WAGA | Western Alliance for Greenhouse Action

The Committee Manager
Legislative Assembly, Environment and Planning Committee
Parliament House, Spring Street
East Melbourne VIC 3002
By email: ClimateChangeInquiry@parliament.vic.gov.au

Dear Sir/Madam,

1. Introduction

The Western Alliance for Greenhouse Action (WAGA) welcomes the opportunity to provide input into the Committee's Inquiry into Tackling Climate Change in Victorian Communities.
WAGA is a partnership of eight local governments in the west of Melbourne: the Cities of Brimbank, Greater Geelong, Hobsons Bay, Maribyrnong, Melton, Moonee Valley and Wyndham, and the Shire of Moorabool. WAGA's mission is to work collaboratively to respond to climate change across the region and encourage our communities – residents and businesses – to become resilient and make a transition to a low carbon society.

2. Regional snapshot

2.1 Characteristics of the WAGA region[1]

- The area encompassed by the eight local government areas in WAGA is approximately 4,700 square kilometres and overlaps approximately 60 per cent of metropolitan Melbourne.

[1] Information about the region's characteristics is sourced from LeadWest's 2013 Western Agenda, Low Carbon West and other recent LeadWest reports: http://www.leadwest.com.au/

- The population is more than 840,000. This is one of the fastest growing regions in Australia, with the population due to increase by 20 per cent by 2020 (or approximately 204,000).
- It has a high proportion of culturally and linguistically diverse communities, with over 130 nationalities represented, including many new migrants.
- The region is one of the 'youngest' in Victoria, with many families with children settling into their first homes. Only 13 per cent of the population is aged over 65 years.
- Most workers in the region are employed in construction (Moorabool, Maribyrnong and Melton), manufacturing (Brimbank and Hobsons Bay), transport, postal and warehousing (Wyndham), retail trade (Moonee Valley) and health care and social assistance (Greater Geelong)
- Unemployment is relatively high in the region, especially in Brimbank (11.4%) and Melton (9.4%).
- There is wide variation across the region in ranking against the SEIFA index of relative socio-economic disadvantage, although overall the WAGA region's communities are more disadvantaged than the national and Victorian averages. Braybrook in Maribyrnong has the most disadvantaged population in the region, while Brimbank is ranked as the second most disadvantaged municipality in Greater Melbourne.
- The region has limited public transport and is highly car-dependent. There is a transport corridor for heavy freight vehicles between ports, industry and suppliers.
- The peri-urban areas are experiencing the most growth, intersecting with previously rural communities.
- Most of Victoria's manufacturing businesses are located in an arc from Melbourne's west to north along the Western Ring Road, from Werribee and crossing Sunshine, Keilor and Broadmeadows to Preston.
- Geographically, it is an area of low rainfall, grassland habitat and limited tree canopy cover, with several endangered flora and fauna species.

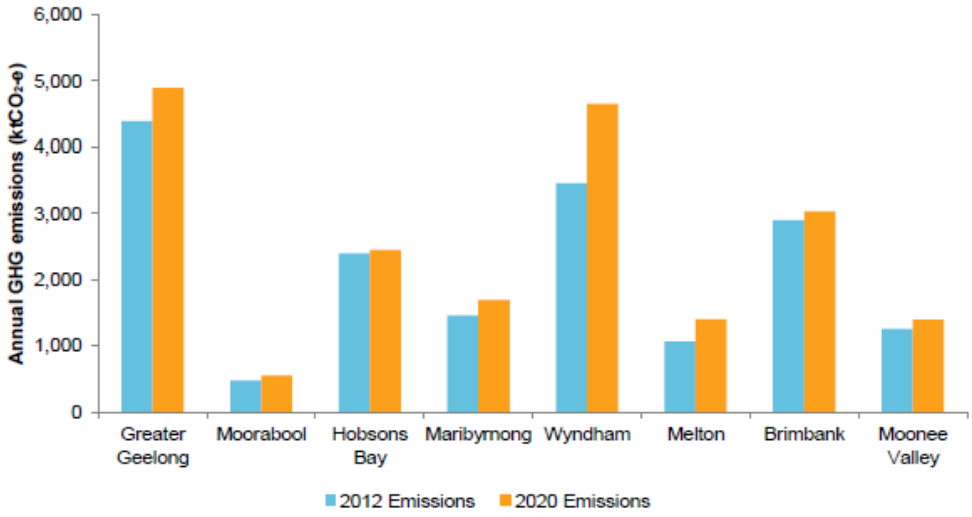
Photo: Looking south across the western volcanic plains from Caroline springs to coastal Melbourne

2.2 Greenhouse gas emissions

In total, the WAGA region produced 17.4 million tonnes of greenhouse gas emissions (CO2-e) in 2012, on a trajectory to 20.1 million tonnes by 2020, representing a regional growth of 15 per cent. Figure 1

below shows that the major contributions to emissions are Greater Geelong (25%), Wyndham (20%) and Brimbank (14%).

Figure 1 Total 2012 baseline emissions and 2020 projections for each LGA



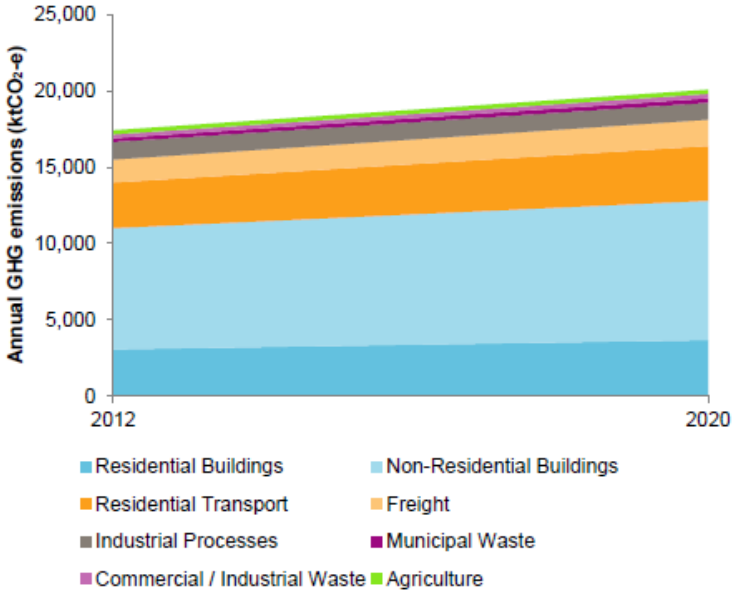
The rise in emissions is due to a number of structural changes, particularly rapid population growth, changing demographics, new housing and associated additional transport, and a changing mix of employment as major industrial employers and emitters wind down their operations and others enter the region. While the downturn in the automotive industry has seen businesses leave the region (e.g. Toyota manufacturing in Hobsons Bay), a number of industrial and commercial developments have occurred or are planned, which will lead to growth. These include Essendon Fields, Airport West, East Werribee Employment Precinct, the western industrial precinct, and Living Brooklyn in Brimbank. In Greater Geelong, masterplans continue to be developed, such as Armstrong Creek.[2]

The region has also experienced successful action to reduce emissions in particular sectors, notably a rapid uptake of residential solar PV in the peri-urban regions. In Moorabool, approximately 23.2 per cent of dwellings have installed solar PV, while the figures in Wyndham (22.4%) and Melton (20.1%) are comparable[3]. Solar uptake, however, has not been able to change the overall trajectory to higher emissions caused by residential and industrial growth.

