

## Fire Rescue Victoria: an entity that is long overdue

A submission to the Legislative Council Committee Inquiry into the Firefighters' Presumptive Rights Compensation and Fire Services Legislation Amendment (Reform) Bill 2017

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*“Victoria is the most vulnerable part of the most fire-vulnerable continent. Even though the state comprises only 3% of the country’s land mass, it has sustained around 50% of the economic damage from bushfires... (Buxton, Haynes and Mercer, 2011: 3).*

This submission addresses three of the Committee’s Terms of Reference:

- a. impact on fire service delivery across Victoria
- b. short term and long term cost impact on fire service provision; and
- c. underlying policy rationale.

Our focus is the proposal to establish an urban fire and rescue service, Fire Rescue Victoria (FRV). We also comment on the proposal that it co-locate with volunteer units in the 35 integrated fire stations currently operated by the Country Fire Authority (CFA).

Our central argument is that there is an urgent policy need to develop an urban fire service for the State of Victoria, as is being proposed by the Victorian government. This need is being driven by four intersecting forces:

- unchecked urban growth that is occurring rapidly in both the inner city and on the urban periphery, which both reflects and is driving Victoria’s economic geography;
- privatization and deregulation of building and planning controls, which have led to a loss of government oversight and control over the fire safety of new buildings, particularly high rise developments in the inner city, as well as the urban periphery;
- The rise of urban terrorism as a new threat to western cities such as Melbourne and the possibility that a major piece of urban infrastructure may be the target of a future attack; and

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- Climate change leading to severe weather events that make wildfires more likely as well as less predictable on the urban fringe and the outskirts of major regional urban centres.

The four intersecting forces make a compelling case for the formation of FRV.

We argue that the focus of fire service reform must be the future not the past.

We also argue that the overarching goal must be for our fire services to be able to prevent, suppress and mitigate the damage fires and related events as effectively as possible. They will need to do so on a scale and level of complexity we have not known before.

The State government's *Fire Services Statement* points us in this direction and should be applauded for that reason.

In the following 3 sections we explore in more depth the demographic, regulatory and terrorist related reasons that make the formation of Fire Victoria Victoria an essential reform.

### **Unchecked and rapid urbanization**

In its *Fire Services Statement*, the Victorian government points to demographic changes as a key driver of the need for change. It is correct in doing so. Over the last 25 years, Victoria, like Australia generally, has experienced a prolonged period of economic growth, which in turn has spurred a population boom that has exceeded even the most optimistic of scenarios. The Melbourne metropolitan area is the engine room and focal point for Victoria's growth. Since 1991, Melbourne's population has grown by 46.1%, faster than Victoria's as a whole (39.6%).

This in turn is reflected in the broader economic fortunes of Melbourne compared to Regional Victoria. Melbourne is growing consistently at more than twice the rate of growth of regional Victoria, leading to the spatial concentration of economic power within a 10 kilometer radius of the CBD. As Terry Rawnsley from SGS Economics and Planning puts it,

"Victoria's most important economic asset is what happens within 10 kilometres of the GPO...Our state is increasingly monocentric, as is Melbourne itself, with 40 per cent of its growth generated in the inner suburbs."  
(<http://www.theage.com.au/victoria/melbourne-booms-while-the-rest-of-victoria-wilts-and-itll-only-get-worse-20170307-guslcg.html>)"

