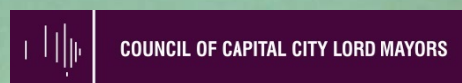




LOCAL ACTION FOR A LOW CARBON FUTURE

Discussion Paper
June 2012



Acknowledgements

This discussion paper was prepared by Hazel Storey, Associate of the UTS Centre of Local Government with Martin Brennan, CEO and Regional Director, ICLEI - Local Governments for Sustainability Oceania, Cheryl Thomas, Executive Director of the Council of Capital City Lord Mayors (CCCLM) and Stefanie Pillora, Program Manager Research at the Australian Centre of Excellence for Local Government (ACELG).

Associate Professor Heather Zeppel, University of Southern Queensland, assisted in developing the research approach and advised on the survey design.

Chris Watterson (ACELG) assisted with desktop research and Jessie Lymn and Nancy Ly (ACELG) assisted with the preparation of the report for publishing.

Project Reference Group

- Cheryl Thomas, CCCLM
- Graham Sansom and Stefanie Pillora, ACELG
- John Ravlic and Lauren Oakey, Local Government Managers Australia
- Ruth Spielman, National Growth Areas Alliance
- John Lauder, Department of Regional Australia, Local Government, Arts and Sports
- Meg McDonald and Melissa Cutler, Low Carbon Australia Limited
- Josh Thompson, Australian Local Government Association

Project contributors

The project team would like to thank a number of organisations and individuals who contributed both information and advice in the development of the paper. These are listed in the Appendix.

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About this Report

This discussion paper considers the questions:

- What are the strengths of the local government sector for a low carbon future and how can these complement national initiatives for a low carbon economy?
- How can local governments and the national government work more effectively as partners to achieve mutual goals for a clean energy, low carbon future?

The idea for the paper emerged from the 2011 Local Government Climate Change Round Table coordinated by ACELG and the National Climate Change Adaptation Research Facility (NCCARF), and attended by all local governmental associations and by leading councils and academics from around Australia.

While acknowledging the importance of strategies to adapt to inevitable climate change, this paper focuses on actions that reduce carbon pollution and that can demonstrate economic and social benefits. The role and activities of councils relating to adaptation are documented through other mechanisms, in particular through NCCARF and other state and federally funded programs. Some of these initiatives have been previously documented by ACELG¹. Examples of innovation or exemplary adaptation work that were provided during the course of the research for this paper will be disseminated through other avenues.

As the focus of this paper is on local carbon reduction initiatives in a national policy context, information on the roles played by State and Territory Governments is limited to references in the detailed case studies. However, the importance of the relationship between local and state authorities in supporting local action on climate change is acknowledged as is the recent withdrawal of a number of state government programs that supported local action.

Whilst this paper assumes a working knowledge by the reader of climate change science and the carbon cycle, and so doesn't include this material, a brief explanation of the role of carbon in human induced climate change is included. Carbon dioxide (CO₂) is the greenhouse gas whose concentration is being most affected directly by human activities. CO₂ also serves as the reference to compare all other greenhouse gases (CO₂-equivalent or CO₂-e) such as methane (CH₄) and nitrous oxide (N₂O). The major source of CO₂ emissions is fossil fuel combustion for heating, transport and electricity generation plus forest clearing, cement production etc. Atmospheric concentrations are now about 30% above pre-industrial levels (Aust. Government Bureau of Meteorology, 2012).

There are 565 councils in Australia and the authors note that while they have included examples from a broad range of councils from all states and the Northern Territory, they are only a sample of the initiatives being undertaken by local government authorities across the country. Climate change policy and resulting actions by governments is a dynamic and evolving area. This paper draws from publicly available information as of May 2012. Readers are encouraged to check sources of policy and case study information for changes that may occur following the publishing of the paper.

¹See for example: Pillora, S. (June 2010) 'Australian Local Government and Climate Change', Working Paper no.1, Australian Centre of Excellence for Local Government, University of Technology Sydney.
http://www.acelg.org.au/upload/ACELG_ClimateChangeReport_April11_v02_full.pdf and ACELG, NCCARF, Australian Government, Local Government Climate Change Round Table 4 May 2011 Agenda and Background Papers available at http://www.acelg.org.au/upload/program1/1305089839_Climate_Change_Roundtable_Web.pdf

Executive Summary

This discussion paper has been prepared by the Australian Centre of Excellence for Local Government and the Council of Capital Cities Lord Mayors to identify ways for the Federal Government to work more closely with local government in bringing about Australia's move to a low carbon future.

It uses both primary and secondary data from all levels of government to identify the capacity of local government in this field. It provides evidence of the common policy frameworks and motivations of local government for reducing carbon emissions and its strengths for helping to create a low carbon, clean energy future.

Australia's Clean Energy Plan intends to cut 159 million tonnes of carbon pollution between 2001 and 2020 (Australian Government Department of Climate Change and Energy Efficiency, 2011). The level of abatement achieved by the Local Government sector in 2008 alone indicates that up to 20% of this goal could be achieved by the federal and local government sectors working systematically on local infrastructure and within local communities (Australian Government and ICLEI Local Governments for Sustainability, 2009).

The four primary strengths of local government identified through this research are:

- effectiveness in building partnerships and working collaboratively at multiple levels
- proximity enables councils to connect frequently and directly with citizens, local businesses and a range of community stakeholders
- unlocking investment capital and embarking on innovative and transformative practices and projects
- unique access to increasingly fine-grained land use and employment data to assist in carbon emission reductions.

Case studies from urban and regional councils from across Australia that illustrate these strengths and inform the discussion on future directions are included.

The paper reveals that by working with the four strengths of local government, the Clean Energy Plan can reach further into residential and business communities and the various streams can be supported more effectively and strategically within communities.

The paper is intended to generate further discussion across local government and initiate a dialogue between the federal government and local government about how, by working more collaboratively, the two sectors can help deliver a clean energy future for Australia. Through collaboration, greater low carbon gains could be made Australia-wide, thereby contributing to Australia's international commitments.

Introduction

The Australian Centre of Excellence for Local Government (ACELG) and the Council of Capital Cities Lord Mayors (CCCLM) have compiled this discussion paper to show how local government will be an integral player for delivering a low carbon and clean energy future for Australia.

The purpose of the paper is to capture and articulate local government's unique role for galvanising local level support and innovation. It is based on the premise that the role local government currently plays in national climate change policy needs to be re-stated and re-positioned. The strengths of the sector identified in this paper demonstrate its potential as a partner for action towards a low carbon future. The report encourages dialogue between federal and local government about how that partnership might be developed.

Background to the Research

This discussion paper arose from the 2011 Local Government Climate Change Round Table. It is based on indicative research undertaken between February and April 2012. A survey on climate action and low carbon futures was completed by:

- 22 councils, two Regions of Councils and one Local Government Alliance together representing the interests of 57 councils
- Four local government professional associations (SA, NT, NSW and VIC)
- Four State/Territory Government Environment Agencies (NT, WA, SA, NSW) provided perspectives on the local government sector carbon emission reductions.

The questions covered council policy and programs on climate change, perspectives on barriers, opportunities and motivations for reducing carbon emissions and views on the language used in communicating about climate change. Respondents were invited to put forward programs and projects that they considered to be exemplary.

The programs, projects and activities put forward were considered exemplary by the councils surveyed because they reflect an understanding of the need for political support and a strategic approach, the need to build capacity in the community, the value of using 'best practice' models, mapping and modelling, the importance of leadership by the council and well regarded by the communities.

Survey findings were complemented by a desktop review of existing research papers and reports on climate change mitigation by local government and by follow up contact with councils when additional information is required.

Case studies throughout the paper illustrate the key themes. These were selected from examples put forward by research contributors or recommended by the Reference Group. Three or four main case studies are included to illustrate each of the strengths.

The content and structure of the report was guided by the Project Reference Group. The approach to the paper was tested through discussion with attendees of the ICLEI and City of Melbourne *Sustainable Communities Forum* held in conjunction with the City of Melbourne's C40 Workshop in March 2012.

1. National Policy Context

This section demonstrates that the frameworks already exist for intergovernmental and multi-party collaboration in supporting low carbon initiatives and the transition to a low carbon economy.

It briefly describes elements of the Clean Energy package that are relevant to local government and also summarises the achievements of the federally-funded, nationally-delivered Local Government Cities for Climate Change Protection Program (CCP).

1.1 Council of Australian Governments Agreement

All spheres of government have expressed agreement on the need for a coordinated approach to achieving carbon pollution reduction. The COAG Memorandum of Understanding (MOU) (Council of Australian Governments, 2009) endorsed the three pillar strategy adopted by COAG in 2009: the renewable energy target, the energy efficiency strategy and the national adaptation framework. These three pillars underpin the Federal Government's 'Securing a Clean Energy Future' Plan and its four components; a carbon price, renewable energy, energy efficiency and land-based action to sequester carbon (Australian Government, 2011a).

The government acknowledges that if Australia is to achieve the national 2020 target of a 5% reduction on greenhouse gas emissions below 2000 levels, then *the range and effectiveness of abatement measures being applied in both the private and public sectors will need to be greatly increased*. (Australian Government, 2011b) This increase in abatement measures is the key aim of the Clean Energy Future Package of measures².

1.2 The Clean Energy Future Plan

In September 2010, the Federal Government established a Multi-Party Climate Change Committee to explore options for implementing a carbon price and building consensus on how Australia would tackle the challenge of climate change. The Committee's work culminated in the release of a Clean Energy Agreement in July 2011, which determined a carbon pricing mechanism to be the most cost-effective and economically responsible way of reducing Australia's carbon pollution, with its introduction enabling Australia to play its part in global efforts to reduce the risks posed by climate change. The committee agreed that a carbon price would provide opportunities for innovation and investment in clean technologies, and opportunities and rewards for improved land use management and that complementary measures would continue to play an important role in the transition to a clean energy economy.³

The carbon pricing mechanism will commence on 1 July 2012, with a price that will be fixed for the first three years. The price will start at \$23 per tonne of CO₂-e and will rise at 2.5 per cent each year in real terms. On 1 July 2015, the carbon price will transition to a fully flexible price under an emissions trading scheme, with the price determined by the market. Complementary measures to the pricing mechanism that have direct relevance to local governments and their communities are referenced below. The information has been sourced from the Department of Climate Change and Energy Efficiency (DCCEE), the agency which administers many of the programs funded through the Clean Energy Futures package.

² For full details of package see <http://www.cleanenergyfuture.gov.au/>

³ http://www.climatechange.gov.au/government/initiatives/~media/publications/mpccc/mpccc_cleanenergy_agreement-pdf.pdf

A range of new measures created to complement existing measures are targeted at encouraging energy efficiency in households, businesses, communities, Government, buildings and transport.

These include:

- \$200 million Community Energy Efficiency Program (CEEP), providing grants to local councils and not-for-profit community organisations to make energy efficiency upgrades to council and community-use buildings, facilities and lighting. Applications for CEEP funding opened in February 2012, and successful applicants were yet to be announced as of end May 2012. See 3.1.1 for a brief outline of the role of LCAL in providing finance approved as matched project funds to meet CEEP guidelines
- \$100 million Low Income Energy Efficiency Program which will support consortia of community organisations, local councils and energy service companies to trial energy efficiency approaches in low income households
- \$40 million Energy Efficiency Information Grants providing grants to industry associations and non-profit organisations to deliver information to small and medium enterprises and community organisations about the impacts of a carbon price and suggest practical steps to manage these impacts
- over \$13 billion to be invested in clean energy projects, including the Clean Energy Finance Corporation. In combination with the carbon price and Renewable Energy Target, this investment is designed to significantly expand the clean energy sector
- \$24 million Local Government Energy Efficiency Program for councils to install solar or heat pump hot water heaters in community facilities (announced in June 2012).

Incentives are also being provided for the farming, forestry and land sectors to reduce carbon pollution and increase the amount of carbon stored on the land. These include funding for biodiverse carbon stores and policies to help farmers and land managers make the most of carbon farming opportunities. The carbon farming initiative (CFI) is a carbon offsets scheme that is part of Australia's carbon market. Legislation to underpin the CFI was passed by Parliament on 23 August 20. Methodology for the capture and combustion of landfill gas from legacy waste was negotiated with local government representatives.

As well as the work led by the Federal Department of Climate Change and Energy Efficiency, the Federal Department of Regional Australia, Local Government, Arts and Sport (DRALGAS) also plays a role in assisting local government prepare for a low carbon future. DRALGAS developed relationships with key local governments which help to disseminate information, in particular through the network of 55 Regional Development Australia (RDA) committees, a Federal Government initiative establishing partnerships between the Federal, state, territory and local governments to develop and strengthen the regional communities of Australia. Established since 2010, RDA committees are expected to have an important role in ensuring the long-term sustainability of Australia's regions.

This paper will demonstrate opportunities to increase carbon abatement by working more collaboratively with local government to strategically support and encourage take-up of, many parts of the Clean Energy Plan.

1.3 Australian Local Government Association Position

The Australian Local Government Association (ALGA) is the peak national voice of local government. It is a federation of state and territory local government associations representing the interests of more than 560 local government authorities across the country. ALGA supports the need to reduce greenhouse gas emissions including the introduction of price on carbon through a market-based mechanism (ALGA, 2011).

