Track: Climate proof cities and resilient societies

Erratic Climate Change Planning: The Gold Coast's Alternating Transition

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Abstract: Planning the future spatial development of coastal cities is a challenge that has become even more difficult due to the impacts of climate change, governing institutions that were not designed to address such wicked problems, and the reluctance of some right-wing governments to respond. The Gold Coast, Australia, provides a case in point. The city is highly vulnerable to the impacts of climate change having been hard hit by storms, floods, heatwaves, and droughts over decades. The governing system for the region is part of a complex three tiered hierarchy involving national (Commonwealth), state (Queensland), and local governments (City of Gold Coast). Governments periodically swing between a right-wing Coalition (of the Liberal and National parties) and the left-wing Labor party (sometimes with the support of the Greens party). In the period 2007-2012 all levels of Australian government had started to take the first steps in addressing the challenges posed by the need to adapt to the impacts of climate change. The shift to right-wing governments during the period 2012-15, however, saw many climate plans and policies and plans reversed due to the combined effects of: gaps in the three tiered system of government; the ideology of the right-wing parties in power; powerful economic interests; electoral politics; fears of legal liability; and, the unique features of the Gold Coast. Since 2015 there has been a divergence with the state-based Queensland Labor government moving back into the climate change adaptation space but the national Coalition government still refusing to act. The science is clear: climate change is happening, the impacts are serious, and low-lying coastal settlements like the Gold Coast are highly vulnerable to its effects. The constant policy and planning reversals over the last decade, however, have made consistent long-term planning and investment in building resilience very difficult.

Key words: climate change adaptation; resilience; policy reversals; Gold Coast.

Introduction

The Gold Coast has experienced erratic swings in policy and planning over the last decade with regards to climate change adaptation. Queensland is highly vulnerable to the impacts of climate change and parts of it, including South East Queensland, have been identified by the IPCC (2007, 2012) as climate change hotspots. The Gold Coast is Australia's sixth largest city and is located on the coastal fringe of the state of Queensland in the north east of the country. It is particularly vulnerable because of its sub-tropical climate, coastal geography, settlement patterns and socio-economic profile (NCCARF 2016). In recent decades the population has grown rapidly with much of the urban development occurring along the low-lying coastal zone (Torabi, Dedekorkut-Howes & Howes 2018; Dedekorkut et al. 2010). Over the same period the region has experienced severe droughts, fires, storms, floods, and coastal erosion (Howes 2013a).

Australian governing institutions were designed in the 19th century and have had difficulty dealing with the challenges posed by climate change (Torabi, Dedekorkut-Howes & Howes 2018; Howes et al. 2015; Heazle et al. 2013; Howes & Dedekorkut-Howes 2012). Australia has a hierarchical three tiered governing system that encompasses one national (Commonwealth) government, six states (including Queensland) plus two territories, and 537 local councils. Elections occur every three to four years for each level, with government periodically swinging between a centre-right coalition of the Liberal-National parties and the centre-left Labor party. A similar periodic swing in governing parties occurs in

many European countries, although the dramatic shifts in policy direction analysed here are more akin to North American politics (Dryzek et al. 2003; Howes 2005). Between 2007 and 2012, all levels of government had begun to implement a set of strategies, plans and policies that could have increased the resilience of the city of the Gold Coast (Howes & Dedekorkut-Howes 2012). After 2012, however, each level of government started to wind back their climate change adaptation governance, despite the risks being better understood (Matthews 2013, Climate Council 2014, Dedekorkut-Howes & Howes 2014, MacCallum et al. 2014, Mustelin and Burton 2014). In 2015 a change in the Queensland government brought reintroduction of some climate adaptation policies at the state level.