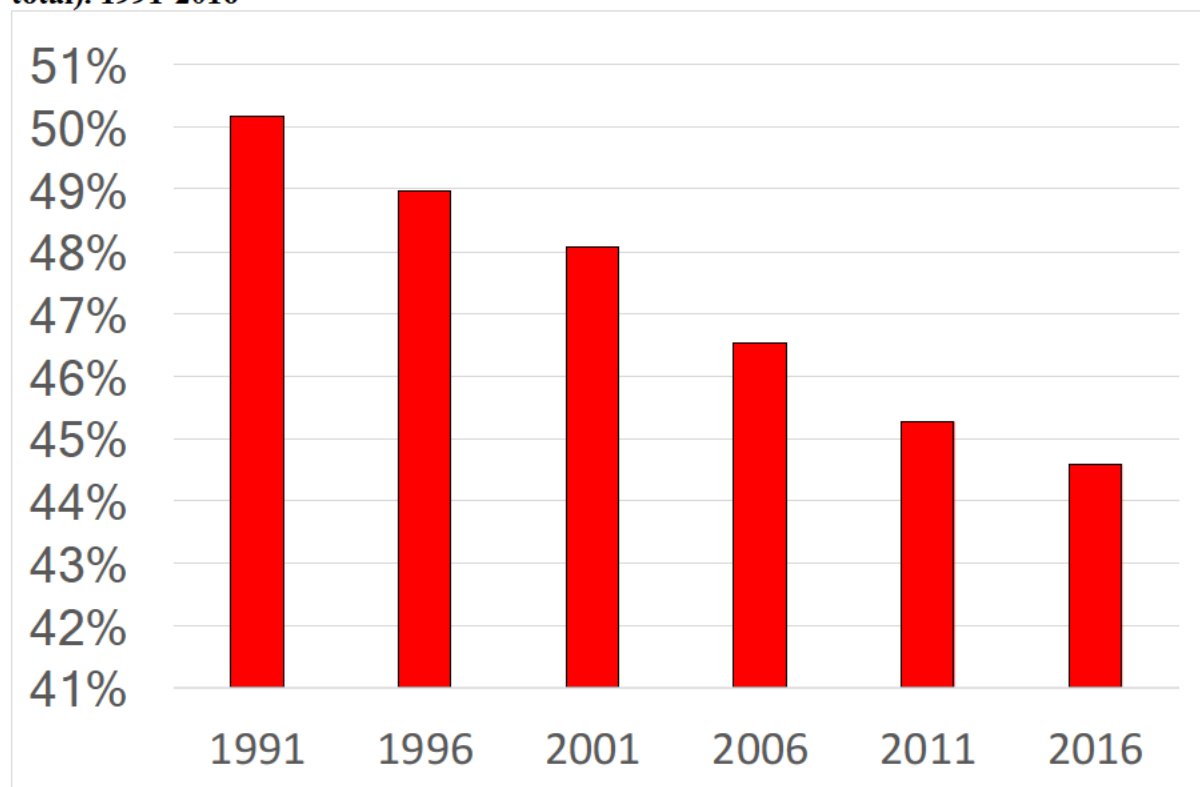
The City of Melbourne's economy has been growing at a particularly fast rate, driven in part by a large increase in apartment construction activity. This has in turn fed into an expansion of the City's retail and office infrastructure, which is projected to increase in value by almost 40% in the five years to 2018.

Within Melbourne, population growth has been geographically uneven. Over the last decade, the city (79%), and outer suburban municipalities such as Cardinia (65%), Melton (72%) and Casey (39%) have been growing much more rapidly than Melbourne as a whole (23%).

Making the demographic picture more complex is the pattern of development taking place on the outskirts of Melbourne. Melbourne’s peripheral urban area extends from the urban growth boundary (UGB), forming the edge of the metropolitan area, to the regional cities of Geelong, Ballarat, Bendigo and Warragul. It includes both rural landscapes and townships in one of the world’s most fire prone areas.

Over 150,000 people live in rural areas and scattered settlements immediately outside the urban growth boundary (not including large regional centres) or in defined townships near the urban growth boundary. The network of tens of thousands of large residential lots in areas such as Warrandyte, the Dandenong Ranges and parts of the Mornington Peninsula are particularly vulnerable to bushfire. New peri-urban dwelling construction rates compare with and sometimes exceed rates even in inner urban areas subject to intensive apartment construction. For example, 1,519 dwellings were constructed in Mornington Peninsula and 724 in Yarra Ranges municipalities compared to 923 dwellings in Yarra in 2016. Although most new housing occurred inside the defined urban growth boundary in both peri-urban municipalities, many houses were built as infill close to the boundary, and in Mornington Peninsula along the narrow coastal residential strip which is often highly vegetated in areas such as Mount Eliza.

**Figure 1: Metropolitan Fire Brigade’s coverage of the metropolitan population (% of total). 1991-2016**



Source: ABS Census of Population and Housing, various years.

Despite these now long-term population trends, the fire services boundary remains much the same as it was in the 1960s. A progressively larger share of the urban population and economy is being protected by the Country Fire Authority and a shrinking share is under the watch of the Metropolitan Fire Brigade. In 2016, the Metropolitan Fire Brigade provided coverage to less than 45% of the metropolitan population (see figure 1). This is a policy

anomaly that is difficult to defend, but is set to worsen over coming decades if no action is taken.

