

# Case Study

## A Metropolitan-Wide GPC Inventory: Local Government Cooperation in Melbourne, Australia

October 2018

Assessing the value of a metropolitan GPC<sup>1</sup> inventory and capacity building approach for 31 councils in metropolitan Melbourne, Australia.



### Summary

This case study reflects innovative approaches from a multi-stakeholder project that was successfully delivered in metropolitan Melbourne, Australia in 2018. The project, funded by C40 Cities, explored how 31 councils across metropolitan Melbourne were able to progress individual GPC inventories and establish a foundation for a metropolitan-wide GPC inventory. The project involved a series of capacity building activities, including workshops, development of GPC training materials, and engagement with local councils over a seven-month period, including an additional

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<sup>1</sup> Global Protocol for Community-Scale Greenhouse Gas Emission Inventories

period of ongoing technical support. This case study highlights the story of collaboration in developing GPC inventories in a multi-stakeholder environment across various geographic scales, and reveals useful lessons and insights for other cities and city-regions worldwide seeking to establish a metropolitan-wide GPC inventory and increase capacity building for councils.

## Introduction & Aims

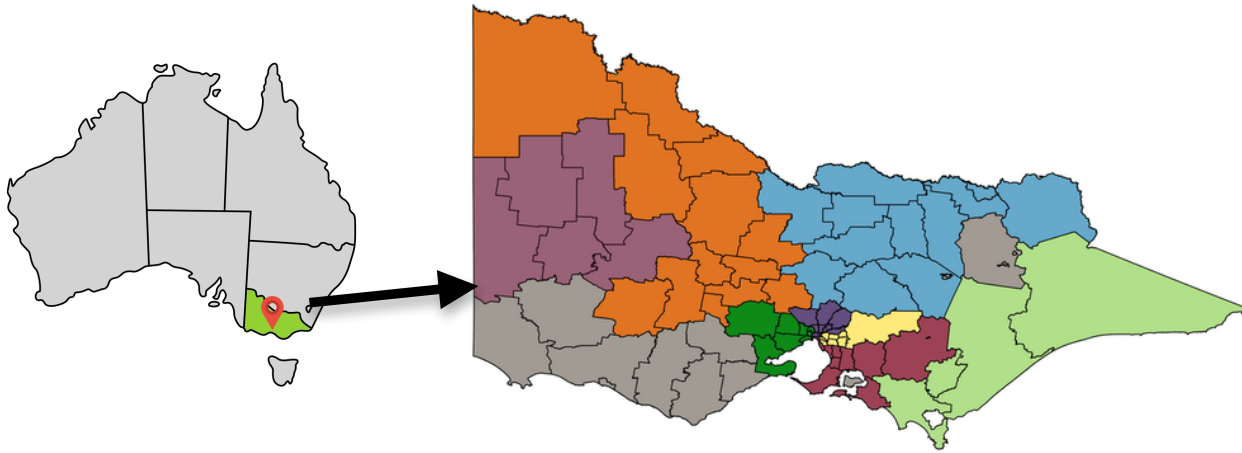
According to the IPCC Special Report, *Global Warming of 1.5°C* (2018), urgent global action is needed to achieve the ambition of the Paris Agreement and avoid catastrophic climate change. The challenge for local governments therefore is to reduce emissions in a way that can be tracked against Paris Agreement goals. Melbourne was one of eight cities in C40's *Climate Action Planning Pilot Programme*, which aims to build the capacity of cities to develop climate action plans in alignment with the Paris Agreement.

In order to inform such action plans, cities require a way to measure and report their greenhouse gas emissions. The GPC is recognised as a global standard for measuring and reporting on city-level emissions. The challenge is building this capacity to use the GPC within local governments, which is what this project sought to address.

Broadly, this project had two main aims: first, to deliver a metropolitan-wide GPC inventory for metropolitan Melbourne, and second, to deliver a capacity building programme for 31 councils in metropolitan Melbourne including the provision of technical assistance. The project revealed several key lessons relevant to other cities that may also be considering a similar cooperative approach to developing a metropolitan-wide GPC-compliant inventory.

