



>> REPORT

>> RESPONSE TO SUBMISSIONS

>> **IMPACT OF PROPOSED TOWNSVILLE OCEAN TERMINAL
AND BREAKWATER COVE DEVELOPMENT ON
INSURANCE PREMIUMS**

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1 INTRODUCTION

One of the issues of social and economic importance raised during the public consultation process has been the claim that the location of the proposed development places it at increased risk of damage caused by catastrophic events and potential threats arising from climate change' leading to higher insurance premiums. The argument then put forward is that these necessarily high insurance premiums attached to residential dwellings within this and similar coastal developments will lead to a spillover of higher insurance premiums being charged across the board.

This report presents the outcomes from a review of relevant literature related to insurance premiums and coastal developments as well as insurance premium expectations in the context of climate change risks. The review is presented in two parts:

1. What are the risks associated with insuring residential property in new or existing coastal development zones and how do insurance companies account for location-specific risks; and
2. What is the likelihood that 'increased' premiums attached to residential areas of higher risk will lead to higher premiums for general property insurance across the board?



2 INSURING RESIDENTIAL PROPERTY

The issues of interest here are two fold:

1. First, how do insurance companies assess risk and apply premiums based on that risk in the context of flood and climate related damage; and
2. Second, the question is whether or not insurance companies will refuse to insure properties located in canal estates and other coastal developments, and if not what will be the premium trade-off.

Insurance works on the principle of spreading risk across a large number of policyholders with the aim of keeping premiums at an affordable level. The insurance premium charged reflects the level of risk each individual policyholder, or group of policyholders, brings to the pool. The impact of increasing major catastrophic events, primarily weather related, leading to more sustained losses, impacts on insurer profitability and this in turn sees insurers raise premiums significantly and apply tougher terms – in some cases refusal of cover in high risk areas (Peck, 2006; Goodall, 2007).

2.1 CANAL DEVELOPMENTS AND COASTAL RESIDENTIAL DEVELOPMENT

It is the view of some industry analysts that some properties may eventually have their insurance removed, or to become uninsurable, a trend that is already occurring the United States (Donovan Burton, 2007). Reports that flood insurance may be withdrawn in some coastal areas have also appeared in the European media (Gentleman, 1998). Similar claims have been made by opponents of coastal developments.

An emerging standpoint among opponents of canal estates and coastal residential developments is the 'uninsurability' of residential property within these developments because of vulnerability to climate change and sea level rise (e.g. Christine Milne¹, 2006). Such blanket statements have been rejected by the insurance industry (Brian Ahearne, 2006). The observation that such residential property would be hard to insure is based on their increased risk of inundation and damage arising from more frequent and more intense weather related events (storms, cyclones etc) and in the longer-term, increased risk of inundation from rising sea levels. Both outcomes are seen as resulting from the intensifying impacts associated with climate change.

Despite an extensive search of published literature, including insurance industry publications, there is no evidence to suggest that insurance companies regard coastal residential developments, including canal estates, as uninsurable per se. What this review has indicated is recognition by both private industry and all levels of government of the increased risk such developments face in the wake of potential climate related impacts, and a concomitant effort to assess and factor this risk into insurance premiums.

In 2006, the Insurance Council of Australia commissioned a study on the issue of flood mitigation and management for the purpose of:

“achieving greater market availability of residential flood cover for the majority of households andto enable insurers to understand and price the risk”.

This report refers to a nationwide flood mapping tool aimed at identifying areas most at risk from rising sea levels and increased flooding and cyclonic activity. Through 'flood mapping' this report

¹ Christine Milne is the Greens Senator for Tasmania. Her views were echoed by Jenny Stirling (Greens candidate) at the 'public' forum hosted by the Institute of Environmental Engineers held in Townsville.



conservatively identified more than 700,000 homes and buildings potentially at risk from climate change related impacts. The report also recommends partnerships with governments aimed at making flood insurance more widely available when flooding risks are reduced to acceptable levels through appropriate mitigation measures. The formation of a National Flood Risk Advisory Group (NFRAG) under COAG is an industry initiative aimed at allowing insurers to understand the risk applicable to property and price their flood cover accordingly and work with governments on those areas identified as being beyond the risk appetite of the market.