Figure 2 below illustrates which sectors contribute to emissions in the region. Non-residential buildings – mainly industrial facilities, but also commercial, healthcare and education buildings – contribute by far the largest proportion of emissions (46%), followed by residential buildings (18%) and residential transport (17%). Waste and agriculture contribute only a small proportion (4% combined), although emissions from municipal waste are expected to grow in line with residential growth.

[2] Low Carbon West, WAGA's regional greenhouse strategy, includes a full analysis of emissions across the region: AECOM/Arup, 2014, Low Carbon West communities' emissions profile.
[3] Australian PV Institute, Mapping Australian Photovoltaic Installations: https://pv-map.apvi.org.au/historical#6/-36.844/145.547

Figure 2 Projected growth in sector emissions from 2012 to 2020 across the WAGA region



It is worth noting the top emitters in the region, as a small number of large businesses are responsible for the bulk of industrial emissions. Table 1 below shows the entities with the highest emissions, based on a report prepared for WAGA using data from the EPA VIC Greenhouse Gas Emissions Reporting and Disclosure Pilot 2004/05 and the facilities' own publicly available data. The third largest emitter is the Western Treatment Plant by Melbourne Water, the only entity in the list which is not a private industrial facility. Toyota's manufacturing plant in Altona was originally third in this list (responsible for 17% of the region's industrial emissions), but was closed in 2017.

Direct emissions from these facilities are generated onsite from heat, steam and electricity, produced by manufacturing processes, transportation, fugitive emissions and onsite waste management. Indirect emissions are generated in the wider economy and are generally produced by electricity purchased from the grid.

This data is no doubt out of date, since the EPA's disclosure project ended in 2005, and is referenced to indicate each facility's relative rather than definitive contribution.

Table 1 Top greenhouse gas emitters in the WAGA region[4]

Business	Industry	Total direct emissions (ktCO2e/year)	Total indirect emissions (ktCO2e/year)	Total emissions (ktCO2e/year)	% of regional industrial emissions
1. Qenos - Altona	Industrial Chemicals and Plastics	370.1	240.0	610	29%
2. Mobil - Altona	Fuel Production	1009.4	230.3	1240	28%

[4] EPA 2005, EPA VIC Greenhouse Gas Emissions Reporting and Disclosure Pilot 2004/05.

Business	Industry	Total direct emissions (ktCO2e/year)	Total indirect emissions (ktCO2e/year)	Total emissions (ktCO2e/year)	% of regional industrial emissions
3. Melbourne Water - Werribee	Water Treatment	55.6	42.6	98	9%
4. Dow Chemical – Altona (Note: Dow has recently ceased manufacturing at this site.)	Industrial Chemicals and Plastics	13.4	22.5	35.9	3%
5. Albright & Wilson - Yarraville	Industrial Chemicals	17.4	10.3	27.7	3%
6. Nufarm - Laverton North	Agricultural Chemicals	10.9	44.0	55	2%

2.3 Climate change impacts

Key climate vulnerabilities and impacts in the WAGA region are as follows:

- Heat waves, becoming more frequent and severe and expected to cause injury or death especially in elderly, infant, chronically ill and migrant populations
- Grassfires, expected to increase in severity and frequency
- Other impacts related to the fact that the region is situated on volcanic plains, such as low rainfall
- Sea level rise in the coastal areas of Hobsons Bay, Wyndham and Greater Geelong
- Worsening air pollution levels with a hotter climate[5].

Vulnerability to climate change impacts is exacerbated in the relatively disadvantaged communities of the WAGA region. Important factors which constrain people's ability to be informed, understand and take action on climate change include low literacy levels and poor English skills, low income levels and unemployment, high-density housing, low home ownership and high rental and public housing tenancy. The Victorian Government's 'Cooling and Greening Melbourne Interactive Map' project[6], released in July 2019, shows the interaction between vegetation cover, urban heat and social vulnerability. The 2018 data captured in the project confirms that the WAGA region remains particularly vulnerable to all heat-related impacts.

WAGA conducted a climate change risk assessment in 2011[7], which identified 88 significant risks affecting the region. The modelling was based on projections for 2030 under moderate to high emissions growth, a trajectory which has been confirmed by modelling for Low Carbon West, WAGA's regional greenhouse strategy, and subsequent modelling of the WAGA councils' emissions profiles

[5] https://www.trueinitiative.org/about-true/cities-are-at-the-forefront-of-the-fight-against-air-pollution
[6] https://www.planmelbourne.vic.gov.au/current-projects/a-cooler-greener-melbourne-project/cooling-and-greening-melbourne-interactive-map
[7] WAGA, March 2011, Climate Change Risk Assessment, referenced in WAGA, 2013-2020, Climate Change Adaptation Strategy and Action Plan http://waga.com.au/climate-change-action/climate-change-adaption-strategy-and-action-plan/

compliant with the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC).

The following 17 risks were identified as urgent:

- Stormwater overflow
- Drain blockages
- Decreased water harvesting
- Disruptions to wastewater treatment
- Damaged underground infrastructure
- Increased asset maintenance costs
- Inadequate building standards
- Inadequate planning advice from State Government
- Inadequate emergency facilities
- Inability to deliver (local government) services
- Conflicts between OHS and community needs
- Inadequate finance for asset renewal
- Inadequate long-term planning
- Lack of (local government and other) staff skills
- Inadequate local government resourcing
- Slowing of local economies
- Transport service disruption

These risks relate to local government services, operations and assets, as the purpose of the risk assessment was to identify a role in climate change adaptation for the WAGA councils. However, they also represent direct risks for local communities and businesses.

2.4 Community attitudes to climate change in the WAGA region

The following observations are drawn from studies about community attitudes and perceptions in the WAGA region itself, such as Community Satisfaction Surveys, and broader Victorian and national studies[8]. In general in the WAGA region, there is consensus that climate change is occurring and causing impacts now, that it is caused by humans, and that everyone, including individuals, businesses and government, should be involved in reducing greenhouse gas emissions. While climate change is not often acknowledged as an important local issue, related environmental issues are of concern to local communities. Of these issues, water shortage is the most concerning; other significant issues include waste, parks, gardens and open space, growth and development, and transport. Local government is specifically acknowledged as having a role in addressing climate change, and that role includes regulation as well as information-provision. Cost is the greatest barrier to action, but financial incentives are less necessary as understanding increases.

Interest and concern about climate change is clearly growing across the region, and two of the WAGA councils, Brimbank and Maribyrnong, have declared or acknowledged a 'climate emergency' in 2019, while other WAGA councils have either accepted or are expecting 'climate emergency' petitions from their residents.

Some specific observations about perceptions and attitudes in the region are detailed below.

[8] WAGA, 2015, Low Carbon West: Community Attitudes to Climate Change. Observations are updated with reference to Sustainability Victoria's 2017 report , 'Victorians' perceptions of climate change', and 'The Ipsos Climate Change Report 2018'.

