Western Alliance for Greenhouse Action (WAGA)

THE WAGA COUNCILS' PROJECTS AND ACHIEVEMENTS 2019-2020

BI-ANNUAL REPORT

December 2020



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Western Alliance for Greenhouse Action (WAGA)

WAGA MISSION STATEMENT

The Western Alliance for Greenhouse Action (WAGA) is a partnership of eight councils to the west of Melbourne. Its members are the Cities of Brimbank, Greater Geelong, Hobsons Bay, Maribyrnong, Melton, Moonee Valley and Wyndham, and the Shire of Moorabool. WAGA councils work collaboratively to respond to climate change across the region and encourage their communities – residents and businesses – to make a transition to a low carbon society. WAGA's plans and projects focus on both mitigation of greenhouse gas emissions and adaptation to the impacts of climate change.







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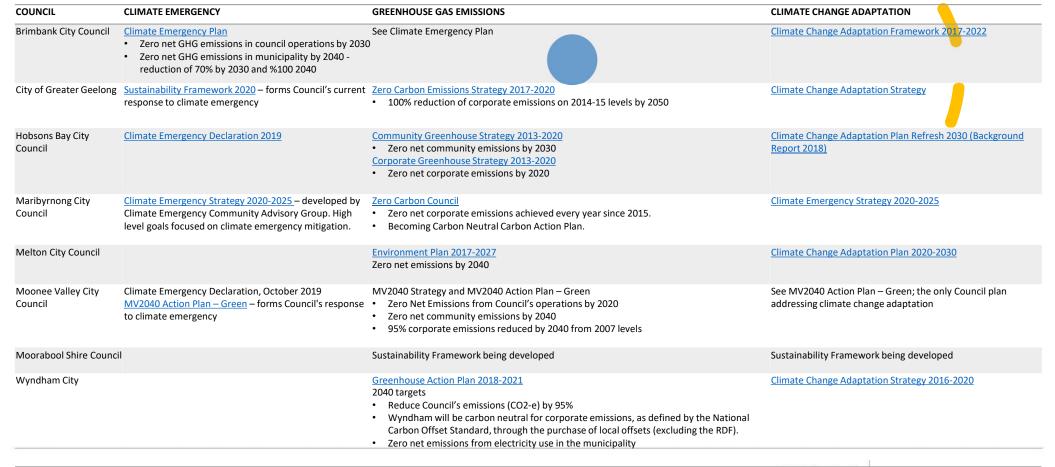
Greenhouse Gas Emissions Reductions

The WAGA councils are reducing greenhouse gas (GHG) emissions in their own energy use and through programs to assist residents and businesses switch to solar power, become energy efficient and reduce waste. The table below summarises relevant programs and, where possible, estimates of emissions reductions achieved in the financial year 2019-2020.

COUNCIL	CORPORATE (STREET/PUBLIC LIGHTING, SOLAR)	COMMUNITY (RESIDENTIAL, BUSINESS, WASTE)	
Brimbank City Council	Lighting – 28 tonnes CO2 reduction Solar – 925 tonnes CO2 reduction	Residential – Energy advice for residents through Environmental Events Calendar Business – 5 businesses signed up to Environmental Upgrade Agreements (EUAs) and installed 520 KW of solar (reduction of 574.32 T CO2/year) Waste – creation of recycling centres, expanded range of accepted items	
City of Greater Geelong	Lighting – 25,000 lights set to be changed over Solar – 104 KW	Residential – Grants to support community to do solar bulk buy Business – EUAs program for businesses Waste – Introducing strategy for events to present waste plan and introducing policy to phase out single- use plastics.	
Hobsons Bay City Council	Lighting - 46 tonnes CO2 reduction	Residential – 90 T CO2/year reduction Business – 35 T CO2 reduction, Energy\$mart (subsidised solar and energy efficient lights, EUAs) program Waste – Launching Recycling 2.0, 4-bin service	
Maribyrnong City Council	Solar – 591 KW	Residential – Solar Savers program continued (COVID-19 delay); Healthy Homes program delivered Business – EUAs program for businesses Waste – Towards Zero Waste Strategy approved, FOGO (food and organic waste recycling) rolled out to green bin users (COVID-19 delay)	
Melton City Council	Lighting – staged changeover occurring Solar – aiming to do solar PV for 20 council sites (overall 20% reduction by 20/21 and net zero by 2040)	Residential – Environmental Grants – Friends of Melton Botanic Gardens to install a battery on their solar PV system; first one on a Council building Healthy Homes project (COVID-19 delay) Waste – Launched FOGO	
Moonee Valley City Council	Lighting – 55 tonnes CO2 reduction per annum Solar – installed 730 KW of solar on 31 Council buildings to date	Residential – 10 free home energy audits provided to pensioners (COVID-19 delay) Business – 5 free energy audits offered to businesses (COVID-19 delay) Waste – FOGO still occurring	
Moorabool Shire Council	Lighting – 707.4 T CO2/year reduction Solar – 181.3 KW	Residential and Business – Sustainability Framework being developed Waste – New waste strategy being developed to adhere to new state policy	
Wyndham City	Lighting – 6,441 T CO2/year reduction Solar – 3,129.24 T CO2/year reduction	Residential – Solar Savers project commenced and one-on-one solar advice Business – ASPIRE program, a digital marketplace for the circular economy Waste – Rebate program for cloth nappies and reusable sanitary products, 222 homes participated	