The periodic policy vacuum at higher levels leaves local governments to their own devices in combatting climate impacts, which results I a range of responses (Dedekorkut-Howes and Vickers 2017, Torabi et al. 2017a, 2017b). By July 2017 a total of 35 local governments had signed up to the *Cities Power Partnership* that committed them to act on both adaptation and mitigation. Three participants were located in Queensland (Noosa, Bundaberg and Douglas Shire) but the Gold Coast was noticeably absent, although it did get a mention for investing in transport infrastructure (Climate Council 2017a, 2017b). This paper examines the causes and consequences of lack of a consistent policy direction in climate change adaptation through a multi-level policy review of the case of the Gold Coast over the last 12 years. The next section briefly outlines the environmental, social and economic features of the region, as well as its vulnerability to climate change. An explanation of the structure of government is then presented. After this, the growth in climate change policies and plans from 2007 is explained up to its peak in 2012. The demise of these responses to 2015 and subsequent renaissance of state-level planning in Queensland is then summarised. A brief analysis of the causes and consequences of the constant reversals are then offered.

A Snapshot of the Gold Coast

The Gold Coast covers an area of 1400 square kilometres that is bounded to the east by 57 km of coastline with a string of beaches interspersed with headlands and estuaries. In terms of the natural environment, the Gold Coast is a low-lying coastal city built on a network of canals and rivers. It has a sub-tropical climate and is prone to severe storms during the long, humid summers (GCCC 2013a). The urban form is a mixture of clusters of high-rise apartment blocks along the coast, with low and medium density developments centred on the waterways and estuaries behind (Torabi, Dedekorkut-Howes & Howes 2018; Dedekorkut-Howes and Bosman 2015).

The region has experienced rapid population growth, with the numbers of residents rising from 88,000 in 1976 to 606,774 in 2018, and it is expected to climb to 730,000 by 2026 (CoGC 2019; GCCC 2013a & 2013b; DIT 2013; Spearitt 2009). This growth has put stress on urban infrastructure and led to questionable developments in vulnerable areas such as floodplains and sand dunes (Torabi, Dedekorkut-Howes & Howes 2018; Dedekorkut-Howes & Bosman 2011; Bosman et al. 2016, Torabi et al. 2017c). Socially the region is a magnet for retirees and the area has a significantly higher proportion of its population over 60 (20.3%) compared to the nearby city of Brisbane (17.0%) as well as a higher proportion of low-income households (20.8% versus 17.8% respectively) (CoGC 2019; GCCC 2013c, 2013d, 2013e & 2013f). Finally, the region is heavily reliant on tourism, with the beaches adding an estimated $106-$319 million to the local economy (DCC2009; GCCC 2013e & 2013f). The lower incomes and health issues due to age make retirees a vulnerable group. Low-income residents employed in the service sector are transient in nature making them less socially connected and therefore lacking coping capacities to deal with disasters (Torabi et al. 2017c). These features make it particularly vulnerable to the physical, social and economic impacts of extreme weather events, flooding and coastal erosion, which will be exacerbated by climate change (NCCARF 2016; IPCC 2012 & 2007; DCC 2009). The Gold Coast has experienced more than forty-five floods since 1925, is subjected to severe storms every spring and summer, and experienced its largest flood event in 1974 (City of Gold Coast 2017). It was fortunate to avoid the worst of the flooding that hit Brisbane in 2011.

Hierarchical Government

At the local level, the City of Gold Coast is governed by an elected council made up of a mayor and fourteen councillors (each representing a different geographical division). The residents of the region

elect ten members of the Queensland state parliament (which has a total 89 seats in a single chamber) and five members of the Commonwealth House of Representatives (out of a total of 148). This makes it a politically significant entity, particularly at the state level.

At the national level, the powers of the Commonwealth government are defined by the Australian Constitution (Australian Parliament House [1900] 2012). Anything not specified as a power of the Commonwealth is deemed to be a residual power and falls to the states (this includes powers relating to the environment, planning and climate change adaptation) (Brown 2006; Howes 2005; Toyne 1994). The Commonwealth has therefore adopted three intergovernmental strategies: 1) leaving some issues to the states; 2) cooperating with the states on other issues; or, 3) selectively intervening by creatively interpreting its powers. It has used its external affairs power (i.e. to sign and enforce treaties), for example, in conjunction with international environmental agreements to halt some damaging developments (Howes & Dedekorkut-Howes 2012; Howes 2005). Local councils are created, merged or abolished by acts of state parliament, as happened in Queensland in 2007 when the number of councils was reduced from 156 to 72 (ABC News 2007). Further, any council may be sacked by a state government and replaced by an administrator, as happened on the Gold Coast in 1978 (Queensland Government [1978] 2009).