## City Context: Melbourne, Australia

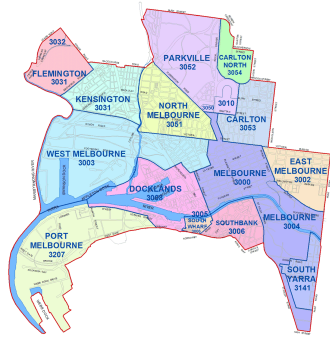
The Melbourne metropolitan region has a population of approximately 5 million (2018) and is set to rise to around 10 million by 2035. The entire metropolitan area covers over 9,990 square kilometres making it a low-density city identified by significant urban sprawl. Melbourne has been ranked as the world's most liveable city for seven consecutive years up to 2018, in which it was then ranked second in the world (Economist Intelligence Unit 2018, *Global Liveability Index*). City of Melbourne, while relatively small in size (36 square kilometres) and residential population (136,000 people), is the capital city of the state of Victoria and is the primary business, political and transport centre.



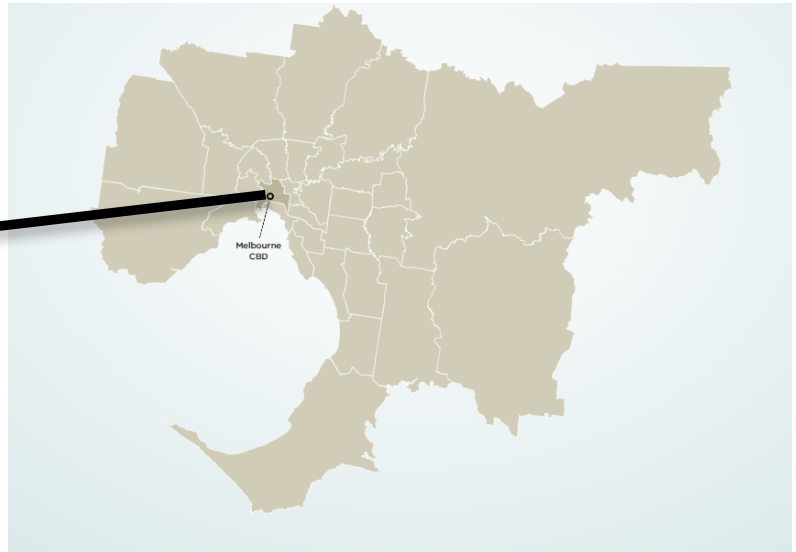
Legend

- Central Victorian Greenhouse Alliance (CVGA)
- Eastern Alliance for Greenhouse Action (EAGA)
- Gippsland Climate Change Network (GCCN)
- Goulburn Broken Greenhouse Alliance (GBGA)
- Northern Alliance for Greenhouse Action (NAGA)
- South East Councils Climate Change Alliance (SECCCA)
- Western Alliance for Greenhouse Action (WAGA)
- Wimmera Mallee Sustainability Alliance (WMSA)
- No alliance

Map 3: Greenhouse Alliances, State of Victoria, Australia



Map 1: Melbourne City Council boundary



Map 2: Metropolitan Melbourne Boundary

The City of Melbourne, other metropolitan councils and the State Government of Victoria have been actively engaged in climate action and leadership for decades. However, the need for a unified reporting approach across broader metropolitan Melbourne was identified as part of the C40 pilot programme. While 12 of the 31 councils within metropolitan Melbourne had developed a GPC-compliant inventory by 2018, including the City of Melbourne, there was no inventory for metropolitan-wide Melbourne. For meaningful comparisons to be made to other C40 cities and other comparable metropolitan areas, and for effective metropolitan-scale climate action to be planned, a cooperative metropolitan approach was seen as an important step.

Metropolitan Melbourne (Map 2) is an interesting and unique geopolitical environment for local government cooperation. First, City of Melbourne, the local government body responsible for the municipality of Melbourne (Map 1), includes the central business district and immediate surrounding suburbs. Second, the larger metropolitan Melbourne region (Map 2) encompasses 31 separate councils. Third, at a sub-regional level there are also Greenhouse Alliances (Map 3), which are formal partnerships of councils that work collaboratively to deliver regional mitigation and adaptation programs. The various scales of interaction between local governments means that there is a strong potential to work collaboratively on climate action, while also presenting various levels of complexity.