In no other essential service has the same “ruralization” of service delivery for urban services occurred either in Australia or overseas in a country experiencing prolonged increases in income and wealth. We can find no other examples of a service established to facilitate a volunteer workforce being given increased responsibility for urban service provision in this way as part of a longer-term plan for service improvement, although we have found cases where this has been done to save money at a time of budget crisis (not to increase community safety).

A series of reports and reviews have pointed to this anomaly and recommended it be brought to a timely end, the most recent being the Bush Fires Royal Commission (2009) and the Fire Services Review (2015). The Bushfire Royal Commission made this point very well when it said, “The metropolitan fire district is not reflective of metropolitan Melbourne...” It went on to recommend regular reviews of the boundary to ensure that it better reflects the reality of metropolitan Melbourne.

### **Three decades of deregulation and light touch regulatory philosophies**

Australia is at the forefront of international policy effort to deregulate and privatize and Victoria has been a lead state in that effort for the last 25 years (OECD, 2012). These policy initiatives are widely seen to have had economic benefits. They have also generated considerable costs, which are only now fully being appreciated.

#### *Case 1: building regulation*

One area where the costs have become a major concern are those arising from lax building regulations and controls. There have been a series of reports over the last 15 years pointing to the loss of control over building standards in the State as a consequence of planning and building regulation reform undertaken in the 1990s (see for example the damning findings of the Victorian Auditor General (2011; 2015; and 2016). We cannot be confident that the dwellings that have been built over the last quarter of a century are safe from fire and fire-related damage in the way we once might have been.

This has been given added by growing concerns over the lack of controls over the quality of the building materials being imported and used. Most concern here has been about the use of cladding on high rise buildings that accelerates fire rather than suppresses it. These concerns reached a fever pitch in late 2014 over a fire on the Lacrosse apartments located in the Docklands. The fire spread across 16 stories in less than 15 minutes, having been sparked by a cigarette butt left on a verandah. The Metropolitan Fire Brigade made its views well known. In his submission to the Senate Economics References Committee that looked into this matter, Mr Adam Dalrymple, Director, Fire Safety, Metropolitan Fire Brigade, did not mince his words:

“We were probably really lucky that did not happen on that occasion. What we are saying here is that fire safety really should not be a matter of good luck. The fire started on a balcony from an unextinguished cigarette—an innocuous type of thing, you would think. This set fire to the cladding, and the panelling itself allowed the fire to travel the full extent of the building—23 levels in 11 minutes. That is something we have never, really, seen before. We would say this should not have been allowed to happen.

In 31 years as a firefighter and 20 years as a fire safety specialist I have never seen a fire like this—in my lifetime—and I have made it my business to study fires of this nature, so we can get a better outcome for firefighters in the community. We have grave concerns about the use of non-compliant product and that it may result in disastrous loss of life, and we cannot tell you when the next event is going to happen. This is a modern building, constructed within the last five years. It has been a valid assumption, up until now, that newer buildings are relatively safe and probably safer than old ones. From a fire services perspective, right now, I cannot guarantee that and I cannot, categorically, state that that is a true fact. (Economics References Committee, 2016: 13).

It took a further 16 months for the Victorian Building Authority to audit other high rise buildings in the city to determine how widespread the usage of flammable cladding had become. The Review drew the ire of the Metropolitan Fire Brigade on more than one occasion over the length of time it was taking to be completed. Eventually, the Review concluded that 51% of buildings were non-compliant (VBA, 2016: 6).

The LaCrosse Tower has subsequently become the subject of a legal battle which has yet to be settled, with the builder claiming it is not its responsibility to fix the cladding and no other party being found who is, with claims and counter claims being able to prevail over an enforced, sensible policy solution. At this point in time, we are at an impasse. Prompted by the tragic Grenfell Tower fire in London that saw combustible cladding destroy a highrise tower and leave more than 80 people dead and hundreds homeless in mid-June, the State government has established another review under the direction of former premier, Ted Baillieu, and deputy premier, John Thwaites. In response to journalists' questions, Thwaites drew attention to the confusion and lack of clarity on this issue almost two years down the track. He was quoted in The Age as saying this:

"The minister has set the taskforce up because he wants us to accelerate action," Professor Thwaites said. "[But] the sheer number of buildings involved means that any testing is going to be a major challenge, to have enough people with expertise etc". Professor Thwaites said there could be thousands of Australian buildings with flammable cladding, and others with different serious fire safety flaws, such as insufficient fire separation. "Many of the buildings will be able to be rectified and made safe, but others may require more stringent actions," he said. The taskforce could also re-examine the danger posed by the Lacrosse building in Docklands, which has been declared safe by the City of Melbourne's building surveyor for hundreds of residents, despite warnings from numerous experts." (<http://www.theage.com.au/victoria/victorian-government-appoints-ted-baillieu-to-lead-urgent-probe-into-flammable-cladding-20170702-gx349k.html> accessed on July 7, 2017).

