that is being corrected and the authors note the difficulty of permitting accurate comparisons because of methodological differences.

Importantly, the city inventory findings point to some decoupling between GHG emissions and the growth of the economy and population, as shown in Figure 4. The city's population increased about 20 percent,[6] and GDP by about 29 percent,[7] between 2001 and 2010, while emissions remained roughly stable.

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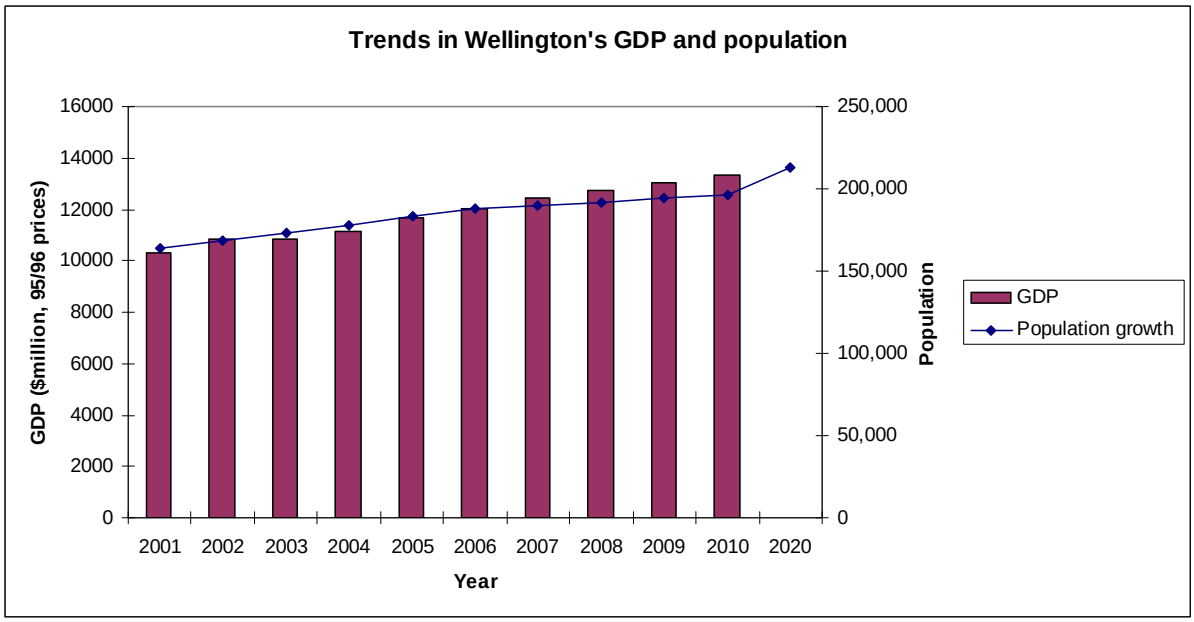
[5] Economist Intelligence Unit. 2013. *Australia and New Zealand Green City Index: Results for Wellington*. Munich: Siemens AG.
[6] forecast.id. 2011. *Welcome to the Wellington City Council Population Forecasts.* See http://forecast.idnz.co.nz/Default.aspx?id=366&pg=5000.
[7] Personal communication from Lara Rapson, Research and Evaluation, Wellington City Council, 6 May 2013.

Figure 4 also illustrates a forecast population growth rate of 8.4 percent between 2010 and 2020.

