Can climate action deliver better outcomes for communities?

Collaboration and inclusion are at the centre of leading climate action planning

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Cities and climate change

Over the last 200 years, the world's urban population has grown from 3% to more than 50%. This figure is expected to rise to 70% by 2050. As the world becomes increasingly urbanised cities are increasingly becoming key actors driving action to avoid dangerous climate change. Thoughout the world cities are the face of leadership on climate action.

Metropolitan regions currently consume more than two-thirds of the world's energy and account for more than 70% of global CO_2 emissions. Cities also have the greatest amount to lose from climate change due to the potential impacts of changing weather patterns and extreme events that lessen the resilience of cities and their communities.

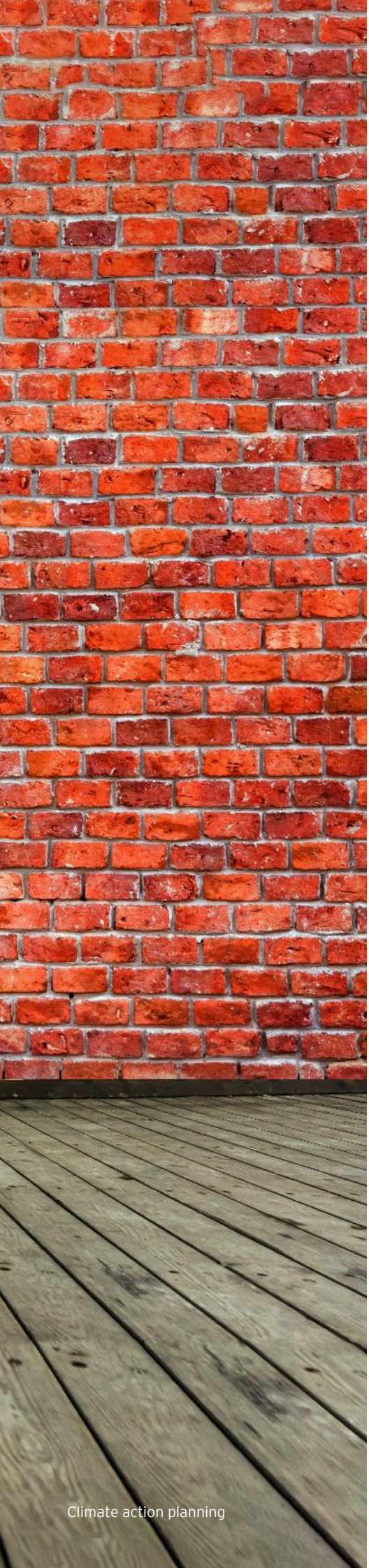
If we are to deliver on the aim of the Paris Agreement, to strengthen the global response to climate change through efforts to limit temperature increase to well below 2 °C, then action at the city level to mitigate and adapt to climate change is crucial.

The role of local governments in tackling climate change is multifaceted relying on its leadership, advocacy and support to unlock emissions reductions and build up community adaptive capacity. Long-term climate action plans that give careful consideration to the impact climate action will have on its community, economy and environment are needed. Developing an evidence-based climate action plan can help cities to articulate its 'fair share' of the global effort to avoid dangerous climate change whilst delivering positive outcomes locally and avoiding detrimental impacts on vulnerable groups within the community.

Measuring community-scale emissions, identifying actions to reduce emissions, and establishing methods to measure and monitor the socio-economic impact of actions is essential.

Guidance, standards and leading practice examples are emerging to support cities' approach to climate action planning. A growing number of cities are taking bold and transformative action to reduce emissions, contributing to global efforts to avoid the worst impacts of climate change. At the same time cities are also identifying ways of creating future cities that are inclusive and capitalising on the social and economic benefits of leading climate action planning.

This paper discusses some of the challenges cities face when responding to climate change and offers solutions based on leading practices to support the transition of cities to a sustainable future.



Climate risks

The Intergovernmental Panel on Climate Change (IPCC)'s 2018 Special Report on global warming of 1.5°C outlined that global warming is likely to reach 1.5°C between 2030 and 2050. The report also highlighted that climate-related risk for natural and human systems are significant even at 1.5°C.

Australia's climate is characterised by variability and extremes. CSIRO's State of the Climate 2018 report outlines that Australia can expect to experience: further increases in temperature, with more extremely hot days, an increase in fire risk, high-intensity storms, and intense heavy rainfall.