2.3.1 Views on the importance of climate change, and beliefs about whether it is occurring and its causes

- There is a strong general consensus in the WAGA communities that climate change is occurring and that it is at least partly caused by humans. (This can be confidently asserted, as it is revealed in the local studies and is confirmed across Victoria and indeed Australia.) Most people also say that we are currently experiencing the changes in the form of temperature rises and different rainfall patterns.
- People who believe that change is occurring also mainly believe the causes are pollution by industry, burning fossil fuels and overusing electricity.
- Environment and climate change do not rank in most people's top concerns. As an environmental concern, climate change does not rank as high as other concerns such as water and waste. (See, however, the views of young people, below.)
- There is evidence (e.g. from a Wyndham study but also revealed in broader studies) that, while residents may view climate change as important, they do not tend to see it as an issue of local importance, except where they are vulnerable to sea level rise. On the other hand, people may recognise local businesses and industrial activity, such as trucks, Mobil, Shell and other industrial facilities, as key polluters.
- Water shortage is consistently ranked high or highest in a list of environmental concerns.
- Local environmental issues of concern may differ significantly depending on the municipality and even suburb. Top concerns for Wyndham residents include waste, and growth and development. Maribyrnong residents are particularly concerned about their parks and gardens. Brimbank residents are particularly concerned about local streets and footpaths.
- There is not much difference between people's level of concern based on their locality, although some local government areas and suburbs show relatively higher concern (e.g. Bellarine) or lower concern (e.g. Brimbank).

2.3.2 How to address climate change

- The most popular measure to address climate change is using renewable energy, particularly solar. This includes household measures (installing solar panels) and government measures (increasing government investment in renewables). Investment in renewable energy is seen as an economic opportunity. Nuclear power is the least popular measure.
- Other measures often mentioned as useful are wind power, insulation, and energy and water efficiency.
- Lack of personal finance is consistently mentioned as the greatest barrier to action for individuals. Accordingly, financial incentives are seen as strong motivators, especially by those who do not have great environmental concern. But lack of information and lack of time are also barriers.
- Most people generally do feel at least partly responsible on a personal level for addressing climate change and are becoming more positive about what they can do. However, they also believe that individuals are much less responsible than polluting businesses, and they don't tend to see a connection between climate change and their own purchasing habits.
- Education is revealed to be an important factor. Only 70-75% of people think they understand climate change. Those who are less educated in general are less likely to think climate change is important. There is also significant misunderstanding about climate change amongst people who don't believe it is occurring or believe that it is not important. Those who say it is not occurring inaccurately believe that most Australians agree with them. Most people do not understand carbon pricing but tend to support it when they do understand.
- Hobsons Bay residents are mostly in favour of education about climate change, although this was not popular amongst Wyndham respondents when compared to other sustainability measures.

- People do not respond well to 'buzz' words or what they perceive as scientific jargon.

2.3.3 Local governments' roles in addressing climate change

- Environment often ranks low in importance as a local government service area in community surveys. On the other hand, service areas such as emergency and disaster management, parks, gardens and open spaces, street trees, and traffic management/transport rank high. Again, water management ranks relatively high among other environmental issues as an important role for government, including local government.
- On the other hand, almost everyone agrees that government, including local government, has a role in addressing climate change; for example, providing incentives, raising awareness, and imposing restrictions on pollution and energy use by households and businesses. Most people are not averse to government regulation in this area. A Hobsons Bay survey showed that two-thirds of residents say that businesses should pay for pollution, an interesting result in a municipality with several large, prominent industrial emitters.
- The Australian Government is considered to have a greater role in addressing climate change than local government.
- Local government is specifically acknowledged as having a role; for example, educating and providing information, mitigating emissions and setting an example, taking account of climate change in planning policies and approvals, and adapting and preparing municipalities for climate risks.
- People across the WAGA region are not assured that their councils are completely meeting their environmental responsibilities. (Studies for at least six WAGA councils show that residents are only 'somewhat satisfied'.)
- While people do not tend to trust local government - or any government agency - as a source of information about climate change (in Hobsons Bay, only 2 in 5 people trust their council), people may trust their council on matters they perceive as local environmental issues.
- People prefer to trust friends and family on information about climate change.

3.3.4 Young people's views

- There is evidence that young people (aged 15-17 years) and students tend to think of climate change as a top concern, in contrast to adults. The studies also suggest that concern among adults correlates with how young they are.
- According to the Hobsons Bay study, young people (aged 15 to 17 years) agree that climate change is a problem and are not optimistic about solving it. Like the general population, they do see government as having a role in addressing it and are not opposed to compulsory action. They believe better education on the issue would be useful. (The finding that young people think climate change is a serious problem is confirmed in broader studies.)
- The Hobsons Bay study provides clues about how to engage young people - through images and visual information, without climate change 'jargon'.

3. Emissions reduction actions

3.1 Regional

In 2014, WAGA developed a regional greenhouse strategy titled Low Carbon West[9], a plan for the whole WAGA region to transition to a low carbon economy. The strategy was co-written with project

[9] See a summary of and comprehensive sectoral reports for Low Carbon West: http://waga.com.au/climate-change-action/low-carbon-west/

partners LeadWest and Regional Development Australia (RDA) Western Melbourne. It has been formally approved by most of the WAGA councils.

Low Carbon West was developed in recognition of the clear need for action at all levels of government to reduce emissions in their communities through the legislative, advocacy, programmatic and leadership levers at their disposal. It defines the means through which the WAGA councils are able to provide their regional contribution to the challenge of emissions reduction.

The strategy consists of an overarching report and recommended actions, plus a comprehensive analysis of emissions reduction potential related to four sectors: business and industry, urban growth and development, transporting people and freight, and communities.

Since 2014, WAGA's task in fulfilling its mission to reduce emissions has been to implement the priority recommendations of Low Carbon West. The main regional projects are described below.

3.1.1 Local Government Power Purchase Agreement

WAGA is working with other Victorian greenhouse alliances to jointly procure renewable energy for their member councils' operational requirements through a Power Purchase Agreement (PPA). A buyer's group of 48 councils has committed approximately 245,000 gigawatt hours to the project. The WAGA councils are contributing the most energy to the project due to their size and level of commitment. Six of the WAGA councils are contributing 100 per cent of their energy needs: Brimbank, Greater Geelong, Maribyrnong, Melton, Moonee Valley and Wyndham, while Hobsons Bay is contributing at least 30 per cent of its needs. The PPA is planned to be signed in time for the expiry of the councils' current electricity contracts in 2020.

3.1.2 Environmental Upgrade Agreements (EUAs)

In 2013-2014, WAGA worked with the Eastern Alliance for Greenhouse Action (EAGA) and the Sustainable Australia Fund (Sustainable Melbourne Fund, as it was) to promote EUAs to councils and advocate to the Victorian Government for EUAs to be offered beyond the City of Melbourne. This advocacy was based on findings that EUA finance could unlock significant investment and create more than 18,000 jobs across Victoria, with that potential being strongest in the WAGA region; the findings took into account an earlier WAGA project, which mapped the largest roofs in the region and identified some 14 square kilometres of industrial roof space suitable for harvesting water and energy[10]. In 2015, state legislation was passed that allows all Victorian councils to offer EUAs to building owners in their communities. Since then, six of the WAGA councils (Brimbank, Greater Geelong, Hobsons Bay, Maribyrnong, Moonee Valley and Wyndham) have established EUAs programs. Nearly $2 million has so far been invested in solar projects and other sustainability upgrades to business premises in the region through EUAs.