Figure 4

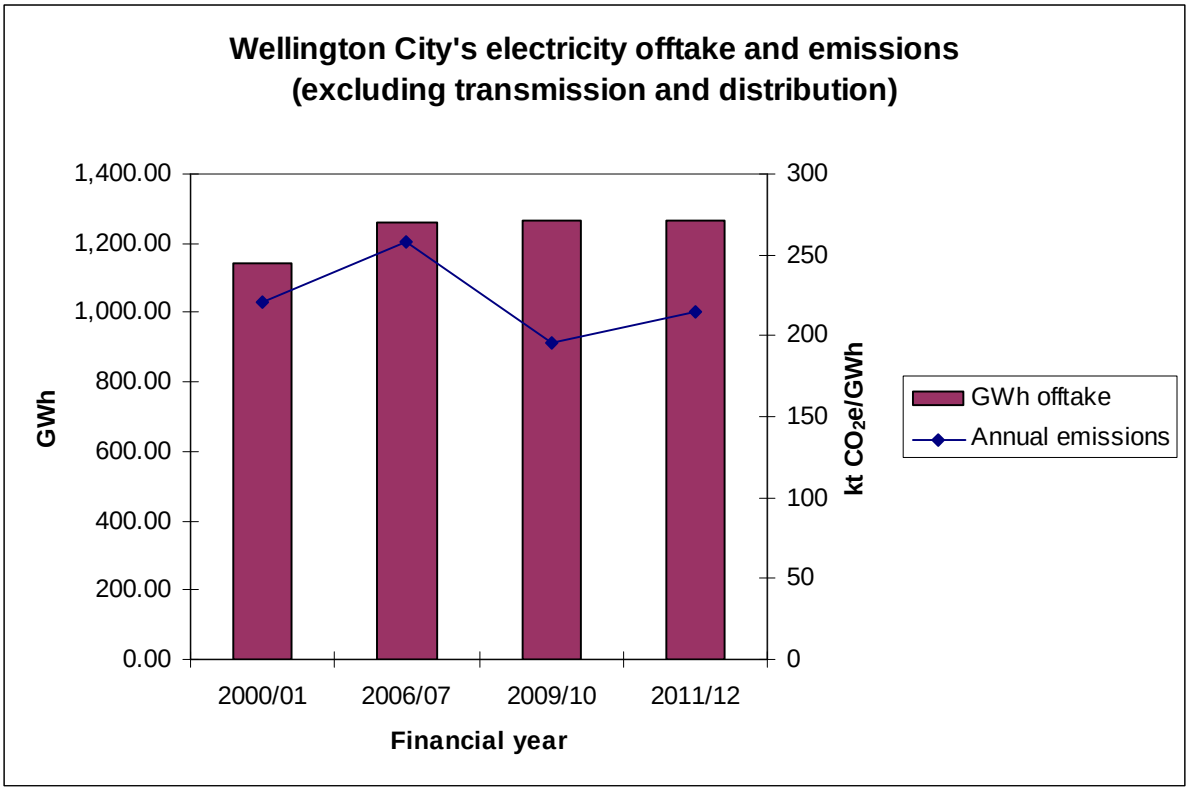


In addition to looking at emission trends, it is useful to analyse the underlying factors that are influencing emissions. The discussion below addresses considerations for electricity, transport and forestry.

A key performance driver for both the city and the Council is the emission factor applied to electricity supplied from the national grid. Under the current methodology (a widely accepted approach), a national average grid emission factor is applied. This means that Wellington does not appear to receive full credit for increasing renewable generation within its boundary, nor does it receive full credit for the extent to which its energy efficiency initiatives reduce fossil fuel generation. Figure 5 illustrates how the city's electricity emissions show a different trend from gigawatt hours consumed (offtake) because of annual variation in the fuel mix powering the national grid.[8]

[8] Data on electricity offtake were obtained from the Electricity Authority's dataset on Electricity Demand by GXP for four stations: CPK 0111, CPK 0331, KWA 0111 and WIL 0331. See http://www.ea.govt.nz/industry/monitoring/cds/centralised-dataset-web-interface/electricity-demand-by-gxp/. Data on electricity emission factors were obtained from the Ministry of Business, Innovation and Employment dataset contained in the Quarterly Electricity and Liquid Fuel Emissions Data Tables. See http://www.med.govt.nz/sectors-industries/energy/energy-modelling/data/greenhouse-gas-emissions.

Figure 5



Another key performance driver is transport fuel use, a factor of transport demand, vehicle efficiency, fuel type and mode type.[9] Figure 6 shows that based on a rough calculation derived from the Council's fuel sales data for the city, the city has not recorded a significant decline in consumption of diesel and petrol; however, note that these data may include non-transport uses of these fuels.[10] Figure 7 shows that based on the three-year averages reported in the regional Household Travel Survey, the Wellington region is not seeing a major shift away from cars/vans toward other modes. [11] Note that this figure excludes rail.

[9] In the current city inventory, emissions from international aviation but not international shipping or diesel from rail transport are included because of data limitations.
[10] Data were obtained from the Council's dataset on Sales of Motor Spirits and Diesel through February 2013, obtained from Nicky Blacker, Manager Financial Accounting, Wellington City Council, 10 April 2013.
[11] New Zealand Ministry of Transport. 2012. *New Zealand Household Travel Survey: Regional Travel Results*. See http://www.transport.govt.nz/research/LatestResults/.

