

MONASH UNIVERSITY

PLANNING AND CLIMATE CHANGE CONFERENCE – 20 OCTOBER 2009

**CLIMATE CHANGE AND LOW LYING AREAS
CONSIDERATIONS IN VCAT**

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The knowledge of climate change has been with us for some time, but it has only leapt to the forefront of public attention relatively recently. Issues such as the drought, water shortages, extreme weather events and the disastrous bushfires of Black Saturday¹ highlight the implications of climate change for the community as a whole.

Climate change has been a consideration for VCAT to date primarily in the context of development in low-lying coastal areas and that is what I intend to focus on today. Interestingly, I am still part heard in a case under the *Water Act* 1989 concerning an application for a groundwater licence where there has been considerable evidence about climate change and its implications for groundwater recharge and much reference to the precautionary principle, but that will be a topic for another day.

Coastal inundation due to sea level rise is an issue associated with climate change that is rapidly capturing Government and public attention. Coastal inundation is the flooding of land by ocean waters or river catchments. The frequency, extent and magnitude of coastal and river inundation is likely to be altered by climate change over time and through the combined interactions with sea level rise, tide ranges, storm surges and other coastal processes.

With the exception of long term sea level rise, climate change is not likely to introduce new types of coastal hazards. However, climate change is likely to increase the frequency, intensity and extent of existing coastal hazards. This means that for some part of the Victorian coast, climate change impacts are likely to exacerbate coastal erosion processes and inundation, potentially further increasing the impacts of these coastal hazards on existing and future coastal communities and development. While some climate change impacts such as sea level rise are gradual and occur over a long timeframe, extreme weather events can occur at any time and can significantly reshape the coastline.

This scenario forms the basis for a general practice note published by the Victorian Department of Planning and Community Development (DPCD) on 'Managing Coastal Hazards and the Coastal Impacts of Climate Change' in

¹ Saturday 7 February 2009

December 2008. This practice note, together with amendments to all Victorian Planning Schemes and release of the *Victorian Coastal Strategy 2008*, represent the Victorian Government's response to the implications of climate change on low lying areas around Victoria's coasts. They represent the strategic policy context that VCAT must make its decisions based upon.

One significant aspect of this response is acceptance of the proposition that climate change will have an impact on coastal areas and consequently there is a need to manage these impacts and coastal hazards. The onus is placed squarely upon proponents of developments or planning scheme amendments to establish by way of an "informed coastal vulnerability assessment" how the proposal is likely to be impacted by projected coastal hazards under climate change.

Direct evidence of specific impact

This approach and this expectation contrast markedly with the approach adopted by a panel considering a residential and golf course resort development in the Barham River flood plain between Marengo and Apollo Bay along Victoria's west coast as recently as July 2007.²

A critical issue in the panel's assessment of the proposed development was flooding and inundation. Extensive flood modelling evidence was produced to the panel, which it carefully analysed taking account of sea level conditions. The panel concluded that with extensive filling of the floodplain:

Even with the higher rainfall estimate and higher sea boundary condition the development remains feasible from a flood protection perspective.³

However, with respect to coastal recession and its potential impact on the development, the panel noted:

In relation to the effect of rising sea levels on coastal recession we were not presented with any evidence or analysis of the affect of rising sea levels on coastal recession in this area. It is disappointing that the Western Coastal Board did not call any evidence on this issue.⁴

The panel went on:

It is one thing to be cautious, but to suggest, as the Western Coastal Board does ... that a 1m rise in sea level could result in a 100-150m retreat in the coast in this location is without any basis....⁵

The panel's conclusion that the proposal would not increase coastal recession and was not directly exposed to immediate threats from coastal recession appears to have been based on a lack of evidence to support such a conclusion.

The panel further commented that:

² Colac Otway Planning Scheme Amendment C29 Panel Report – Great Ocean Green Development; July 2007

³ *ibid* page 38

⁴ *ibid* page 51

⁵ *ibid* page 52

Whilst it is clear that private impacts on the public environment is something decision makers need to be cautious about, the impact of the environment on private development is a somewhat different case. We do not think that decision makers should ignore these impacts, but the role of the developer and future purchasers (and their insurance companies) in making their own assessment of these risks should be given a much higher weight.⁶

We can therefore see that in 2007 a view was being expressed that without direct evidence of specific impact, it was really up to developers and future purchasers to decide whether to take the risk of development in low lying coastal areas.