3.1.3 Energy$mart

In 2017, WAGA established a panel of preferred solar and lighting providers, which the WAGA councils could promote to their local businesses. The panel was identified through a rigorous process, undertaken by the Yarra Energy Foundation for WAGA, in which providers submitted an expression of interest and were evaluated and appointed. Most of the WAGA councils have commenced using providers on the panel to promote solar and energy efficient lighting to their business communities and, in some cases, other local energy users such as schools. The program

[10] For an assessment of the potential of EUAs across Victoria, see the 2013 report by WAGA and EAGA: http://www.vcccar.org.au/sites/default/files/Scott%20McKenry_Supporting%20Partnerships.pdf Due to continued growth in Victoria, the potential for EUAs in the state has only increased since then.

has been successful in conjunction with the offer of EUAs. It has also worked where a small subsidy has been offered, as was provided by Hobsons Bay in previous financial years; Hobsons Bay's program has led to the installation of 15 solar arrays (600 kW total) and 695 energy efficient lights by 29 small and medium-sized enterprises.

The WAGA councils are currently considering how to increase the uptake of sustainability initiatives by businesses.

3.1.4 Healthy Homes

This project is led by Sustainability Victoria pursuant to its strategic plan, in partnership with the University of Technology Sydney. It is a research project to measure health benefits and energy bill savings that might be achieved by improving the thermal performance of homes owned by people with low incomes and complex health care needs. In a randomised control trial, the project is targeting 1,000 Victorian homes, including 800 in the WAGA region, with energy efficiency upgrades to the value of $3,500 per dwelling. Residents are being recruited to the project primarily through councils' home and community care units, in Brimbank, Hobsons Bay, Maribyrnong, Melton and Wyndham. The remaining 200 homes are being recruited in Campaspe, Strathbogie, Greater Shepparton and Moira.

This is a three-year project; staggered recruitment and upgrades commenced in 2018, and the project is due for completion in 2020. The results of the project will provide authoritative evidence about the health and financial benefits of energy efficiency upgrades in low income homes in Victoria.

3.1.5 Community greenhouse gas emissions profiles

In 2017-2018, WAGA councils collaborated to produce community emissions profiles, as an update to the emissions modelling undertaken for Low Carbon West. The profiles were developed by Ironbark Sustainability, in line with the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC) created by the World Resources Institute, C40 Cities Climate Leadership Group and ICLEI.

The profiles were used immediately for reporting on emissions in compliance with the GPC by those WAGA councils which have signed up to the Global Covenant of Mayors. The councils are also currently considering the role of the profiles in developing science-derived emissions targets for their own communities and in informing collaborative local government advocacy and action to reduce emissions at the state and national levels.

3.1.6 Lighting the West

Starting in 2014, the original Lighting the West[11] project was a partnership to bring sustainable street lighting to the region by four of the WAGA councils: Wyndham, Moonee Valley, Maribyrnong and Hobsons Bay. As part of the project, more than 26,000 80W mercury vapour street lights were changed to energy efficient technology across the municipalities. This is projected to result in a reduction of 129,000 tonnes of greenhouse emissions and an estimated $24 million saving over the 20-year lifespan of the new assets.

Concurrently with Lighting the West, Melton changed over 3,825 streetlights (saving 1,333 tonnes of emissions per year), and Brimbank changed over 11,622 streetlights (saving 3,800 tonnes of emissions per year).

[11] http://www.lightingthewest.com.au/

Lighting the West as well as Melton's and Brimbank's streetlighting upgrade projects were supported with funding from the Commonwealth's Community Energy Efficient Program (CEEP).

Wyndham has continued with the roll-out of energy efficient lighting by installing 1,000 LEDs in major road lights in 2017-2018. This will save 540 tonnes of emissions per years and a total of $3 million over 20 years. Wyndham's business case on upgrading the major road lights has been shared with the other WAGA councils, which are currently considering their own internal business cases and plans for major road and further street lighting upgrades.

While Lighting the West is a project to reduce councils' corporate emissions rather than community emissions, it nevertheless has a direct impact on the community through significant financial savings to councils' budgets. It also represents important leadership on emissions reduction for the wider community and other large energy users. The original lighting upgrades were accompanied by a prominent community campaign across the west of Melbourne designed not only to inform local people about the changes but also engage them in the need for and benefits of energy efficiency.

Photo: Lighting the West billboard

3.1.7 Greening the West

This project[12] is supported by WAGA, but is managed by a separate partnership of most of the WAGA councils (Brimbank, Hobsons Bay, Maribyrnong, Melton, Moonee Valley and Wyndham) together with other councils, state agencies and non-government organisations. Its main goals are to maximise urban greening (double tree canopy cover in the west by 2050, and increase green space by 25% by 2030) and improve the quality, functionality and use of green space. Major projects by Greening the West include the 'I Million Trees Project', which is significantly increasing canopy cover in open space in the region, and 'Greening the Pipeline', a project to revitalise the entire 27 kilometre Main Outfall Sewer reserve from Millers Road in Brooklyn to the Western Treatment Plant in Werribee.

Greening the West is a finalist in the 2019 Premier's Sustainability Awards.

There are many social, health and environmental benefits of Greening the West's work to improve urban greening, and it is an important climate change adaptation measure, as green space can directly mitigate the urban heat island (UHI) effect. In addition, there are energy savings through

[12] https://greeningthewest.org.au/

natural temperature regulation and emissions reductions through carbon dioxide absorption by trees.

3.1.8 Other community emissions reduction projects beyond the WAGA region

WAGA has a close collaborative relationship with the other Victorian greenhouse alliances, which share the same broad goals to address climate change for their member councils. WAGA invites those alliances to participate in its projects when it is appropriate to take those projects beyond regional boundaries. Similarly, WAGA councils participate in many projects led by or in conjunction with the other alliances, to create stronger projects with state coordination and to leverage economies of scale.

Current projects with other greenhouse alliances include:

- Future Energy Planning – a project undertaken by WAGA with the Central Victorian Greenhouse Alliance (CVGA) in Powercor's electricity distribution region and the Northern Alliance for Greenhouse Action (NAGA) in Jemena's electricity distribution region. This is an ongoing project to improve information-sharing between councils and electricity networks in planning for the integration of renewable energy and land use planning issues.
- Charging the Regions – a project led by the CVGA and the Goulburn Broken Greenhouse Alliance (GBGA) with regional and metro Melbourne councils to investigate a coordinated local government-led electric vehicle charging network across Victoria. This project will provide councils with a stronger understanding of the investment options and their role in provision of public charging infrastructure.
- Solar Savers – a project led by the Eastern Alliance for Greenhouse Action (EAGA) and NAGA to test a model for scaling up the use of council rates to provide individual loans to low income households and recover costs through the rates system. The current phase of the project includes the Solar Savers Bulk Buy Program, providing local residents with credible and authoritative information and cost-effective offers for solar PV. Participating councils include Maribyrnong and Wyndham.

3.2 Individual WAGA councils

3.2.1 Corporate energy, energy efficiency and fleet programs

While almost all of the WAGA councils (not including Moorabool) are participating in the Local Government Power Purchase Agreement project, their primary objective for corporate emissions reduction is to increase the energy efficiency of their facilities and switch directly to renewable energy through solar on their buildings' rooftops. Other important initiatives to reduce their emissions include Environmentally Sustainable Design (ESD) for council facilities, fleet management and uptake of electric vehicles, trialling innovative low carbon technology and materials, and – of course – waste management and recycling.

A few specific initiatives by the WAGA councils are listed below, noting that the list only includes projects which significantly reduce emissions and/or are particularly innovative or leading; that is, the list provides a snapshot but is by no means definitive.