Figure 6

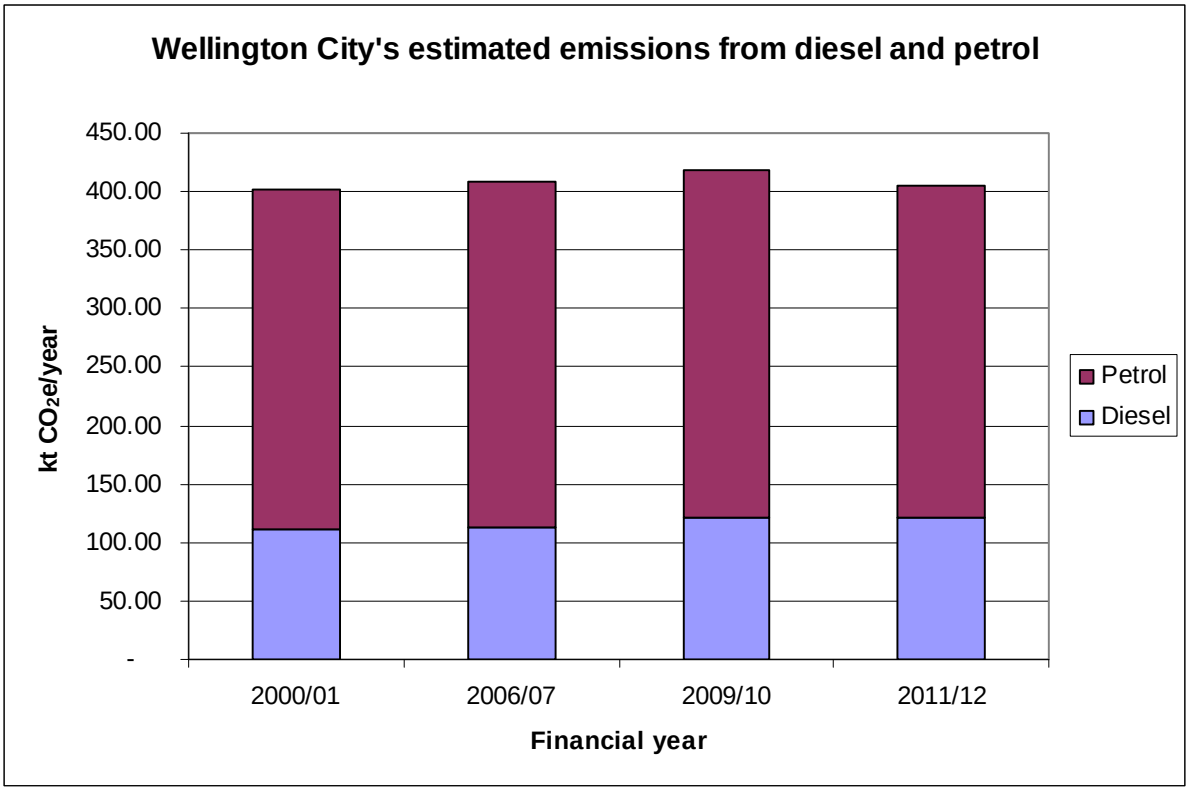
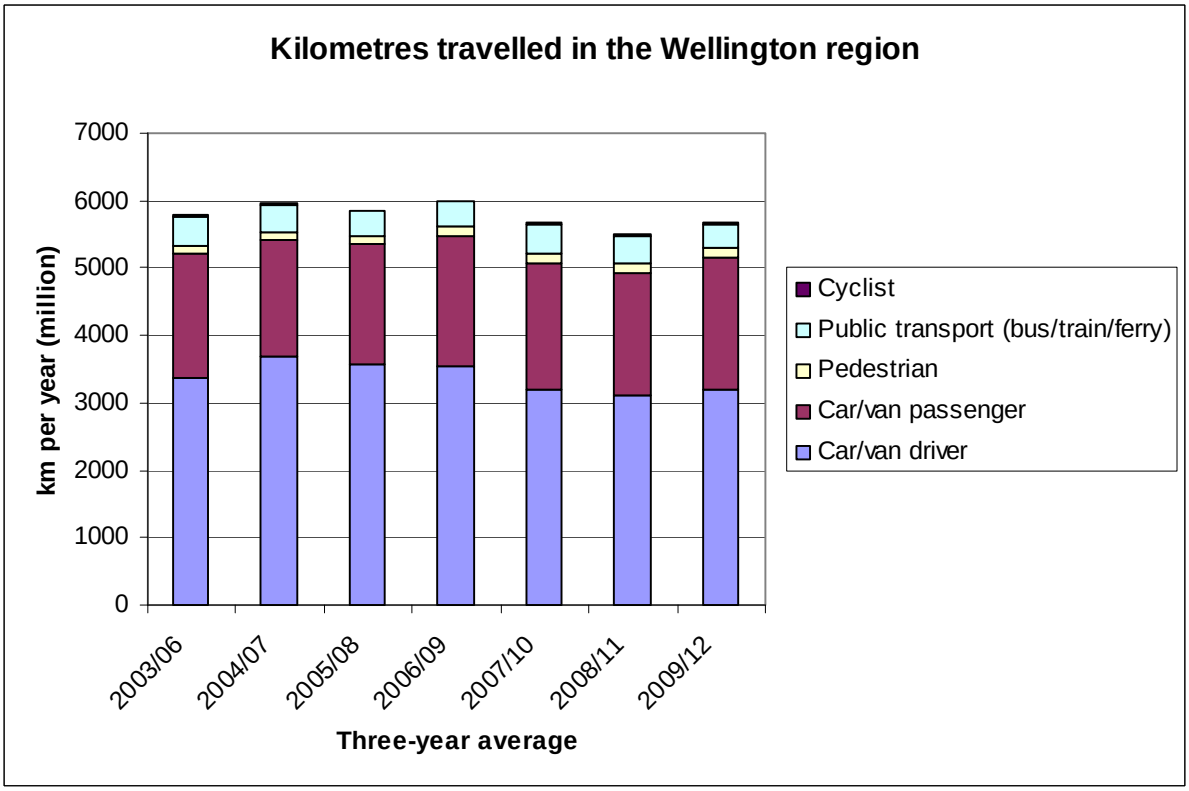