Australia's changing climate will be felt by cities affecting different parts of the city's infrastructure, economy, community and ecosystems. Vulnerable groups within cities will be impacted that most. The impacts of a changing climate on a city are widespread, ranging from damage and increased maintenance requirements for infrastructure, impacts on public health and community wellbeing, adverse impacts on urban biodiversity as well as disruption to the provision of council services. While the physical impacts of climate change are significant, cities also need to understand the risks associated with transitioning to a low carbon economy.

Climate opportunities

Actions to address climate change can deliver additional co-benefits beyond reducing emissions and improving resilience to the impacts of climate change, supporting many other local government strategic priorities.

Major studies, considering the economics of climate change, have highlighted the costs of inaction; concluding that failing to address climate change will, in-the long run, cost more than the cost of action to mitigate climate change. In addition to cost savings, actions to address climate change have been proven to deliver localised benefits such as improved health and well-being and long term affordability outcomes for the community.

The majority of global emissions are generated in cities and consequently cities represent the greatest opportunities to reduce emissions. The importance of city-level action on climate change has been highlighted on the international stage. During international climate change negotiations, the Lima-Paris Action Agenda has demonstrated the rising response from cities, regions, businesses and civil society. The collaborations under this initiative have resulted in innovative technological, political and financial climate solutions. In Australia, local governments are working closer together through greenhouse alliances to tackle climate change.

Who is responsible for reducing emissions?

The United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement provides the overarching framework for global action to address climate change and sets the universally accepted ambition to limit global temperature rise to well below 2°C and to reach net zero emissions in the second half of this century. Countries have prepared national emission reduction targets, submitted in Nationally Determined Contributions under the Paris Agreement.

These national targets, and the goals of the Paris Agreement will not be realised without action taken at the national, regional, local government, community and individual level. The collective ambition of emissions reduction targets is currently insufficient to meet the 2°C goal. So ambition at each of these levels must be stepped up; we need to do more.

Figure 1 – Tiers of climate action

City-level climate action planning

To develop a suite of actions to reduce a city's emissions, it can be challenging to navigate the scale of action required relative to the city's powers and influence in the context of the regional and national policy environment and the broader economy in which the city is placed. Figure 1 offers a framework for considering the types of complementary actions that a city could consider to influence policy outcomes at different levels of government.

Different actors may have different roles in contributing to the achievement of significant emissions reductions. The city plays an important role, not only by taking action within its sphere of influence, but also advocating other tiers of government and by enabling and incentivising its community to do the same. This hierarchy of action types is illustrated in Figure 2.

Partnerships and collaboration between tiers of government will be important to enable each level to achieve its climate objectives. Partnership with business, community groups, and citizens will be equally important so that each tier of actor understands its role in securing our collective emission reduction and climate change adaptation goals.

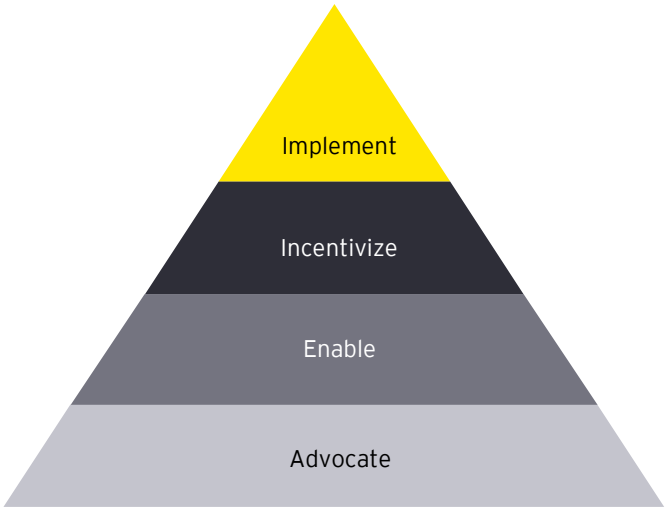


Figure 2 – Hierarchy of climate action types

Measuring the impact of action

Climate actions often produce multiple co-benefits such as improved health outcomes, improved air quality, increased affordability, greater access and inclusion, job opportunities, enhanced liveability and quality of life and greater social cohesion and participation. However, in certain settings without intervention and support, the level of ambition of climate action may also have detrimental impacts on vulnerable groups in a community. Social inclusion is often a major barrier to the acceptance and uptake of climate action in the community if measures are not put in place to overcome the social challenges. Despite this, local governments across Australia continue to develop strategies for climate action that only address the environmental challenges of climate change.