ALGA has adopted a clear policy position in respect to climate change⁴. In particular, ALGA acknowledges that:

- climate change is a shared responsibility
- local government will need to prepare for climate change and, at the very least, will need to develop the capacity to protect its own assets and adapt to localised conditions
- local government has an important role in providing leadership and education to assist citizens and business to understand and accept their responsibilities to address climate change (Baker and McKenzie, 2011).

ALGA and the state local government associations have played a significant role in building awareness amongst local government landfill operators of the potential income available under the CFI and the mechanisms that can assist councils with emissions-harvesting infrastructure at landfills to gain access to this income.

In addition to the commitment by ALGA, the Council of Capital Cities Lord Mayors (CCCLM) realise and support the fact that Australia's major cities will be instrumental in resolving nationally significant sustainability issues including:

- greenhouse gas abatement and climate change
- adapting to climate change
- drought proofing Australia's metropolitan regions
- managing and reducing e-waste
- sustainable urban form (Council of Capital Cities Lord Mayors, 2010).

CCCLM recognises that cities have the opportunity and responsibility to significantly reduce greenhouse gas emissions and that tackling emissions in our cities can help meet Australia's national greenhouse targets.

One of the national programs led by CCCLM is City Switch, 'the premier national energy efficiency program targeting commercial offices'⁵. Its national vision is to influence a widespread market transformation within the tenancy sector with a focus on energy efficiency and to substantially decrease overall energy demand from tenancies in each participating council's business district. The program reports (at March 2012):

- 401 tenancies covering over 1.7 million square metres of office space have committed to City Switch
- City Switch represents 10% of all tenancies within the geographical reach of the program

⁴See multiple submissions at <http://www.alga.asn.au/?ID=210>

⁵See <http://www.cityswitch.net.au>

- Signatories boast an above average NABERS tenancy rating of 4 stars, well above the industry average of 2.5 stars.

The cities of Brisbane, Perth, Adelaide, Melbourne and Sydney along with Parramatta, North Sydney, Willoughby (all of which contain extensive commercial stock), NSW and Victorian Governments are program partners.

The Local Government Managers Australia National Office (LGMA National) was established in 1936 and is Australia's peak body for management professionals in local government. With a membership of more than 2500 nationally, LGMA plays a vital role in advancing excellence in local government management through professional development and organisational capacity building programs.

LGMA National's Climate Futures Program for 2012 includes the following activities:

- the LGMA Climate Change Think Tank comprised of Australian local government practitioners who have previously undertaken US climate change fellowships
- the Pacific Local Government Climate Change Fellowship program which involved five fellows being placed with Australian councils to share of knowledge between Australia local government practitioners and their Pacific peers
- the Management Challenge Pre-Challenge Task which involved over 110 councils in the preparation of plans for their council for 'transitioning to a low carbon future'
- a Low Carbon Futures interactive session, Carbon Pricing Workshop and Climate Futures stream at the LGMA National Congress held in May.

LGMA's *Climate Futures Program* is a practice-based advocacy program aimed at affecting change for local government at the individual and sector level and driving support at the federal level.

For more information on these initiatives visit the LGMA website, www.lgma.org.au

1.4 Cities for Climate Protection - Australia Program Legacy

The successes of the Cities for Climate Protection Program (CCP), demonstrates the potential for the Local Government sector to effect change and reduce carbon emissions when key support mechanisms are in place. The program was delivered in Australia through the ICLEI - Local Governments for Sustainability - Oceania between 1998 and 2008.

In 1998 the Federal Government allocated \$13 million over five years to the local government sector in support of reducing Australia's greenhouse gas emissions including the internationally renowned Cities for Climate Protection (CCP) Australia Program. CCP Australia achieved one third of its recruitment target in the first year (Cities for Climate Protection Program Australia, 1999) and by 2008 when the funding ceased, abatement achieved by 184 councils was 0.7% of Australia's total emissions – more than was reported by any other sector (Hoff, 2010 p12).

Given that most actions provided other community benefits, ICLEI reported that it is not possible to accurately estimate the full benefit of abatement.

Nevertheless, ICLEI estimated the following benefits between 1998/99 and 2007/08:

- 18 million tonnes of CO₂e saved across Australia through the work of local councils, their communities and the CCP program. Of those, 4.7 million were attributable to savings from council (corporate) operations and over 13 million from actions undertaken within and for the community – facilitated by local councils. (Australian Government Department Environment, Water Heritage and the Arts, 2008 p4)
- Emissions reductions from council-owned or managed buildings accounted for 41% of total corporate (i.e. council) abatement. Other actions included installing efficient light fittings, street lighting and use of green building technology, changing fleet to more efficient models, use of bicycles, converting methane gas, integrating climate considerations into policy, strategy and planning and by allocation of resources for staff to work on climate issues and projects. (Hoff, 2010 p28)
- \$AU95 million saved by Australian councils and their communities through reduced energy costs and the CCP program between 1998/9 and 2007/08 and Councils, with their external funding partners, invested \$203 million between 1998/99 and 2007/08 on actions to reduce corporate and community emissions (Australian Government and ICLEI Local Governments for Sustainability, 2009p3)

Whilst Australian councils are not suggesting that this program be reinstated, many have noted the current gap in a consistent approach and reporting framework for abatement.

The Australian Government acknowledged in the 2010 State of Environment Report that, three years after responding to the Wilkins review (at which time funding for the Cities for Climate Protection program and its national reporting was withdrawn)⁶ that ‘such rationalisation is unlikely to be practicable’ (Australian Government, 2011c s2.3.3).

Research indicates that whilst many councils still report greenhouse emission reductions to their communities, there is no nationally coordinated program, so differing approaches are being developed and used by individual and groupings of councils to measure and manage their climate change actions. For example, in Victoria in 2010:

- almost 60% councils use a private service provider for monitoring and reporting across operations
- 39% used a council developed system
- 16% used Sustainability Victoria’s utility tracker
- 20% use a combination of these (Municipal Association Victoria, 2011).

Prime Minister Gillard announced in 2011 “*that the Clean Energy Future Plan will cut 159 million tonnes of carbon pollution from our atmosphere by 2020. The equivalent of taking over 45 million cars off the road.*”

The authors suggest that by using the previous abatement achievements by Local Government (1 million cars a year), to model forward projections that between **10% and 20% (and more likely towards the upper end) of the Clean Energy Future reductions could be contributed by Local Government by 2020.**

* With thanks to Ironbark Sustainability Consulting for assistance with the rough modelling.

⁶By rationalisation of activities with the Australian Government to focus on mitigation measures and the states and territories to concentrate on adaptation via COAG’s National Adaptation Framework.

The Municipal Association of Victoria also found an apparent lack of resources and/or expertise was limiting councils' ability to measure their own environmental performance.

In NSW the Local Government and Shires Association found that with regard to the use of inventories:

- 66% councils did not use software specifically designed to record and monitor greenhouse gas emissions
- 59% indicated that a need for such software tailored for Local Government operations was needed (LGSA NSW, 2010, p18).

Therefore, whilst the legacy of CCP has driven continuous action and local reporting by many councils, since 2008 there has been no Australia-wide local government framework, network, consistent methodology or tool that collects data on carbon reductions, investments, savings and council and community actions. There is currently no consistent guide to decision making about investments for mitigating the effects of climate change or reporting on outcomes from such investment. Climate change actions by local councils that contribute to the national agenda and effort have not been aggregated and/or reported nationally.

This current priority for consideration is how the contribution of local governments to mitigating climate change can best be harnessed and valued.

2. Local Government Context

This section provides some background on the significance of local government to the wellbeing of communities, before addressing carbon reduction more specifically.

Local government is responsible for providing a diverse range of services, programs and social and economic infrastructure to every Australian community. This presents multiple opportunities to reduce carbon emissions.

Services and administrative functions range from infrastructure and a wide range of property services (for example for parks, pools and sports halls), health and food inspections to immunisations and animal control. Local government provides community and welfare services and building and waste services. It administers buildings, airports, parking facilities and cultural facilities such as museums and art galleries. It also provides group purchasing, planning and development approvals.

Local government also regulates, advocates and provides leadership for and on behalf of local and regional communities and provides for community wellbeing. In addition to managing community and regional infrastructure in the context of a changing climate, it provides leadership and education about climate change and the move to a low carbon future.

2.1 Policy and Planning Drive Local Government Action

This section provides a snapshot of the policy and planning framework that informs the local government sector's contribution to energy efficiency and a low carbon future. Existing data shows that generally policy commitments are in place or are being planned for and that councils have similar motivations to take action wherever they are located. However, data is not available for all States and Territories and approaches to delivery vary according to the local context.

In 2009, 82% of NSW Councils were planning for climate change (Urbis, 2010) with 64% councils having a documented strategy to reduce greenhouse gas emissions through either an energy savings action plan (39%) or general mitigation strategy (25%) and 41% NSW councils were reporting their greenhouse emissions (LGSA NSW, 2010, p6).

The majority (58%) of Victorian Councils have a climate change mitigation strategy (with 67% having a sustainability strategy). Those less likely to have a mitigation strategy in place are regional and rural councils (with many intending to introduce one). City and regional councils are more likely to have a sustainability strategy (Municipal Association of Victoria, 2011).

In South Australia, 31% of Councils (23 of 74) have a climate change plan or strategy. Of those, 16 incorporate climate change in their strategic plan/business plan (Zeppel, 2011a). Half of the Greater Adelaide Councils have climate change strategies (Zeppel, 2011b) and the Local Government Association SA has set a target for SA Councils to purchase at least 20% Green Power.

In Queensland, 27% of councils took part in the CCP program (Queensland has 12 Aboriginal Shires, 24 Shires, 30 regional councils and seven cities) (Zeppel, 2011c). Work continues, with for example, Redland City Council focussed entirely on reducing the amount of carbon emissions through changes in council behaviour. Their targets are 25 per cent reduction on 1998 emissions by 2020, a further 25 per cent reduction on 1998 emissions by 2030 and a total of 75 per cent reduction on 1998

emissions by 2050 (Redland City Council, 2011). A climate change mitigation survey of 32 Queensland councils was completed during January to May 2012, with recommendations supporting low carbon actions by local, state and federal governments and the private sector (Zeppel & James-Overheu, 2012).

In the Northern Territory, the State Government works directly with community groups through grants programs. The major local government centres have climate plans. Alice Springs is a Solar City, Darwin adopted its Climate Plan and Policy in 2010 and Palmerston's Municipal Plan 2011-2016 states that 'climate change has become a high priority for the council.' Following the devastating impact of cyclones and the resulting emergency responses, Palmerston has created an Environmental/Emergency Operations position (City of Palmerston, 2011).

With regard to the use of targets Australia wide, in 2009, 53% of councils had community emission reduction targets of between 10% and 15% (Hoff, 2010 p51).

In regard to the content of the action plans, the last national assessment of council plans in 2008 showed:

- 90% of councils action plans covered energy conservation
- 80% cover waste reduction as well as renewable energy and sustainable transport
- 71% had energy conservation as the highest priority (Hoff, 2010 p49-51).

The shift to long term strategic planning underway in local governments across Australia is also noted. Councils are now planning for 4 and 10 year horizons, or longer, using sustainability frameworks. In most states they are required to prepare community plans which incorporate environmental, social, and economic and governance matters. Planning and reporting requirements include long term financial and asset management plans which are important when considering alternative investment and funding arrangements for energy efficiency and renewable energy measures and other carbon reduction initiatives.

It is also noted that councils contribute to RDA plans which address climate change on a regional level. For example, Regional Development Australia ACT is part of a project initiative to develop a clean green regional economy – a Region of Renewable Energy Excellence, in the south-east NSW-ACT region.

2.2 Carbon Neutral Commitments

A carbon neutral approach is being taken by a number of councils and their communities meaning that net emissions associated with their activities are equal to zero. These include Town of Cottesloe (WA), Cairns Regional Council, Sunshine Coast Regional Council and Gold Coast Regional Councils and City of Brisbane (QLD), Adelaide City Council (SA) and the City of Sydney (NSW). In the late 2000s councils in Victoria showed a strong interest in carbon neutrality. Carbon neutral driven councils include City of Darebin, City of Maribynong (who set a target back in 2007), and Melbourne City Council. The Central Victorian Greenhouse Alliance, which comprises 14 regional Local Governments, as well as businesses and community organisations, has pledged to reduce emissions to net zero by 2020.

The City of Sydney was formally recognised and certified as the first Local Government in Australia to be certified as carbon neutral under the national Carbon Offset Standard administered by Low Carbon Australia Limited in November 2011. Lord Mayor Clover Moore MP announced:

We are on track to reach one of the most ambitious emissions reduction targets of any Australian government - 70 per cent by 2030 from 2006 levels... We've already reduced the City's 2006 carbon emissions by 6 per cent and, we're on track to reach our 20 per cent target by 2012 (Low Carbon Australia Limited, 2011).

2.3 Common Motivation and Approaches

A further finding of the research is that as well as having policies in common, those councils which do take action have several motivations in common.

Whilst recognising differences of opinion in the sector, Councils responding to the survey undertaken for this paper and previous studies of Local Government (Zeppel, 2011b; Municipal Association Victoria, 2011 p7; LGSA NSW, 2010 p2) indicate common motivations to act on climate change. These include a sense of responsibility in planning for the long term, legal requirements and showing leadership through reducing emissions from their own operations. In particular it is noted that local government authorities in Australia are required to report greenhouse gas emissions over a threshold of 25,000tCO₂-e under the *National Greenhouse and Energy Reporting (NGER) Act 2007* and, from 1 July 2012, under the *Clean Energy Act 2011*.