- Methane gas capture at the Wyndham Refuse Disposal Facility in Werribee, one of the largest municipal waste facilities in Australia
- Solar on all council-owned and managed buildings in Moonee Valley (total of 723 kilowatts) and Wyndham

- Since 2017, six new buildings built or currently being designed to meet 5-Star Green Star rating by Greater Geelong, and a 6-Star Green Star and a 5-Star Green Star building by Melton
- 99 kilowatt solar array installed as part of a major upgrade to the Caroline Springs Leisure Centre by Melton
- Moonee Valley's plans to extend its solar program to sporting pavilions and facilities which are Council-owned but managed by other organisations
- Australia-first trial of hydrogen fuel cell powered cars by Hobsons Bay in partnership with Toyota in 2018
- Solar-powered Brimbank Multi-Deck Carpark in Sunshine
- Maribyrnong's installation of solar PV on 23 Council buildings, including community centres, childcare centres and sporting pavilions
- Installation of Emesh, a 100 per cent recycled plastic fibre product used to reinforce concrete, in the Skeleton Creek Trail , by Hobsons Bay
- In 2019, Moonee Valley's purchase of two fully electric cars for Council's vehicle fleet. (Other WAGA councils also have made or are planning to make similar purchases.)

3.2.2 Community energy and climate change programs

All WAGA councils run local sustainability initiatives for their communities, which encourage or assist residents and businesses to reduce their emissions.

The councils have different approaches to promotion of residential solar and energy efficiency. Some have current appointments with experienced solar brokerages to run a local solar bulk buy program and energy efficiency advisory service: Melton with Positive Charge, Moonee Valley with Renew. Greater Geelong and Wyndham are promoting a local sustainability group's program: Geelong Sustainability working with Shinehub, another solar brokerage firm. As mentioned in Section 3.1.8 above, Maribyrnong and Wyndham are also participating in Solar Savers. Other councils in the region are not currently offering their own solar programs but are relying on the Victorian Government's Solar Homes Program to support their residents.

The WAGA councils collectively assessed their approaches in 2018, and they agreed that a residential solar program is an important sustainability service for all residents, but there are questions about whether the program should be led and branded as a council initiative or by a provider who takes a commission on sales. They also agreed on clear requirements for a program, including a competitive price on products, finance options and full community promotion.

As outlined in Sections 3.1.2 and 3.1.3 above, the WAGA councils are also involved in projects initiated at the regional level to promote sustainability to their business communities. In addition to those listed projects, Greater Geelong participates in a collaborative venture titled 'Future Proofing Geelong'[13], a longstanding multi-faceted program to offer resources and advice to both businesses and residents. Wyndham has also just joined the ASPIRE program, 'an online marketplace which intelligently matches businesses with potential remanufacturers, purchasers or recyclers of waste resources for a robust Circular Economy'[14]. The ASPIRE project is now offered by a number of councils in Melbourne and the Barwon South West region of Victoria.

Some local government programs promote emissions reduction or energy efficiency as an important by-product of other sustainability interventions. Waste and recycling education and assistance programs fall into this category; for example, providing subsidised compost bins or

[13] https://www.geelongaustralia.com.au/fpg/default.aspx
[14] https://aspiresme.com/

worm farms and food and organic waste collections. Another important example is the consistent Environmentally Sustainable Design (ESD) policy introduced into planning schemes in 2018 by Brimbank, Hobsons Bay, Wyndham and four other Victorian councils, following the first tranche of ESD policy introductions by councils in 2009. Maribyrnong's planning scheme also has ESD requirements using the SDAPP framework[15],, and Moonee Valley's scheme has a Water Sensitive Urban Design Policy.

Many educational and promotional activities are undertaken by councils for local residents, often through 'Sustainable Living' or 'Green Living' festivals, usually held annually. Wyndham's Green Living Series, held in February and March, offers a particularly full program with 30-50 or more environmentally themed workshops or seminars, most of them free. In this category of sustainability education, another successful long-running program is 'My Smart Garden', a series of events to promote growing food sustainably, using water wisely and recycling, run by Hobsons Bay, Maribyrnong and Moonee Valley since 2011. Councils also run educational programs targeting local schools and often promote events run by local community groups.

A few other initiatives, which are particularly innovative and promising, are listed below.

- Melton's participation in the 'Sustainable Subdivisions' project, a collaborative initiative by mainly rural councils to develop an assessment framework to reduce emissions resulting from small and large-scale subdivisions
- Wyndham's 'Local Government Supply Chain Sustainability School'[16], a partnership with two other councils and the Supply Chain Sustainability School to provide an online learning portal for local businesses
- Moonee Valley's 'Sustainability Champions' program, a training program for local residents, which in 2018 resulted in the participants setting up the 'Moonee Valley Repair Café'[17], 'Earth Crusaders – Eco Incursions for Kids'[18] and the 'Clean Green Sharing Machine'[19], a local bulk buying group for environmentally friendly products
- Hobsons Bay's 'Community Leaders for Sustainability' project, which aims to develop sustainability mentors and raise the capacity of local people to tackle climate change
- Hobsons Bay's 'Future Leaders for Sustainability' program, which is a partnership between Council, CSIRO and local secondary schools. The program tasks year 8 and 9 students with developing STEM-based solutions to local environmental problems.
- Brimbank's offer to install solar for sporting clubs which lease Council-owned facilities, through an interest-free loan repaid through energy savings
- Wyndham's 'Waste Watchers' program, which recruits families to reduce their household waste at source, learn how to maximise recycling and become local champions[20]

[15] https://www.maribyrnong.vic.gov.au/Building-planning/Building-and-design/Sustainable-Design-Assessment-in-the-Planning-Process

[16] https://www.wyndham.vic.gov.au/services/environment-sustainability/sustainable-living/sustainable-businesses

[17] https://www.facebook.com/mooneevalleyrepaircafe/

[18] https://www.earthcrusaders.com.au/

[19] https://www.facebook.com/groups/cleangreensharing/

[20] https://www.starweekly.com.au/news/waste-watchers-up-to-challenge/

- Maribyrnong's solar and energy efficiency upgrades of historic and other Council buildings leased to community organisations: the Drill Hall in Footscray leased to the Women's Circus and Snuff Puppets, RecWest Braybrook leased to YMCA Victoria, and the Footscray Park Bowling Club.
- In Hobsons Bay, a total of five electric vehicles have now been introduced into the fleet and four double-port 22 kW EV charging stations installed within the Council fleet compound in Altona to support their use. In addition a 50 kW DC fast EV charger has also been installed adjacent to the compound and is available for public use. Going forward the fleet will be rationalised and reduced by about 20 per cent and converted to all-electric.
- Melton worked with Alluvium and University of Melbourne to develop passive irrigation designs which will be trialled next year. Living Rivers provided funding for the development of the designs and the trial. In the meanwhile, Council is working with developers to ensure that new estates consider passive irrigation to provide cool, green streets for new communities in Melbourne's western growth area.

Photo: Solar panels on the Footscray Drill Hall

4. Adaptation actions

4.1 Regional

In 2011-2012, WAGA developed a Climate Change Adaptation Strategy and Action Plan[21] with funding from the Victorian Government's Local Sustainability Accord. It took into account the assessment of regional climate change risks (see Section 2.3 above).

The strategy and action plan summarise the future climate in Melbourne's west, outline the benefits of adapting at a regional level and set out a regional adaptation framework. This is designed to:

- Mainstream adaptation across councils
- Embed adaptation in planning processes
- Review progress of adaptation work carried out by the WAGA councils at the municipal level as well as WAGA's regional work.

