

CITY OF MELBOURNE

GPO Box 1603
Melbourne VIC 3001
Telephone (03) 9658 9658
Facsimile (03) 9654 4854
DX210487

ABN 55 370 219 287

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Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600
Australia

**THE CITY OF MELBOURNE
SUBMISSION: RECENT TRENDS IN AND PREPAREDNESS FOR EXTREME WEATHER
EVENTS**

The City of Melbourne is pleased to make a submission to the Senate Committee's inquiry regarding **recent trends in and preparedness for extreme weather events**.

The City of Melbourne municipality covers 37.6 sq km and has a residential population of around 98,860 (as of 2011). An average of 805,000 people use the city every day and over a million international visitors are hosted each year.

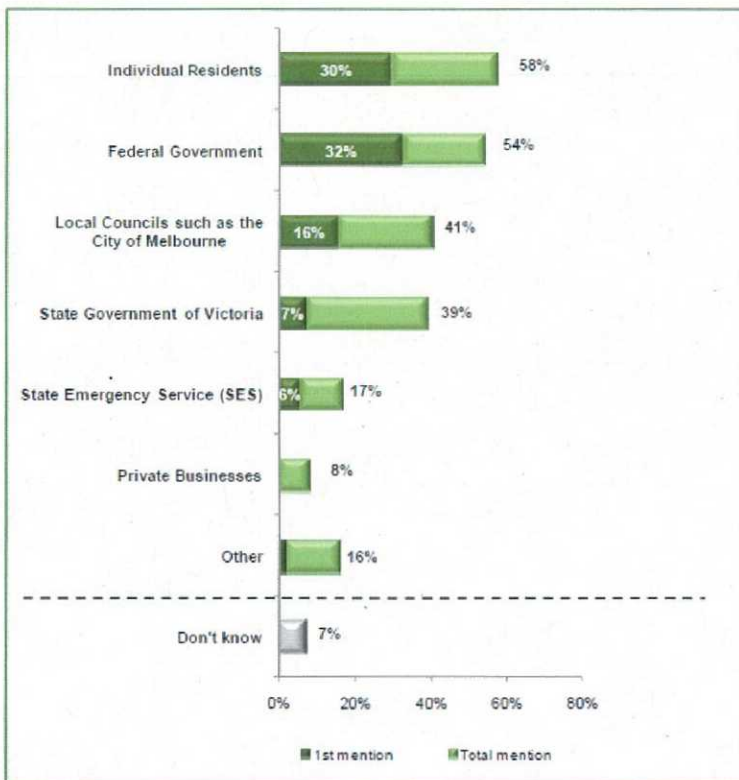
The City of Melbourne is actively working to prepare Melbourne's community for the impacts of climate change and the increased likelihood of extreme weather events. It has commissioned research to examine the predicted costs of flooding and heatwave events to the community, and preparedness levels amongst residents and businesses. This research, and the City's experience in preparing for climate change, has provided insights into opportunities which could improve preparedness in Melbourne and the wider Australian community.

Modelling indicates that the City of Melbourne will be increasingly subjected to extreme weather events in the form of flooding and intense storms, hot days and heatwaves, droughts due to the impacts of climate change. In the absence of mitigating action, these events will impose increasing economic costs on the city as well as place the safety of residents and property at higher risk.

The cost due to hot weather in the municipality of Melbourne is estimated to be approximately \$1.86 billion between 2011 and 2051, in present value terms. This averages out to be approximately \$46.5 million per year. Impacts include transport delays, increased energy demand, health impacts and increased mortality, anti-social behaviour and impacts on flora and fauna. Additional economic research, which will be released in early 2013, indicates that the annual cost of damage to properties in Southbank at risk of inundation could increase from about \$3 million in 2011 to almost \$20 million by 2100.

The City of Melbourne has conducted social research to assess the preparedness of residents and workers for the impacts of climate change and extreme weather events. The research indicates that 35% per cent of residents perceive a medium to high level of risk of extreme weather events impacting them. Almost half of businesses (49 per cent) are concerned about severe storm activity, 48 per cent are concerned about water scarcity and 41 per cent are concerned about heatwaves. Almost all residents surveyed believe in climate change will impact them, with 87 per cent reporting they have already felt the impacts to some degree. Residents report that 53 per cent believe they are not very well prepared for very hot days and 59 per cent of residents believe they are not prepared for flood events. Residents also reported that primary responsibility for preparing for and responding to extreme weather is accorded to the federal government and residents themselves (see Figure 18).