- South Australian metropolitan councils identified Council leadership and setting an example as a priority, through more efficient street lighting and through information and education (Hamilton, 2009).
- Victoria metropolitan councils in 2008 identified planning policy, information and education and renewable energy as priority areas (Hamilton, 2009). By 2010 concerns about urban heat impacts (26%) and peak oil (25%) were emerging as issues across all Victorian Councils (Municipal Association Victoria, 2011).
- In Queensland, priority actions for councils include compliance with environmental and carbon regulations, reducing council operating costs (energy, water and waste) and concerns about peak oil (Zeppel 2011c).
- In NSW actions undertaken by councils to reduce emissions include energy audits of council facilities (67%), seeking grants that enable them to undertake mitigation projects (50%) and setting greenhouse reduction targets for council operations (43%) (LGSA NSW, 2010 p15).

Through these and other studies, it appears that on the whole, councils are committed and motivated to act on climate change, and have a good understanding of what is required to make a positive impact. Reinforcing the finding that leading the community by example was a common motivation for council actions, the research reveals that many councils have reduced emissions from buildings and facilities, for example sports clubs, swimming pools and community facilities.

Of those councils responding to the survey, 75% reported action across at least 50% of the following council responsibility areas and 33% had taken actions in at least 80% of these areas. The Greater Adelaide sample of 14 councils also found councils frequently undertaking works to improve buildings and community facilities (Zeppel, 2011b).

Table 1: Actions by Councils to reduce their own emissions

Council responsibility area	Regional sample: Greater Adelaide councils (14 total)	AU project sample (15)
Buildings	- Install solar photovoltaics (PV)(14), - Purchase Greenpower (GP) for council facilities (13) - Rainwater harvesting (13) - Energy saving bulbs/lighting (12) - Install energy and water efficiency technologies in council amenities block (10) - Install council owned renewable energy systems (9) - Install solar /heat pump water heaters in council buildings and facilities (7) - Install timers, sensors on lights (9).	14/15
Community Facilities	- Purchase GP for council facilities (13) - Install solar /heat pump water heaters in council buildings and facilities (7)	12/15
Sports clubs/pools	-	11/15
Waste/Rubbish	-	10/15
Recycling	-	10/15
Procurement	- Purchase energy efficient appliances (9), - Green purchasing (8)	10/15
Fleet	- Electric/hybrids (6/14) - Dedicated LPG vehicles (5/14)	10/15
Ovals	-	9/15
Street lighting	- Solar powered street lighting e.g. walkways (10) - LEDS / energy saving Fluorescents lights (3)	8/15
Open Space	- Stormwater harvesting & filtration (10)	8/15
Finance	-	7/15
Roads		6/15

The achievements of Dubbo City Council in NSW give an example of initiatives by a regional city council (Dubbo City Council, 2012). The Council has reduced emissions in three of the responsibility areas listed above; in buildings, community facilities and sports facilities.

It has taken a precinct-wide approach, selecting the Victoria Park precinct because it contains a large number of council facilities and provides potential to engage with a broad sector of the community and council staff. Energy audits identified potential savings of more than 30% (478MWh) of 420 tonnes of CO₂e. The feasibility study also identified PV as ideal for this location. Recent works have not only reduced energy use but also enabled facilities managers to develop skills and brought about change in behaviour.

Within the precinct, the Western Plains Cultural Centre has been equipped with one of the 30 largest single photovoltaic arrays in Australia (70kW). With 276 panels it is expected to save 102 MWh, around \$25,000 in energy costs and reduce emissions by 113 tonnes every year. This most recent project complements works at three other sites in the precinct.

The project is funded through a NSW Government Environmental Trust grant and council funds. It builds on existing works in the precinct completed at Dubbo Regional Airport which is saving \$7,000 a year. Dubbo City Council has recently 'emerged as the solar power capital of Australia' (Cubby, 2012) and in the postcode 2830, 28% of households have installed solar power.

3. Local Government Strengths for a Low Carbon Future

The four particular strengths that emerged from the research findings provide a framework for ongoing discussions with federal government and local government bodies.

- Local governments are effective in building partnerships and working collaboratively at multiple levels.
- Proximity enables councils to connect frequently and directly with citizens, local businesses and a range of community stakeholders.
- Local councils are unlocking investment capital and embarking on innovative and transformative practices and projects.
- Local government has unique access to increasingly fine-grained land use and employment data to assist in carbon emission reductions.

By working with these strengths, the opportunities for a low carbon future can be better realised in the residential and business communities and the different streams of the Clean Energy Future package can be boosted more effectively and strategically at the local level and through the networks of individual councils.

The first two of these strengths have been consistently demonstrated in the sector and the second two are considered to be emerging strengths. Understanding and working with these strengths will enable:

- existing demonstration projects (which have often been delivered with federal and or state government assistance) to be used more effectively to inform business and community understanding of the opportunities arising from a clean energy future
- improved decision-making with regard to financial investment for realising carbon efficiencies in communities
- a clearer understanding of how the local government sector can better contribute to a low carbon future
- better knowledge of further opportunities for the local government sector to help meet national policy goals
- local government capabilities to undertake work that contributes to local wellbeing and liveability in line with local community expectations as well as a low carbon future.

3.1 Local Government Works Collaboratively

A well developed and consistently demonstrated strength is local government's ability to build partnerships and work alongside other government and non-government organisations to initiate and deliver climate mitigation activities.

3.1.1 What Collaborative Activity Looks Like

Local government plays a key role in initiating and fostering collaboration. Our research reveals that collaborative activity takes many guises, ranging from the municipal level through to international relationships. Councils have effectively built relationships with local schools, universities and businesses to deliver activities within their municipality, they have built relationships with neighbouring councils to support regional action, and they have built relationships with other levels of government or major industry to unlock opportunity and access ideas and innovative funding sources.

At the municipal level, local government draws upon its knowledge of and links to community to inform and deliver local, relevant outcomes. With proximity, a strength to be explored in more detail in Section 3.2, local government can access relationships and form collaborative partnerships which other tiers of government are unable to initiate or sustain. Local government operates on a scale at which it can create, and most importantly sustain, direct relationships through frequent conversations and meetings with local community, business and education leaders. Its scale also means local government can work directly and collaboratively in developing, not just delivering, locally relevant solutions to climate change.

At a regional level, local government is very effective in forming networks, partnerships and alliances between neighbouring councils. Councils have come together formally and informally on various scales to form regionally significant clusters. For instance, the Southern Metropolitan Regional Council (SMRC) is a statutory authority in metropolitan Perth serving six councils, responsible for developing environmentally sustainable waste management solutions and climate change abatement measures⁷. In contrast, the Eastern Alliance for Greenhouse Action (EAGA) in regional Victoria is an informal network of six councils committed to addressing climate change issues through the delivery of community programs⁸.

Our research reveals that much of the regional collaborations which councils participate in is supported through local government's state and national representative bodies. For instance in NSW Regions of Councils (ROCs) are frequently used to give energy and climate work greater impact and several ROCs have received Federal or State government grants for environmental works. For example, CENTROC NSW helps councils by co-ordinating sustainability and climate activity across the region covering 16 councils representing 236,000 people⁹.

In WA, the Western Australia Local Government Association (WALGA) with the support of the Regional Development Australia (RDA) regional offices has proposed to develop a Regional Climate Alliance Framework program. If progressed, the program would bring together the RDA and relevant State and Commonwealth Departments to 'ensure that local governments and their communities are fully supported to implement the climate change management actions which their local plans, strategies and engagement identifies as necessary and socially, environmentally and economically beneficial'. Funding requirements of around \$10 million over 5 years were suggested in late 2011 in order to fund nine regional coordinators across the state¹⁰.

⁷ See <http://www.smrc.com.au/>

⁸ See <http://www.maroondah.vic.gov.au/EasternAlliance.aspx>

⁹ Information provided through project survey

¹⁰ Personal communication with Melanie Bainbridge WALGA 02/04/12 and full suite of documents available at

Councils can also form collaborative and complementary partnerships with other councils in altogether different regions. For instance Blacktown City Council and its sister city Liverpool Plains has formed an effective city - country partnership for capturing opportunities arising from carbon farming, and through the council of Capital City Lord Mayors (CCCLM) Australia's' capital city councils have collaborated to implement the City Switch Green Office Program that encourages office tenants to reduce energy use.

Councils have also formed relationships with national industry and even internationally. Local government has collaborated with major banks, institutional property owners and national energy providers to develop new methods to finance commercial building energy upgrades and now deliver precinct-based trigeneration. And, local government is tapping into international expertise through participation in networks like the C40 Cities Climate Leadership Group, which brings together cities from around the world to share information and experience on implementing meaningful and sustainable climate-related actions locally that will help address climate change globally¹¹.

The research asked not only which other organisations councils work with on climate programs but why. The answers demonstrate the type of relationships that are being coordinated locally and the partners with whom councils work most frequently.

Table 2: Which organisations councils work with to deliver climate solutions and why

Who	Frequency of mentions	Reasons for working with these bodies. <i>NOTE: Answers were not provided by all respondents</i>
Federal Government	100 %	For funding and the need to understand government policies and how they will affect the LGA and its industry, business and residential communities. Information on inundation and vulnerability (adaptation).
Local Government Association/Professional Association	80 %	No reasons were provided.
State Government	80 %	Funding and working on a retrofit of home and community care clients Also information on inundation and vulnerability (adaptation).
Academics	73 %	No reasons were provided.
Other Councils	73 %	For grass roots activities that have been successful, communication on mitigation projects, streetlight improvement projects, regional climate projects.
ICLEI	60 %	Developing in-house capacity and experience, internal assessments. Cities for Climate Protection Program, LAPP forum workshop and report
Consultants	53 %	Reports to inform Climate Change Plan, helping engage the community in order to understand their wants and fears, greenhouse data (footprint reports).
Other	46 %	Mentions here include: Insurance Council of Australia for selecting adaptation initiatives. Community members; developing the Noosa Biosphere Climate Change Action Plan as the development of the plan by community members provides insights into their attitudes and priorities. Business groups, IPCC, NCCARF and CSIRO (for data to inform planning).

<http://www.walgaclimatechange.com.au/announcements/development-of-regional-climate-alliance-program>

¹¹ See <http://live.c40cities.org/about-us/> for more information

3.1.2 Why Collaborate

Local government collaborates to develop and deliver climate change outcomes for many reasons. Our research reveals key motivations to be:

- achieving economies of scale
- accessing technical expertise and skills
- obtaining stakeholder buy-in and establishing effective delivery channels.

By collaborating with their local community, councils are able to develop and tailor programs and projects that are locally relevant. Councils are also able to tap into delivery channels through local networks and direct relationships, so projects can be implemented to best effect.

Much of the regional collaborative activity observed gives councils increased purchasing power or gains access to technical skills. Things councils are unable to afford or achieve in isolation are achievable through partnerships, especially with neighbouring councils. For instance financial savings through joint purchasing arrangements, undertaking advocacy work, and sharing staff members, plant, expertise, skills and knowledge (Gooding, 2012).

These arrangements also enable larger or more resourced councils to support less well-resourced neighbouring councils and could also be used to extend the reach of Federal programs. In Victoria, collaboration on sustainability and greenhouse programs has been in place since the early 2000s (see case studies). The Local Sustainability Accord in Victoria is an example of successful collaboration between State and local government. The Chair of the Advisory Committee Councillor Janet Bolitho, describes the benefit of the Accord as follows:

The Accord supports resource-constrained councils towards sustainability action they might otherwise not be able to undertake, as well as supporting collaborations between councils pursuing innovation in sustainability.¹²

Adaptation measures in particular are often taken on a regional basis (WA Department Environment and Conservation survey response; LGSA NSW, 2010; Hoff, 2010 p45).

Collaboration with national and international partners is primarily a vehicle to access new and emerging ideas and technology. On this scale, collaboration tends to involve the large, well-resourced metropolitan councils. Results achieved can then be translated to other Australian councils through local networks, local government authorities and regional networks.

3.1.3 Case Studies - Showcasing Collaboration

As discussed above, collaboration takes many forms. As a vehicle in addressing climate change, with collaboration local government can access information, expertise, users and financial savings. The case studies below illustrate the variety of ways that local government uses collaboration to deliver substantial reductions in carbon emissions.

¹²Correspondence received from Councillor Bolitho by email 10/04/12. For information on the Accord see <http://www.dse.vic.gov.au/conservation-and-environment/sustainability/victorian-local-sustainability-accord>

CASE STUDY: SSROC Street Lighting Improvement Program, Working with one Voice

- The SSROC Street Lighting Improvement Program works on behalf of 34 councils (16 members and 18 other councils along the east coast of NSW), from Sutherland, south of Sydney to Port Stephens, north of Newcastle.
- Member councils 'host' 40% of the street lighting in NSW and just over 10% of Australia's public lighting



Project Overview

Environmentally, typically 30-40% of a council's greenhouse emissions relate to street lighting. However, decisions about street lighting are made more complex because electricity distributors generally own both the lights and the street lighting poles. The combined bills for all street lighting in NSW are now over \$100 million a year.