Climate Change Plans and Targets 2019 - 2020





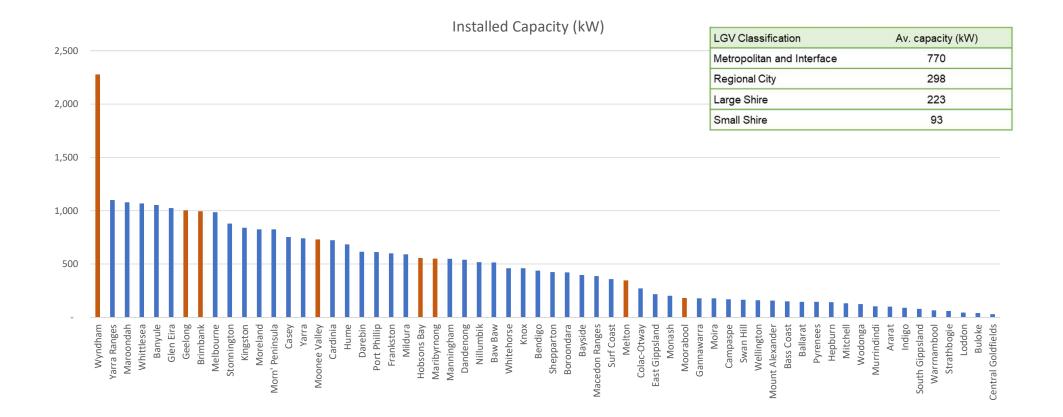


Corporate Solar Installations

COUNCIL	Total installed capacity at 30 June 2020	Planned Solar for 2020-21
Brimbank City Council	995 KW – rooftop and car park 40 KW – battery storage	500 KW
City of Greater Geelong	1003 KW – rooftop	100 KW
Hobsons Bay City Council	556 KW	Large Scale Solar Project: 3,610 KW plus integrating existing 500 KW (Base case proposal: 1,830 KW & Virtual Energy Network; additional expansion option: Additional 1,780 KW)
Maribyrnong City Council	551 KW – rooftop 7 KW – battery storage	100 KW
Melton City Council	350 KW - rooftop	99 KW to be installed on the newly constructed Cobblebank Stadium. Feasibility studies underway in 2020-21 FY for 2021-22 installations on Council's top sites.
Moonee Valley City Council	730 KW – rooftop on 31 Council-owned and operated buildings	Nil
Moorabool Shire Council	181.3 KW	
Wyndham City	2278 – rooftop 374 – battery storage	470 KW
Total for WAGA Councils	6644.3 KW – rooftop and car park 421 KW – battery storage	4879 KW (new solar installations)