In a report to the Australian Greenhouse Office, it was recognised that coastal population growth was placing further pressure on some beaches and dune coasts, with the concomitant need for development approvals near beaches need to considerate of insurance risks and future liability (Voice et al, 2006). Where there is the potential for "flooding and permanent inundation of coastal low-lying areas", this may also have implications for property insurance.

2.2 CLIMATE CHANGE AND THE INSURANCE INDUSTRY

Climate change is very likely to affect property values and investment through disclosure of increased hazards, as well as affecting the price and availability of insurance. Moreover, insurance costs are very likely to rise in areas with increased risk (Allen Consulting Group 2004, IPCC, 2007).

One of the key stakeholders in the Climate Change debate is the insurance companies who are likely to absorb a majority of the economic costs associated with impacts from weather related events. Economic losses reported by insurance companies (adjusted for inflation) were eight times greater and insured losses were fifteen times greater in the 1990s than in the 1960s, while the amount of money paid out by insurance companies in claims was 50% greater, and many of these increases are from weather related events (Rinfret *et al.*, 2005). In many coastal regions in countries across the world, rising wealth and the "sea-change" phenomenon is fuelling a boom in coastal development; areas much more susceptible to weather and climate change related events.

Insurance companies in the US are beginning to feel the pressures of this area and are beginning to change their policies accordingly. As sea levels rise, companies are rezoning areas designated as flood zones, which leads to higher premiums for people living in these areas (EPA –1999). Accordingly insurance companies are relying more on scientific data for determining their insurance premiums. In the case of Florida's residents, such assessments, based on changing trends in the frequency and severity of storms (e.g. hurricanes, cyclones etc) have resulted in higher premiums (Rinfret *et al.*, 2005).

In the case of Australia, much of southern and eastern Australia has experienced an increase in severe weather events in recent decades prompting concern within the insurance industry and a review of longer term climate change risks. There is a general recognition that the community's ability to absorb the impacts of these changes is contingent on its ability to pool risk, in this case nationally. Accessible and affordable insurance that spreads weather-related risk is an important component of the national economy. If the insurance industry's ability to underwrite weather-related risk is reduced or the cost of insurance rises significantly, it could have serious implications for the economic health of vulnerable regions (The Australian Climate Group, 2008).

In short, increased risk is carried by the insured, not by the insurer, provided the latter adjusts premiums and cover accordingly. One might argue that since climate change is to a large extent unpredictable, the insurance sector can never restrict its exposure properly. However, insurance



policies can be altered faster than climate changes. Moreover, the perceived relationship between extreme weather events and climate change has resulted in a high awareness of the problem leading to increased caution with respect to insuring against weather hazards (Dlugolecki *et al.*, 1996).

In the US, the *Federal Flood Insurance Act* was passed by Congress in 1968 in order to spread the risk of flood damage among the large number of property owners in flood-prone areas, both along the coast and in the interior of the country and as a response to the refusal of private insurance industry to offer coverage in these high-risk areas. This *Act* was intended to “guide the development of proposed construction away from locations which are threatened by flood hazards”, not to encourage development in high-risk coastal areas, which is what has occurred (Rinfret *et al.*, 2005).

In terms of minimizing the impact of climate change related phenomena on residential property and associated insurance issues, Dawe (2007) proposes three responses, these being to:

1. Modify the hazard, for example by reducing greenhouse gas emissions;
2. Modify the losses, primarily through insurance mechanisms, either individual policies or collective/government schemes. This approach is considered a short, as opposed to long, term strategy; and
3. Modify the human element through protection (i.e. seawalls, levees), policy controls of prevention and avoidance, modifying human behaviour through public education or by increasing insurance premiums and in extreme cases, removing insurance cover altogether for high risk property locations.

The threat posed by climate change will differ by region and activity, but it will also vary over time. Many households will have the flexibility to deal with climate change in an incremental fashion — in terms of household insurance premiums. Some stakeholders, or homeowners, may have fewer opportunities to respond flexibly with the risks and consequences of future weather related events being high (Allen Consulting Group, 2004).

2.3 FLOW-ON OF INSURANCE PREMIUMS

As noted above, insurance is about spreading risks. The main problems associated with insuring against climate change and natural hazards is that a) they affect a collection of individuals simultaneously and b) the vulnerable will be impacted upon more frequently and more severely, making the spreading of risk more problematic. Moreover, the costs of damage caused by natural hazards can be very high, making risk and losses arising from those events extremely hard to quantify (Tol, 1998).