A significant shift in approach was represented by the VCAT decision in *Gippsland Coastal Board v South Gippsland Shire Council*⁷ in July 2008. This decision captured media attention and was hailed as “one of the first decisions of its kind in Australia”. This was not exactly true because there had been the *Northcape Properties*⁸ case in South Australia in March 2008, which held that a subdivision proposal that abutted a narrow coastal reserve offended so many of the goals and objectives of the Development Plan relating to coastal reserves and planning of development near the coast that development consent should be refused. In *Northcape*, expert evidence was called by both parties. The Court accepted the evidence of the council’s expert who suggested that over the next 100 years the coast would shift 35-40 metres inland, making it highly likely the development would be impacted by coastal erosion.

Change in approach – *Gippsland Coastal Board* case

By contrast, the Tribunal in the *Gippsland Coastal Board* case did not require expert evidence to establish the likelihood of sea level rise and risk of coastal inundation. The Tribunal said:

[40] ... we have had regard to the broader picture that there is a general consensus that some level of climate change will result in extreme weather conditions beyond the historical record that planners and others rely on in assessing future potential impacts. It is, in our view, no longer sufficient to rely only on what has gone before to assess what may happen again in the context of coastal processes, sea levels or for that matter inundation from coastal or inland storm events.

In deciding whether the potential risk of sea level rise was acceptable, the Tribunal said:

[42] We accept that there is growing evidence of sea level rises and risks of coastal inundation. While we acknowledge that there is uncertainty as to the magnitude of the sea level rise, it is evident that the consequences of such rises in level will be complex due to the dynamic nature of the coastal environment. Put plainly,

⁶ Colac Otway Planning Scheme Amendment C29 Panel Report – Great Ocean Green Development: July 2007, page 16

⁷ [2008] VCAT 1545

⁸ *North Cape Properties Pty Ltd v District Council of Yorke Peninsula* [2008] SASC 57

rising sea levels are to be expected. The range of impacts may well be beyond the predictive capability of current assessment techniques. In the face of such evidence, a course of action is warranted to prevent irreversible or severe harm.

The specific proposal under consideration in the *Gippsland Coastal Board* case were six permit applications for dwellings on small lots in a Farming Zone close to the coast. The Tribunal found that the land was unsuitable for residential development for a variety of reasons, only one of which was their likely inundation due to sea level rise as a result of climate change. In its conclusion about sea level rise, the Tribunal said:

- [46] We conclude that sea level rise and risk of coastal inundation are relevant matters to consider in appropriate circumstances. We accept the general consensus that some level of climate change will result in extreme weather conditions beyond the historical record that planners and others rely on in assessing future potential impact.
- [47] The relevance of climate change to the planning decision making process is still in an evolutionary phase. Each case concerning the possible impacts of climate change will turn on its own facts and circumstances.
- [48] In the present case, we have applied the precautionary principle. We consider that increases in the severity of storm events coupled with rising sea levels create a reasonably foreseeable risk of inundation of the subject land and the proposed dwellings, which is unacceptable. This risk strengthens our conclusion that this land and land in the Grip Road area generally is unsuitable for residential development.

Changes to the policy framework

At the time this case was decided there were no specific planning provisions or policy relating to coastal recession or sea level rise. Rather, the Tribunal relied on the provision of the *Planning and Environment Act 1987*, which requires that before deciding on an application, the responsible authority must consider any significant effects which the environment may have on the use or development.⁹ It also relied upon the precautionary principle included in the Inter Governmental Agreement on the Environment. The State Planning Policy Framework (SPPF), which is part of all planning schemes in Victoria, establishes that this National agreement forms part of the framework for decision making concerning the environment.¹⁰

Since the *Gippsland Coastal Board* decision, the policy framework in Victorian Planning Schemes has been strengthened considerably and the benchmark of a sea level rise of not less than 0.8 metres by 2100 has been introduced as the base

⁹ Section 60(1)(e) of *Planning and Environment Act 1987*

¹⁰ Clause 11.03-2

level for planning to manage coastal hazards and the coastal impacts of climate change.