Victorian Council Leaderboard – Solar installed by 2020



Electric Vehicles (EVs) 2019 - 2020

COUNCIL	PLAN	QUANTITY	ТҮРЕ	CHARGING
Brimbank City Council	Fleet transition plan development commenced in Feb 2020	1 EV - 2 more planned by 2021	1	Six charging stations 1x 22KW dual port, planning an additional dual port charger for incoming e-tipper trucks
City of Greater Geelong	Zero emissions fleet by 2030	20 EVs (20% of passenger fleet)	Toyota Hybrid	6x public dual port station across Western Beach Road, Leopold Library and Armstrong Community Hub
Hobsons Bay City Council	Electric vehicle charging stations, Discussion Paper, 2018	12 more planned by 2022. currently own 11 EVs		4x 22KW dual port 1x 50KW DC fast charger Planning 2x public 22KW dual port stations in 2020
Maribyrnong City Council	Fleet Policy has no EVs. Will be reviewed as part of Climate Emergency Strategy implementation. EV Charging Infrastructure Policy approved by Council September 2020.	1 trial fleet EV for 3-6 months	Hyundai loniq electric	Initial 2-3 Council charging stations planned in Charging Policy by 2022. Two already installed (Operations Centre and Town Hall). Charging Infrastructure Policy supports potential for private investment for chargers on Council land, rather than Council funding them.
Melton City Council	Specific rebates/incentives for hybrid and electric vehicle selections and a plan to replace dedicated pool vehicles over time with hybrid and electrics			
Moonee Valley City Council	Workshop on EVs for residents planned for 2021. Update in 2021 with proposal to increase number of EVs in council's fleet over time.	2 EVs	Hyundai Ioniq electric	2 charging stations at Depot for Council EVs only
Moorabool Shire Council	Plan under discussion.			
Wyndham City	EV charging infrastructure is being planned in future Council facilities, such as large Community Centre carport structure Planned large carport structure that will be both EV and solar integrated.	1 EV	Hyundai Ionic electric	1x station at Wunggurruwil Dhurrung Centre, planning stations for Depot and Civic Centre



WAGA Regional Projects

LOCAL GOVERNMENT POWER PURCHASE AGREEMENT (PPA)

A project initiated by the Victorian Greenhouse Alliances to form Australia's largest buying group to switch councils' electricity contracts to 100% renewable energy from 1 July 2021.

- 47 councils are participating
- 238 GWh electricity
- 47% of all Victorian councils' electricity load
- 265,000 GHG emissions reduced
- Equivalent to electricity used by 44,500 homes

'HOW WELL ARE WE ADAPTING?'

A program and tool led by WAGA with RMIT University to embed climate change adaptation and measure responses to climate change impacts and risks across all council services, assets and operations.

In 2020/21:

- 13 Victorian councils are participating to measure their responses against detailed indicators
- We are developing and testing an Adaptive Capacity Checklist with councils
- We are undertaking a 'Climate Resilient Service Delivery' project to test scenario-planning as a tool to guide adaptation in complex situations; in-depth exploration of requirements for use of councils' passive open space under more frequent and intense heatwaves and COVID-19 conditions, and operation of maternal and child health services in heatwaves

ELECTRIC VEHICLE (EV) TRANSITION

A proposal in development for a 10-year regional transition plan for 100% EVs in council fleets and associated charging infrastructure.



BUSINESS RESILIENCE PROGRAM

A proposal in development for a coordinated regional program, to commence in 2020/21, building on the WAGA councils' success in facilitating Environment Upgrade Agreements (EUAs) for local businesses.

EUAs results in the WAGA region as at 2020:

- \$4.3 million invested
- 21 EUAs signed
- 2355 KW solar installed
- 3997 tonnes of GHG emissions saved per annum
- \$575,000 total savings per annum to businesses

Brimbank City Council 2020 Highlights

St Albans Health and Wellbeing Environmentally Sustainable Design Hub targeting 6 Star Green Star (only the second leisure centre in Australia to achieve this). This will include Australia's first 100% renewable energy powered, fossil fuel-free leisure centre via supply from heat pumps, on-site solar and the Local Government Power Purchase Agreement.

Brimbank installed a 66 kilowatt solar PV system located on the rooftop of the Sunshine Leisure Centre and a brand new 35 kilowatt solar PV shade structure located near the outdoor pool. The combined 99 kilowatt solar PV system serves in addition to the existing 65 kilowatt co-generation system built in 2015. The centre won the 2020 Aquatics and Recreation Victoria Sustainability Award.