Insurance premiums worldwide are anticipated to rise in response to insurers passing on the high costs of damage (including reinsurance costs) from several significant events, particularly in the property classes of insurance (SMH, 2005, Peck, 2006). These premium increases are likely to be felt most in areas susceptible to the occurrence of intense weather-related events. The most ‘at-risk’ communities will be on the coast and risk assessment will almost certainly encompass whole communities or large areas within those communities as insurance companies rely more on scientific data to determine their premium levels (Rinfret *et al.*, 2005).

It is important to distinguish between rising insurance premiums passed on to community at large in response to high costs of damage from more frequent and more intense weather events, some of which may be linked to climate change, and how given locations within specific communities are assessed. If we accept that higher premiums will be universally absorbed by communities at



large, the issue becomes whether or not insurance companies faced with insurance decisions for increasingly 'at-risk' locations (canal estates, new coastal developments) will attempt to pass these higher risks on to lower risk sections of the community.

Overall, no evidence was located that indicated higher premiums attached to a specific high-risk area were being passed on the adjacent sections of that community. Insurance pricing is based on the measurement of risk and pooling of that risk.

Risk, however, is only partially transferred via the insurance industry. Based on past evidence, the immediate responses of insurance companies faced with large losses from weather-related events is to restrict cover and raise premiums. So while the insurance companies act to *spread* risks, the insured continues to *bear* the risk (Tol, 1998). Ultimately, although risks increase for the insurance sector, any locality specific increase in risk will be carried by the insured. So within any community, risk will vary based on factors including any extra risk that a given location brings. The higher the risk, the higher will be the insurance premium.

It would be reasonable to assume that the nature of premium setting will continue to be based on an assessment of the level of risk attributable to an individual given the location of their dwelling and other factors (e.g. Building codes planning controls, protection against natural disasters etc.) and that the current model of variable risk-based pricing will remain.

2.4 RISK MANAGEMENT AND REDUCTION

It should also be noted that the proposed integrated Townsville Ocean Terminal and Breakwater Cove development will be required to meet stringent construction standards. As such, from the point of view of ability to mitigate or reduce the exposure to risks associated with catastrophic climatic events, it is highly likely that the development will be better placed than many structures built to earlier standards.

Indeed, it is likely that the design standards that will necessarily apply at the Breakwater Cove precinct and modern construction practices in general would result in less than average damage to properties when compared to the damage that could be expected in other parts of Townsville.

2.5 SUMMARY

The following points summarise the discussion above:

1. Insurance works on the principle of spreading risk across a large number of policyholders with the insurance premium reflecting the level of risk each individual policyholder, or group of policyholders, brings to the pool;
2. Despite an emerging claims as to the "uninsurability" of residential property within canal estates and coastal residential developments, there is no evidence to suggest that insurance companies regard these developments as uninsurable *per se*;
3. Insurance companies are a key stakeholder in the Climate Change debate. These companies are beginning to change their policies accordingly to recognise the potential for more frequent and intense, and more costly, weather-related events and rising sea levels increasing the susceptibility of some areas to inundation, by increasing premiums. It should be noted that the Breakwater Cove development will be required to be constructed to meet the most up-to-date of standards that account for potential climate change effects on sea levels;
4. Insurance companies are relying more on scientific data to determine their premiums. In Australia private and public partnerships are being developed to maintain affordable



insurance premiums community wide including; 'flood mapping', formation of a flood risk advisory group under the COAG umbrella, and maintaining insurability for those areas considered to be beyond the risk appetite of the market;

5. Insurance premiums worldwide are anticipated to rise in response to insurers passing on the high costs of damage (including reinsurance costs) from several significant events, some of which have been linked to climate change. These premium increases are likely to be felt most in areas susceptible to the occurrence of intense weather-related events;
6. It is important to distinguish between rising insurance premiums passed on to community at large in response to high costs of damage from more frequent and more intense weather events, including from climate change, and how given locations within specific communities are assessed;
7. Overall, no evidence was identified that indicated higher premiums attached to increasingly 'at-risk' locations (canal estates, new coastal developments) were being passed on the adjacent lower-risk sections of that community; and
8. Insurance is about spreading risks. But while the insurance companies act to *spread* risks, the insured will continue to *bear* the risk. Increased risk will continue to be carried by the insured, not by the insurer, provided the latter adjusts premiums and cover accordingly. The higher the risk for a given location, the higher will be the insurance premium.



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