Councils pay the capital, maintenance and energy bills for the lighting, but previously had no say in how the lighting was provided or managed. Local government is also responsible for street lighting issues in all their forms including financial, safety, compliance, energy, light pollution, security and greenhouse emissions. The provider, EnergyAustralia (now Ausgrid), could not feasibly negotiate different arrangements with the 41 individual councils across its network. To effect change and have their needs considered, the councils had to aggregate so that they could present a business case to Ausgrid.

Since 2003, the Southern Sydney Regional Organisation of Councils (SSROC) has been successfully addressing this challenge.

There have been three phases to the work: first, encouraging Ausgrid to stop using their oldest and most poorly performing technologies. Second, ensuring Ausgrid started to use improved technologies whilst the project group considered alternative technologies. Third, (current and ongoing) continually monitoring the best of a rapidly evolving market and evaluating, modelling, trialling and deploying them. The project manager has an open door policy, undertaking ongoing research and relationship management with suppliers and providing an ongoing point of reference and expertise for the member councils.

Showcasing the strength of collaboration

Participating councils pay a fixed annual management fee to SSROC. This approach provides efficiency of scale and gives ongoing access to the project management expertise.

Through the program, Ausgrid, the regulators and state government can work with local government on street lighting and make change together. All parties are working to achieve mutually beneficial outcomes. The program works within the challenges faced by Ausgrid in this case that street lighting has 'a high hassle factor' and low revenue. Reliability is a key concern – and new energy efficiency options look to be the best prospect for reliability.

From Ausgrid's perspective 85% costs of streetlights are capital, maintenance and network distribution and only 15% for energy use. However, from the perspective of the councils' greenhouse budgets – street lighting

accounts for 30-40% of their emissions and the financial costs are significant. Low emission choices that meet maintenance criteria, are financially competitive and reduce emissions are a win-win.

Deliverables

Ausgrid has deployed 30,000 compact fluorescent lights – a third of the total in Australia – and is now undertaking the first systematic trials of LED lights at eight sites in NSW. Their priority is as much for maintenance savings as for the energy efficiency benefits. NSW is now ahead of other states and territories on its technology choices for street lighting. #

CASE STUDY: Regional Collaboration: Greenhouse Alliances in Victoria

- Approximately 80% of Victorian councils are members of one of ten Victorian Greenhouse Alliances.
- All the Alliances engage a coordinator whose function is to manage and co-ordinate joint delivery of projects on behalf of member councils.
- Membership is not solely for local government: for example, the Northern Alliance for Greenhouse Action (NAGA) has nine council members plus the Moreland Energy Foundation Limited (MEFL), the Central Victorian Greenhouse Alliance has 14 council members, eight corporate/business/NGO members and four community climate action groups, whereas the South East Councils Climate Change Alliance (SECCCA) has only council members.

#



Overview

Greenhouse Alliances work with their members, community and partners in mitigation, adaptation and sequestration activities. They:

- build the capacity of local government, community and the private sector to engage in greenhouse abatement and adaptation projects
- partner with local government and State and Commonwealth agencies in greenhouse gas emission reduction programs
- improve the integration and targeting of government services and programs.

Greenhouse Alliances were first funded through the Victorian Government's Greenhouse Strategy Regional Partnerships Program in 2003. In the early years five Alliances received \$100,000 annual seed funding for up to four years to engage coordinators. The Alliances are now funded through their member councils and grants and no longer receive direct administrative funding from State government. Membership fees and models of operation vary with fees ranging from around \$1,000 to \$15,000 per annum. The *Central Victorian Greenhouse Alliance* (CVGA) was the first to form (in 2000) and alone covers 20% of Victoria.

#

The Greenhouse Alliance partnership program "has been successful in engaging a wide range of regional stakeholders in greenhouse abatement activities – including clusters of Local Governments, tertiary education institutions, community groups and Catchment Management Authorities" and "contributed significantly to raised awareness, improved knowledge and coordinated action." (2006 Victorian State Government Review)

Showcasing the strength of regional collaboration

The Alliances showcase more than ten years of successful models of regional collaboration, working intra-governmentally and across multiple sectors. Clear formal governance processes support this. Collectively, these councils share resources to run programs cost effectively, develop staff skills and have a greater impact in reducing emissions.

Deliverables

Examples of the many Alliance achievements include:

- Testing new approaches in local medium-scale solar electricity generation with the trial of two 300 kW solar parks in Ballarat and Bendigo through the Central Victorian Solar Cities Project. Each solar park is producing approximately 450 megawatt hours a year which is pumped into the grid (CVGA).
- Multiple programs and projects for community and councils, including:
 - Bulk purchasing program to purchase and install clean energy solutions for 1,000 homes across northern metropolitan Melbourne (NAGA).
 - Providing regional employment and stimulating local sales of energy efficient products along with engaging over 1,000 households in practical energy and water retrofits through the Refit n'Save program which runs again in 2012 (CVGA).
 - Delivering the Sustainable Design Assessment in the Planning Process program for 16 local councils to improve outcomes in environmentally sustainable design in land use planning (NAGA).
 - Coordinating trials of electric vehicles with councils to help develop the processes and infrastructure that will support the Australia-wide roll out of electric vehicles (SECCCA).
 - Carbon sequestration for member emissions through the Bunyip Carbon Sink (SECCCA).
 - Assisting the regional Goulburn–Broken councils with a two year, three-stage program on measuring and managing carbon, sustainable decision making for senior management and councillors and integrating sustainability into councils operations. Delivery is 2012-13 (GBGA).#

CASE STUDY: Regenesis, a partnership project of Blacktown City Council and Liverpool Plains Shire Council

- Blacktown City is situated in Western Sydney, NSW. It is home to 310,000 residents and covers an area of 246.9 square kilometres.
- Liverpool Plains Shire is situated in the North West slopes of NSW and has a population of 8000 people, covering 5086 square kilometres.



Overview

Regenes is a partnership between Blacktown City Council and Liverpool Plains Shire Council in NSW and was the first project of its kind for local government in Australia. The partners developed a model that simultaneously sequesters carbon through planting locally native plants, enhances biodiversity, participates in carbon trading, operates in an urban and a rural community, engages the community and offers local community-based carbon offsetting opportunities.

The model saw the establishment of biodiversity-based compliant carbon forests of various sizes on various urban and rural land types, under various ownerships, including for example, privately owned marginal farmland.

Regenes was made possible thanks to a \$2 million grant from the NSW Environmental Trust's Urban Sustainability Program and continues with the ongoing scheduling of additional Blacktown City forest plantings and the establishment of the Regenes Forest Registry – an online carbon accounting and offset marketing system for participating landowners¹³.

Showcasing the strength of local government working collaboratively

The Blacktown City and Liverpool Plains Shire partnership has provided test cases of carbon forests on different land types in rural and peri-urban areas, created a larger potential pool of land for planting and allowed lessons to be shared between urban and rural areas.

As well as demonstrating the potential for city-country council partnerships, Regenes has engaged many other stakeholders in the project.

Working partnerships have also been established with more than 30 agencies including Department of Climate Change, CSIRO, NSW Land & Property Management Authority, Dept. Juvenile Justice, Conservation Volunteers Australia, Catchment Management Authorities and fellow local councils.

More than 11,160 community members were also engaged throughout the project.

Deliverables

- Establishment of Australian Kyoto Protocol-compliant biodiversity-based carbon forests.
- Planting of over 222,000 locally native plants through hosting more 100 tree planting events.
- Establishment of 33 carbon forests; ten on private land with rural private landowner partners, 20 on Blacktown City Council land, one on Liverpool Plains Shire Council land, one on Crown land in Blacktown City and one on Crown land in the Liverpool Plains Shire.
- Creation of NSW Greenhouse Abatement Certificates (NGACs) from reforestation activities utilising the NSW Greenhouse Gas Abatement Scheme – a first for Local Government in Australia.
- Production of and training on the 'Regenes Toolkit' – a 'how to' guide to establishing biodiversity based compliant carbon forests in Australia's urban and rural environments.
- Establishment of the Regenes Forest Registry, a local carbon trading aggregation, compliant with state and national trading schemes.

The establishment of 33 carbon forests resulting in:

- revegetation of 102.7 ha of urban and rural land
- sequestration of 19,103 tonnes of CO₂ equivalent over the first 40 years of the forests' lives
- estimated income of \$382,060 generated for the respective landowners through the trading of the carbon offset certificates on the open market. #

¹³ See www.australiancarbontraders.com/regenes for more information

CASE STUDY: Transitioning to a low carbon future – Latrobe City Council, Victoria

- The City of Latrobe located 70 minutes from the outskirts of Melbourne and is home to over 75,000 residents.
- The municipality covers 1,422 sq kms of land.
- Electricity generation accounts for around 21% of Latrobe City's Gross Regional Product, with 3,100 (or 11%) of jobs in the municipality directly linked to electricity generation and coal mining and 5,600 (or 20%) indirectly linked.
- Electricity generated from brown coal mined in the area represents 85% of all electricity generated in the State of Victoria.#



Overview

The Latrobe Valley's economy is dominated by the coal-generated power industry. Transition to a low carbon economy will generate substantial challenges for the region.

To prepare the municipality to prosper in a low carbon emissions future, Latrobe City Council developed its policy, Positioning Latrobe City for a Low Carbon Emission Future. The policy was adopted in April 2010 and is the first of its kind in Australia.

In early 2012, Council produced the ground-breaking 'Securing Our Future' document, which clearly sets out Council's low carbon transition and immediate opportunities, including a range of specific projects that would help diversify the region's economy and create jobs.

Together, these documents examine the impacts of economic change and identify actions, including specific projects, opportunities and other support mechanisms. These sorts of actions will enable Council to facilitate the region's transition to a low carbon economy.

Latrobe City Council's transition policy contains 30 actions designed to help transition not just the City of Latrobe, but the wider region to a low carbon economy. The policy was a finalist in the Victorian Premier's Sustainability Awards in 2011.

Showcasing the Strength of Working Collaboratively

Latrobe City Council's transition policy has three key themes that underpin its transition activities:

1. Pursuing and realising opportunities
2. Contingency planning
3. Working together

The third theme, Working Together, recognises that local government can successfully harness strategic partnerships to deliver outcomes for the benefit of the community. Latrobe City Council recognises that the scope of the adjustment task is beyond its capacity alone and that success will require effective partnerships

with its community, businesses, industry, neighbouring councils, the RDA and State and Federal governments.

Actions under this theme include:

- establishing the Latrobe City Council's Low Carbon Transition Committee, a high level advisory committee consisting of members from across industry, SMEs, education, agribusiness, unions and including state and federal government observers
- supporting and developing regional industry networking, partnership and knowledge sharing events
- supporting business development activities with existing industry and potential new investors
- working with neighbouring councils, government agencies, industry, academics and others, to promote the region's innovation and opportunities
- being an active member of the Gippsland Local Government Network (GLGN) and coordinating regular meetings with other GLGN Economic Development Managers.

Latrobe City Council is taking a leadership position in the region, with actions to prepare for a low carbon economy, including the following:

- developing strong working relationships with both Victorian State and Australian Government Ministers and their departments to enable strong and effective advocacy for the community
- pursuing funding opportunities to support initiatives and investment in the region
- strengthening its profile and promoting the City of Latrobe as a place to live, work and invest.

Deliverables

Since releasing its landmark policy in April 2010, Latrobe City Council has achieved many deliverables, including:

- establishing the Low Carbon Emissions Future Transition Committee (first meeting 12 April 2011) to advocate on behalf of the community and provide a one-stop-shop for Victorian and Federal Government engagement
- securing \$300,000 in Victorian Government funding for Council to employ a senior officer for three years to implement Council's Low Carbon Policy (commenced July 2011)
- meeting with a number of State and Federal Government Ministers, including the Prime Minister, to advocate on behalf of the community for structural adjustment assistance and ongoing support
- adopting (in June 2011) its Economic Sustainability Strategy which sets out the framework by which Latrobe City Council will work with its community to cultivate sustainable economic development in Latrobe City, and contribute to the delivery of the liveable, vibrant and enterprising region described in the Latrobe 2026 community vision.

This is a very limited list, but an extensive range of other key transition achievements can be found in another of Council's key documents: Policy Progress and Achievements April 2010 to 1 October 2011.#

3.1.4 Opportunities for National Learning and Dissemination

In coordinating low carbon initiatives with community groups, businesses, educational institutions, residents, not for profits, and government agencies, local councils are generating program designs, materials and intellectual property that could be more effectively shared across the sector and beyond.

Only half of councils (excluding capital city councils) had disseminated what they have learnt and for all but a few, that knowledge was primarily only shared within the locality or region. Those that had shared their experiences more broadly had spoken at conferences, written articles, and in the case

of Newcastle City Council presented overseas as well as in most Australian capital cities and regions¹⁴.

Whilst local government has a history of working collaboratively and collectively, the research identifies the need to ensure that exemplary work is communicated, aggregated and used effectively. Since the demise of CCP, learning and support needs have only been partially filled through the work of local government associations and the private sector.

The consultation for this paper confirmed the concern of the sector about the lack of national mechanisms through which to share success stories (and share learning from failures) and support for a new platform for sharing innovation and experiences. Section 4 suggests a dialogue is needed between Federal and local governments to progress this issue.