Brimbank's Environmental Upgrade Agreements program financially assisted a total of five businesses during 2019/20. Collectively businesses installed 524.4 kilowatts of solar in 2019/20.

The \$2.5M Balmoral Park Stormwater Harvesting System Project was completed in June 2020 involving a 1500 kilolitre underground storage and stormwater treatment system. This will provide over 15 megalitres of stormwater annually, offsetting drinking water consumption. Works will also commence on the Dempster Park Oasis Stormwater Harvesting Project in February 2021.

In 2019, Brimbank City Council declared a climate emergency. In doing so, Council joined a local and international climate emergency movement that recognises that global warming is an existential risk to humanity. In June 2020 Council endorsed the Brimbank Climate Emergency Plan 2020-2025. In doing so it became one of the first Victorian councils to outline how it will implement its climate emergency declaration and the first in Melbourne's west. The Plan includes a vision, a position statement and principles, key emission reduction and advocacy targets, and five 'themes for action' and associated actions.

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City of Greater Geelong 2020 Highlights



Shellfish Reef at Portarlington



Council's <u>Sustainability Framework</u> articulates its responses to climate change, including mitigation and adaptation measures. Actions in the Framework include, among others, projects to install solar PV on City-owned buildings, upgrading street lights and amendments to the planning schemes for land subject to inundation. A key action is the development of a Climate Change Response Plan; this will incorporate a review of the current Zero Emissions Strategy and Climate Change Adaptation Strategy.

The <u>Zero Carbon Building project</u> aims to reduce energy costs and cut corporate GHG emissions by 50 per cent by 2020. By 2019, it had achieved a total 508 kilowatts of installed solar, made up of 1,877 solar panels, generating 66,198 kilowatts per hour annually and saving 753 tonnes of GHG gases annually. When combined with existing solar, this brought Council's total installed solar to over 1 megawatt.

The 'Our Coast' Program is led by Council in partnership with the Victorian Government (through the Department of Environment, Land, Water and Planning), the Borough of Queenscliffe, Corangamite Catchment Management Authority, Bellarine Bayside Coastal Management and Barwon Coast Committee of Management. The program identifies areas exposed to erosion and inundation hazards with future sea level rise, assesses climate change risks and establishes an adaptation program. Adaptation solutions may involve a range of responses including changes to the planning scheme, further research, coastal engineering (soft and hard), living shorelines, building/urban design and behavioural responses. This project is building community and stakeholder capacity and knowledge of the impacts associated with inundation on our coast, and the responses relating to various locations.

<u>The Shellfish Reef project</u> at Portarlington contributes to significant innovation in the coastal zone to prevent erosion through lowcost and 'soft' engineering. A reef, 0.75 metres high, is in place with steel cages filled with rock and scallop shells sitting in the Ramblers Road foreshore, which is usually heavily impacted. It is also used to attract macro algae, invertebrates and other shellfish, while reducing wave energy and erosion. The project has increased beach and foreshore habitat and decreased inundation events. In November 2020 the project won the Leadership in Climate Change Adaptation and Resilience Award at the 2020 Victorian Marine and Coastal Awards.

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Hobsons Bay City Council 2020 Highlights

By 2021, a <u>Virtual Power Plant (VPP)</u> will be established through the installation of solar panels on more than 40 Council-owned buildings. This will significantly assist Council in achieving its goal of zero net GHG emissions from council operations by 2020 and from the community by 2030. The VPP is planned to generate over four megawatts of solar power and enable excess solar energy to be shared with other sites that need it. The system will reduce GHG emissions by more than 4,000 tonnes annually, providing both financial and environmental benefits.

The <u>Electric vehicles and chargers</u> project introduced two additional locations for charging stations. A total of three public charging stations are now installed across Hobsons Bay in Laverton, Williamstown and Altona. The 22 kilowatt AC charging stations can take three to four hours to fully charge a vehicle, depending on the vehicle and its battery.

The <u>Community-led sustainability collective</u> is a new community group focusing on creating a more sustainable world and community by empowering emerging leaders. The group hosts social sustainability-focused activities, events and workshops and provides support to develop sustainability leadership in climate change across Hobsons Bay.