It is important to consider the socio-economic context of the region for which climate action will be undertaken. The socio-economic standing of a community can vary significantly from one local government area to another. Furthermore, certain characteristics within communities such as the demographic and wealth disparity further complicate how local governments can effectively plan and implement climate actions.

Measuring the impact of climate action on the local community, environment and economy through a socio-economic study is important for developing a holistic approach to address climate change in communities which encourages social inclusion. This will provide a better understanding of whether vulnerable groups may be more or less disadvantaged by the proposed actions.

The strategic priorities of communities in relation to health and well-being, short and long term affordability, biodiversity, economic prosperity and liveability are as just as important as tackling climate change. It is important that there are methods in place to measure the social and economic impacts from undertaking climate action to ensure it complements other strategic priorities of communities. Quantifying the additional benefits can also be an important lever in making the case for climate action. Moreover, having a comprehensive understanding of the barriers to social inclusion better equips local governments with the information they need to put in place safeguards to protect vulnerable groups.

Frameworks for Climate Action Planning

There are a number of resources available to support cities in developing robust climate action plans that are consistent with the aims of the Paris Agreement.

The Global Covenant of Mayors for Climate and Energy, C40 Cities Climate Leadership Group Inc., ICLEI – Local Governments for Sustainability, the Carbon Neutral Cities Alliance and 100 Resilient Cities (100 RC) are just some examples of the networks of cities supporting each other to reduce emissions and improve resilience. EY is actively engaged in the future cities agenda and is a platform partner of 100 RC.

C40 Cities' Climate Action Planning Framework outlines a set of criteria which describes what good climate action planning looks like. It encourages cities globally to develop pathways to emissions neutrality by 2050.

The Global Covenant of Mayors have also recently developed new global recommendations in order to ensure robust climate action planning as well as streamline measurement and reporting procedures. These recommendations are outlined in its Common Global Reporting Framework.

Figure 3 provides an overview of the C40 Cities Climate Action Planning Framework. This framework can be used to identify gaps in the current approach to climate action; identifying strengths that can be built upon and areas for improvement.

1 Commitment & Collaboration	Focuses on the climate action plan's governance and coordination and the need for community and business engagement, and communication, throughout the plan's development and implementation.
2 Challenges & Opportunities	Considers the evidence base and existing city conditions, including: baseline emissions inventory, emissions reductions trajectories, climate risks, and the city's other socioeconomic priorities.
3 Acceleration & Implementation	Defines the transformational actions required and the detailed implementation plan, including the development and prioritisation of actions and the processes of monitoring, evaluation and reporting.

Figure 3 – Three pillars of the C40 Cities Climate Action Planning Framework.

Digital innovations supporting climate action

Technology can support the transition to zero emissions. Innovations such as using Google Maps data relating to how people move about the city to estimate emissions from transport, and using satellite imagery to map buildings types or footprints to estimate energy consumption can provide real-time insights in relation to a city's emissions profile. Google's Environmental Insights Explorer was developed in partnership with the Global Covenant of Mayors for Climate and Energy to help level the playing field for smaller cities, amplify the emissions insights of big cities, and ultimately accelerate the transition to a low-carbon future.

As cities become smarter, the ability and opportunities to measure and create new datasets supporting climate change action will increase.

Digital innovation is just one of many global megatrends and disruptions, alongside climate change, that is shaping the future of cities. The Rockefeller Foundation's 100RC observes that "building urban resilience requires looking at a city holistically: understanding the systems that make up the city and the interdependencies and risks they may face". EY believes that taking a whole-of-system approach to city planning and management by understanding the citizen, technology and institutional networks will lead to improved diagnosis of urban problems, enable the development of coherent policies and plans to address them, and improve urban resilience.

Although cities might be the source and setting of some of the world's most pressing challenges, they also have the capacity to innovate and to harness resources and human ingenuity to address these obstacles.

This means that responding to climate change and other urban challenges requires a holistic, systems-thinking approach that identifies the synergies and trade-offs in relation to climate action. For example, incentivising active transport options in place of private vehicle use will reduce emissions and lead to positive health outcomes but could lead to accessibility challenges and a reduction in Council revenue if not managed carefully.

Data management for evidenced-based decision making

As cities seek to develop evidenced-based climate action plans their data needs expand. It can be challenging to acquire timely and accurate data to complete emissions inventories and keep them up-to-date. Modelling different types of emissions reduction actions can also require new and different types of data. Many of these data needs can be met by repurposing existing datasets which are increasingly available via open data platforms. However, some will require establishing new relationships with data owners.