At the time of writing, no one is certain about whether and to what extent residents in the rapidly growing inner city are safe from fire. It is a scathing indictment of our regulatory system that we simply do not know something as basic as this. Nor do we know what would be the best way to fight fires in structures that are fundamentally unsafe for reasons that are

only just coming to light. With no one committing to a new, clearer regulatory structure or a commitment to wind back the liberal policy settings that now characterize our building regulatory framework, the future of urban fire fighting will necessarily become both more riskier and unpredictable.

One other consequence of our current commitment to light touch regulation is that we do not have the power to regulate or enforce maximum occupancy standards for individual apartment. The investigation by the City of Melbourne into the causes of the LaCrosse fire unearthed by accident a large number of apartments that were clearly over-occupied, mainly by international students. Under current regulatory arrangements, it is impossible to know the extent to which this is happening more generally. Such overcrowding makes the risk of fire in apartment towers even more extreme.

This is particularly a concern because of the densities now evident in large parts of the inner city, which have been revealed by recent research to be the highest in the western world. Melbourne City Council planner Leanne Hodyl puts it this way, “This (the densities) is possible because the policies used to regulate decision-making for high-rise developments in central Melbourne are weak, ineffective or non-existent.”  
(<http://www.news.com.au/finance/real-estate/has-melbournes-obsession-with-skyscrapers-turned-the-city-into-a-time-bomb/news-story/ba83b64e97b4e107fd1cb55f0dbb1960>)

Regulatory failure is not just evident in the rapidly expanding inner parts of Melbourne. It is also evident on the outskirts of the metropolitan area. This is because the planning regulations do not regulate and control housing developments in a way that makes them safe from fire.

#### *Case 2: planning controls in peri-urban areas*

Reflecting a lack of state enforced planning controls, the peri-urban rural areas are highly fragmented into a wide range of lot sizes, from rural-residential to larger farms. Almost 30 per cent of lots without dwellings in the Farming Zone in these municipalities are under four hectares and about 60 per cent are under 20 hectares.

The potential for further development of rural land presents a threat which could overwhelm the capacity of any fire-fighting institutional arrangements to prevent property damage and save lives. Over 50,000 existing lots without dwellings exist outside townships in peri-urban areas. Thousands of these lots are being developed gradually in an incremental ad-hoc pattern, 75 per cent on lots less than 20 hectares in size and almost 60 per cent on lots less than 8 hectares. At current rates of development, it is likely that about 20,000 dwellings will be constructed on small rural lots in peri-urban areas in the next 30 years or so. Large numbers of dwellings destroyed in the 2009 fires were constructed relatively recently in the Rural Living Zone, with 37 per cent of fire affected lots sized 2 hectares or less. The 2009 Bushfires Royal Commission recognised this type of development as a particular threat stating that development of many rural lots “scattered across the landscape has the potential to greatly increase bushfire risk, especially if the blocks are too small to create defensible space around dwellings”.

The urban zones and recent revisions to them present further potential long term problems to fire authorities. Peri-urban councils generally have used a combination of the main residential zone, the General Residential Zone and the Low Density Residential Zone in their urban areas of high fire risk. The General Residential Zone allows multi-unit development to three stories. Municipalities such as Mornington Peninsula have attempted to control urban

intensification in this zone through the use of overlay controls but their use is variable and liable to change. The government recently altered the minimum dwelling density requirements on the Low Density Residential Zone from 4,000 to 2,000 square metres. The Shire of Yarra Ranges is one municipality proposing further development in the Low Density Residential Zone in places such as Monbulk, Montrose and Healesville, all areas of high fire risk.

Such extensive urban and rural development poses a grave risk to residents from bushfire, and a major challenge to the government charged with the responsibility for developing the most efficient and effective institutional arrangements for fire suppression and protection from the risk of bushfires.

It is our view that the risks facing residents living in these peri urban zones mean it is appropriate that the proposed Fire Rescue Victoria be allowed to operate out of what are currently CFA Integrated Stations.