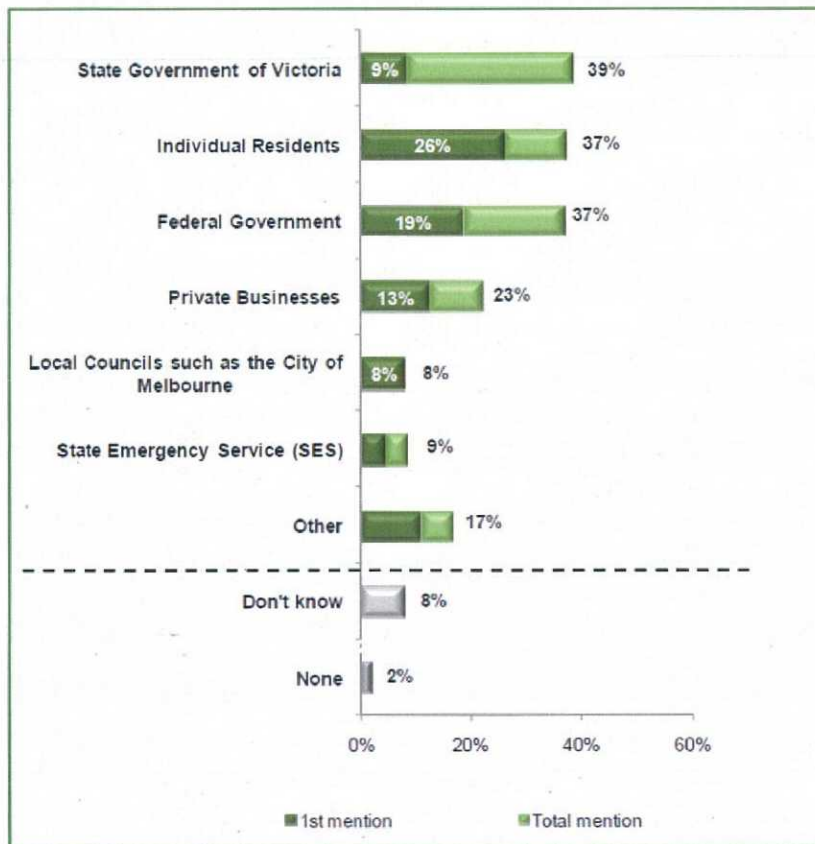
Figure 18: Responsibility for preparing and responding to extreme weather - Residents



Base: All residents who believe in climate change, n=197

The survey also assessed 253 businesses, 235 of which had fewer than 50 employees. A majority of those surveyed believe that climate change will impact them and that preparing and responding to extreme weather events is the responsibility of government, business and individuals (see Figure 40).