Figure 7



Using national and regional monitoring data, it is very hard to measure the net emissions from the land use, land-use change and forestry (LULUCF) sector at the city level across public and private land. It appears those fluxes are relatively stable in Wellington, but at this stage it is hard to verify this.[12]

Adaptation

The Council has made significant progress with researching the effects of sea level rise in Wellington through its own efforts and through collaboration with Greater Wellington Regional Council and NIWA. The Council is preparing for public engagement on adaptation. A separate paper on this was received by Councillors in February 2013.

Some of the highlights of adaptation actions targeted to Council operations include:

- *Development of guidance to assist asset managers to determine how best to consider climate change issues across all of its asset types*. Each Asset Management Plan (AMP) will incorporate relevant information on the specific impacts which climate change could have on asset life-cycle management and outline how such risks will be managed. Risk assessments were compiled into a report entitled *Assets and Climate Change Preparedness and Risks*.

- *Incorporating the most recent climate change science in the update of the Council's Code of Practice for Land Development*. This defines the standards that the Council uses to design and construct new public assets (e.g. stormwater pipes and sea walls). These standards will be updated as new research becomes available.

- *Applying "green infrastructure" measures to reduce stormwater runoff.* These include the tree pits in lower Cuba Street, the 80 rain gardens along the quays, the wetlands at Waitangi Park, swales along Westchester Drive, and the use of rain gardens in the National War Memorial Park in Buckle Street. The Council's green quality urban design initiatives include plans to encourage more roof-top gardens on buildings, trial green (planted) walls around the city and reduce the amount of non-permeable surfacing, for example in car parks.

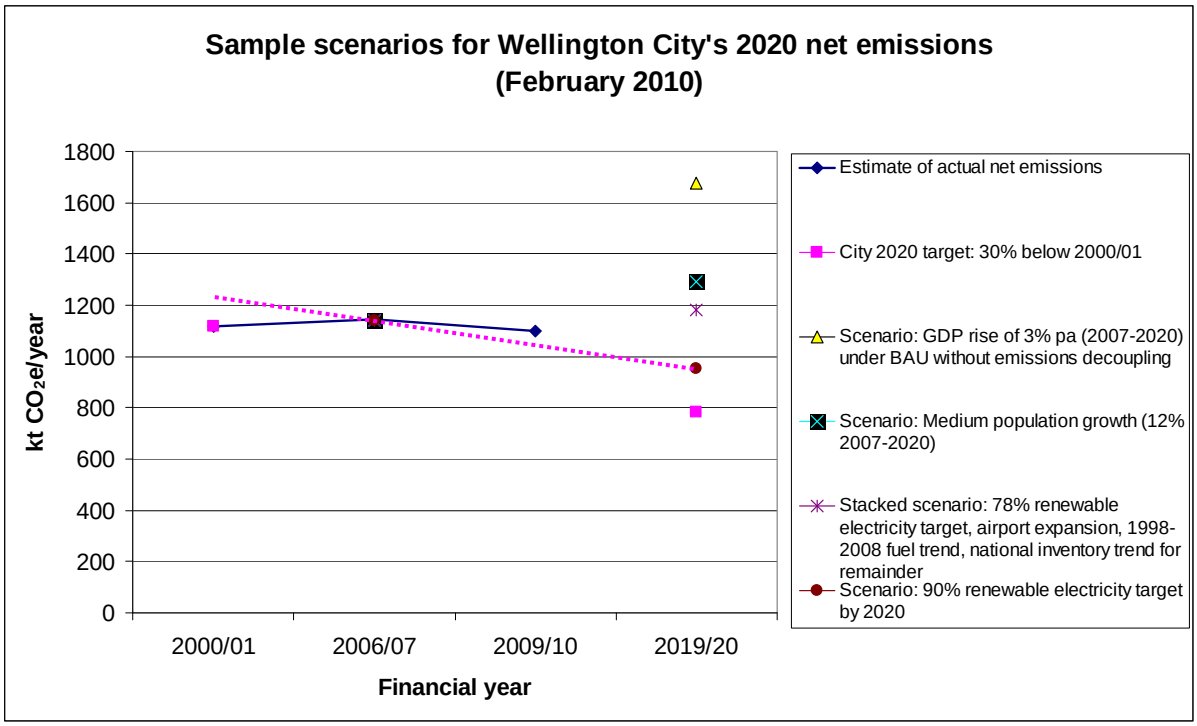
5.2 The pathway to 2020

The actions undertaken to date both inside and outside the Council combined with national circumstances have helped to constrain Wellington's emissions growth while producing other valuable benefits for the city. However, they are not sufficient to position the city for meeting its 2020 target, especially given the potential for economic and population growth.