In addition, the state government of Victoria is involved in the provision of transport, water, planning and services that have impacts across local government boundaries. The Victorian Government has established a net-zero greenhouse gas emissions target by 2050, which provides guidance to local governments on their own emissions reductions targets. With councils working together under the state government framework, it is hoped they can achieve positive outcomes at a metropolitan scale which otherwise may not have been possible.

## Project Activities and Deliverables

The two core parts of the project were developing the GPC inventories and delivering a capacity building programme for councils, to foster peer-to-peer learning and interaction. The GPC inventory activities included meetings with key stakeholders, data gathering, obtaining a snapshot of councils' progress, calculating individual GPC inventories, development of individual action plans and a summary report on the metropolitan GPC.

The capacity building programme included planning meetings, delivery of three workshops on how to conduct a GPC inventory, and two regional workshops on the broader context of the project. In addition, supporting materials were developed to assist local councils' understanding of the GPC, including a self-guided training module, an online repository of resources including presentations from workshops, an FAQs list and a 'hotline' for further technical assistance for ongoing support. Below is a short summary of the main activities.

## Developing GPC inventories

Through the project councils each received a high-level GPC BASIC<sup>1</sup> municipality inventory with breakdowns by emissions source and sector. To allow comparisons between councils and to understand how each council compared to the group overall, project partner Ironbark Sustainability established each council's 'cohort' (i.e. the councils closest to it in population and economic characteristics), to allow comparison between similar councils. In addition to individual inventories, the overall metropolitan GPC figures were presented in a similar format, which included additional per capita metrics and a comparison to national data.

The project adapted and expanded its existing methods to develop the inventories, with an emphasis on creating a tool that can be used by local councils themselves. The system was centred on a basic 'activity tool' that provided several methods for calculating activity data for specific municipality emissions. It was based on the idea of having tiered methods, similar to the Australian national reporting framework (NGER, National Greenhouse and Energy Reporting). This tiered structure was based on different levels of information and data, which reflected the differing levels of data that may be available to councils.

This tool was part of an ongoing development pathway that focused on compliance with the GPC Protocol and the Global Covenant of Mayors for Climate and Energy. Complete transparency on methods was a core objective, with documentation behind the methods provided to participant councils.

The tiers allowed for all councils to have GPC compliant profiles prepared, regardless of their individual data availability. This completeness ensured that sub-regions could become GPC-compliant together, opening up a range of possibilities for collaboration that has previously been challenging to achieve. The commonality of the data framework and the ease of use of the activity tool allows councils to shift their focus from basic accounting compliance to collaboration and action.

Moreover, the City Inventory Reporting and Information System (CIRIS) was integrated into the data activity tool, with the outputs, such as activity data, presented in the same layout to facilitate easy transfer. The activity tool also produces emissions estimates, which can be used for other applications, most notably in preparing science-derived targets for municipalities, creating a common baseline and compliance for the Global Covenant of Mayors for Climate and Energy. Participant councils also received ongoing technical assistance, which focused on helping councils prepare and understand how to communicate their emissions profiles.

### Results from the development of Metro wide inventory

The Melbourne Metropolitan Area has an emissions footprint of over 66Mt CO<sub>2</sub>e for the 2017 inventory year, with the breakdown outlined in the table below.

