CLIMATE CHANGE ADAPTATION ROADMAP FOR MELBOURNE'S EAST – SUMMARY

A guide for decision makers in the EAGA Councils

EAGA
EASTERN ALLIANCE
FOR GREENHOUSE ACTION

**Victorian Adaptation & Sustainability** *Partnership*

It gives me great pleasure to endorse the EAGA Climate Change Adaptation Roadmap on behalf of the EAGA Executive Committee. It is often said that "failure to plan is a plan for failure." Importantly, this Roadmap provides practical guidance for the region's decision makers to more effectively plan and capture new opportunities in an uncertain climate future.

Local government can be, and needs to be, a leader in adapting to climate change. The risks associated with climate change are many - our EAGA regional risk assessment identified 70 regional risks to council assets, operations and service delivery responsibilities. This Roadmap identifies ten regional adaptation responses that EAGA councils will seek to pursue collaboratively.

Adaptation is part of a continuous improvement process that builds on existing sustainability programs. The Roadmap highlights that decisions being made today need to consider that the climate is likely to be very different in the future.
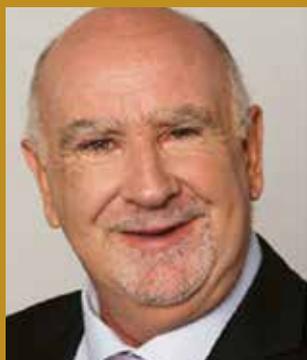
A regional approach is important to achieve economies of scale and working together benefits all councils and communities involved.

As you read through this report, may I encourage you to commit to fully participating in the implementation of this Climate Adaptation Roadmap.

Cr. Bill Bennett
City of Whitehorse
EAGA Executive Chair

This EAGA Climate Change Adaptation Roadmap identifies priority actions to address the impacts of climate change on council operations, assets and service delivery responsibilities. The Roadmap is informed by a regional climate risk assessment undertaken by EAGA in August 2014.

The Climate Change Adaptation Roadmap Project is funded through a Victorian Adaptation and Sustainability Partnership (VASP) grant.

Roadmap Vision

Melbourne's East is home to resilient communities that take proactive steps to reduce risks from climate change impacts and realise the opportunities for regional adaptation

Roadmap Goals

- **Raise awareness**
  Greater understanding of how climate change impacts council service areas and the need to address risks

- **Build capacity**
  Decision makers have greater capacity to manage climate change risks and how to best respond

- **Respond**
  Identify adaptation opportunities for the region, including prioirty initiatives that EAGA can pursue

Roadmap Actions

The Roadmap identifies 10 priority regional actions to address the risks identified in the risk assessment (See Table 1). More response options and detail on each action can be found in the main Roadmap report.

TABLE 1

Table 1: Roadmap Priority Adaptation Actions (N.B. PD = Planning and Development, CO=Corporate Services, IA= Infrastructure and Assets, EM = Emergency Management, SE= Sustainability and Environment, CP= Community Planning)

	Action	Description	Risks addressed per service area					
			CP	EM	PD	IA	SE	CS
1	Regional Building Vulnerability Assessment	One of the key priority risks identified for the EAGA region is the increased damage to council facilities from climate change, leading to increased maintenance costs and reduced asset lifespan. A regional buildings vulnerability assessment would assess the built assets of the EAGA councils and prioritise key council assets for targeted upgrades.	3	2	4	7	1	4
2	A Cool East Strategy	One of the significant challenges for Melbourne's east is reducing the Urban Heat Island effect and providing cool spaces for the community during more frequent and longer duration extreme heatwave events. A regional urban greening strategy could help to identify priority precincts for green infrastructure and water sensitive urban design, align council's urban forest goals and targets, develop a common vision and share key learnings, assess differences between public versus private realm, and develop a common supportive policy framework for increasing green infrastructure in the region.	6	1	5	7	10	2
3	Solar rates for low income household	Households suffering from 'energy poverty' are particularly vulnerable in heatwave events. There is mounting evidence to demonstrate that the installation of solar PV is an effective cooling strategy in households where energy costs represent a large proportion of ongoing living costs. EAGA councils should seek to undertake an analysis of the costs and benefits of implementing a regional scale Solar Rates program, based on the Darebin Solar $avers program. The project will take the model one step further to assess the viability of funding its implementation through an external financier and quantify the economies of scale possible through regional implementation.	2	1	1	1	1	2
4	Heatwave preparation and response	The recent Victorian Auditor General's Audit into Heatwave Management in Victoria (2014) identified that there needs to be greater clarity and quality assurance of heatwave planning by different government agencies. EAGA should seek to advocate on behalf of its member Councils and work with Emergency Management Victoria to improve and clarify roles and responsibilities of Councils in preparing and responding to heatwave events.	5	4	1	0	0	7
5	Adapting strip shopping precincts	One of the key regional economic risks from climate change is the decline in strip shopping activity during extreme events, particularly heatwaves, in favour of air conditioned shopping centres. EAGA could seek to conduct a regional economic impact analysis of extreme weather impacts on Melbourne's eastern strip shopping precincts. The results could then be used to engage with strip shopping businesses on identifying a range of mechanisms for reducing the impacts of climate change.	4	0	3	2	1	1