[12] The LULUCF methodology used in the city and Council inventories is different from that applied for New Zealand's national target. If better data become available, the Council may wish to reconsider the treatment of the LULUCF sector in its target.

Achieving the city's target will require a significant step change in behaviour, investment and action both inside and outside of the Council. This is illustrated by Figure 8, which compares the recent city emissions trend against a representative sample of city emission scenarios for 2020 that were prepared in early 2010.[13] These scenarios are now outdated, but they are loosely indicative of the target challenges that could face the city under high-growth scenarios without further decoupling of GDP and emissions. Even if the country achieves a 90% renewable electricity target by 2020 (ahead of the 2025 target date), the city may not meet its target without significant improvements elsewhere across its economy.

Figure 8



In its leadership role, the Council will need to make the case for the value of meeting our targets in alignment with *Wellington 2040*, Our Living City and the city's Economic Development Strategy. It will also need to target the pressure points for the big shifts; grow community ownership, investment and action; improve how we measure our progress; and advocate for change in areas outside of the Council's direct control. Each of these points is discussed below.

<u>Targeting the pressure points for the big shifts</u>

The pressure points for achieving the city's 2020 target could include:

[13] Landcare Research. 2010. *Wellington City Emissions Forecasting for 2020: Composite of All Scenarios*. Auckland: Landcare Research.

1. Stationary energy: Increased renewable generation including distributed generation, demand reduction from efficient homes and commercial buildings (existing and new) and efficient supply/demand management with smart grid technology

2. Transport: Mode shifting (to public transport and active modes), fuel switching (to renewable electricity and biofuels), vehicle efficiency and demand reduction (carpooling, telecommuting, behaviour change)

3. Forestry: Pest management and increased planting

4. Waste reduction: Recycling, composting and waste avoidance

5. Water conservation: Reducing water pumping and treatment demand

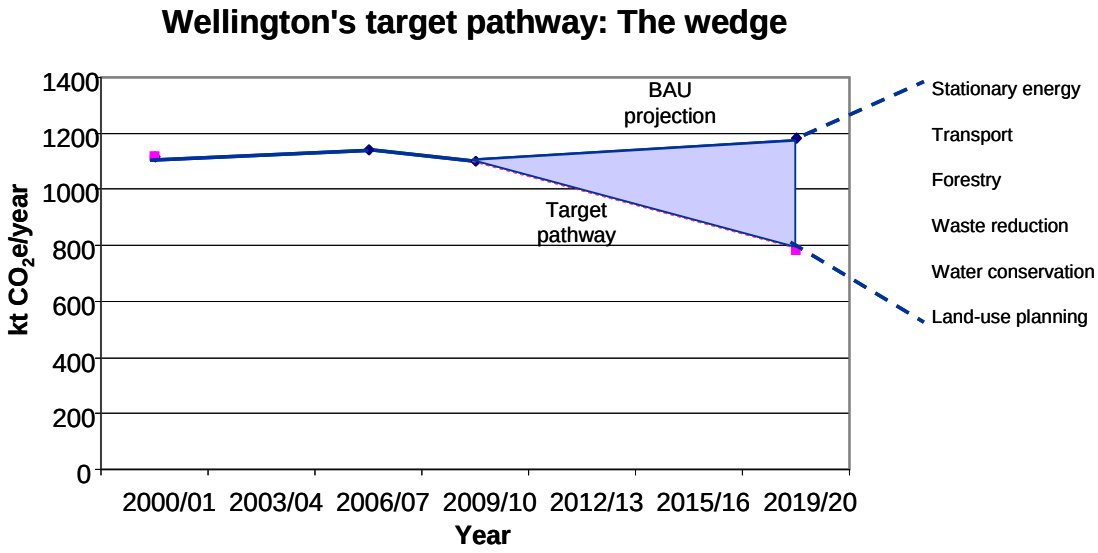
6. Land-use planning for compact development.

Two cross-cutting measures deserve attention. First, increasing the ambition of the NZ ETS would reduce emissions across sectors, although sectors respond to emission pricing differently and transport is particularly inelastic. Second, the use of smart grid technology could more effectively balance electricity supply and demand, facilitate the uptake of distributed renewable generation, reduce demand for fossil fuel generation and support the transition toward electric vehicles powered by renewable energy.

Other policy drivers for these changes could include other forms of electricity, transport, waste and water pricing; regulations; facilitative or voluntary measures; public/private partnerships and educational programmes. Some of these could be controlled or influenced by the Council, but others would likely be directed by central and regional government.