3.2 Local Government has Proximity to the Community

Being embedded in the community, local government can set up and maintain direct relationships with a broad range of community stakeholders. Unlike other levels of government, councils are able to connect frequently and directly with the people ‘on the ground’.

3.2.1 What is Community Proximity?

Local government enjoys a relationship with its constituents which is more accessible than other levels of government, operating on a smaller scale and delivering more frequent services than State or Federal governments. As a result, local government is well placed to know and understand the views and aspirations of the local community and to influence and shape a community.

Councils have a significant and unique reach into every household, business, factory and community interest. From a community perspective local government ‘joins the dots’ across spheres of government. They are the first port of call – in the community, in person and they are directly accountable.

3.2.2 Why Proximity is Important

Local government is able to use its proximity to the community to better deliver climate change initiatives by:

- obtaining stakeholder buy-in and establishing effective deliver channels
- delivering timely information and services
- tailoring solutions to ensure local relevance to local conditions.

Its smaller scale enables local government to hold frequent and direct community consultations, and to tailor its program and projects according to community feedback and needs. Being local, the sector can make more timely decisions and tap into delivery channels through their local networks.

3.2.3 Case Studies - showcasing proximity

As discussed above, proximity is both practical and representative. As a vehicle in addressing climate change, proximity means local government can access information and generate speedy and location-specific responses. The case studies below illustrate a variety of ways that which local government uses its proximity to deliver substantial reductions in carbon emissions.

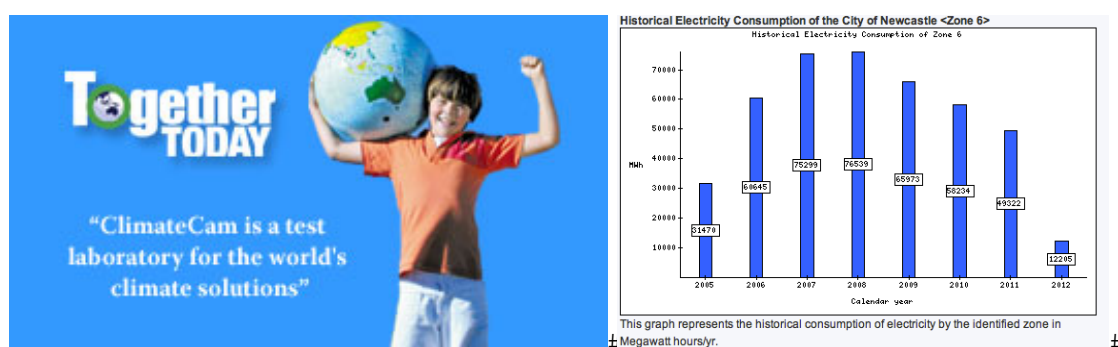
¹⁴Both Cowra and Newcastle City Council case studies can be seen to demonstrate both the strength of collective action within Local Government and in proximity to their local and regional communities.

CASE STUDY: Local Partnerships: ClimateCam and the 2020 Carbon and Water Management Action Plan - Newcastle City Council, NSW

- Newcastle is a major city in the Hunter Valley, NSW, which is home to coal mining, agriculture and global wine industries.
- The most important economic activity in Hunter Valley is coal mining.
- A major Australian tourism destination attracting around 2.5 million visitors annually.
- Population of Newcastle City Council 141,752 a 3.2% increase from 2001.

Newcastle City Council has been active on climate change for many years. Between 1996 and 2010 the Council's climate actions achieved cumulative savings in excess of \$8-million through an investment of \$4 million.

Newcastle City Council developed the world's first greenhouse gas speedometer *ClimateCam* to measure and report progress on its local greenhouse action plan. The *ClimateCam* program is now available for delivery across Australia and was developed in response to numerous requests from local councils. #



Overview

The Council reports a 39% reduction in its electricity consumption (based on 1995 levels), even while it has added new facilities during the program's lifetime. It has now developed a range of action-based learning programs to help the community and businesses achieve deep and sustainable reductions in energy and water consumption. *ClimateCam – International Test Laboratory* received the overall top award for excellence in the 2009 National Local Government Awards across all categories. Council suggests the program could be used by any city in the world and by any council in Australia.

The current program (which runs 2011- 2020 building on the successful delivery of the 2001-08 Greenhouse Action in Newcastle (GAIN) Plan) and tool was developed as a joint initiative with CSIRO, TAFE, NSW Department of Education, Catholic Schools Office, University of Newcastle, and the NSW Office of Environment and Heritage for delivery across Newcastle.

Working from the premise that humans resist change, the community-based action learning program follows a 14 - step process that focuses 85% of the effort on cultural change and 15% on technology.

The ClimateCam is the system that records and reports city-wide greenhouse gas emissions with a full inventory uploaded each month.

Showcasing the strength of proximity to the local community

The ClimateCam suite of programs partners with business, schools, residents and other councils for climate change action. Newcastle City citizens can see the impact of the changes they make through records from 15 Climatecam zones across the city. A billboard tracking reductions is also moved around the city to engage the community. The results, and the recognition Newcastle City Council has received over the years for this work with the community, speak for themselves.

Newcastle City Council not only works with its community on a range of climate initiatives but sees itself as having an important role nationally and even globally. Council has worked with over 190 Local Governments in Australia and New Zealand since 1998. *“Newcastle is the worlds largest coal port and therefore sees it obligation to be demonstrating worlds best practice and this includes sharing what it has learnt to as many cities and towns as possible.”*

Deliverables

City of Newcastle and the Hunter region are positioning themselves through these programs as ‘a leading international testing ground for the application of sustainable technology and practices’.

The Newcastle community has reduced their emissions by 20.2% below the projected 2008 business-as-usual scenario since 2001. www.climatecam.com#

CASE STUDY: Townsville Solar City, Queensland

- Population approximately 191,000, growing about 2.7% a year.
- 3,736 Square km (0.2% of total area of the State of Queensland).
- An Australian Government Solar City and the only IBM ‘Smart City’ in Oceania.
- Lies in the Burdekin Dry Tropics Region, partly within and adjoining the Great Barrier Reef World Heritage Area, the Great Barrier Reef Marine Park and the Queensland State Marine Park.



Overview

The Solar City program is not just about technology – the City of Townsville is highly involved with energy demand management and renewable energy, working with the commercial sector and residents as well as retrofitting their own building stock. Council is also successfully delivering technological and behaviour change outcomes working with residents, businesses, universities, all levels of government and energy providers.

Commercial Energy Demand Management

Working with Ergon Energy, the Queensland Office of Clean Energy and the commercial sector, Council is reducing pressure (and demand) on the electricity grid and greenhouse gas emissions. An emissions reduction of around 25,000 tonnes annually, the equivalent of taking more than 5,800 cars off the road each year is forecast from this program. A broad selection of building and sector-specific case studies is available through Ergon Energy website.

Council’s solar ‘learnscape’ is on the roof of the administration building. The 20kW Australian-made Sliver Solar Panel uses thin slivers of silicone to create a light, more efficient, flexible panel. It uses up to 90% less silicon than conventional panels, but will generate the energy equivalent to running almost six homes, and reduce council’s carbon emissions by 50 tonnes per year. The CBD administration building’s 3000m² roof surface has also been painted with a solar-reflective white membrane. This membrane reflects much of the

sun's heat back during the day, and can lower the temperature in the roof cavity some ten degrees to significantly reduce the load on their air-conditioners. Council has real-time reporting on its website¹⁵.

The *Townsville Queensland Solar City* has incorporated a range of initiatives to reduce wasteful energy usage, increase solar energy usage and cut greenhouse gas emissions by more than 50,000 tonnes. There are five consortium partners including Townsville Council. Council has very effectively engaged the community as partners in delivery and ongoing change.

Showcasing community proximity and engagement

The *Townsville City Solar Capacity Building Program* works within the community to deliver innovative projects that showcase renewable energy generation and help empower people to think differently about and conserve energy. On Magnetic Island, off the coast of Townsville 75% of customers were involved in the project. The case study photo shows the Magnetic Island solar array, which is actually the roof of the skate park and providing much needed shade for skaters.

Magnetic Island is the focal point of the Solar Cities Project. It has won three prestigious awards for community engagement including the Queensland Project of the Year award from the International Association for Public Participation (IAP2) for the engagement for the Solar Skate Park. The energy behaviour change model used on Magnetic Island is based on the proven principles of community engagement, community based social marketing and thematic communication. It can be replicated in other communities.

Deliverables

Strong evidence that behavior change, which is resulting in a noticeable reduction in energy consumption, has been brought about by comprehensive energy assessments and extensive community engagement. Energy consumption on Magnetic Island during 2009-10 was 8.6% lower than in the previous year representing a 40% reduction when comparing to business as usual (pre Solar Cities) and 21% below the target for the project. Residential customers are saving \$925,000 when compared to 2007-08.

Peak demand has been reduced 4.5% from maximum demand in 2009-10 and 9.4% below 2008-09 peak. Reduced energy consumption means reductions in greenhouse gas emissions¹⁶.#

CASE STUDY: Living Smart - South East Queensland. A joint program between Moreton Bay Regional Council and Sunshine Coast Regional Council

Moreton Bay Regional Council starts north of Brisbane and runs up to Caloundra. Sunshine Coast Regional Council borders Moreton Bay running for 65km up to Noosa.

- Moreton Bay's population is 371,000 and projected to reach 515,000 by 2031. The region covers 2,037 square km with substantial rural, rural residential, commercial and industrial areas and a range of business and industries including tourism.
- Sunshine Coast population is 338,429 (June 2011) and growing. It covers 3,130 square km with 65km of sandy beaches and headlands.
- Members of the community have a long standing interest in the environment: the Sunshine Coast Environment Council is a 32 year old umbrella organisation for 55 environmental and community groups.
- The Sunshine Coast economy has doubled in the last decade. Current gross regional product is \$10 billion.
- The Living Smart program is funded directly by the councils.

¹⁵ See <http://www.townsville.qld.gov.au/community/sustainability/Pages/solarlearn.aspx>

¹⁶ See <http://www.townsvillesolarcity.com.au/> and Townsville Queensland Solar City Annual Report, 2011 Executive Summary



Overview

This community based social marketing program has been evolving since 2004 and is jointly delivered in by Sunshine Coast and Moreton Bay Councils. Living Smart's key message is that *'every person in every household has the ability to make simple, effective and lasting changes towards sustainable living'*.

The program has multiple elements including wellbeing, food, neighbourhoods, energy, waste, water and transport. Activities include:

- Regular events and workshops.
- Regular communications including reminders for reducing peak demand. This element of the program is linked with Energex's Energy Conservation Community Program.
- A portal for green businesses to showcase their products and services and for residents to connect with them – thereby supporting a local green economy.
- The Sunshine Coast's premier accolade, recognising and celebrating sustainability achievements of businesses, residents and community groups, developing new normative behaviours and building social capital.
- Self-paced learning modules that require participants to demonstrate their awareness and learning about a specific topic and take action to live more sustainably.

The umbrella program incorporates Living Smart Homes, Living Smart Solutions and Living Smart awards – bringing together a 'one stop shop' for residents and green businesses. The self paced learning program enables community members to make change at a comfortable rate, but also encourages them to undertake additional activities. Participants are included in a network, receiving regular communications and incentives. The councils have a wide network of contacts within the community to connect with the program so they can deliver targeted marketing and media campaigns.

Most recently the Council's program has challenged Queensland Health, the local university, TAFE and their own staff to cut energy use. Sunshine Coast Regional Council consider that they have a role to play in building the resilience and sustainability of their community and their leadership stems. Councils themselves are also undertaking clean energy initiatives– from installing advanced technology 'silver cell' solar panels at community facilities for Sunshine Coast Regional Council to trialling landfill gas capture and flaring at Moreton Bay Regional Council and Sunshine Coast Council.

Showcasing the strength of local proximity

Living Smart in South East Queensland demonstrates the positive impact of a program that is initiated locally, sustained over the long term and is responsive to new opportunities. It is argued that it is more difficult for other levels of government to deliver these same outcomes due to frequent changes in programs and

personnel.

Deliverables

As at May 2011, 1600 people had participated in the program. A 2011 survey indicated continuation of new sustainable behaviour after completing the modules, 80% satisfaction levels and nearly 100% of participants wanting ongoing involvement. The program won the Environs Australia Local Sustainability Leadership Award in 2006¹⁷.#

CASE STUDY: Building capacity in Regional NSW, Parkes and Cowra Councils

- Cowra Council and Parkes Council are two of the 16 members of CENTROC (the Central NSW Councils).
- CENTROC had identified knowledge as a barrier for energy management and resilience work.
- A significant regional resilience options paper was commissioned after a summit held at Mount Panorama in 2010, delivered through a CENTROC managed program. It looked at multiple issues related to climate change including health agriculture, energy, finance and environment.#

Overview

This case study combines the energy management and climate activity made possible in the region since investing in a regional sustainability manager and, how individual councils are leap-frogging ahead on their energy programs by using knowledge gained through the regional networks.

Showcasing how Councils Build Local Capacity through Proximity

At 2010 summit in Mount Panorama, councils and businesses identified opportunities for collaboration to address climate change. A number of inspiring speakers who could relate to regional and country issues spoke including Allan Jones of City of Sydney *'who was like a firework - a catalyst for our region.... He made it easy'*. The summit included a breakfast session with Allan Jones solely for the Mayors and General Managers of the 16 councils.