A standardised approach to climate data management can help cities and organisations better manage its data needs and support data quality improvements.

Data management frameworks are emerging to further support cities with standard processes, policies, and procedures to effectively and efficiently manage and use climate related data, so that cities are able to better monitor performance and drive continuous improvement. C40 Cities, with the support of EY, is developing a city climate data management framework and maturity model to support cities.

So you want to take action, but where do you start?

An evidenced-based approach to climate action planning will improve a city's understanding of the scale of the challenge and the value of developing a range of potential solutions.

1	Prepare an emissions inventory	The first step is understanding the main sources of Greenhouse Gas (GHG) emissions in a city. These include GHG emissions from stationary energy, transportation, waste, industrial processes, and land-use sources occurring within the geographic boundary of the city. The Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC) provides a standardised approach to measuring and monitoring GHG emissions within a city.
2	Model emission reduction actions	A range of emissions reduction actions can be modelled to estimate abatement potential. Actions can be targeted to address the biggest sources of emissions; representing the biggest opportunities to reduce emissions. Typically this includes actions relating to: energy supply, buildings, transport, and waste. Actions can be modelled against a business-as-usual emissions trajectory to project emissions scenarios under varying levels of ambition. EY has developed a Pathway Planning Tool specifically designed for this purpose.
3	Assess the socio-economic impacts	Climate action should seek to build resilience within the community not hinder progress and prosperity. The socio-economic impacts of climate action should be modelled to ensure that the climate actions plans do not have any adverse impacts on vulnerable people within the community. Co-benefits of climate action are also effective for communicating the 'Why' to the community.
4	Establish a climate change action plan	The potential emissions reduction trajectories can be used to agree the scale of ambition the City is willing to commit to. Developing a 1.5ºC climate action plan compatible with the Paris Agreement is considered leading practice. Consideration of potential actions also includes identifying the key actors and any partnership required to deliver action. Long-term and interim emission reduction targets can be established to guide progress. Monitoring performance against these targets is also important.

This approach is focused on reducing emissions, however it is prudent to also consider the climate change impacts that are already occurring and that we can no longer avoid. Analysing climate risk and considering adaptation actions to improve resilience in parallel to reducing emissions will provide a coherent climate change management plan, focused at the community scale. A similar process could be undertaken to reduce emissions from the council's own operations, although the quantum of abatement is usually immaterial in relation to broader activities occurring within the city's boundary.

How we can help

EY Climate Change and Sustainability Services team has experience in supporting community-scale climate action planning. We assisted City of Melbourne with developing the evidence base to support its 1.5ºC compliant strategy, a first in Australia, and are working with other local governments across Australia in the same capacity. Our teams capabilities Include:

- Performing gap analysis of your current climate action plan against the C40 Cities Climate Action Planning Framework and the recommendations in the Global Covenant of Mayor
- Preparing greenhouse gas emissions inventories and helping to build capacity with local government to monitor emissions year on year
- Modelling pathways for achieving your communities emission reduction trajectories using EY's Pathway Planning Tool
- Assisting with prioritising actions
- Undertaking social inclusion and socio-economic impact analysis of climate actions.

Organisations that seek to embed sustainability and climate change into core business activities have an advantage with quantifiable real benefits. We help organisations identify, develop and deliver strategies that address risk and opportunity while measuring their effectiveness. Whatever your sustainability or climate change challenges are, we're here to help you.

Smart and resilient cities at EY

Resilient cities are a critical enabler for economic growth and competitiveness and community well-being. At EY, we operate across economic, physical, social and environmental dimensions to advise on smart and resilient city projects in diverse settings. We work with government, industry and institutions to address the pressures of growth and change so that cities and their regions can grow stronger, more prosperous and more sustainable.

EY is a highly integrated professional services organisation — in our mindset, actions and structure. We have built services that can support the efficient, effective and economic delivery of smart and resilient city programs around the world. Our aim is to help city leaders find new ways to deal with the complexity of cities and position them for the 21st century.

Beyond our capabilities in climate action planning, EY also support cities with smart transport, asset information and digital, smart home, smart metering and smart grid, cybersecurity, innovation funding and finance, emergency planning, economic development, job creation and inclusive growth and e-government and government services.

To learn more about smart and resilient cities at EY please see:

https://www.ey.com/au/en/industries/government---public-sector/ey-how-can-resilience-thinking-unlock-the-complexity-of-cities%0c

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About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.
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