[21] http://waga.com.au/climate-change-action/climate-change-adaption-strategy-and-action-plan/

The info-graphic below summarises what climate change adaptation would look like in the WAGA region once the strategy is implemented.

Info-graphic: WAGA's climate change adaptation strategy

4.1.1 How Well Are We Adapting

The first project to be undertaken pursuant to the strategy and action plan is 'How Well Are We Adapting'[22] (HWAWA). This project was commenced in 2013 through a partnership between WAGA, RMIT University's Centre for Urban Research, Net Balance Foundation and Federation University of Australia's Centre for e-Research and Digital Innovation (CeRDI). It was co-funded by the Victorian Adaptation and Sustainability Partnership.

HWAWA is a framework and online tool to measure and guide councils' responses to climate change across their services, assets and operations. It is designed to fulfil the following functions:

- Track how councils manage and respond to climate change
- Monitor the impacts of climate on councils over time – their services to the community, operations, assets, budgets, governance structures, resourcing and so on
- Inform, guide and assess the effectiveness of councils' strategies and actions at a granular level within specific areas of responsibility (e.g. asset management, land use planning, emergency management)
- Facilitate a community of practice for Victorian councils on 'how to do' effective climate change adaptation
- Communicate with the community about climate vulnerability and how their councils are responding.

Central to HWAWA is a set of indicators which track relevant council processes, decisions and impacts and how these change. The indicators are used not only to monitor and track councils' performance but to generate a response to drive action or policy change. This is achieved through building an evidence base of detailed information and trends. For each local government service area or responsibility, indicators tell a story about the service's vulnerability or resilience to

[22] http://adapt.waga.com.au/

climate change, the council's institutional capacity to address it, the resourcing and financial impacts and whether and how stakeholders are aware and participating.

In the first stage of the project (2013-2017), indicators were developed for two major areas of responsibility: 'community wellbeing and emergency management' and 'open space and water security'. A key component of the project was that the indicators were developed directly through consultation with local government officers, who would find the data useful in directing their work. For example, emergency management officers developed indicators relating to how they help their communities deal with projected increases in the frequency and severity of extreme weather events. Similarly, parks officers developed indicators relating to climate change impacts on open space, and so on.

Once these indicators were developed, the WAGA councils began to collect data against them. Also in the first stage, the tool was developed with an internal section for each council to record, analyse and report on its own data, and a public interface to report on local climate impacts and actions.

In the second stage (2018-2020), the partnership has continued between WAGA, RMIT University and Federation University of Australia, with additional state funding from the Department of Environment (DELWP). In this stage, indicators are being developed for the remaining major areas of responsibility for councils: 'planning, building and regulation' and 'assets and infrastructure'. The design process with council officers is also continuing; that is, participating councils' strategic and statutory planners are developing indicators for land use planning, their asset managers are developing indicators for asset management, and so on.

In 2018, membership of the tool was opened up to all Victorian councils, with the support of the Victorian greenhouse alliances, and 20 councils including the original WAGA councils chose to subscribe. These councils are now collecting data against the original indicators and are helping to develop the remaining indicators. By the end of June 2020, the project's aim is to incorporate a complete set of indicators in the tool, which can tell a comprehensive and detailed story about how councils are responding to climate change.

Future stages of the project will further refine and embed climate change adaptation in local government decision-making and develop the community engagement potential of the tool.

4.1.2 Other adaptation projects beyond the WAGA region

HWAWA is a major project and the current focus for WAGA's work on adaptation, and the alliance's experience in the project is used to provide input into other adaptation initiatives. WAGA is currently on advisory committees for the following projects:

- Climate Change Exchange – a research hub on climate responses for councils and other organisations, being developed by RMIT University with the Northern Alliance for Greenhouse Action and others
- Port Phillip Regional Adaptation Plan – a DELWP-led project for wider metropolitan Melbourne
- Local Government Roles and Responsibilities for Climate Change Adaptation – a study for DELWP to identify and provide guidance for councils on their legal responsibilities regarding climate change impacts and responses.

4.2 Individual councils

The WAGA councils are Victorian leaders in implementing climate change adaptation measures in their communities. While local government in general is just commencing to articulate the need for adaptation, many councils do incorporate appropriate action through their Health and Wellbeing Plans, Emergency Management Plans, Water Strategies, and so on. Six of the WAGA councils have also included climate change in their risk registers (Brimbank, Hobsons Bay, Maribyrnong, Melton, Moonee Valley and Wyndham), and six have specific adaptation strategies (Brimbank, Greater Geelong, Hobsons Bay, Melton (in development), Moonee Valley and Wyndham).

Many projects led by councils to prepare their communities for climate change also have emissions reduction benefits, such as Healthy Homes and Greening the West (see Section 3 above).

Other current projects by the WAGA councils are listed below. Only innovative projects which focus on adaptation or climate resilience in the community as a major aim are included in the list, noting that other sustainability projects often include adaptation as an incidental goal or benefit.

- Moonee Valley's study and trial of passive irrigation of street trees using stormwater. See information about their trial presented to the Stormwater Victoria Conference 2019[23].
- My Smart Garden (mentioned under Section 3.2.2 above) is a proud initiative with Moonee Valley, Maribyrnong and Hobsons Bay Councils. The program plays a key role in addressing the councils' environmental priorities and is popular with local communities as an adaptation measure, at the same time reducing greenhouse emissions and food waste to landfill through sustainable gardening practices.
- Hobsons Bay's 'Cool Streets' project, a successful trial in Altona Meadows to improve the environmental, social and economic benefits of street tree plantings through community engagement[24]. 'Cool Streets' is an award-winning project first trialled in New South Wales.
- Wyndham's inaugural Environmental Youth Summit, attended by more than 60 local students in June this year, learning and sharing information about climate action and other sustainability issues[25]
- Brimbank's 'Hot Spots' project, conducted with funding and support from the Lord Mayor's Charitable Foundation, increasing community resilience to extreme weather through partnership and engagement with local agencies who work with disadvantaged residents. The project is also being undertaken in other metro Melbourne municipalities in areas of high social and heat vulnerability.
- Melton's ESD/climate resilient buildings guidelines
- Greater Geelong's Infrastructure Design Guidelines for Sustainable Communities
- Greater Geelong's Climate Change Adaptation Toolkit, a comprehensive guide to integrating adaptation and maintaining service delivery in the face of more extreme weather. The toolkit has been implemented through the council's planning and decision-making processes. It is also available for other organisations.
- Maribyrnong's ESD Buildings Policy and Guidelines for council buildings. Council is also currently developing an Integrated Water Management Strategy with a focus on mitigating the urban heat island effect (UHI).

[23] https://az659834.vo.msecnd.net/eventsairaueprod/production-gems-public/9a66b79174704dd286ef2a0fb967f4d3
[24] https://www.coolstreets.com.au/cool-streets-hobsonsbay
[25] https://www.facebook.com/wyndhamcityliving/posts/2580653348625454

5. How the Victorian Government could support communities

5.1 Relationship between local and state governments

WAGA appreciates the partnership between its member councils and the Victorian Government in helping the community to address climate change. The legal relationship is governed by the *Climate Change Act 2017*, the *Planning and Environment Act 1987*, the *Local Government Act 1989,* other Acts scheduled to the *Climate Change Act* and subordinate legislation, the bulk of it relating to the planning system. In practice, regulation sets the frameworks for the relationship and is therefore crucial, but the pragmatic relationship between the state, through agencies such as DELWP, Sustainability Victoria and the water authorities, and councils is of almost equal importance. Across all levels of government, as climate impacts increase, emissions reduction targets ratchet up and the community demands stronger action, that relationship needs to be better coordinated and more transparent. Otherwise, local and state governments are in danger of being hampered in their sincere efforts to address climate change by a mismatched regulatory system (particularly in land use planning), siloed bureaucracies and lack of critical funding.