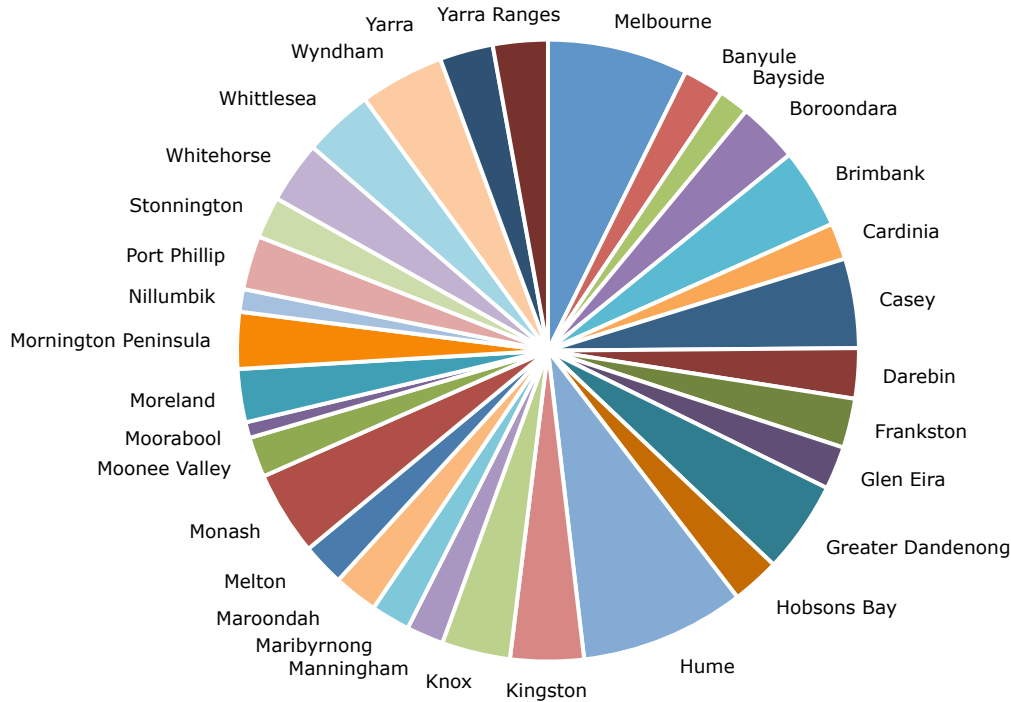
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<sup>1</sup> One of two levels of reporting under the city-induced framework, the BASIC level covers scope 1 and scope 2 emissions from stationary energy and transportation, as well as scope 1 and scope 3 emissions from waste.

Category	Emissions (t CO <sub>2</sub> e)	Percentage (%)
Stationary Energy	47,171,124	71%
Transportation	17,228,638	26%
Waste	1,403,868	2%
Wastewater	555,408	1%
<b>Total</b>	<b>66,359,038</b>	<b>100%</b>

When looking at how this was dispersed across the municipalities, we can see that emissions are dominated by the City of Melbourne itself, and the City of Hume (largely because this is where Melbourne’s main airport, Tullamarine, is located.)

**Greater Melbourne - Emissions by Municipality**



We see a large variation in the breakdowns of emissions across the different municipalities. To assist with understanding this, we have established a basis classification. These classifications reflect where the major sectors of emissions can be found, and form useful ways to understand which other municipalities in a similar cohort that councils can compare themselves to (see table below).

Residential	Commercial	Industrial	Balanced
Banyule	Melbourne	Greater Dandenong	Boroondara
Bayside	Hume	Hobsons Bay	Brimbank

Casey	Port Phillip	Kingston	Cardinia
Darebin	Yarra		Knox
Frankston			Maribyrnong
Glen Eira			Maroondah
Manningham			Monash
Melton			Mitchell
Moonee Valley			Stonnington
Moreland			Whitehorse
Mornington Peninsula			Wyndham
Nillumbik			
Whittlesea			

### Capacity Building Programme: Workshops

A major part of the programme were the workshops, which included GPC training, Q&A, sharing of resources and tools, and learning directly from councils about how GPC inventories play a role in their sustainability and climate action plans.

The first workshop, hosted in central Melbourne, included speakers from Ironbark Sustainability and ICLEI Oceania, and was attended by local councils, City of Melbourne, and C40 Cities. The workshop covered the fundamentals, rationale and value of GPC inventories for local councils, including fundamental concepts of scopes, boundaries, sectors and emissions. Participants' feedback about the programme and workshops was positive overall. A survey showed all participants learned something new from attending the first workshop.