In December 2008, the *Victorian Coastal Strategy 2008* was released. Shortly after release of the strategy, Amendment VC52 made associated changes to the State Planning Policy Framework in all Victorian planning schemes. A Ministerial Direction and Planning Practice Note were also issued.

In the *Victorian Coastal Strategy 2008* various policies are set out concerning coastal planning for climate change as follows¹¹:

1. Plan for sea level rise of not less than 0.8 metres by 2100, and allow for the combined effects of tides, storm surges, coastal processes and local conditions, such as topography and geology when assessing risks and impacts associated with climate change. As scientific data becomes available the policy of planning for sea level rise of not less than 0.8 metres by 2100 will be reviewed.
2. Apply the precautionary principle to planning and management decision-making when considering the risks associated with climate change.
3. Prioritise the planning and management responses and adaptation strategies to vulnerable areas, such as protect, redesign, rebuild, elevate, relocate and retreat.
4. Ensure that new development is located and designed so that it can be appropriately protected from climate change's risks and impacts and coastal hazards such as:
 - inundation by storm tides or combined storm tides and stormwater (both river and coastal inundation)
 - geotechnical risk (landslide)
 - coastal erosion
 - sand drift.
5. Avoid development within primary sand dunes and in low-lying coastal areas.
6. Encourage the revegetation of land abutting coastal Crown land using local provenance indigenous species to build the resilience of the coastal environment and to maintain biodiversity.
7. New development that may be at risk from future sea level rise and storm surge events will not be protected by the expenditure of public funds.
8. Ensure that climate change should not be a barrier to investment in minor coastal public infrastructure provided the design-life is within the timeframe of potential impact.

¹¹ *Victorian Coastal Strategy 2008* page 38

9. Ensure planning and management frameworks are prepared for changes in local conditions as a result of climate change and can respond quickly to the best available current and emerging science.
10. Ensure all plans prepared under the *Coastal Management Act* 1995 and strategies relating to the coast, including Coastal Action Plans and management plans consider the most recent scientific information on the impacts of climate change.

By far the most important of these is the benchmark of planning for a sea level rise of not less than 0.8 metres by 2100. This was incorporated into all Victorian planning schemes by Amendment VC52 to the State Planning Policy Framework relating to coastal areas.¹² The amendment provides that the hierarchy of principles for coastal planning and management as set out in the *Victorian Coastal Strategy 2008* must be applied in decision making by planning authorities and responsible authorities. Specifically, planning to manage coastal hazards and the coastal impacts of climate change should:

- Plan for sea level rise of not less than 0.8 metres by 2100, and allow for the combined effects of tides, storm surges, coastal processes and local conditions such as topography and geology when assessing risks and coastal impacts associated with climate change.
- Apply the precautionary principle to planning and management decision-making when considering the risks associated with climate change.
- Ensure that new development is located and designed to take account of the impacts of climate change on coastal hazards such as the combined effects of storm tides, river flooding, coastal erosion and sand drift.
- Ensure that land subject to coastal hazards are identified and appropriately managed to ensure that future development is not at risk.
- Avoid development in identified coastal hazard areas susceptible to inundation (both river and coastal), erosion, landslip/landslide, acid sulfate soils, wildfire and geotechnical risk.

Ministerial Direction No 13: Managing Coastal Hazards and the Coastal Impacts of Climate Change¹³ applies to planning scheme amendments, which provide for the rezoning of non-urban land for urban use and development of land abutting the coast line or a coastal reserve; or less than 5 metres AHD¹⁴ within 1 kilometre

¹² Clause 15.08

¹³ Made by the Minister for Planning under section 12(2)(a) of the *Planning and Environment Act* 1987 on 18 December 2008

¹⁴ The Australian Height Datum is a geodetic datum for altitude measurement. In 1971 the mean sea level for 1966-1968 was assigned the value of zero on the Australian Height Datum at thirty tide gauges around the coast of the Australian continent. The resulting datum surface, with minor modifications in two metropolitan areas, has been termed the Australian Height Datum (AHD) and was adopted by the

of the coast line including the Gippsland Lakes. Effectively it means that the proponents of planning scheme amendments will be required to prepare a coastal vulnerability assessment in order to address the requirements of Minister's Direction No 13.