### *Case 3: Electricity privatization and deregulation*

We now know that 6 of the fires that were started on the 7<sup>th</sup> of February, 2009 – or “Black Saturday” – were caused by electricity assets. These fires accounted for 159 of the 173 deaths that occurred on the day (Review of Victoria’s Electricity Network Safety Framework, 2017). We also know that the February 2014 Morwell fire, which lasted for 45 days, spreading dangerous fumes over the people of Morwell, was caused by the failure of the private owners of the Hazelwood Power Station to maintain its fire prevention and suppression equipment (Doig, 2015). The Hazelwood Mine Fire Inquiry (2014) put the cost of the fire at \$100m.

Relatedly, Energy Safe Victoria, the regulator charged with the responsibility of overseeing the safety standards of the privatised energy companies after Black Saturday, has drawn attention to repeated failures by the energy companies to maintain their assets in safe ways. ESV’s 2014 Report was particularly damning, finding that the number of fires caused by vegetation, pole and cross arm failures and HV injections had been increasing (see pages 35-37). The follow-up report of December 2016, was much more complimentary, yet strangely concluded “improved network management...had been offset by an *increase* in the number of fires in all causal categories except for crossarms” (p. 4, emphasis added). It is almost incomprehensible to see how the regulator could praise the industry for its fire safety record while acknowledging that the number of fires caused by electricity assets continues to increase, once again raising questions about the degree to which the regulator is keen to place safety first.

All this points to the fire risks that continue to bedevil Victoria’s privatised electricity infrastructure and once again the enormous social costs that have flowed from a less than robust regulatory framework.

One again, this failure to protect Victorians in preference to allowing markets to operate relatively unchecked, has made firefighting both less safe and more risky. It is no surprise to see that this regulatory framework is now under review. We wonder how many times flawed regulatory structures must be reviewed before we put safety first?

### **The rise and spread of urban terrorism focused on core infrastructure**

We are living in increasingly dangerous and risk-filled times. Terrorist acts are becoming more common and more difficult to prevent and plan for. They are almost always within

urban areas, and increasingly at locations where there are high population densities, typically due to high profile public events or tourism. Rapid emergency responses are required and in the future this can be expected to increasingly involve fire services.

To compound matters, rogue states such as North Korea are reported to have developed the capacity to launch intercontinental ballistic missiles that are now reportedly capable of reaching Darwin (<http://www.smh.com.au/world/north-korea-claims-icbm-launch-bringing-us-and-darwin-within-range-20170704-gx47u8.html>). There are reports that North Korea will soon be able to arm its missiles with nuclear warheads (<http://www.bbc.com/news/world-asia-pacific-11813699>). As difficult as it may be to fathom, we must prepare our city for acts of terrorism and war that not long ago seemed unthinkable. We have provided two potential incidents that remind us of the implications for our urban fire services of the times in which we now live.

#### **Scenario One: Terrorist Attack at a major urban Shopping Centre**

**Scenario Description:** Terrorists storm Melbourne's premier shopping centre, throwing grenades and firing indiscriminately at shoppers.

**Location:** in the south-eastern suburb of Malvern East

**Date and Time:** 10:13 a.m., 26 December 2020 (Boxing Day)

**Population:** 68,000 visitors on the busiest shopping day in Australia

**Event:** The subsequent siege lasts 11 hours and results in 672 deaths and 1245 wounded. The attack is carried out by 6 highly-trained terrorists, acting in pairs, using high-powered weapons and grenades. ISIS claims credit the next day.

#### **Scenario Two: nuclear bombs detonate in central Melbourne**

**Scenario Description:** This scenario envisions a terrorist attack with a nuclear device transported to Melbourne via a shipping container, loaded on a truck and driven to the centre of the city.

**Location of the Ground Zero:** Corner of Swanston and Collins in Melbourne CBD

**Weather Data:** Winds blowing from the west at the speed of 20 km/hour; cloud cover is clear, no precipitation; urban environment.

**Date and Time of Explosion:** March 15, 2020, at noon.

**Population:** At noon on a busy workday at least 225,000 people will be out in the open.

**Event:** At the end of the first second, the shock wave, would have destroyed the great landmarks of Melbourne, including the National Gallery of Victoria, Flinders Station, Parliament House, and the incomparable State Library of Victoria.