The <u>Urban Forest Strategy</u> aims to develop a healthy and resilient urban forest and to increase the understanding of the attributes, roles and benefits of an urban canopy. One of the objectives in the strategy is to increase tree canopy cover to 30 per cent by 2040.

Hobsons Bay's virtual <u>World Environment Day 2020</u> event on Saturday 6 June, with multiple online and self-directed activities, engaged 6,000 people.









Maribyrnong City Council 2020 Highlights

Council's <u>Climate Emergency Strategy 2020-2025</u>, developed by the Climate Emergency Community Advisory Group, outlines high level mitigation and drawdown goals, with significant focus on how Council must embed climate emergency into everyday business from the Council Plan down. The accompanying Climate Emergency Action Plan will be developed by mid 2021. A supporting Climate Emergency Adaptation Framework will address adaptation goals and actions.

Council is a member of <u>Solar Savers</u> a local government initiative which helps households to install quality and affordable rooftop solar to reduce their energy bills and carbon footprint.



Source: Air Pollution in Melbourne's Inner West Report, 2020

Council's **Environmentally Sustainable Design Policy (ESD)** builds on Council's continued commitment to ensure Council buildings are built to high environmental standards. Current and planned re-developments include Yarraville Oval, Hyde Street Childcare Centre, Henry Turner South Pavilion and the Operations Centre.

Food Waste Recycling Collection provides Maribyrnong residents the opportunity to put food scraps into their green bin instead of sending them to landfill. Rolled out to current green bin users in 2020, this program will be extended more widely across the municipality in 2021.

Inner West Air Quality Reference Group examined poor air quality in the inner west including Brimbank, Hobsons Bay and Maribyrnong Council areas. To improve air quality in the region, its 2020 report highlighted the concentration of pollution, dust and odour from industry, landfill, stockpiles and storage sites, along with 26 recommendations and 65 supporting actions.

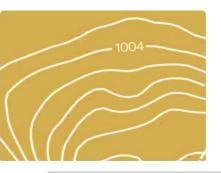
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Caroline Springs Stadium extension, which houses Melton's 99 KW solar system



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Melton City Council 2020 Highlights

In 2019, 16 partner councils including Melton, the Victorian Planning Authority and the Council Alliance for a Sustainable Built Environment (CASBE) partnered to develop a <u>Sustainable Subdivisions Framework Project</u> which will focus on improving long-term community benefits delivered by a subdivision through the planning process. Council is now participating in the 18-month trial to progress the Framework.

The <u>Climate Change Adaption Plan</u> represents Council's response to current and anticipated future changes in climate. While Council is already managing many of these impacts, the plan provides a formal and coordinated climate change adaptation framework and action plan for the future.

<u>The purpose of the Environment Plan</u> is to provide a process indicating improved environmental outcomes in the municipality over the next decade. This document will guide Council on planning, decision-making and activities that impact the local environment.

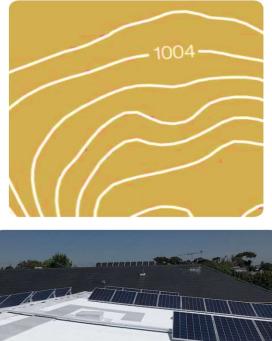
FOGO allows residents to put their food waste into green bins along with their garden waste to reduce how much of this valuable resource travels to landfill.

Through the Passive Street Tree Irrigation (PSTI) project, stormwater is used to water street trees and open space, as it is a locally available low-cost water source which can support cooler urban environments and improve the quality of the runoff entering waterways. This is now mandated in Subdivisions, and over 2,000 have been planted with PSTI. Melton is the first Council in Australia to require this in all new street tree plantings (as a condition of the planning permit).



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Moonee Valley City Council > 2020 Highlights

Energy efficiency initiatives at Council-owned buildings replaced 1,397 inefficient lights with LED at 11 Council sites, installed a total of 49 kilowatts of solar on three Council-owned buildings (taking total solar PV installed to 730 kilowatts across 31 buildings), and applied solar reflective paint to a community centre roof.