Common practice in planning target pathways is to create a “wedge diagram” that illustrates how various interventions will stack up over time to accomplish the target. This would be a useful exercise for Wellington. It would require the development of more refined inventories and projections and clarification of key methodologies. Figure 9 presents a conceptual wedge diagram for Wellington. Sample wedge diagrams from the cities of Auckland and Calgary are provided in the annex.

Figure 9



The Council should also continue to support the important work on adaptation that has already been agreed, and reinforce connections between its mitigation and adaptation strategies.

Growing community ownership, investment and action

The Council will not be able to achieve the 2020 and later targets acting alone. A step change of the magnitude under discussion will require broad support from businesses, communities and Maori as well as personal and organisational commitment to action. It will require leveraging public and private funding and creating new partnerships. To build public support for climate action, the Council will need to communicate a strong case for the benefits that will accrue to Wellington, the rest of New Zealand and the global community as a result of investing in mitigation and adaptation.

Measuring our progress

As noted earlier, there are limitations to the GHG inventory data and methodologies that are currently applied by the city and Council. City and corporate inventories are inherently more difficult than national inventories because of data collection and boundary issues. The Council would benefit from updating its inventories to reflect "best practice" approaches which have evolved in recent years. This could require a recalculation of the base-year emissions for the city and Council, and perhaps the selection of an alternative base year with associated changes to the expression of the targets. The Council would also benefit from updated projections for 2020 and 2050. To support accuracy, transparency and credibility, it would be advisable to enable external preparation and/or certification of the city and Council inventories on at least a periodic basis.

Currently there is regional support for pooling resources to develop an updated inventory series and projections for the region with a breakdown for Territorial Local Authorities. This approach was used successfully to develop the 2006/07 inventory. It offers important benefits with regard to leveraging funding and ensuring consistency in methodologies across the region, both of which could support future regional collaboration on mitigation and adaptation. Officers are exploring options with their colleagues in other councils.

Advocating for change in areas outside of the Council's direct control

As noted above, the city faces an even steeper uphill climb with meeting its 2020 target if central and regional government policies do not support mitigation actions. The Council could position itself as an empowered advocate for change and could work across the city and region to develop a "coalition of the cooling" (a term coined by Paul Gilding) to make a case for improvements to broader policy.

5.3 Proposed plan of action

To deliver this step change, officers recommend a three-stage process over the next two years (through 2014/15): boost, engage and achieve.

1. Boost

The seriousness of the challenge warrants an ambitious response without protracted delay. Officers recommend that the Council agree in principle to issue an updated Wellington City 2013 Climate Change Action Plan that consolidates, extends and enhances the successful foundation measures currently in place. This would be issued on the basis of the consultation and engagement that has already been conducted on the 2010 plan as well as on relevant supporting measures across other parts of the Council's strategy and planning. The enhancements should include at a minimum:

(a) Smart Energy Capital initiatives, subject to approval under the 2013/14 Annual Plan
(b) Participation in the UN-Habitat City Resilience Profiling Programme and UNISDR Making Cities Resilient Campaign
(c) Relevant research partnerships undertaken through the Council's Our Living City work programme
(d) Full exploration of emission reduction activities and opportunities through a refresh of the Wellington Transport Strategy which is being undertaken
(e) Increased business, community and Maori participation as part of engagement under the Council's Our Living City work programme.

To improve our ability to measure our progress and identify mitigation opportunities, officers recommend that the Council commission an updated GHG inventory and projections for the city through a collaborative regional approach, with the Council's share funded under the existing budget allocation. Officers also recommend that the Council commission periodic external certification of the Council's corporate greenhouse gas emissions inventory

funded under the Council's existing budget allocation. As additional inventory information becomes available, the Council may wish to consider whether to change the expression of the targets for the city and Council to accommodate historical data gaps. This can be done without weakening the ambition of the targets.

2. Engage

To be effective, the city's mitigation pathway to 2020 should be designed by the people who will walk it. Officers recommend that the Council launch a multi-stakeholder process to define an agreed approach for meeting the 2020 target that is technically, economically and politically viable. This process would need to build on improved inventory and projection information as discussed above. It would also need to be coordinated appropriately with the previously agreed engagement process on adaptation to sea level rise and on engagement processes for other parts of Council policy (e.g. transport).

The process should be designed in discussion with stakeholders and Maori. We can learn from observing how Auckland is currently engaged in this exercise. This process can be organised under the umbrella of engagement under the Our Living City work programme. It can be initiated under existing budgets and potentially supported by partner funding. However, further resources would enable more effective engagement.

Engagement should also include increased advocacy for improvements to regional and central government policies that will support Wellington's climate change objectives.