Roughly 75,000 Melburnians would be killed instantly. During the next 15 seconds, the blast and firestorm would extend out for almost 4 miles, resulting in 80,000 additional fatalities and nearly 140,000 injuries.

Burning debris would be scattered over many kilometres, contributing to the spread of fires. These fires would be augmented by so-called "blast disruption" fires, arising from broken gas lines, downed power cables, and the like.



A rising fireball would create a massive suction effect, drawing cooler air in from below. The destructive winds created by the initial detonation would suddenly reverse direction, rushing back towards ground zero at up to and beyond 100kph. Within tens of minutes – fuelled by fires spreading throughout the city – a so-called “firestorm” or “mass fire” would develop. This situation would continue to escalate over a vast area until the city was engulfed in a massive firestorm, with cyclone-force winds and temperatures over 100 degrees Celsius.

These high risk times once again amplify the need for a highly skilled, career urban firefighting force that is trained to deal with events we once would not have thought even vaguely possible in Victoria.

### **Summary and conclusion**

The three inter-related forces identified in this report make a compelling case in favour of the Government’s proposed new fire service model. By accident rather than design, we have allowed an increasing proportion of the State’s population and infrastructure to be accommodated by the Melbourne metropolitan area and also on and adjacent to the urban fringe.

As part of this, we have created two precincts that are highly susceptible to fire damage: the inner city and the peri urban periphery. Increased population densities, apartment towers in excess of 20 stories, lax and confused building and building material regulations have left the inner city seemingly unsafe. At this point in time, no one is sure as to how many of the city’s new buildings have building materials that might encourage rather than retard a fire.

The urban periphery is unsafe largely because of a failure to plan and regulate new developments in ways that minimize the risk of fire. We have allowed large numbers of dwellings to be built on allotments of varying sizes, some of which make the dwelling highly likely to be a conduit for a bushfire. We have done this in the name of property rights. We have also failed to put in place robust regulator structures needed to ensure that the private owners do all that is possible to ensure that fires are not started by their electricity assets.

At the same time, the rise of terrorism and rogue states are making it more likely for major fires and related emergency incidents to occur.

All these changes are not new and they most certainly have not concluded. They all point to the need for new fire services for the State of Victoria, one focused on the rapidly growing urban areas, including major regional cities, and another to service volunteers. Because of the complexity of the fire events that now face us, it is imperative that we have a highly trained, career firefighting force able to manage our growing urban and peri-urban fire risk. Never has there been a more pressing need for a world class urban fire service than there is now, one that is capable of rapid deployment in flexible ways.

It is all too easy to dismiss the arguments we have presented here as alarmist and pessimistic. We remind the reader of the carefully worded statement by the Hazelwood Mine Fire Inquiry:

“Despite the high risk of a catastrophic fire event occurring and the all too recent experience of Black Saturday etched in our memory, many Victorians continue to underestimate the probability of fire events and ‘hope for the best’ in the fire season. This approach ultimately impedes the ability to prepare for, and to respond to, the reality of fire. It is imperative that government agencies and

operators of essential infrastructure... learn from this event and are better prepared to manage fire risk and respond to fire in the future”.

We support without reservation the proposal set out in the Victorian government’s *Fire Services Statement*.

## **References**

- Auditor-General (2011), Compliance with Building Permits, VAGO, December
- Auditor-General (2015), Victoria's Consumer Protection Framework for Building Construction, VAGO, May.
- Auditor-General (2016), Building Control in Victoria. Setting Sound Foundations, VAGO, January.
- Buxton, Haynes and Mercer (2011), 'Vulnerability to bushfire risk at Melbourne's urban fringe: The failure of regulatory land use planning', Geographical Research, 49, 1.
- Doig, T. (2015), The Coal Face, Penguin, Ringwood.
- Economics References Committee (2016), Non-conforming building products Interim report Safety—'not a matter of good luck, Senate Printing Unit, Parliament House, Canberra
- Energy Safe Victoria (2014), Safety Performance Report on Victorian Electricity Networks, 2014, Energy Safe Victoria.
- Energy Safe Victoria (2016), 2016 Safety Performance Report on Victorian Electricity Networks, Energy Safe Victoria.
- Hazelwood Mine Fire Inquiry (2014), Hazelwood Mine Fire Inquiry Report, 2014, Victorian Government Printer.
- OECD (2012), Value for Money in Government: Australia, 2012 OECD Publishing, Paris.