The **Sustainable Buildings and Facilities Guideline** was endorsed by Council's Executive Team in October 2018. Since then, the Guideline's purpose ensures that new and refurbished Council facilities achieve best practice ESD and aims to provide a framework for the application of ESD across the lifecycle of a facility.

<u>New Flemington Community Hub building at Flemington</u> is being designed to achieve a 5-star Green Star outcome as per Council's Sustainable Buildings and Facilities Guideline. It will assist in rainwater harvesting, solar-passive designs, natural lighting and ventilation, creating a high performing building envelope to maximise efficiency of heating and cooling systems.

Council's <u>Sustainability Champions program</u> is a 10-week training program provided by Council to empower people who live, work or study in Moonee Valley with the confidence and skills to advocate for change and develop and implement local community projects.

Solar-reflective roof paint was applied on Bradshaw Street Community Hall in Essendon (a Council-owned building). This solar-reflective roof paint reduces summer temperatures inside the building, reducing air conditioning loads and improving occupant comfort. It should make the building much more resilient in heat-wave conditions and as such it represents an important climate change adaptation measure. It has the added benefit of delaying the roof cladding replacement, which was nearing end-of-service life. Project was completed in November 2019.

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Photo of 'cool roof' painting on Bradshaw Street Community Hall, Essendon

Moorabool Shire Council 2020 Highlights

The **Sustainability Framework** for council, currently being developed, takes a holistic approach to sustainability and climate change issues. It has predominantly been informed by other frameworks developed by Victorian councils as well as the state government, and international policies. It will ensure that Moorabool Shire commits to further steps towards a more sustainable future.

Solar PV on Council-owned buildings has been a highlight for Council, with a total of 181.3 kilowatts installed in 2020. This includes 49.4 kilowatts on the Ballan office, 99.8 kilowatts on the Darley office and 31.6 kilowatts on the Ballan Library.



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Wyndham City 2020 Highlights

Council's <u>Street lighting change over</u> project Lighting the West continues to expand and this year, new high efficiency LED globes were developed and approved for decorative lighting. Annual greenhouse gas savings from the overall project are equivalent to offsetting the energy emissions from over 1,100 Wyndham households.

Wyndham's <u>ongoing solar program</u> this year included installations at an additional 12 community buildings, making the Wyndham Solar City Project one of the largest roll-outs of commercial-scale rooftop solar by local government in Australia, with over 2.27 megawatts of solar and 373 kilowatt hours of batteries installed to date. This year's program also included upgrades to existing systems to included advanced remote monitoring capability and servicing of 17 facilities.

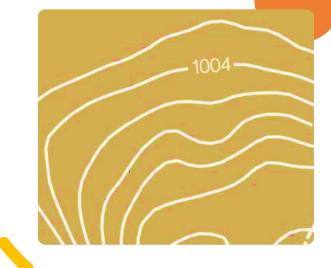
<u>Wunggurrwil Dhurrung Community Centre</u> was the first 5-star green star building established in Wyndham and won a 2020 Sustainable Architecture award. It will provide a connection to the local environment through native landscaping and outdoor interactive nature-based play spaces.

Supply chain sustainability school is a collaboration between the Cities of Whittlesea, Wyndham and Port Phillip, winning the LGPro 2020 Award for Sustainability Initiative. The objective of the program is to improve sustainable procurement skills, processes and outcomes by addressing knowledge gaps across local government supply chains. The freely accessible web portal provides individualised learning pathways and a range of short, relevant educational resources about current and emerging sustainability issues. Suppliers are encouraged to complete a free self-assessment for their business, which then provides each user with a personalised action plan, tailored to individual levels of knowledge, business needs and council clients.