The resulting hierarchical three tiered system has created ongoing power struggles between the different levels of government (Ghazarian 2012; Rolfe, et al. 2009; Brown 2006). This has an impact on many policy areas, including climate change adaptation, environmental protection, water resource management, regional development, health care, and education (Howes et al. 2015; Heazle et al. 2013; Howes & Dedekorkut-Howes 2012). All levels of government have moved to find methods for improving the system. One of the main strategies has been to establish organisations that encourage intergovernmental cooperation (Howes et al. 2015; Howes, et al. 2013; Heazle et al. 2013). The Council of Australian Governments (COAG), for example, includes the leaders of the Commonwealth, state and territory governments, as well as the president of the Australian Local Government Association. It has played a key role as a forum for negotiating agreements to tackle issues such as the environment, transport, health care and education (COAG 2011).

Despite the best efforts on networking and partnership-building, the hierarchical Australian system of government still has difficulty in addressing major policy issues (Heazle et al. 2013; Berwick 2006). There remains considerable disconnection between the different levels that manifests itself in administrative duplication, resource wastage and disputes that undermine collaborative organisations (Ghazarian 2012). In addition, the jurisdictional turf wars between departments and agencies persist (Howes et al. 2013; Rolfe et al. 2009). These structural problems can impede efforts to find effective, efficient and appropriate responses to complex issues that cut across borders and portfolios. Wicked problems, such as climate change, exacerbate the situation further because they are also difficult to understand, there is a lack of agreement on an appropriate response, they require a whole of government approach, and need the cooperation of business and the community on a large scale (Howes et al. 2015; Heazle et al. 2013; Howes et. al. 2013; Howes & Dedekorkut-Howes 2012; Australian Public Service Commission 2007). The Gold Coast is on the frontline of such issues.

The Rise of Adaptation Responses up to 2012

By early 2012 a plethora of policies and plans had emerged that influence how the Gold Coast would respond to climate change. These emerged at the national, state, regional and local levels – the key ones, along with more recent developments, are presented in Table 1.

The National Climate Change Adaptation Framework (COAG 2007) is the main agreement that has guided work between the different levels of government. It had 'building understanding and adaptive capacity' and 'reducing vulnerability of key sectors and regions' as two key areas for action and coastal regions were named as one of the priority areas (COAG 2007, 6). The National Climate Change Adaptation Research Facility (NCCARF) was established to inform policymaking and planning at all levels by networking researchers across the country and funding strategically targeted projects (NCCARF 2013). It was initially funded for five years and gained another five years of funding at a

reduced level in 2012 so that it could focus on developing tools that would help coastal settlements build their resilience (NCCARF 2016).

Table 1. Key climate change polices and plans affecting the Gold Coast

Level	**Policy or Plan** (Strikethrough indicates repealed or lapsed documents)
National	1. *National Climate Change Adaptation Framework.* April 2007. Council of Australian Governments. 2. *National Climate Change Adaptation Research Plan: Settlements and Infrastructure.* December 2009. National Climate Change Adaptation Research Facility. 3. *Adapting to Climate Change in Australia: An Australian Government Position Paper.* 2010. Department of Climate Change. 4. *National Climate Resilience and Adaptation Strategy*. 2015. Commonwealth of Australia.
State: Queensland	5. ~~*ClimateSmart2050.* 2007. (including *ClimateSmart Adaptation 2007-12*) Environment Protection Agency (now Department of Environment and Heritage Protection)~~. 6. ~~*Toward Q2: Tomorrow's Queensland.* 2008. Department of the Premier and Cabinet~~. 7. ~~*ClimateQ: Toward a Greener Queensland.* 2009. Department of Environment and Resource Management (now Department of Environment and Heritage Protection)~~. 8. ~~*Queensland Coastal Plan.* 2012. Department of Environment and Resource Management~~. 9. ~~*State Planning Policy*. 2013. Department of State Development, Infrastructure and Planning.~~ 10. *Governing for Growth: Economic Strategy and Action Plan.* 2014. Department of State Development, Infrastructure and Planning. 11. *Coastal Management Plan*. 2014. Department of Environment and Heritage Protection. 12. *The Queensland Plan: Queenslanders' 30-year Vision.* 2014. Queensland Government. 13. *State Planning Policy*. 2016. Department of Infrastructure, Local Government and Planning. – Replaced by: *State Planning Policy*. 2017. Department of Infrastructure, Local Government and Planning. 14. *Advancing Climate Action in Queensland: Making the transition to a low carbon future*. 2016. Queensland Government. 15. *Queensland Climate Adaptation Directions Statement*. 2016. Queensland Government. 16. *Pathways to a climate resilient Queensland: Queensland Climate Adaptation Strategy 2017–2030*. 2017. Queensland Government. Sectoral Adaptation Plans: – Built Environment and Infrastructure (2017); – Agriculture (2017); – Emergency Management (2018); – Human Health and Wellbeing (2018); – Biodiversity and Ecosystems (2018); – Tourism (2018); – Small and Medium Enterprise (due 2019); and, – Industry and Resource Sector (due 2019). 17. *Pathways to a clean growth economy: Queensland Climate Transition Strategy.* 2017. Queensland Government.