Deliverables

CENTROC cite two concrete outcomes from the summit that contribute to a low carbon future:

- Parkes Council engaged the Institute of Sustainable Futures at UTS to develop a distributed energy and energy efficiency plan and business case tool in late 2011, which includes a 25 year cash flow analysis. As a result, Council is planning to install up to 300kW of solar PV in the coming financial year¹⁸.
- In August 2011 Cowra Council led the 'Energise Central NSW' conference attended by around 150 people with around 300 attending the complementary trade expo. Alternative fuel and renewable energy was the focus. Building from their 2008 Climate for Change conference and the Mount Panorama Summit, the conference contributed specialised knowledge for the region and triggered action towards CENTROC councils' carbon goals.

In terms of regional collaboration, the organisation of 'Energise Central NSW' brought together multiple stakeholders: Cowra Council's NRM Advisory Committee, Lachlan Catchment Management Authority, CENTROC, NSW Environmental Trust, NSW Office of Environment and Heritage, NSW Farmers, Cowra Branch, Alternative Technology Association and d-Construct architects. At the conference an impressive group of experts in the field of alternative energy and biofuels explored opportunities for local and regional emissions reduction. Local schools were also involved through an associated 'Green Cubbies' design and construction competition.

¹⁷ See <http://www.livingsmartqld.com.au/>

¹⁸ See <http://www.isf.uts.edu.au/publications/rutovitzetal2011parkescouncilenergyplanreport.pdf>

LGSA NSW in summarising the project, which won a 2010-2011 LGSA NSW Communication, Education & Empowerment, Environmental Award said *"This conference is another indication of how Cowra's community and Council are working together to advance environmental awareness, education and participation"*¹⁹.#

3.2.4 Using Proximity for Communicating Climate Change and a Clean Energy Future

Local Government action on climate change not only contributes to a clean energy low carbon future but, increasingly, is seen as improving and enriching liveability, health and wellbeing. However, if climate change actions are to be embraced, issues and opportunities need to be communicated in a way that resonates positively across the community with its diverse interests and values.

Government are increasingly aware of the challenges involved in effective communication²⁰.

Through working with local governments who are well positioned to tailor community education, social marketing and programs directed at behavioural change to their own communities, messages about clean energy future can be delivered more effectively.

3.3 Local Councils are Unlocking Investment Capital

Changes to behaviour and to infrastructure and building management cannot happen at the rate needed to meet government low carbon commitments without financial investment. Whilst local government approaches to improving energy efficiency and transitioning to cleaner energy sources have primarily been funded by grants in the past, other avenues for investment are beginning to emerge.

3.3.1 What is Unlocking Investment Capital?

Transitioning to a low carbon economy requires significant change. The built environment, especially existing buildings, needs to be made more energy efficient; we need to source lower carbon emission energy and we need to use less energy intensive transport. All of these changes require investment which should deliver not only fewer emissions, but lower operating costs. However, investment requires capital funding up front, before cost savings can be realised.

While mitigating and adapting to climate change creates a financial burden, it also presents an opportunity to increase resource efficiency, renew aging assets, embrace new technologies, spur growth of low carbon enterprises and create new jobs (ARUP, 2011).

For local government, revenue to fund climate change measures can be raised through rates, borrowing or grants. Typically, most councils still rely on grants to fund climate change investments (LGSA NSW, 2010). Whilst grants remain a dominant funding mechanism, new ways of investing are emerging including:

- the use of combined purchasing power
- Revolving Energy Funds
- innovative finance available through Low Carbon Australia Limited (LCAL). This funding includes energy savings equipment leasing²¹, on-bill finance²², Environmental Upgrade

¹⁹Source: interview with CENTROC and see www.lgsa-plus.net.au

²⁰This same topic underpinned the ABC documentary and Q&A session "I can Change your Mind" 28/04/12 <http://www.abc.net.au/tv/changeyourmind>

²¹ Energy savings equipment leasing, both operating and finance, is available through LCAL's co-financier relationships with Alleasing, Macquarie and FlexiGroup.

Agreements²³ and energy efficiency loans.

Our research reveals that councils are harnessing the power of combined purchasing. For example, the Municipal Association of Victoria (MAV) has identified that the bulk conversion of the 300,000 street lights using 80W Mercury Vapour (MV) lamps, to energy efficient lighting could save 1.56 million tonnes of greenhouse gas emissions over the life of the lights, using up to 68 per cent less electricity than the current MV lamps (Municipal Association Victoria, 2012). An innovative approach in South Australia (see case study) has triggered extensive residential solar installations which have demonstrable benefits for the local economy. The LGASA has also negotiated the bulk purchase of 20% GreenPower for SA councils since 2007.

Establishing Revolving Energy Funds (REFs) can provide a financial incentive for councils to implement energy efficiency measures. To use the measure, councils identify energy cost savings and allocate them to a fund so that the money can be reinvested in future energy efficiency projects. The funds take different forms, commonly seed funding is provided and then "topped up" with the savings made from energy saving initiatives. Alternatively, a REF can be established gradually by collecting operational savings from energy efficiency initiatives. Some councils operating REFs include:

- City of Moreland (VIC)
- City of Yarra (VIC)
- Manly Council (NSW)
- City of Newcastle (NSW)
- Tweed Shire (NSW)
- City of Melville (WA)
- City of Rockingham (WA)
- City of Onkaparinga (SA)

Environmental Upgrade Agreements (EUAs) were initiated in Australia by the City of Melbourne (VIC) through an amendment to the City of Melbourne Act (2001) in 2010. NSW has followed through an amendment to its Local Government Act (1993). The City Councils of North Sydney, Wollongong and Newcastle (all NSW) are in various stages of opting into the legislative framework in NSW to operate EUAs. While there are some differences, both these legislative amendments facilitates upgrading or retrofitting of non - residential buildings and in the NSW case, multi-residential buildings of more than 20 lots.

EUAs are voluntary agreements under which:

- a building owner agrees to improve the energy, water or environmental efficiency or sustainability of the building (environmental upgrade works)
- a finance provider agrees to provide funds to the building owner for the environmental upgrade works
- council agrees to levy a charge on the relevant land, to repay the funds to the finance

²² On-bill finance refers to product which involves a solutions provider undertaking an energy audit, implementing energy savings activities, providing an energy savings guarantee and monitoring project performance. This service is repaid, via an energy bill, through the project energy savings. LCAL currently has an on-bill finance product available through its co-financier relationship with Origin.

²³ LCAL offers EUA finance through the co-financier relationships it has established with National Australia Bank and Eureka Funds Management.

provider (the environmental upgrade charge)²⁴.

Low Carbon Australia Limited (LCAL), established by the Australian Government in 2010, provides financial solutions and advice to business, local government and the wider community to accelerate investment to improve energy efficiency, deliver energy and cost savings and facilitate the transition to a lower carbon future.

LCAL is working with many councils developing competitive finance for them to implement immediate energy savings projects in council-owned buildings or related assets (e.g. street lights, facilities lighting, heating and cooling, or landfill gas management systems). Examples of funded projects which LCAL has publicly launched include those with Wagga Wagga City Council in regional NSW and Kingborough Council in Tasmania.

LCAL can also provide finance approved as matched project funds under the Australian Government's Community Energy Efficiency Program (CEEP) grants scheme. It is an eligibility requirement of the CEEP that councils demonstrate they have full funds available to carry out the projects for which they are seeking grant assistance. LCAL provided approved finance to many councils for the first CEEP round and is awaiting the announcement of the outcome, hoping that those councils will be notified of a successful application.

Outside of investing in energy savings projects, LCAL also works with local government in its capacity as a centre for expertise. LCAL has entered into memoranda of understandings with the City of Melbourne, City of Sydney and a Partnerships Agreement with the City of Perth. Whilst the purpose of each of those agreements varies per council, the basic premise is for the council and LCAL to jointly encourage investment in low-carbon technologies by the non-residential sector in each local government's area respectively.

LCAL also works with the Australian and State Governments to identify and harmonise funding opportunities for local government. Examples of this include co-funding opportunities through the Australian Government CEEP (as mentioned above) as well as the Victorian Green Light Plan program grants for street lighting upgrades²⁵.

Local government's progress in unlocking investment capital for low carbon futures could be seen as a continuum. It may have begun with grants, but with increasing sophistication approaches now range from collaborative program structures resulting in economies of scale, through to the Environmental Upgrade Agreements. Further investigation of international approaches may identify more which are applicable in the Australian local government context.

3.3.2 Why is Unlocking Investment Capital Important?

An estimated \$1 billion in expenditure is required to reduce greenhouse gas emissions by between 0.8 and 1 million tonnes per annum. Reducing CO₂ emissions by 250 to 300 million tonnes over the next 20 years would require a total expenditure approaching \$400 billion in 2007 prices and to reach the absolute reduction in emissions targeted by 2030 would require abatement expenditure of approximately 2 to 3 per cent of GDP on a sustained basis (ALGA, 2009).

²⁴ For more detail see <http://www.greenstrata.com.au/local-government-amendment-environmental-upgrade-agreements-act-2010-nsw>

²⁵ As part of the 2012/13 budget announcement made by the Victorian Government on 1st May 2012, the \$20 million Green Light Plan was realigned and is not expected to be budgeted for in future years.

Relying on grants to fund climate change action is not optimal. It can result in piecemeal rather than longer-term action and distort investment decisions.

Internationally, local government is using a range of financing mechanisms from energy performance contracts to establishment of revolving energy funds to invest in energy efficiency and renewable energy. In responding to climate change, large scale projects to adapt infrastructure require a collaborative approach with central government.

Subsidies, fiscal incentives and building standards are the most commonly reported emission reduction activities among cities (KPMG, 2011). In terms of fiscal support, cities focus on energy efficiency loans and rebates and tax reduction for cleaner transport or cleaner vehicle technologies.

Innovative approaches being taken overseas to 'catalyse investment' in energy efficiency and tap into private sector finance include:

- A Greenworks Loan and Rebate Fund in Philadelphia, USA helps businesses finance energy efficient building practices, materials and equipment for major renovations and new construction projects.
- The Toronto Atmospheric Fund (a revolving fund) has been used for over 20 years to help the City invest in measures to improve energy efficiency and create green, healthier communities. It started with an endowment from the sale of land and has invested more than USD\$50million.
- London launched a revolving fund (USD\$160 million) in 2009 that includes EU, regional and local funding sources. Investment will be made in energy efficiency and waste schemes to cut carbon emissions.
- Mexico has a specially-created fund to provide loans and mortgages to low income families to purchase energy efficient homes. The green mortgages give home buyers stronger buying power and enable them to enjoy the benefits of energy savings. (ARUP, 2011)

3.3.3 Case Studies - Showcasing Unlocking Investment Capital

As discussed above, access to capital is vital for Australia's built environment to transition to a low carbon economy. It is imperative that local government shift from a reliance on grants to more innovative and sustainable funding mechanisms which support long term planning and facilitate a low carbon future. The case studies below illustrate how local government is embracing new methods to unlock investment capital to achieve reductions carbon emissions.

CASE STUDY: Randwick City Council: Making sure Financing Reaches the Community

- Randwick City Council includes 13 suburbs, major hospitals and a university. It is close to Port Botany, and is within eight kilometres of Sydney's CBD.
- Along with approximately 10 other NSW councils, it has an innovative environmental levy program providing specific funding (around \$3 million a year) to implement practical sustainability-related outcomes for residents and the local environment.
- The Sustaining Our City initiative, funded by this environmental levy program, was approved by the Randwick community, Council and Minister for Local Government, in 2004 for 5 years and then again in 2009 for a further 5 years.
- Council adopted 20% energy, greenhouse and water reduction targets in 2005.



Overview

Randwick Council has been highly engaged with carbon management and greenhouse gas emission reductions through its ecological footprint analysis and other major environmental improvements and initiatives for many years. It showed leadership in developing a five year trial of a small scale, voluntary flexible emissions trading scheme for Local Government (LGETS) with 12 councils at a time there was no national scheme. The 12 initially participating Councils gained extensive experience and knowledge in this field. Whilst the scheme is currently on hold since national progress has been made, it afforded invaluable learning and informed local government's ongoing approach to mitigation and adaptation. In particular the LGETS member councils experienced resourcing constraints for abatement and realised that high level investments (such as for cogeneration), tradeable credits and offsets need to be part of the picture. The experience also highlighted an opportunity for all councils to adopt a renewable energy target as a subsector of the carbon emissions reduction target and apportion both abatement and offset activities.

Showcasing investment strength

Randwick Council uses knowledge gained from running three major community energy reduction and incentive programs since 2007 to make sure low carbon energy programs include both learning opportunities and discounts for moving to low emission technologies. In this way, funds raised by the levy are returned to the community. The programs have been further refined at each iteration to smooth the process for residents and businesses. Within the next 12 months this investment will take their existing 88 kilowatts of renewable energy capacity, including a small scale wind turbine in the urban setting, to more than 130 kilowatts of renewable energy capacity distributed over 11 Council and community sites.