5.1.1 Regulatory reform

In relation to the legislative frameworks for the state/local government relationship, DELWP has conducted two important reviews over the past two years: the 'Local Government Climate Change Adaptation Roles and Responsibilities' project and a review of the planning and building systems for their management of natural hazards in the light of climate change. Both these projects involved extensive consultation with councils across the state. DELWP has not released any outputs from these projects nor indicated when it might do so. In the meantime, WAGA, other greenhouse alliances and member councils are advocating for improved planning controls for sustainable buildings and developments, local ESD planning policies, improvements to the Victoria Planning Provisions to prevent vegetation loss and related matters[26].

In summary, the key issues are as follows:

- The *Planning and Environment Act 1987* does not mention 'climate' or 'climate change', nor is the Act scheduled under the *Climate Change Act 1987.* Accordingly, there is a discrepancy between the objectives of the *Climate Change Act* and the *Planning and Environment Act*.
- The broader legal responsibilities of the different levels of government and agencies are complex, often unclear and also often under-resourced. In council workshops for the 'Local Government Climate Change Adaptation Roles and Responsibilities' project, many doubts, concerns and perverse results were raised by local government planners and other officers tasked with navigating the legal landscape to make decisions. Concerns raised included lack of clarity in legislative frameworks and specific, required decision-making tasks, a need for clear communication from the state about respective state and local government roles and liabilities, a need for clear communication within government and with the public about climate change issues, and the challenge of capacity particularly for smaller councils and growth area councils[27].

In outlining the need for regulatory reform, significant successes should also be noted. These include:

[26] See, for example, a letter to the Minister for Planning, Richard Wynne MP, from the Victorian greenhouse alliances and the Council Alliance for Sustainable Built Environment, dated 4 June 2018: http://www.cvga.org.au/uploads/9/8/3/8/9838558/joint_letter_planning_minister_2018-06-04.pdf

[27] Personal reports from workshops held in Warrnambool, Echuca, Melton and Melbourne in 2019. Outcomes from these workshops were recorded and should be included with the results of the 'Local Government Climate Change Adaptation Roles and Responsibilities' project, yet to be released.

- The *Climate Change Act* itself. This Act and the fact that emissions reduction targets are mandated by the legislation provides crucial overarching encouragement to the community and investors and drives emissions reductions and renewable energy development in Victoria. The allowance for local government emissions reduction pledges pursuant to the Act is also welcome, and councils should be encouraged and assisted to make those pledges. WAGA also looks forward to contributing to development of a Climate Change Strategy, addressing both emissions reduction and climate change adaptation, pursuant to the Act.
- Plan Melbourne 2017-2050, a whole-of-government strategy to facilitate a cooler, greener and more liveable city
- The Local Government Bill 2018, which seeks to include climate change considerations in the *Local Government Act*'s overarching principles and support for Environmental Upgrade Agreements in the Act.

5.1.2 A sustainable partnership and funding model

Victoria's Climate Change Adaptation Plan 2017-2020[28] outlines the current partnership between the state and local government to address climate change broadly in the community, as well as actions for the future. Two important actions included in the Plan (page 25) are an 'audit of Government operations to determine how well Government departments and agencies are currently equipped to address climate change' and 'a whole-of-government working group comprised of Deputy Secretaries from all departments, to improve consideration of climate change in Government decisions'. We suggest that these actions could usefully be expanded to include local government. The results of an audit which includes local government could be used to inform other major actions, such as regional adaptation plans. A working group comprising senior state and local government decision-makers could lead a coordinated approach and partnership.

In addition to actions included in Victoria's Climate Change Adaptation Plan, many local government climate change programs receive state funding and are undertaken through partnerships with state agencies. In many cases, these projects would not even be possible without state support to supplement limited local government sustainability budgets. An example is WAGA's 'How Well Are We Adapting' project (see Section 4.1.1 above).

Grants distributed by DELWP or Sustainability Victoria from the Sustainability Fund and other operational budgets are a key resource for local government. While we appreciate these partnerships, the funding is specific to particular projects, which may be driven by State rather than local or regional priorities, and is generally provided through ad hoc grant programs. The fact that recent funding rounds administered by DELWP[29] were significantly over-subscribed demonstrates not only the need and enthusiasm of communities for local climate projects but the insufficiency of the funding model.

A proposal for a $10 billion fund to help councils and communities across Australia address climate change was supported by the 2019 Australian Local Government Association's National General Assembly[30]. For Victoria, this equates to approximately $1.5 billion over 10 years on the basis of the

[28] https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0024/60729/Victorias-Climate-Change-Adaptation-Plan-2017-2020.pdf

[29] The $4.3 million Victorian Climate Change Innovation Partnerships, and the $1 million Community Climate Change Adaptation program

[30] 2019 ALGA National General Assembly Motion: Climate Emergency

number of councils in the state. That figure is, however, conservative given Victoria's population. With other greenhouse alliances, WAGA supports this proposal and suggests that it could operate in a similar fashion to the Regional Roads to Recovery funding, whereby councils work collaboratively to identify regional priorities and are resourced for implementation.

In any case, we suggest that the Government needs to move away from ad hoc grant programs towards more targeted investment for particular sectors and in particular regions or catchments; for example, through regional adaptation plans currently under development by DELWP.

5.1.3 Immediate and short term priorities

Priorities for Government support in our region include but are not limited to the following:

A matched fund for councils to access to support green infrastructure

The WAGA region is particularly vulnerable to heat for a number of reasons, including lack of tree cover. As already noted, WAGA's climate change risk assessment identified heat waves as a major risk for the whole region (see Section 2.3 above). While the WAGA councils have increased canopy cover targets and are implementing them, it remains a key challenge to protect communities from long term climate impacts and extreme weather.

Councils in the urban growth areas have the added challenge of establishing trees and green infrastructure in new developments. A dedicated fund would help councils properly invest in urban forests, street trees and other open space to help meet their tree canopy targets. Note that this fund should be linked to water-sensitive urban design, which is also a priority for councils in which they are supported by the water authorities: Melbourne Water, City West Water, Barwon Water and Western Water in the WAGA region.

Some WAGA councils are looking at ways to work with partners, such as the Government, to enhance linear parkland along waterways, improving connectivity for walking, cycling and habitat corridors and achieving contiguous connections where possible. This includes advocating to the Government and other relevant organisations for:

- Retention of land, additional tree cover and planting on land owned by Government agencies to improve habitat connectivity along open space and waterway corridors
- Enhancement of linear parkland along waterways to improve connectivity for walking, cycling and habitat corridors
- Greater levels of funding for urban greening, including extending links along key corridors such as waterways and active transport routes.

Cost shared model for major road lighting

With other greenhouse alliances, WAGA is advocating to the Victorian Government to contribute to the costs of changing over major road streetlights to energy efficient LED technologies, where these lights are cost shared between councils and the Government. This measure would significantly reduce emissions and costs for both levels of government.