Regional: South East Queensland	18. ~~*Draft SEQ Climate Change Management Plan. 2009*. Queensland Department of Infrastructure and Planning (now Department of State Development, Infrastructure and Planning).~~ 19. *Rural Futures Strategy for South East Queensland 2009.* 2009. Department of Infrastructure and Planning (now Department of State Development, Infrastructure and Planning). 20. *South East Queensland Water Strategy.* 2010. Queensland Water Commission. 21. *Connecting SEQ 2031: An Integrated Regional Transport Plan for South East Queensland.* 2011. Department of Transport and Main Roads. 22. *Managing Natural Assets for a Prosperous South East Queensland 2014-2031: An Update to the South East Queensland Natural Resource Management Plan (2009-2031).* 2016. South East Queensland Catchments Ltd. 23. *Healthy Land and Water Strategic Plan 2017-2022.* 2017. SEQ Healthy Waterways Partnership. 24. *ShapingSEQ: South East Queensland Regional Plan 2017.* 2017. Department of Infrastructure, Local Government and Planning.
Local: Gold Coast	25. *City Plan 2015.* 2015. City of Gold Coast. 26. City of Gold Coast. *QCoast2100* adaptation plan started development in 2017. ~~27. *Gold Coast Climate Change Strategy 2009-2014*. 2009. Gold Coast City Council.~~

At the state level, ClimateQ, the SEQ Regional Plan 2009-2031 and the Draft SEQ Climate Change Management Plan were of particular importance to the Gold Coast. These all promoted further research into the vulnerability and the provision of better information to the community. ClimateQ focused particularly on the areas of disaster management, water use and biodiversity protection. The Queensland Office of Climate Change was established in 2007 to coordinate the state's response, review existing polices, and provide advice to government.

At the local level, in 2008 the Gold Coast City Council developed its own Climate Change Strategy 2009-2014 (GCCC 2009). This summarised the problem, acknowledged the vulnerability of the Gold Coast, promoted further research into resilience building, called for coordinated action across all levels of government, audited the operations of council and called for further funding.

Although many of these initiatives were quite modest when compared to the size and urgency of the risk, they represented important first steps that could be built on in later years. Many of the policies did not get the opportunity to be fully implemented, however, before the elections of 2012-13.

The Decline of Responses Post-2012

Election at the local and state levels in 2012, and at the Commonwealth level in 2013, saw governments at all levels change from Labor to the coalition Liberal-National parties across most of the country. The incoming governments were dominated by leaders who were either sceptical of climate change or placed greater importance on economic development. This led to major reversals in policy (Matthews 2013, Climate Council 2014, MacCallum et al. 2014, Mustelin and Burton 2014; see also for a more detailed history of these changes see Howes & Dedekorkut-Howes 2013). At the national level, the Abbott government moved quickly to abolish the Climate Commission, reduce climate change from departmental status to a unit within the Department of Environment, and draft legislation to repeal the *Clean Energy Future* policy (Metcalf 2013; DoE 2013). Both the Prime Minister and the new Minister of Environment were quick to deny any connection between the 2014 bushfires in the state of New South Wales and climate change, despite 2013 breaking several climate-related records with regards to heat (CC 2014; Grant 2013; Howes 2013a). The government's bill to abolish the greenhouse gas emission trading scheme (more popularly known as 'the carbon tax') was passed by the senate in July 2014, although other cuts were blocked. NCCARF did survive with reduced funding after 2012 but was only kept going after 2017 by funding from Griffith University.