Deliverables

In the eight months to June 2009, the Council's second stage, Sustainable Home Makeover Program, provided 466 household rebates, savings of close to 10 million tonnes of potable water, an estimated 900 tonnes of CO₂ savings and contributed more than \$2.4 million in new energy and water savings investments by Randwick households. Council also found their program triggered a greater take up of State Government rebates. More than 1,000 residents have now attended training and workshops in sustainable living including a major focus on energy saving measures. #

CASE STUDY: Local Government in South Australia Combines Co-ordination of Community Solar with Building Investment Funds

- LGASA recognises that local government has a significant leadership role in helping local communities understand and adapt to climate change, and to take advantage of the opportunities that emissions trading may bring.
- As the peak body representing Councils in South Australia, the Local Government Association provides coordinated and relevant support to its members as they strive to achieve this.
- There are 68 Councils in South Australia, and 34 took part in this program.

Overview

In South Australia, in 2010 the Local Government Association of South Australia partnered with a home energy systems provider in a Solar Councils program pilot. The approach was two-fold: one part supported councils in educating their communities about photovoltaic power and encourage its uptake, and the other element supported councils to increase uptake of Solar PV on councils' own infrastructure.

The state-wide community pilot piggy-backed on the momentum created in a regional (nine-council) program run in 2009 across the Fleurieu Peninsula, led by Victor Harbour Council, which involved 800 homes who subsequently generated power savings estimated at \$250,000 and a reduction of 1,170 tonnes of carbon equivalent a year.

Showcasing investment strengths

The program stimulated a 'vibrant, highly competitive solar energy market' in South Australia as well as economic development with over \$2 million fees paid to local electricians employed for installations. Innovatively, the program required the commercial partner to contribute a nominal \$100 or \$200 for every system installed to a separately managed LGA Solar Council Innovation Research and Development fund, owned and administered by the Local Government Association. As a result, in November 2011, with advice from an independent advisory committee, \$150,000 was disbursed from this fund to support seven new council solar energy projects across South Australia.

Deliverables

After 12 months, 34 SA councils had participated in the pilot and briefing sessions held for over 1,500 participants. The 25 country councils embraced the project. Their feedback included that the program delivered value to their council and communities, that they appreciated the leadership from the LGA, and in turn their communities were appreciative of their council's leadership.

Over 1,200 photovoltaic systems were ordered of which 67 were over 5kW. New systems are expected to generate around 3.2 megawatts per year and just under 934 tonnes CO₂ emissions reductions over an expected 25 year life.

The funds raised from the commercial partner enabled an additional \$150,000 to be invested in low carbon solutions.

As of April 2011:

- 4.12MW of solar capacity installed under the program, saving 1,203 tonnes of CO₂ each year.
- \$3,007,940.52 worth of fees were paid to local installers.

CASE STUDY: 1200 Buildings - City of Melbourne, Victoria

- Home to around 96,500 residents, with around 788,000 people using the city daily.
- Covers central business district and inner city suburbs across 37.6 sqkms.
- 51,638 residential dwellings and 14,704 businesses.
- Main employment industry is business services.
- Aims to be carbon neutral by 2020.
- 50% of the municipality's GHG emissions are generated by the commercial sector.



Overview

The 1200 Buildings program aims to encourage and support building owners, managers and facility managers to improve the energy/water efficiency and reduce waste to landfill of 1,200 commercial buildings (two thirds of the city's commercial buildings). Under the program, the City of Melbourne helps building owners to obtain finance for retrofit works through an Environmental Upgrade Agreement. Financial institutions will be able to advance funds to commercial building owners for environmental retrofitting works, with funds recovered by the City of Melbourne through a charge linked to rates collection.

In addition to reducing greenhouse gas emissions, 1200 Buildings is expected to drive economic activity and job creation across the municipality, generating \$2 billion in private sector investment and creating 8,000 new green jobs over the life of the program. The City of Melbourne received a commendation in the 2012 National Awards for Local Government for the 1200 Buildings Program in the Energy Smart Category.

Showcasing investment strength

This innovative financial program assists commercial property in accessing affordable capital for retrofitting commercial buildings, overcoming a key financial barrier for the sector. The building owners realise cost-effective energy efficiency gains and contribute to Australia's move to a low carbon economy. City of Melbourne has been the leading organisation in Australia for unlocking retro-fitting finance.

Modelled on the Property Assessed Clean Energy (PACE) programs originating in the US, the Energy Upgrade Agreements implemented under the 1200 Buildings Program enable local government to finance renewable energy and energy efficiency projects on private property.

PACE is rooted in traditional land-secured municipal finance. A local government creates an improvement district; a bond, secured by real property within the district, is issued; and the bond proceeds are used to fund renewable energy and energy efficiency projects. Property owners then repay the debt service on the bond in fixed payments as part of their property tax bill.

PACE is a powerful tool for municipal governments to stimulate the local green economy while providing a

competitive financing program for property owners.

Deliverables

At March 2012, there were approximately 200 buildings at varying stages of their retrofit under the 1200 Buildings Project, and 51 signatories have publicly committed to communicating the outcomes of their retrofits. Project wide data is not yet available (Pers comm, City of Melbourne).

Examples of Environmental Upgrade Agreements signed through the program, and their projected emission reductions (totalling 5,270 tonnes annually) include:

- A \$400,000 retrofit of 460 Collins Street estimated to reduce approximately 170 tonnes of CO₂e emissions annually
- A \$1.3 M retrofit of 123 Queen Street, including a trigeneration system to generate electricity, heating and cooling, occupancy sensors and double glazing. The retrofit aims to cut CO₂e emissions by approximately 2,500 tonnes annually
- A \$3.2 M retrofit of four office buildings at 100 Dorcas Street, in the Kings Technology Park (KTP) precinct, South Melbourne will be fitted with new high efficiency chillers, cooling towers, lighting system upgrades, and heating and air conditioning units and controls. The retrofit aims to cut CO₂e emissions by more than 2,600 tonnes annually.

3.4 Local Government Knowledge Using Detailed Local Data

Information about climate change and its likely impacts is the first requirement of good adaptation and mitigation policies. This requires strengthening of the climate-related research effort in Australia. (Garnaut, 2008)

An emerging strength in the local government sector is making use of knowledge from increasingly fine-grained land use and employment data relating to their communities, businesses and built environment.

3.4.1 What is Detailed Local Data?

Local government is increasingly able to produce and collate sophisticated datasets about their current and future communities, businesses and the land under management. Traditionally, these datasets are used to inform strategic planning and investment decisions. Federal and State Governments do not collect data at this 'fine-grain' level. In Australia, various employment and economic data is collected by local government, including:

- City of Sydney (NSW) conducts an Employment and Land Use data survey every five years to coincide with the Census of Population and Housing conducted by the Australian Bureau of Statistics
- City of Melbourne conducts a Census of Land Use and Employment (CLUE) of all businesses in the municipality every two years
- City of Adelaide conducts a CLUE of all businesses in the municipality every three years
- City of Port Phillip (VIC) conducted its first CLUE in 2007 covering 400 properties in the South Melbourne Industrial Precinct
- City of Greater Geelong conducted its first CLUE in 2009, updated in 2011 by a survey conducted with the VIC Government (VicCLUE) of all commercial properties within Central Geelong.

This information allows local government to monitor economic activity, employment levels, industry structure and land use. It provides a detailed look at property, building and floor levels of all businesses, and mixed use and industrial activity, including rateable and non-rateable property. Data can be readily used to inform investment, design and technology decisions in the move to a low carbon future.

3.4.2 Why Local Data is Important

Knowledge is power. Using existing local government data, which is only collected by local government, is a powerful means of informing individual investment decisions, guiding future city growth and development, and ultimately for the adoption of emerging technologies.

The City of Sydney, City of Melbourne and Waverley Council (NSW) have used local knowledge to inform their energy decisions. These councils are using Floor Space and Employment Census data to inform investment, design and technology decisions in the move to a low carbon future.

Extrapolated to a national level, the fine grain data collected at a local government level has been used to examine the potential of Australia's cities to reduce greenhouse gas emissions and contribute to national reduction targets (Kinesis, 2009). In a 2009 study by the consulting firm Kinesis to see what replication of the City of Sydney's sustainability plans in other areas could achieve, emission reductions were modelled by first using an analysis of the core urban area within each capital city. Localities that shared comparable relative density and population figures to the City of Sydney LGA were selected and then seven delivery mechanisms applied; residential and commercial building efficiency retrofits, district tri-generation, waste to energy technology, street-lighting efficiencies, transport improvements, employee density and renewable energy, as identified in the Sydney 2030 strategy. Emission reductions were modelled for the range of technological scenarios using projected population, employment and space use.

The study found that if the actions identified in Sydney 2030 were replicated across all of Australia's capital cities over the next 20 years there could be an approximate 50% emission reduction against business as usual across major areas of Australia's capital cities by 2030, and 25% of the Federal Government's unconditional 2020 reduction target would be met.

In using local data, two principles emerged from the research:

- decision-makers and investors can be more confident in a business case when it is supported with robust data
- data that is regularly collected by, or on behalf of, councils should be used to assist and/or inform the development of low carbon communities and sustainable neighbourhoods.

Sophisticated data systems are needed both to inform investment decisions and also to respond to and manage risks (such as heat stroke) to populations. For the City of Melbourne, Ley notes that

the CLUE [Census of Land Use and Employment]²⁶ approach has the potential to include and link to information related to energy information [and that] a similar approach is possible for water consumption and demand.....the ability to integrate with other small area collections means that CLUE can also contribute to assessments of energy and water consumption, future infrastructure requirements and other factors that together make up a picture of local liveability. (2011, p2)

²⁶And see <http://www.melbourne.vic.gov.au/AboutMelbourne/Statistics/CLUE/Pages/CLUE.aspx>

CLUE also informed the design of the 1200 Buildings program. However, any broader rollout of systems such as CLUE requires consideration of usability, integration with existing systems and how different levels of government with responsibility for differing service provisions can access a common dataset.

3.4.3 Case Studies - Showcasing Detailed Local Data

As discussed above, access to detailed local data is an important ingredient in forming robust business cases to help transition to a low carbon economy. The case studies below illustrate how local government is embracing new methods for using detailed local data to inform decision-making.

CASE STUDY: Precinct Trigeneration - City of Sydney, New South Wales

- Home to 177,000 residents with around 1 million people using the city daily.
- Covers central business district and inner city suburbs across 26.15 km².
- Home to the highest commercial and residential densities in Australia.
- 94,010 residential dwellings and 19,746 businesses.
- Main employment industry is Finance and the Financial Services sector.
- Target to reduce carbon emissions by 70% by 2030.
- 80% of the municipality's GHG emissions are generated by electricity produced by coal-fired power stations.



Overview

To cut Sydney's greenhouse gas emissions and stem rising electricity costs for households and businesses, the City of Sydney will connect a network of buildings to trigeneration - the first ever precinct scale in Australia retrofit within an urban area. Ultimately, the City aims to supply 70% of its electricity through trigeneration by 2030, with the remainder provided by renewable energy like solar, wind and gases from waste.

The Sydney trigeneration network could save up to \$1.5 billion in building new power stations and grid upgrades by 2030, a saving on energy bills for all NSW consumers. Producing power locally avoids the costs of transporting electricity from coal-fired power stations, which currently make up half of power bills and are the main cause of rising electricity prices.

The City of Sydney has signed a heads of agreement with Cogent Energy, owned by Origin, over the building and operation of the trigeneration energy network. It will supply the City and privately owned buildings in four areas: CBD North, CBD South, Pyrmont/Ultimo and Green Square.

The Federal Government has recognised the farsighted nature of this project, awarding \$3.75M from its Liveable Cities Program towards the delivery of the City of Sydney's trigeneration in Green Square.

Showcasing the strength of having fine scale data

In 2009, the City of Sydney engaged a consortium of Kinesis, Cogent and Origin Energy to develop the City's *Decentralised Energy Master Plan – Trigeneration* (Trigeneration Master Plan). This involved extensive modelling of the electricity, heating and cooling demands of buildings in the Local Government area to determine the optimal sizes and locations for trigeneration systems. Essential data enabled this modelling, including employment and land use data collected by the City of Sydney every five years to coincide with the Census of Population and Housing conducted by the Australian Bureau of Statistics.

The availability of the Floor Space and Employment Census data was crucial for creating the *Trigeneration Master Plan*, enabling Kinesis to project potential emission reductions for seven different activities; residential and commercial building efficiency retrofits, district tri-generation, waste to energy technology, street lighting efficiencies, transport improvements, employee density and renewable energy.

Deliverables

Once operational the City of Sydney's trigeneration network:

- would supply 70% of the municipality's electricity requirements
- would reduce greenhouse gas emissions for CBD buildings by between 40-60% on 2006 levels
- could save NSW electricity consumers \$1.5 billion by 2030 in avoided or delayed spending on electricity grid upgrades and new power stations.

CASE STUDY: Opportunities for Metropolitan Growth Areas: City of Whittlesea, VIC

- The City of Whittlesea is located on Melbourne's metropolitan fringe, approximately 20km north of the CBD. Covering 487km², the municipality is physically one of the largest in metropolitan Melbourne and a Growth Areas Alliance Member.
- Municipal population of 163,529 (2011) projected to 202,464 by 2016 and nearly 238,000 by 2021.
- Contains three State identified growth areas (Mernda-Doreen, Epping North and South Morang) with several more opening with the expansion of the Urban Growth Boundary.
- The main environmental concerns for residents in 2009 were water security (93% of households responding to the question), climate change (82%), waste or rubbish going to landfill (47%), unsustainable development (27%) and land degradation (26%).