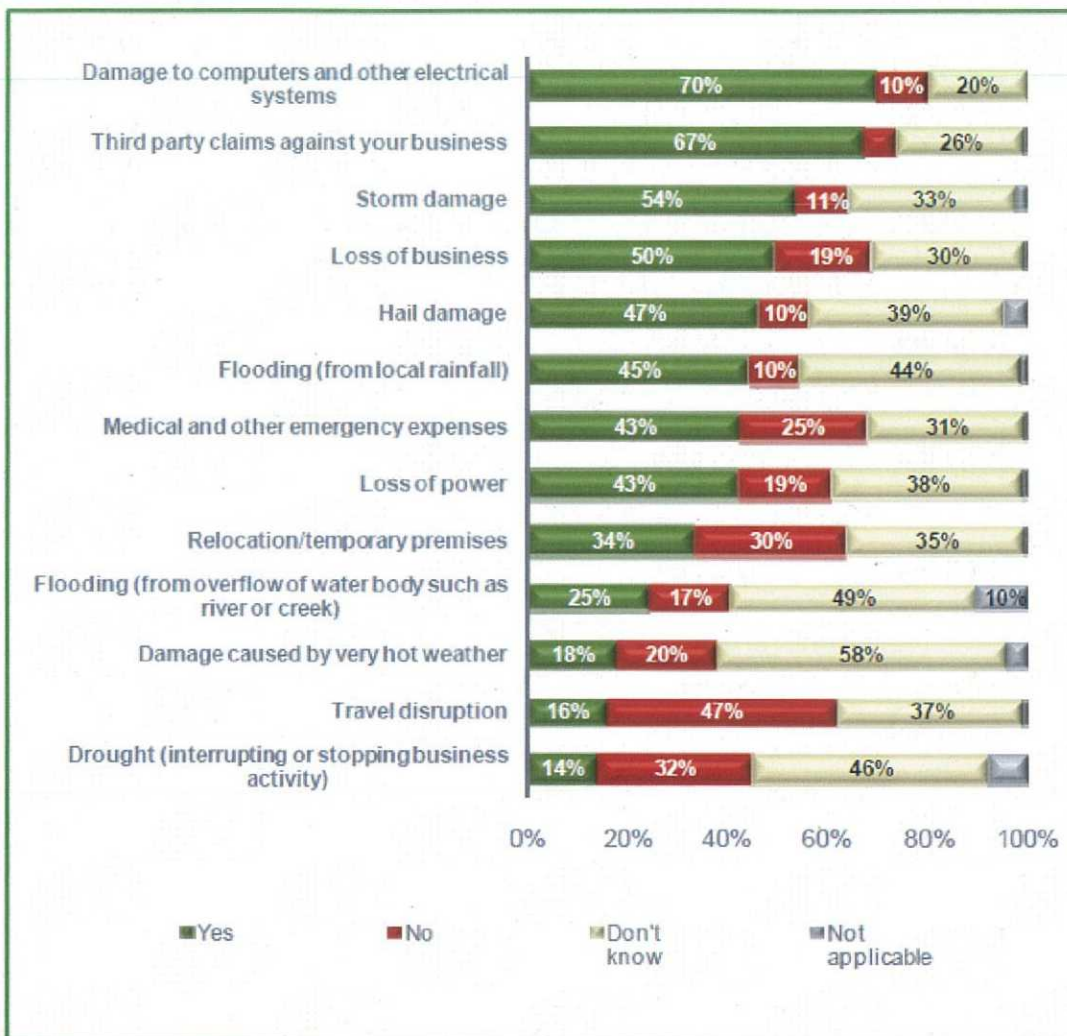
**Figure 40: Responsibility for preparing and responding to extreme weather -
Businesses**



Base: All businesses that believe in climate change, n=127

Business preparedness is currently mixed, a majority (59 per cent) surveyed indicated that their insurance was adequate for severe weather events (see Figure 43 for further details on exact items covered by business insurance), however only 16 per cent know how to develop a flood plan, and few knew where to find necessary information following a flood event. Business perceives themselves to be most prepared for hot days (45 per cent), but 49 per cent are unprepared for flooding, 40 per cent for severe storms, and 39 per cent for droughts.

Figure 43: Items covered by insurance - Businesses



Base: All businesses that believe in climate change, n=127

A coordinated approach is required to help the community adequately prepare itself for the increased incidence of extreme weather events.

Ambiguity surrounding roles and responsibilities in preparing for extreme weather events and the impacts of climate change hampers the ability of the local government sector to prepare for and manage extreme weather events. Clarifying roles and responsibilities, both between levels of government and within, are needed to effectively combat the increasing risks posed by extreme weather events. Planning approaches to flood risk are one example of this ambiguity. There exists uncertainty regarding which government agencies and bodies are responsible for which mitigation measures and how these are to be connected and coordinated to reduce overall the overall flood risk.

A key opportunity exists to improve preparedness by better linking costs and benefits of adaptation. Presently some costs of adaptation options are borne by certain members of the community or arm of government while the benefits, which are often unqualified, may accrue to different segments of the community or government. This creates a split incentive to undertake adaptation actions and hampers the uptake. An example of is the split between the benefits and cost of reducing the Urban Heat Island effect (UHI). The cost of action to reduce UHI falls to infrastructure owners and government while the benefits accrue to those most vulnerable to heatwaves such as the sick, elderly, public transport users and energy consumers. Levels of

government can help navigate this challenge and develop ways to better align costs and benefits.

Another area where opportunities for improvement exist is effective national coordination of responses, strategies and support for adaptation activities. To date advancements in this area have not been felt at a local government level. This may become especially problematic for preparedness for extreme weather events if cross-jurisdictional assistance is required.

There is also a clear role for government to play in funding research and ensuring it is undertaken in a consistent manner. This applies at both a federal level, to ensure consistent responses across Australia, and locally, for targeted research and understanding of local impacts.

The City of Melbourne encourages developments that will lead to greater clarity, consistency and cooperation in understanding and preparing for extreme weather events.

Thank you for the opportunity to submit to this inquiry.

Yours sincerely,

Geoff Lawler
Director – City Planning and Infrastructure
City of Melbourne