At the state level, the Queensland election in March 2012 ended fourteen years of Labor government and brought to power the conservative Liberal-National Party (LNP) with Campbell Newman as the new Premier (QEC 2012). The party went to the election with an *Action Plan* to 'Grow a Four Pillar Economy through focusing on tourism, agriculture, resources and construction and by cutting red tape and regulation' (LNP 2012). None of their policies mentioned climate change or adaptation. In power the government abolished the Queensland Office of Climate Change (OCC) and abandoned the climate polices developed by the previous Labor government (Queensland Government 2012; Ironside 2012). Their *Sustainable Planning and Other Legislation Amendment Bill* (2012) focussed on cutting 'red tape' and green tape' in order to speed up the approval of developments. Queensland's main planning law, the *Sustainable Planning Act 2009* was replaced. The *Queensland Coastal Plan* originally required coastal development to consider the projected effects of climate change such as sea-level rise and increase in the maximum cyclone intensity and local government authorities to prepare a coastal hazard adaptation strategy for areas that are at risk (Dedekorkut-Howes & Howes 2014). Its replacement transferred the task of land-use planning and development in coastal areas to the 2013 *State Planning Policy* which did not address climate change but mentioned climate variability. *The Queensland Plan*, the new 30-year vision for the state, only mentioned climate change in passing. This was quite different from its predecessor, *Toward Q2,* which was developed specifically to tackle the challenges of rapid population growth and climate change and was followed up by the state strategy *ClimateQ: toward a greener Queensland*. In May 2013, a review of the South East Queensland Regional Plan was commenced with no mention of climate change.

These changes suggest that there had been a significant shift in state-level planning and climate change adaption policies which affect not only the Gold Coast but the whole state (Matthews 2013, MacCallum et al. 2014, Mustelin and Burton 2014, DEHP 2016). Neither climate change nor adaptation was a priority in any of the LNP's policies, either before or after the election, and it does not appear in any of the legislative changes outlined above. The party has been consistent in its pursuit of its 'four pillar' policy of economic development, with environmental and planning laws being streamlined if they are considered as inhibiting development. Further, there has been a deliberate move to hand back more responsibilities to the local level of government without the necessary increase in funding and capacity building.

After the local council elections in May 2012, a new government took over the Gold Coast City Council and the attitude towards environmental protection, climate change and development shifted in parallel to the changes in the state government. While the council website stated that climate change was one of the biggest challenges, the climate change department was abolished in 2013 (Weston 2014). *The Gold Coast Climate Change Strategy* expired and was not replaced. A comparison of this strategy with that of the Sunshine Coast revealed that the Gold Coast considered lower end of the IPCC climate change projections in its strategy (Torabi et al. 2017a). A more holistic evaluation of the local planning schemes, disaster management plans, and the climate change strategies of the two cities indicated that Gold Coast policies were less integrated, did not incorporate climate adaptation and disaster resilience well, contained less detail regarding allocation of resources and identification of roles and responsibilities (Torabi et al. 2017a), and focused mostly on coping approaches to climate resilience rather than transformational adaptation (Torabi et al. 2017b).

Divergence of State Policy from National and Local Levels after 2015

The 2015 state elections brought the Labor party an unexpected victory and subsequently state climate policy trajectory started to diverge from the federal and local levels. At the national level, the Coalition Federal government introduced the *National Climate Resilience and Adaptation Strategy* and ratified the Paris Agreement. The strategy articulated how Australia is managing climate risks for the benefit of the community, economy and environment and is anchored by the 2007 *National Climate Change Adaptation Framework*. It outlined the Government's vision for the future as: "We act together to support prosperity and wellbeing in Australia and beyond by building the resilience of communities, the economy and the environment to a variable and changing climate" and identified a set of principles to guide adaptation practice and resilience building and establishes priority areas for future consultation and action. The guiding principles include shared responsibility between all levels of government, businesses and communities; factoring climate risks into decision making; an evidence-based risk

management approach; helping the vulnerable; collaborative, values-based choices, and revisiting decisions and outcomes over time. The priorities for national engagement are understand and communicate; plan and act; check and reassess; and collaborate and learn. While the vision and the principles are admirable, their implementation and impact at policy level is yet to be seen as the strategy does not set out how they will be realised, rather it compiles examples of leading practice from around the nation.