Overview

The City of Whittlesea is well aware of the low carbon opportunities available for their growing communities and the impact of planning and development decisions on energy (and broader resource) management. Council intends to work with developers and energy specialists in order to deliver low carbon solutions for sub-divisions and green field sites. The development sector typically buys, builds and moves so while council strives for outcomes that are financially and environmentally effective over the long term, they must also be effective in the short term.



Showcasing: The pursuit of opportunities at precinct planning for a low carbon future

With regard to energy management, Council would like to see neighbourhood precinct planning take on board low carbon opportunities such as the use of smart grids at the sub-division scale. Whilst commercial development provides an opportunity to incentivise developers to incorporate low emission technologies (particularly if they are intending to both develop and manage the commercial properties so would reap the future financial savings

from the efficiencies) residential development provides less obvious incentives for developers.

Deliverables

Council and the Growth Areas Authority are currently working on precinct structure plans for Quarry Hills (285 hectares) and Wollert (1,434 hectares). At this early stage Council is seeking expert advice on how development in Quarry Hills and Wollert can achieve the minimum use of non-renewable energy. This research would involve:

- an assessment of current and emerging distributed energy technologies such as distributed energy systems, local and onsite energy generation, thermal networks, and demand and peak load management
- the likely infrastructure requirements of the above systems
- an opportunity analysis which looks at the indicative benefits and cost of distributed energy systems as they relate to the community, Council, and developers.

In terms of potential design and layout of the precinct, solar orientation of lots will be a key consideration.

Through the use of an Energy Statement within the precinct structure plans, Council hopes to encourage developers to pursue innovative development outcomes which reduce energy demand from that of standard, “business as usual” development models. This could include (but not be limited to) incorporating appropriate distributed energy technologies, through to providing guidance to purchasers on the housing product best suited to their lot for optimum solar efficiency.

Through this approach, Council is taking the opportunity to design in low carbon energy efficiencies at ground level.

Whilst sustainability frameworks (such as the Green Building Council’s Green Star Communities) are available for pro-active developers, the planning system itself has greater potential to prompt decisions and commitments for more sustainable design and delivery at precinct planning stage. Such changes would further support low carbon policy goals.

The challenge currently being addressed by all levels of government and the private sector in this relatively new field of sustainability is being able to make the link between Federal and State policy goals (such as for smart grids, liveability or emission reduction) and on-ground development. When legislative mechanisms are not fully in place, the City of Whittlesea seeks to bring about negotiated outcomes, working with developers who are keen to innovate in line with national, state and local policies. Local governments that contain fast growing land release areas need to be able to work with all sectors of the development industry and give in-depth consideration to suitable mechanisms and triggers that can bring about these goals for current and future generations.

The City of Whittlesea, as a Growth Area, can see major potential for reducing emissions, along with improving liveability and providing sustainable neighbourhoods.²⁷ Specific energy data and professional needs exist in this emerging area in order to model options and potential costs and benefits for, and with, developers.

²⁷ And see 2011 presentation by Whittlesea Council for the Moreland Energy Foundation on Sustainable Neighbourhood Design for Growth Areas. <http://www.mefl.com.au/what-we-do/projects/sdapp/resources/item/884-presentations.html#>

CASE STUDY: CCAP - Waverley Council: Local Data informing Carbon Decisions

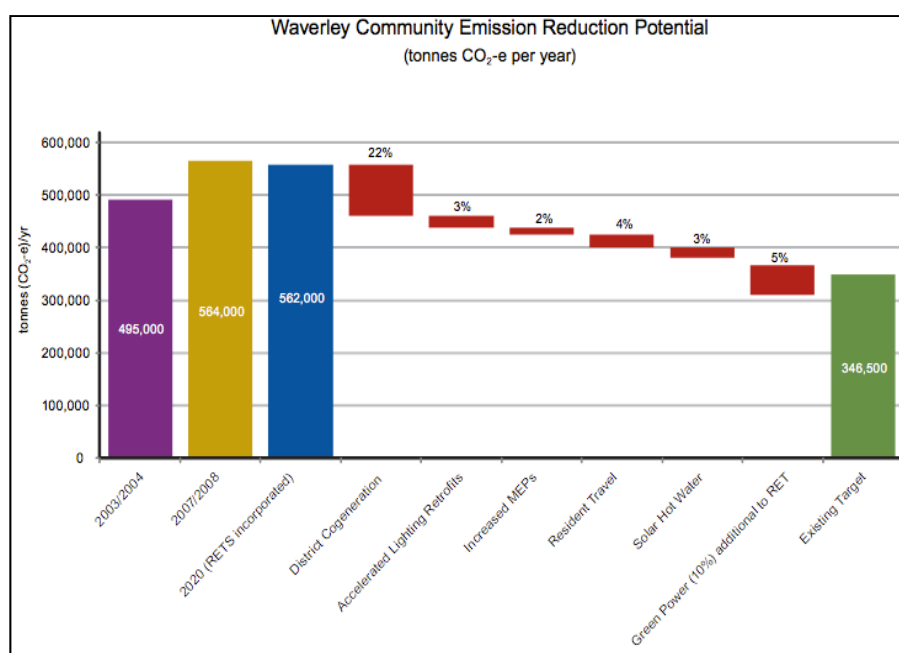
- Inner eastern suburb of Sydney.
- Nine km², with substantial foreshore areas and beaches including the iconic Bondi Beach.
- Predominantly residential with significant commercial areas.
- Population over 68,000 plus a high volume of daily visitors.
- Community and Council each have 30% reduction goal for greenhouse gas emissions by 2020 based on 2003/04, and a goal of 30% renewable energy use in the LGA by 2020.

Overview

Following community engagement (2007) for the preparation of their long term community plan, Waverley Council recognised the need to prepare a long term strategic approach to environmental management that would support the community's goals. Council sought an approach that could inform their strategic investment decision-making and wanted to present detailed options for solutions to low carbon greenhouse reduction that were informed by accurate data. C^{CAP} was their solution.

The same technology used by Kinesis to model potential emission reductions for major cities in Australia has been used, since 2008, for strategic decision making at Waverley Council (NSW) (Kinesis, 2009p47). C^{CAP} takes the Cities for Climate Protection program to the next step. Built on the same methodology that was used to deliver the City of Sydney's Decentralised Energy Master Plan and Capital Cities Study (cited elsewhere in this paper), C^{CAP} is a corporate and city-wide carbon management and sustainable land use planning tool. The tool has been designed to enable Waverley to understand the transport, energy, waste and land-use emissions profile across the LGA over time, and model the future impact of a wide range of emissions reduction policies and actions. Under a three year agreement, Council uses the tool for resource modeling, carbon and asset management, investment reviews and quarterly and annual reporting, thereby using it for ongoing strategic modeling of greenhouse projections and tracking actual achievements over time.

Having set a benchmark in 2007/08, council was able to identify what needed to be done to maximise resource conservation, then find the most efficient and cost effective way of getting to their targets. C^{CAP} was used for preparing business-as-usual emissions projections for 2030 and 2050, and preparing target scenarios. It also showed what were the most appropriate and cost effective delivery strategies in order to meet target greenhouse savings.



Strength from using local detailed data to inform investment decisions

Waverley Council has a strong commitment to resource management and reducing greenhouse emissions, and is well respected in NSW for its leadership in strategic planning – shown here specifically with regard to greenhouse emission reduction. They use detailed greenhouse modelling and scenario options to present the business case for investment.

Deliverables

With C^{CAP}, staff have presented a strong business case for Councillors and Senior Executives that identifies where Council should focus their energy investment and efforts with regard to their top 20 facilities; it has given Council confidence in allocating investment funds. C^{CAP} will shortly be used to review the greenhouse and water savings for council's top 10 facilities and subsequently consider investment options for the following 4 years.

C^{CAP} is also being used to model a range of low carbon options for the redevelopment of Bondi Junction and opportunities that could be incorporated into the DCP to take up low carbon options.

4. Considerations for Creating a Low Carbon Future with Local Government

This concluding section:

- summarises the opportunity and benefits for the Federal Government of collaborating with local government for a low carbon clean energy future
- suggests actions that could maximise those benefits by making optimum use of the four strengths of local government detailed in this discussion paper.

4.1 Advancing Federal-Local Government Collaboration

Local government can complement, supplement and amplify the actions of other levels of government in Australia's transition to a low carbon future.

With two decades of experience in responding to the challenges of moving to a low carbon future, local government has demonstrated four key strengths:

- collaboration
- proximity to community
- unlocking investment capital
- knowledge using local data.

The case studies demonstrate that local government can and does develop low carbon solutions which are innovative and tailored to different localities, but which can also be applied in comparable situations elsewhere. To do this, local councils are increasingly utilising sophisticated, fine-grained local data and emerging financial opportunities for carbon reduction.

Local government is already shouldering a contribution to reducing Australia's greenhouse gas emissions and will continue to do so. In the past, the sector has demonstrated its ability deliver substantial reductions in greenhouse gas emissions, saving 18 million tonnes of CO₂-e in the decade to 2007/08 (Australian Government and ICLEI, 2009 p13). Moving forward, the local government sector has the potential to make a very significant contribution to achieving the Federal Government's reduction goal of 159 million tonnes of CO₂ by 2020.

Local government's contribution goes far beyond achieving emissions reductions from its own buildings, facilities and operations, and should not be cast solely or even primarily in terms of 'projects'. Rather, its role and activities should be seen as part of a *systemic* community- and economy-wide approach towards low carbon futures. As this paper has shown, local councils can and do generate emissions reductions through more far-reaching actions such as:

- working with private sector partners
- community awareness and education
- innovative urban planning and environmental design.

4.2 Maximising the Benefits

Clearly, there is a huge opportunity for the Federal Government to work more closely with local government to encourage, facilitate and assist councils optimise their role in transitioning local communities to a low carbon future. However, the full benefits of Federal-local collaboration will only be achieved if mechanisms are put in place that foster ongoing and concerted joint action across all the key areas in which local government can make a substantial contribution.

Programs such as Community Energy Efficiency Program (CEEP) which have been referenced earlier, are of course welcome and can achieve some significant gains. However a project-based funding model has limitations: it is inherently selective rather than inclusive; it may not provide demonstrations of the full gamut of ways in which councils can act; smaller councils and lower profile projects may miss out; and widespread dissemination of the lessons learned is not automatic.

As shown in case studies, relatively small investments by the Federal Government can unlock substantially more local government activity and could enable communities to have a bigger voice, through local government, in shaping their transition to a low carbon future. This requires a strong focus on networking and shared learning about carbon reduction, which is presently lacking.

As one approach, the potential of Low Carbon Australia Limited (LCAL) to have a stronger partnership with local government needs to be explored. Over the past few years LCAL has developed close ties with a number of leading edge councils – large and small – and has established a substantial body of knowledge and expertise in working with local government. There appears to be considerable scope to build on this base to support a nationally-coordinated framework and information clearing-house to guide local government's low carbon/clean energy activities.

Alternatively – or better, in addition – specific dissemination, networking and shared learning strategies could be added to federal funding programs such as the CEEP. This would need to go well beyond conventional program management, evaluation and information programs. What is needed is a commitment to develop specialist knowledge and skills around the Federal-local interface, and to support concerted, ongoing collaboration over a period of at least a decade.

A first step in this regard would be to launch a continuing dialogue between Federal and local government climate change experts, focused on developing a deeper understanding of the strengths and opportunities of local government in this area, and how the sector could be empowered to deliver more results, including engaging with the Clean Energy Regulator.

Another valuable initiative to underpin long term gains would be a nationally agreed methodology for measuring local abatement based on NGERs. Local government does, and will continue to, drive emission reduction activities in their communities. A national framework would assist councils in prioritising local climate change actions and enable the Federal Government to guide local activity towards the most constructive uses, and could potentially encourage emerging and innovative practices, such as unlocking capital, to become wide-spread. A nationally agreed measurement methodology would help councils build robust business cases and gauge how their action is contributing towards an Australia-wide effort while at the same time providing the Federal Government with a tool to assess the contribution of local carbon reduction initiatives.

Unlocking the local government strengths to advance the transformation to a clean energy future requires commitment from both the Federal and local government. Combining the current level of

leadership for a clean energy future being demonstrated by the Federal Government with the particular strengths of local government could see greater low carbon gains across Australian communities. This paper has outlined how the role of local government and federal understanding of that role can and should be re-framed to maximise the value of future collaboration.

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Council Contributors

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Associations, Regional Organisations of Councils and Greenhouse Alliance Contributors

- Josh Thompson, Australian Local Government Association
- Robert Verhey, Local Government Association of NSW
- Adam Grey, Local Government Association of South Australia
- Shenagh Gamble, Local Government Association of the Northern Territory
- Ben Morris, Municipal Association of Victoria
- Melanie Bainbridge, Western Australia Local Government Association
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Australian Centre of Excellence for Local Government

PO BOX 123 Broadway NSW 2007

T: +61 2 9514 3855 F: +61 2 9514 4705

E: acelg@acelg.org.au

www.acelg.org.au



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Council of Capital City Lord Mayors

8 Geils Court, Deakin

Canberra ACT 2600

T: +61 2 6285 1672 F: +61 2 6282 4253

E: info@lordmayors.org W:

www.acelg.org.au

www.lordmayors.org



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