The combined second workshop was designed to build a more technical understanding of inventory management, calculation methodologies and data management. Participants heard from two technical experts, one from Ironbark Sustainability and the other from ICLEI USA, who presented as a great resource for councils to ask deeper questions about the GPC.



A common theme that emerged at the workshop was a need for concise and easily understandable communications material about the GPC. Not all participants expressed confidence in being able to argue the value of the GPC to their council leaders and community, and some also emphasised a need for assistance to refine key messages about the value of the GPC to gain community buy-in. Multiple participants also made it clear that bringing the Greenhouse Alliances (see Map 3) closer to the discussions about developing GPC inventories is beneficial. Such comments highlight the complexity between various organisations in the region who are all involved in supporting local government action on climate, emphasising the role of relationship management, stakeholder mapping and communication between various groups.

## Application To Other Cities

A region-wide response comprising many municipalities may require a coordinated approach, especially in the absence of an overarching metropolitan government. One of the aims of this



project was to learn how local governments might cooperate to build a holistic metropolitan-wide GPC inventory, and in so doing demonstrate the capacity for regional collaboration on climate action and to uncover any complexities of such an approach. Below are key lessons and conditions for other cities that may be considering a similar approach.

## Key lessons

1. Stakeholder mapping: Before scoping a similar approach, develop a good understanding of the key stakeholders including other programs operating with similar outcomes to identify opportunities for resource sharing and collaboration.
2. Participatory project design: Verify assumptions about the local needs of local councils particularly during the design of the project to ensure local and metropolitan-wide aims align.
3. Communication needs: Some elements of the GPC are complex and not all councils will be at the same starting point. Councils may need help crafting key messages to gain support from their councillors and community.
4. Relationship management: Invest time and resources to foster positive relationships and establish clear communication channels especially if a variety of stakeholders are involved.

A metropolitan-wide GPC approach may be useful:

- For cities in which a metropolitan-wide response could be beneficial to understanding the range of emissions across local councils to inform strategic regional action;
- To allow a more meaningful and accurate comparison against other cities that are inclusive of a broad metropolitan area (including C40 cities);
- In cities where combined actions from multiple councils can provide effective mitigation responses and where a regional/metropolitan collaboration can influence mitigation actions beyond the control of individual councils;
- In cities which recognise that collective advocacy can be effective in helping to inform the role of sub-national and national governments when establishing metropolitan wide mitigation efforts.

## Conclusion

This example from Melbourne, Australia is one of eight pilot programs funded through C40 Cities' *Climate Action Planning Pilot Programme*, which was successfully delivered in 2018 by ICLEI Oceania and Ironbark Sustainability with support from the Melbourne City Council. This case study is particularly interesting as a voluntary collaborative effort between councils that was initiated by C40 Cities in the absence of any formal metropolitan governance. The value to metropolitan councils included a greater understanding of the importance of communicating emissions profiles and to assist councils to make meaningful comparisons with others. This understanding is necessary to demonstrate local councils' fair contribution to a share of Nationally Determined Contributions (NDCs), utilising evidence-based and transparent methodologies. The project is situated firmly within the global context of the Paris Agreement and the urgent need for collective global action on climate change. As this case study shows, global efforts to reduce greenhouse emissions play out in their own unique ways at the local level, and understanding the local

geopolitical context of climate change action is crucial for planning support and collaboration for cities all over the world.

#### List of figures

Map 1: City of Melbourne Council boundary, sourced from

<https://liveinmelbourne.vic.gov.au/discover/melbourne-victoria/metropolitan-melbourne>

Map 2: Metropolitan Melbourne Boundary, sourced from: <https://whatson.melbourne.vic.gov.au>

Map 3: Greenhouse Alliances, State of Victoria, sourced from

<http://www.victoriangreenhousealliances.org/>

The project was funded by C40 Cities, and with support from the City of Melbourne, was delivered primarily by Ironbark Sustainability and ICLEI Oceania.

ICLEI Oceania: the leading global network of over 1,500 cities, towns and regions committed to building a sustainable future

Ironbark Sustainability: a specialist consultancy working with local governments around Australia

Melbourne City Council: the local government body responsible for the municipality of Melbourne