3. Achieve

Building on outcomes from the stakeholder engagement process, officers recommend that the Council issue a Wellington City 2015 Climate Change Action Plan with formal consultation and funding allocation under the LTP 2015-25. This plan should include a clearly defined and widely supported pathway for achieving the 2020 target. The Council can then work in partnership across the city and region to implement the agreed approach, and continue to advocate for supportive changes to central government policy. Ongoing inventories and projections can be used to monitor progress against the targets.

Updating the 2010 Carbon Management Policy

The Council's 2010 Carbon Management Policy provides guidance for managing the Council's unit liabilities and holdings under the NZ ETS and the Permanent Forest
Sink Initiative. With Council support, officers propose to submit separate advice on options for updating the Council's 2010 Carbon Management Policy. These could focus on two issues in particular (but not exclusively): adapting to change in the carbon market flowing on from the government's decision to decline the second Kyoto commitment period, and exploring options enabling

the use of revenue from the sale of forestry units to support native vegetation initiatives.

5.4 Consultation and engagement

Officers propose that as a stop-gap measure, the Council issue a Wellington City 2013 Climate Change Action Plan without further engagement or consultation. The 2013 plan would be extending the 2010 plan which was consulted upon and would be enhanced by initiatives that align with the Long-Term Plan 2012-22 and have been the focus of separate consultation or engagement. We note that consultation on the 2013/14 Annual Plan will cover the Smart Energy Capital initiatives.

This paper is proposing a significant new engagement initiative over the period 2013/14 to 2014/15 to develop an agreed approach for meeting the 2020 target and create the basis for issuing a 2015 Climate Change Action Plan. Formal consultation would be conducted prior to issuing a revised 2015 Climate Change Action Plan.

5.5 Financial considerations

A regional approach to revised inventories and projections should enable delivery of the work within existing budgets if the work can be commissioned before the end of this financial year. Funding for Smart Energy Capital initiatives will be confirmed under the 2013/14 Annual Plan. New resilience initiatives are being funded by UN-Habitat. Any new transport initiatives with climate benefits will be funded through separate deliberations. Stakeholder engagement can be undertaken with existing baseline funding, but additional funding would support more in-depth engagement.

Funding for implementation of the 2015 Climate Change Action Plan will need to be decided under deliberations for the Annual Plan 2014/15 and the Long-Term Plan 2015-2025.

5.6 Climate change impacts and considerations

The proposed programme of work strongly supports the climate change mitigation and adaptation aspirations of the city and Council.

5.7 Long-term plan considerations

The proposed plan of action is consistent with the Long-Term Plan 2012-22. It will need to be accounted for in the development of the Long-Term Plan 2015-25.

6. Conclusion

It could be easy to get discouraged by the challenges that we face as a city to reduce our emissions and adapt to climate change. But instead, we can use those challenges for motivation to build on the leadership that has been demonstrated so far by the Council and Wellingtonians and put in place new Climate Change Action Plans in 2013 and 2015 that will be a force for positive change across and beyond of our city.

Contact Officer: Catherine Leining, Principal Programme Advisor, Policy Team

SUPPORTING INFORMATION

1) Strategic fit / Strategic outcome

The proposed extension and enhancement of the Climate Change Action Plan aligns directly with the desired outcomes of Wellington Towards 2040: Smart Capital. It also supports delivery of Council objectives on climate change, biodiversity, land-use planning, transport, water, housing, commercial buildings, waste, resilience and economic development.

2) LTP/Annual Plan reference and long term financial impact

The proposals in this paper are consistent with the Long-Term Plan 2012-22. No additional expenditure is required from decisions on this paper. Achieving the GHG targets for 2020 could require substantial investment inside and outside of the Council; this will require consideration under the Long-Term Plan 2015-25.

3) Treaty of Waitangi considerations

The proposals in this paper do not raise considerations specific to the Treaty of Waitangi.

4) Decision-making

This paper requests decisions from Councillors on the approach for proceeding with an update for the Wellington City Climate Change Action Plan that was originally released in 2010.

5) Consultation

a) General consultation

This paper proposes the issuance of a Wellington City 2013 Climate Change Action Plan to consolidate, extend and enhance actions that have been or will be consulted on separately. It calls for formal consultation on a Wellington City 2015 Climate Change Action Plan to be developed from the engagement process proposed under this paper.

b) Consultation with Maori

Maori have been consulted as part of the process described in (a) above. Maori would be included in formal consultation on a Wellington City 2015 Climate Change Action Plan to be developed from the engagement process proposed under this paper.