The divergence between different levels of government on climate change policy has been clearly indicated in recent developments in mitigation and energy policy. Australia made a commitment to reduce its emissions by ratifying the Paris Agreement, but how this commitment will be met is extremely controversial due to disagreements on the nation's energy policy. The Coalition government repeatedly refused to countenance any sort of price on carbon, either as a cap and trade or energy intensity scheme, which puts them at odds with the Labor opposition. The 2017 the Chief Scientist's report offered a way to break the deadlock by focussing on clean energy targets rather than carbon pricing (Finkel 2017). This won support from the federal opposition and Labor states, but the Coalition government rejected the idea and continued with a direct action policy after being returned at the 2018 election. This variance bears all the hallmarks of a wicked policy problem and bodes ill for the development of consistent adaptation responses.

At the state level, the current Queensland Labor Government updated the State Planning Policy (SPP) in 2016 to better align the content with current government policies and priorities and to ensure it supports a balanced planning system focussed on liveability, sustainability and prosperity. The SPP identifies state interests important enough to require protection and enhancement within the land use planning and development system. It reintroduced the term "climate change" to replace "a variable climate", considerably expanded the natural hazards section to include risk and resilience, and introduced discussion of climate change. A new version of SPP came into effect in July 2017 with the launch of the Queensland Planning Reform. The 2017 SPP integrates climate change fully into the planning agenda as an important consideration for planning at all levels and discusses impacts of climate change for all state interests.

The state government developed the *Queensland Climate Adaptation Strategy* (Q-CAS) in 2015. The first steps were the release of *Queensland Climate Adaptation Directions Statement* and *Advancing Climate Action in Queensland: Making the transition to a low carbon future* in 2016. Together they cover adapting to the impacts as well as transitioning to reduced emissions as well as integrate climate adaptation considerations into planning. In 2017 these were followed by *Queensland Climate Adaptation* policy and *Transition Strategies* (see Table 1). Industry-led Sector Adaptation Plans (SAPs) were released progressively over the following years covering: Built Environment and Infrastructure (2017); Agriculture (2017); Emergency Management (2018); Human Health and Wellbeing (2018), Biodiversity and Ecosystems (2018); Tourism (2018); Small and Medium Enterprise (due 2019); and, the Industry and Resource Sector (due 2019) (Queensland Government 2019). The state government also provided A$12 million in the *Coastal hazards adaptation program—QCoast$_{2100}$* to help coastal local governments adapt to the impacts of climate change.

Adaptation and resilience building are also prominently featured in regional level plans. Both the revised South East Queensland Regional Plan, *Shaping SEQ* (September 2017), and the update to the *South East Queensland Natural Resource Management Plan* include strategies on adaptation and resilience to natural disasters.

However, at the local level climate change continued to be downplayed. A review of the local planning scheme and disaster management plan found that in the lengthy *Gold Coast City Plan:* "the term 'climate change' appears only nine times in passing … and 'adaptation' does not appear at all. … In one of the most vulnerable cities in Australia … it is as if the threat of climate change does not exist" (Torabi et al. 2017a, p. 6). More recently, the council has signed up for *QCoast2100* funding from the state government to develop an adaptation plan.

Why the Reversals?

The risks that climate change poses to the Gold Coast are increasing and are better understood than ever before (IPCC 2012 & 2007; DCC 2009), yet adaptation policies and plans at all levels of government have been erratic. What are the possible explanations for this situation? Limited space does not allow for a detailed analysis, but we would like to offer some observations based on this research that might be useful to follow up with later investigations.