	Action	Description	Risks addressed per service area					
			CP	EM	PD	IA	SE	CS
6	Improving electricity network reliability	Many of the risks from heatwaves, bushfires and storm events are exacerbated by power failures. EAGA should seek to work collaboratively with distribution businesses to increase the physical resilience of electricity infrastructure to impacts of climate change. Collaboration should seek to reduce the risk of bushfires from powerlines, reduce the number of mortalities associated with heatwave events by decreasing the cost exposure and dependence on centralised energy supply for vulnerable segments of the community, and identify critical council facilities for improving energy reliability during climatic events (such as designated shelters)	4	2	2	3	1	4
7	Maximising alternative water sources	Many of the risks identified in the climate change risk assessment relate to projections of reduced water availability for the region as well as an increased intensity of rainfall events. It is important that the region can maximise opportunities for alternative water use, and plan for flexibility as rainfall patterns change. Councils should continue to work with Melbourne Water, Yarra Valley Water, and the Victorian State Government to develop an Integrated Water Management Strategy for the region. Councils should also seek to identify opportunities for cross council stormwater recapture sites and promote water recycling initiatives that diversify fit for purpose water sources.	4	1	5	6	6	1
8	Regional capacity building program	The EAGA regional climate change risk assessment identified risks to almost every aspect of council decision making. To ensure that climate change risks are considered by each Council, it is suggested that EAGA could engage with the CEO's, senior management and Councillors by developing a regional capacity building program to promote climate adaptation 'champions'	1	3	2	0	0	4
9	Biodiversity monitoring framework and responses	EAGA is developing and trialling a draft framework for monitoring biodiversity health from the impacts of climate change. By using the framework, Councils will develop a body of information that will inform adaptive Natural Resource Management (NRM) practices in the context of climate change, provide an evidence base to inform future investment and capture 'stories' to share with communities. EAGA should seek further funding to assist with the ongoing reporting and analysis of data associated with the roll out of the trial framework.	0	0	3	1	7	1
10	Strengthen & diversify the regional food economy	Climate change will affect regional food security through prolonged droughts and sudden extreme events including bushfires, on top of existing pressures of urban growth and rising energy costs. A key part of building resilience to these future food security risks is to strengthen and diversify the regional food economy; food that is grown and processed locally and sold primarily for local or regional markets. EAGA Councils should seek to engage with the community, food producers and food businesses to understand the issues and key barriers to building a stronger local food economy in the East. A series of community/stakeholder workshops could be undertaken to map activity in the regional food economy and identify opportunities for joint projects.	4	0	3	0	1	0

Melbourne's east is expected to experience hotter and drier conditions with more frequent extreme events (see figure 1). Making small investments now to respond and prepare for climate change, is likely to avoid much higher costs in the future. In addition, proactive planning for climate change can promote many co-benefits to the objectives of local government and the visions of the broader community.

There are many key drivers for local government to incorporate adaptation in decision making today:

- Rising insurance premiums and liability issues for local government
- Financial sustainability; small investments today will avoid larger costs in the future
- Strong community expectation that local governments are preparing for climate change
- The multiple benefits of adaptation responses such as improved health and wellbeing, lower energy bills, lower maintenance costs.
- Existing climate impacts are already more frequent and more intense than previous decades

HOTTER
0.6 - 1.0 C by 2013

1.7 - 2.5 C by 2055

DRIER
-4.9 to -1.3% by 2030

-6.2 to -14% by 2055

BUSHFIRES
Fire season to start earlier and end later. Extreme fire days increase by 12-38% by 2020 and 20-135% by 2050

DROUGHTS
Decrease in average rainfall Increase in severity and duration of droughts

EXTREME TEMPERATURES
Number of hot days increase frequency of warm nights will increase

EXTREME WEATHER EVENTS
More extreme rainfall events, less floods but more intense flood. Change in flood patterns

Figure 1: Climate change projections for Melbourne's EAGA region (CSIRO 2013)

Many of the risks from climate change are likely to have cumulative impacts that are greater than individual risks and are not always easily considered in decision making. For example, the 2009 heatwave event coinciding with the Black Saturday bushfires in Melbourne saw unprecedented impacts on council assets and service delivery[1].

Adaptation should not be considered as a set of one off actions, but instead an ongoing improvement process of as the future unfolds and more information becomes available. It is therefore critical that decisions made today are flexible and robust and do not lock in a path that becomes unsustainable as the climate changes or can only cope with a limited range of future climate scenarios.

Planning and preparing for future climate changes requires thinking about the lifetimes of different decisions or what is described as decision timeframes. Many of the decisions made on a daily basis by local governments have consequences that range from the short term to decadal. For example a decision to set mowing heights higher for council reserves during drought conditions has a much shorter lifetime than a decision to allow for a new housing development in an area likely to be impacted by future changes in flood patterns or bushfire risk.

Incorporating adaptation in decision making involves thorough considerations of:

- How is the decision likely to influence/be influenced by climate impacts?
- How long will the consequences of this decision last and what climate change futures might the decision be faced with?
- Is the decision robust under multiple climate scenarios and allow for flexibility if conditions change?
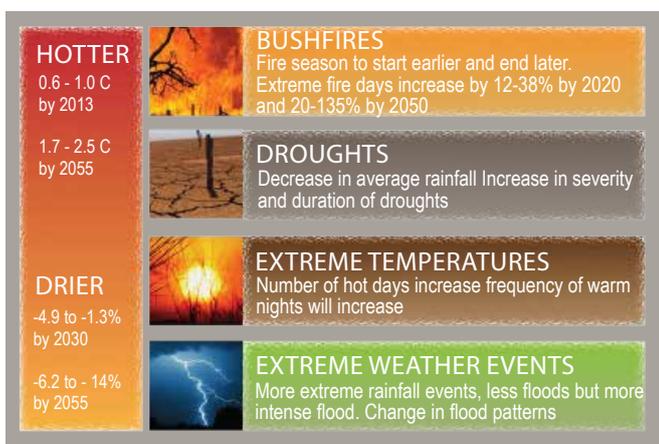
1   Eastern Alliance for Greenhouse Action (2014) Adapting to climate change in Melbourne's east: A regional climate change risk assessment, www.eaga.com.au/projects/climate-change-adaptation-roadmap

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