Wunggurrwil Dhurrung Community Centre, source: Wyndham Council

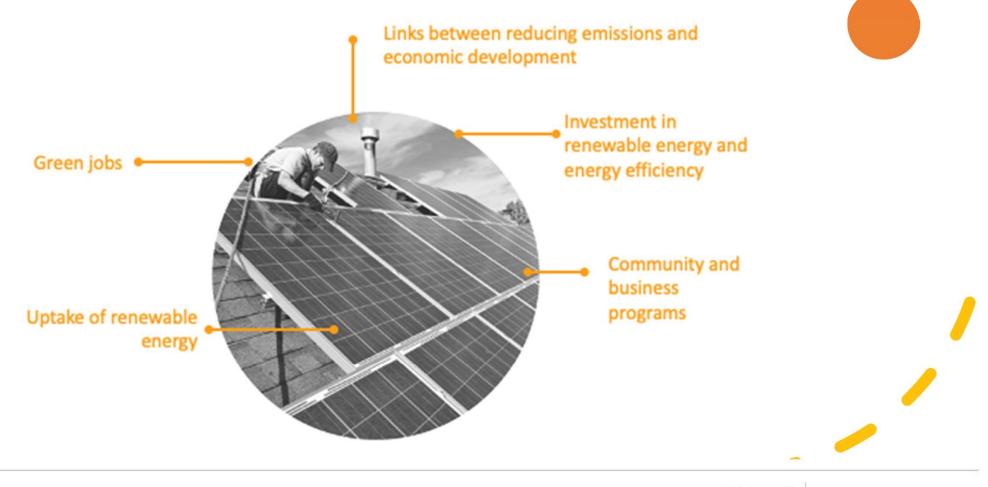




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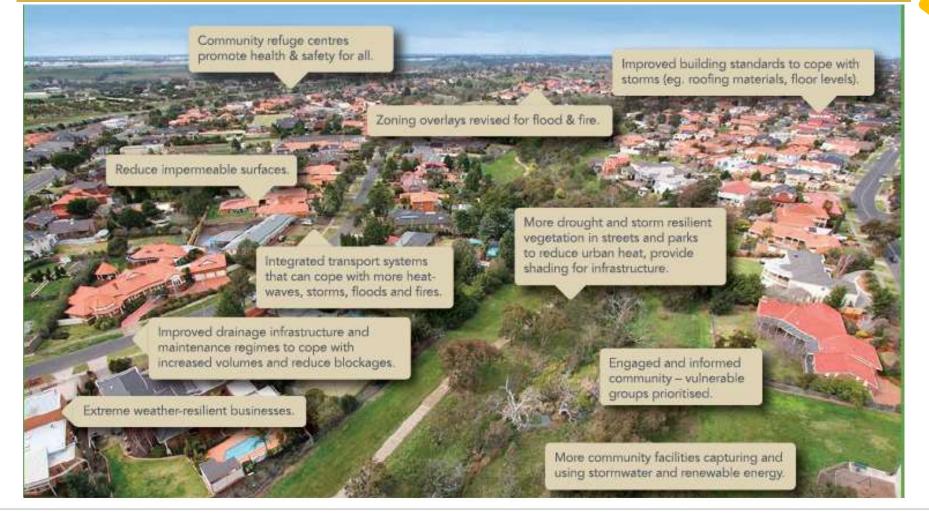
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"Why should we support renewable energy projects?"





"Why should we support climate change adaptation?"





ACKNOWLEDGEMENTS

This report was authored by Claudia Hird (final year student, Bachelors of Environmental Science/Environment and Society, RMIT University) and Fran Macdonald (Executive Officer, WAGA).

The aim of the report is to provide a summary of GHG emissions reduction and climate change adaptation action by the WAGA councils in 2019-2020. The report can be shared with everyone interested in the WAGA councils' projects and achievements. It will also be used for a final capstone report for RMIT University.

We wish to acknowledge the input of Ben Cooke (Senior Lecturer, RMIT University), Jeremy Gay (Tutor, RMIT University), Sarah Wigley (Sustainability Coordinator, Moonee Valley City Council), Yonis Dawd (Sustainability Projects Officer, Brimbank City Council), Daniel Mack (Sustainability Officer, Wyndham City), Tim Mordaunt (Senior Sustainability Officer, City of Greater Geelong), Molly Fredle (Sustainability Officer – Spatial Analyst, Hobsons Bay City Council), Callan Riley (Team Leader Sustainability, Hobsons Bay City Council), Keith Loveridge (Senior Sustainability Officer, Maribyrnong City Council), Kellie Mills (Sustainability Officer, Melton City Council) and Lindsey Pettifer (Sustainability Policy Officer, Moorabool Shire Council).



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