First, the three-tiered structure of the Australian system of government may create a situation where a wicked policy problem can fall between the gaps because each level argues that it is the responsibility of the others (Howes & Dedekorkut-Howes 2012). In this case, the Commonwealth sees climate change adaptation as a state government responsibility, the Queensland government passes it onto local councils, but local governments argue that they do not have the necessary resources to respond (DCC 2010; Bita 2012; Westthorp 2012). This 'buck passing' is exacerbated by the wicked nature of the problem.

Second, in Australia there is a strong correlation between centre-right political parties and climate denial (Pearse 2009; Jacques, Dunlap & Freeman 2008). The predominance of Liberal-National Party (LNP) governments at the state level 2012-15 and at the national level since 2013 inhibits action because climate change challenges three strongly held beliefs of the right-wing of Australian politics (Howes 2013b). First, it shakes faith that the market leads to the best allocation of resources by pointing out a large negative externality (i.e. greenhouse gas emissions undermine the climate services on which the economy depends). Second, it runs counter to the suspicion of 'big government' by highlighting the need for intervention to correct this market failure. Third, it challenges the view that environmentalists who warned of serious climate change were wrong. The challenge posed to these core beliefs has even led some Liberal senators to claim that climate change is not happening and is a conspiracy of the left to attack capitalism (Howes 2013b). When the Labor party took back power in Queensland in 2015 another reversal occurred. The Premier and Minister of Environment's message at the front of the climate action discussion paper accuses the former LNP government of: "systematically [dismantling] the forward-looking climate policies of previous governments, leaving Queensland unprepared" and promised to get Queensland back on track (DEHP 2016, p. 2). This ideological barrier is acute on the Gold Coast with the LNP holding a majority of the state and federal parliamentary seats for the region.

Third, there are significant economic forces at work that discourage action on environmental issues in general, and climate change in particular, that are due to the peculiar structure of the Australian economy (Howes et al. 2010). The coal industry is a significant part of the domestic economy, a major export, a large employer in regional areas, as well as a major source of tax revenue and royalties for different levels of government. The industry has therefore been exposed as having undue influence in shaping the climate policies of Liberal-National parties when in government (Pearse 2009). This is why the LNP opposes or neglects climate change policies. This is prevalent in Queensland that has a significant coal industry.

The fourth point comes down to electoral politics, where a party leader might see a switch to opposing action as a way to both differentiate themselves from their opponents and a way to pick up marginal seats. This was the case with the Commonwealth elections in 2010, where the Liberal-National opposition made great gains by promising that removing the emissions trading scheme, more popularly known as the 'carbon tax', would reduce household energy bills (Tranter 2011). The strategy helped them win the 2013 election even though they had originally supported the scheme and has made formulating a coherent climate and energy policy extremely difficult ever since (Howes 2013b).

Fifth, some governments might be reluctant to acknowledge the impacts of climate change and impose restrictions on development because they are concerned about the potential legal liability for economic losses that may result (England 2007). This has been a particular concern for the City of the Gold Coast with respect to the recent public release of flood mapping that identifies the risks for individual properties and developments (Weston 2014).

Finally, the Gold Coast has a unique social, economic and political environment, so local factors could also be at work (Howes & Dedekorkut-Howes 2012, Bosman et al. 2016). In Australia, scepticism of climate change and support for centre-right parties is historically higher than average in older citizens (Reser et al. 2012; Watson 2011) and the Gold Coast has a significantly higher proportion of older residents. Further, the economy and politics of the region is dominated by developers, who oppose restrictions being placed on where they can build.

Conclusions

This brief history gives an indication of the erratic adaptation policy and planning that cities like the Gold Coast have suffered over more than a decade. In the period 2007-2012 all levels of Australian government had started to take the first steps in addressing the challenges posed by climate change. The shift to centre-right governments 2012-15 saw many policies and plans reversed due to the combined effects of: gaps in the three tiered system of government; the ideology of the parties in power; powerful economic interests; electoral politics; fears of legal liability; and, the unique features of the Gold Coast. Since 2015 there has been a divergence between the different levels of government, with state-based Labor governments such as Queensland moving back into the climate change adaptation space. The science is clear: climate change is happening, the impacts are serious, and low-lying coastal settlements like the Gold Coast are highly vulnerable to its effects. Erratic policy/planning reversals, however, have made consistent long-term planning and investment in building resilience very difficult.

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