6) Legal implications

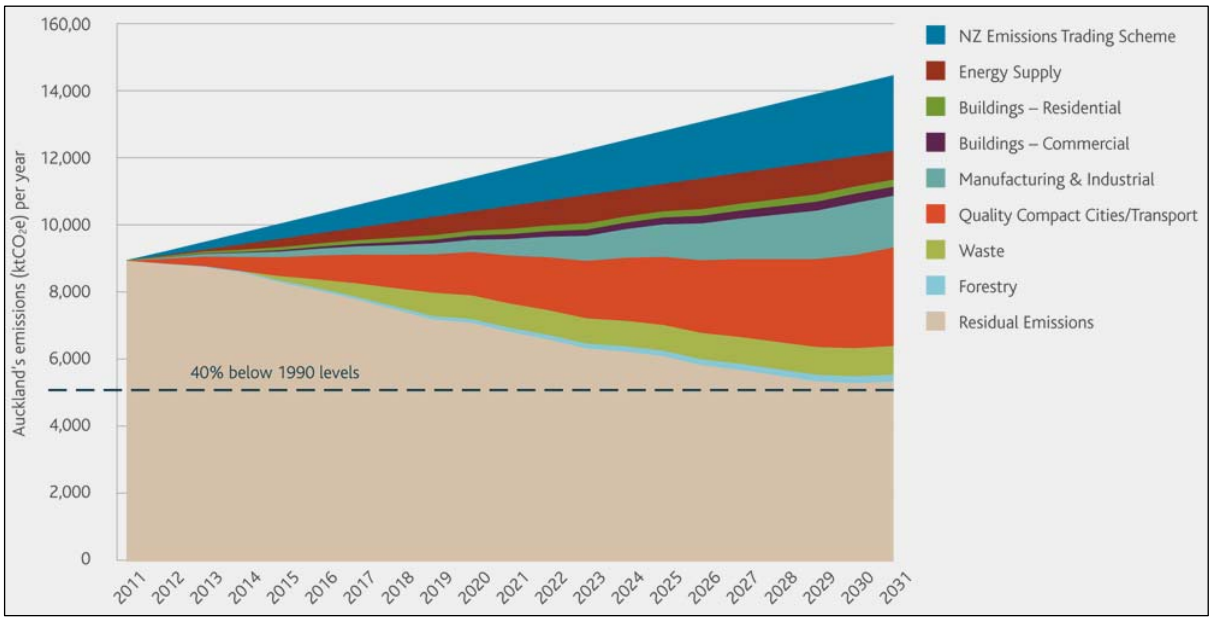
None.

7) Consistency with existing policy

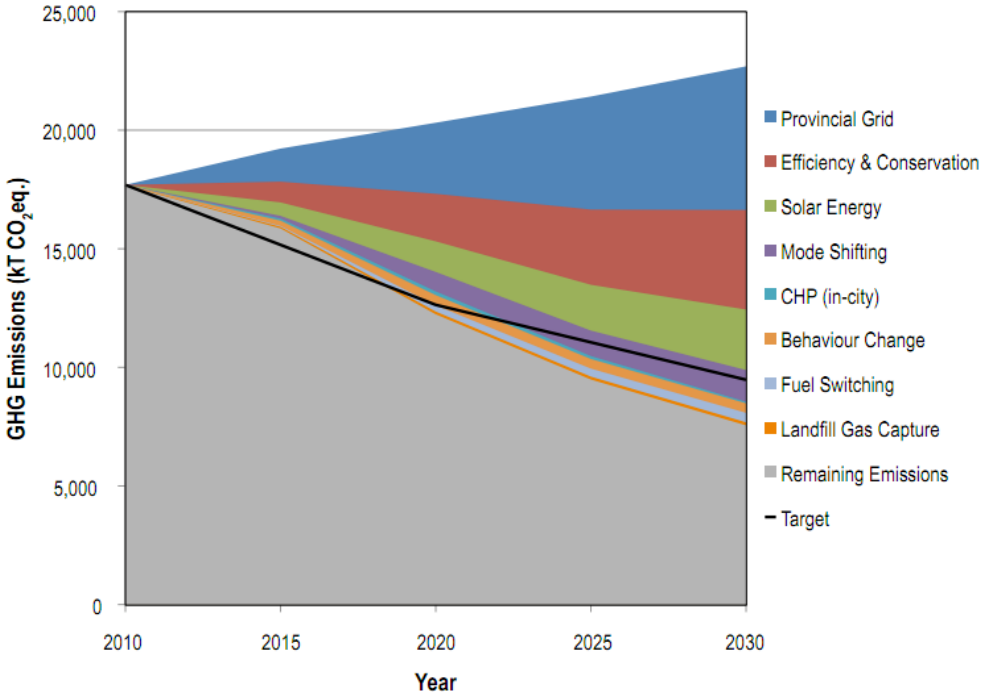
The proposals in this paper are consistent with existing policy on climate change, biodiversity, land-use planning, transport, water, housing, commercial buildings, waste, resilience and economic development.

Annex 1: Sample wedge diagrams

Potential Emission Reduction Wedge Diagram for Auckland[14]



Emission Reduction Wedge Diagram for the City of Calgary, Canada[15]



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