Tackling the waste crisis

The current recycling crisis presents an opportunity for the Victorian Government to support moves towards a circular economy. Large-scale investment from the Sustainability Fund is required to build large-scale foundation industries to address the circulate economy. Some WAGA councils have key priorities in strategic plans to advocate for and support Government initiatives to encourage the circular economy where waste avoidance and enhanced resource recovery is prioritised.

Councils obviously have a central role in waste management, and many of the solutions would also be most effectively undertaken at a regional or state-wide scale. Some of those solutions are:

- A Container Deposit Scheme for Victoria to incentivise recycling, reuse and redesign of packaging (This policy position has been supported by at least some of the WAGA councils in the past; see, for example, Maribyrnong's submission to the Victorian parliament in 2011[31].)
- Coordinated food and garden organics (FOGO) kerbside collections. The Government's Circular Economy issues paper[32] identifies a key opportunity to avoid landfill emissions through better separation and recovery of organic waste in households and businesses.
- Community and business education and engagement programs to prevent recyclables going to landfill, reduce contamination in kerbside recycling and otherwise reduce waste at source through avoiding, sharing, repairing and so on
- Programs and support for technology development to recover resources from e-waste
- Support for market development through procurement of recycled content.

Support for a sustainable built environment

The general need for reform of Victoria's planning system is outlined in Section 5.1.1. WAGA also supports specific advocacy already being undertaken by councils, their alliances and social sector organisations[33] for:

- Increasing the minimum energy efficiency standard for new buildings and large renovations through the planning and building approvals process
- Supporting low emissions construction materials, including through supporting the low carbon cement industry through government sponsored road and infrastructure projects
- Increasing the minimum energy efficiency standard for appliances
- Introducing energy efficiency standards for rental properties and public housing
- Funding sustainable design advisory services within local government
- Continuing to provide financial incentives and support for installation of solar panels and energy efficiency upgrades across the residential and commercial sectors.

[31] https://www.parliament.vic.gov.au/images/stories/documents/council/SCEP/CDL/Submissions/No_33_MaribyrnongCC.pdf
[32] https://engage.vic.gov.au/circulareconomy
[33] Recent advocacy has been led by Renew with support from the Community Coalition for Healthy and Affordable Homes, focusing on raising standards for new homes in the National Construction Code (https://renew.org.au/submission/renew-submission-to-ncc-scoping-study/). However, some important advocacy also focuses on state responsibilities, notably a request to mandate minimum energy efficiency standards for rental properties: http://environmentvictoria.org.au/wp-content/uploads/2017/04/Renters-and-efficiency-briefer-FINALweb.pdf.

Support for zero emissions vehicles and a zero emissions transport system

A zero emissions transport system and associated state support for zero emissions vehicles has been recommended by Infrastructure Victoria[34], particularly development of a state transport plan that prioritises reforms to support zero emissions vehicles and public transport. WAGA supports a trajectory towards a new transport system, which would lead to significant emissions reduction and liveability benefits.

In delivering a new transport system, key issues, included in Infrastructure Victoria's analysis and advice, would need to be resolved for the WAGA region as follows:

- **Energy network upgrade**: Regardless of incentives, the modelling shows the bulk of the pressure of vehicle recharge on electricity substations would be felt in the western and outer metropolitan regions of Melbourne, where high population growth and a greater reliance on cars could further exacerbate the pressure on the network (page 122).
- **Dwelling density change effects**: Areas projected to see the most uplift under a 'Fleet Street' scenario (where no one owns their car and instead we travel in driverless electric shared vehicles operated through on-demand services) are in Melbourne's outer west (Wyndham and Brimbank) (page 154). Brimbank would still see considerable uplift under a 'Slow Lane' scenario because it contains the junction of the Western Ring Road, Western Freeway and Calder Freeway (page 184).
- **Costs could fall on councils**: Infrastructure Victoria estimates that $250 million would be needed for lane marking in a new system, and this would largely fall on councils responsible for the inspection, maintenance and upgrading of roads which are not state or privately owned. Infrastructure Victoria is clear that 'this could make the task of line marking all local roads to the standard required to enable automated vehicles unattainable for local authorities' (page 23).

WAGA also recommends a state-wide program to build capacity of councils to transition fleets as well as financing mechanisms to access low emissions vehicles. Similarly, we support a partnership with the Victorian Government to develop a coordinated and comprehensive network of public charging infrastructure for electric vehicles (EVs)[35].

Improved localised data of future climate scenarios and communicating about climate change

WAGA looks forward to the release of the Victorian Climate Projections 2019, with climate forecast data at a local scale (5km grids), to enable meaningful communications and consistent messaging with the community. We also look forward to training from DELWP for councils to interpret, integrate and use the data most effectively. We submit that 'How Well Are We Adapting' (see Section 4.1.1 above) may be a suitable portal for the community to access climate-related data developed by DELWP and other authoritative sources in future.

[34] Infrastructure Victoria, October 2018, Advice on Automated and Zero Emissions Vehicles Infrastructure

[35] See 'Charging the Regions: Local Government EV Charging Network Study', a study led by the Central Victorian Greenhouse Alliance with WAGA and other greenhouse alliances, for detailed requirements for a state-wide charging network: http://www.cvga.org.au/charging-the-regions-local-government-ev-charging-network-study.html

It is vitally important to disseminate this data and other climate change information beyond those already committed to climate action. Accordingly, more support is needed to spread consistent messaging about climate change and foster links between different communities. While some projects exist with the aim of improving community understanding (see, for example, Brimbank's 'Hot Spots' initiative, Section 4.2 above), additional support and resources are needed for councils and community organisations to undertake this work at scale. Most people recognise that switching to renewable energy is an important measure to reduce emissions (see Section 2.3.2 above), but they should also be encouraged to take other measures – and to advocate in other ways; for example, by writing to local politicians, purchasing low carbon products and so on.

6. Greenhouse alliances as best practice governance models

The Victorian greenhouse alliances represent 70 of the state's 79 councils. As well as planning and undertaking specific projects, as outlined in this submission, the alliances undertake targeted research, strategic regional planning, advocacy, capacity-building initiatives for their member councils' officers, and other state, regional and community partnerships. The greenhouse alliances have been recognised in Australia and internationally as a best practice governance model for climate action. A recent report by Beyond Zero Emissions, ICLEI and Ironbark Sustainability[36] highlights that Victorian local governments are well above the national average in addressing climate change challenges. A specific recommendation in that report is for other states to replicate the Victorian greenhouse alliances' model. The alliances were also recognised as a global best-practice model by a review for the Atmospheric Fund in Toronto, Canada[37].

Accordingly, we recommend that the Victorian Government continue to work with the greenhouse alliances and support their work with active partnerships and funding to coordinate and scale up climate action across the state.

We would welcome any further opportunity to present this information or discuss any matters raised in this submission with you. We look forward to your response.

Yours sincerely,

F Macdonald

Fran Macdonald
Executive Officer
WAGA

[36] ICLEI, Beyond Zero Emissions, Ironbark Sustainability (2018) *Australian Local Government: Climate Review 2018,* p 21. https://www.ironbarksustainability.com.au/fileadmin/public/downloads/IRO_GEN_001_Local_Government_Reivew_Report_FINAL.pdf

[37] Dunsky Energy Consulting, December 2017, Greenhouse Gas Reduction – Action and Opportunity in the GTHA, Final Report prepared for The Atmospheric Fund: https://taf.ca/wp-content/uploads/2018/01/TAF-GTHA-Project-Final-Report-Public-2018-01-10.pdf