

Resilient cities more likely to bounce back from future shocks

Arron Wood

Late last year, the US-based Rockefeller Foundation named Melbourne as one of 33 cities in the first wave of its [100 Resilient Cities Centennial Challenge](#).



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What makes a resilient city? The main requirements are building infrastructure, communities, organisations and processes to help steel us against future shocks, and bounce back more readily. Shocks could be anything from extreme weather to social and civil unrest, terrorism, and a host of other potential events we're yet to think of.

It's no surprise the foundation chose to focus its funding on cities. In the very near future, more than 70 per cent of us are predicted to live in cities. Such concentrated settlement provides opportunities for wealth creation and influence. But, the higher density also means that any significant disaster will affect a greater number of people. Just think of the devastation in New York from [Hurricane Sandy](#), or from [landslips in Rio de Janeiro in 2011](#).

So, while climate change and resilience are global concerns, it is often cities – rather than nations – that have the will and the ability to lead the way towards lasting change.

Often it is the cities that have suffered most that are at the forefront of resilience initiatives. For example, as a consequence of Hurricane Sandy, New York City employs an entire resilience unit of about 15 staff to design its \$20-billion rebuilding and resilience strategy. Rio now has a 'war room' of computers that monitor every part of the city to predict extreme cloud burst and alert residents to evacuate.

Australia's best known threat is bushfire. In 2009, the country mourned the loss of more than 170 lives in Victoria's horrifying Black Saturday bushfires. But we also lost close to 380 lives in the week-long heatwave leading up to those

fires.

For Melbourne, building resilience isn't just about preparing for natural disasters such as bushfire. It's more about potentially lesser-known impacts, such as extreme heat, and how we respond to it as our weather gets ever hotter.

Melbourne already has a track record in sustainability. In 2006, the City of Melbourne completed the first six-star Green Star office building in Australia: the [Council House 2 \(CH2\)](#). Green Star-rated buildings are now popping up all over the city. One example is the new [Lifestyle Working Collins Street](#), with a rooftop solar array of more than 500 panels that will supply a significant proportion of its base energy demands.

More than \$30 million has been spent in the last three years installing large-scale stormwater harvesting systems in Fitzroy Gardens, Birrarung Marr and Queen Victoria Gardens. Tanks with a storage capacity of 450,000 litres are capturing stormwater beneath Darling Street, East Melbourne. As a result of such measures, more than 20 per cent of the water used on Melbourne's parks, gardens and street trees is now reclaimed or recycled water.

We're also doing smaller things, such as trialling new porous paving on Melbourne's city streets to supply more water to street trees. It also helps minimise flash flooding, which will become more prevalent as rainfall becomes more intense.

One of our big initiatives is the Urban Forest Strategy. Trees are our first line of defence in combating the urban heat island effect. Heat-mapping research has revealed that this effect can make the central city 4–7 °C hotter than surrounding, greener suburbs. So, over the next 20 years, we aim to double the tree canopy cover – planting 3000 new trees each year – to help cool the city.

The City of Melbourne is also keen to minimise its contribution to climate change. We've therefore set an ambitious target of zero net emissions from the city by 2020. To help achieve this, we've begun to retrofit 70 per cent of the city's commercial building stock – around 1200 buildings – to make them more energy efficient. Apart from saving on electricity bills, energy-efficient buildings are healthier to live or work in, with natural light and green rooftops or walls further adding to the comfort factor.

To improve the building owners' access to finance, the [1200 Buildings Program](#) includes a new financial mechanism known as environmental upgrade agreements. An owner can apply for a normal loan for retrofit activity, then repay the loan through their municipal rates. Because this arrangement provides the highest form of financial security, banks can offer improved terms to prospective retrofitters.

Further to our zero emissions target – and something I'm very proud of – we now have our first renewable energy target.

We know that we need to change our energy mix and move away from burning fossil fuels, which is no easy feat in a country so heavily reliant on coal. We now have an objective for 25 per cent of our power to come from renewable sources by 2018. It's my belief that achieving this objective will give us a roadmap to go much further ahead. I don't think it is crazy to think we could be 100 per cent renewable in the future.

The Economist has rated Melbourne as [the world's most liveable city](#). To keep this title, we also need to be one of the most sustainable – for the City of Melbourne, it's core business. Now, with the added focus of building city resilience, we're optimistic about making our great city even greater.

Arron Wood is a [City of Melbourne councillor](#) with a lifelong interest in the environment. Through his business he runs the environmental education program, Kids Teaching Kids. He was the 2007 Prime Minister's Environmentalist of the Year and also won the 2010 Banksia People's Choice Award. Arron is Chair of the City of Melbourne's Environment portfolio and Deputy Chair of the Economic Development portfolio.

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