Coastal vulnerability assessments are also addressed in a general practice note 'Managing Coastal Hazards and the Coastal Impacts of Climate Change' (December 2008). This practice note deals with both rezoning of land for urban purposes and assessing applications for planning permits.

The practice note provides that:

Coastal vulnerability assessments can be undertaken by a suitably qualified coastal engineer or coastal processes specialist to assist with understanding erosion rates and developing appropriate setbacks or protection works.

In some instances, where local geology may be unknown or unstable, or where inundation from rivers and streams may also be an issue, advice can also be sought from a qualified hydrological or geotechnical expert.

The general steps in the process for assessing and responding to proposals in coastal areas are outlined in Figure 1 of the practice note.

Figure 1: Decision making process

ESTABLISH CONTEXT

e.g: coastal location, existing hazards exposure, information availability, decision timeframe etc

ASSESS VULNERABILITY

e.g: probability, magnitude, frequency, consequences

EVALUATE RISKS

e.g: precautionary approach focused on impacts on people, property, communities, infrastructure, environment

RESPONSE STRATEGY

e.g: avoid, retreat, accommodate, protect, apply precautionary approach

Future Coasts Program

Work has commenced to map areas affected by the benchmark figure of 0.8 metre AHD as part of the Victorian Government Future Coasts project.¹⁵ The outcome of this may prove to be quite alarming for many coastal land owners. Of course, in addition to addressing the need to plan for sea level rise of not less than 0.8 metres by 2100, the combined effects of tides, storm surges, coastal processes and local conditions, such as topography and geology, must also be

National Mapping Council as the datum to which all vertical control for mapping is to be referred. Elevations quoted using this datum are normally followed with the acronym (AHD).

¹⁵ See *Victorian Coastal Strategy 2008*, page 37

allowed for. Further, the *Victorian Coastal Strategy 2008* provides that as scientific data becomes available, the policy of planning for sea level rise of not less than 0.8 metres by 2100 will be reviewed.

Planning controls

In addition to actions at a State Planning Policy level, individual municipalities are beginning to incorporate strategies and controls to deal with coastal change into their own planning schemes.

The need for planning controls is important because no matter how fine sounding policies may be, they will not count for anything unless the words are translated into action. In a planning context, it is only when a planning permit is required that a coastal vulnerability assessment may be required and the decision making process set out in Figure 1 of the practice note may be applied.

Of course, not all development requires a permit, which is something that both panels and the Tribunal have commented upon.¹⁶

Decisions since the policy framework was changed

Since Amendment VC52 and the release of the *Victorian Coastal Strategy 2008*, there have been a number of decisions made to refuse development approval or to require a coastal vulnerability assessment in respect of developments assessed as being vulnerable to coastal hazard risk. They include the decision by the Minister for Planning in June 2009 to refuse permission for the Great Ocean Green residential and golf course resort development in the Barham River flood plain between Marengo and Apollo Bay, which I referred to earlier.

At a more micro level, the Tribunal in *Myers v South Gippsland Shire Council*¹⁷ required a permit applicant to prepare a coastal hazard vulnerability assessment for a small two-lot subdivision in the township of Waratah Bay. The Tribunal found that the subdivision was appropriate except for the fact that the site was effectively within a primary dune area, separated only from the coastline by a single street. In these circumstances, the Tribunal had regard to the policies in the planning scheme and the *Victorian Coastal Strategy 2008* and concluded that the general practice note on 'Managing Coastal Hazards and the Coastal Impacts of Climate Change' applied directly to the subject proposal. In requiring a coastal hazard vulnerability assessment, the Tribunal said:

[19] This proposed subdivision may seem insignificant in the overall scheme of things. However at some point a line in the sand needs to be drawn as there is a cumulative effect of single subdivisions (or development proposals) on our environment. I recognise that the effect of current policies may create more

¹⁶ For example, East Gippsland Planning Scheme Amendment C68 – Coastal Landscapes and Urban Settlement Plans (Panel Report April 2009); South Gippsland Planning Scheme Amendment C45 – Coastal Landscapes and Settlement Framework Plans (Panel Report June 2009); *Ronci v Wellington Shire Council* [2009] VCAT 1206

¹⁷ [2009] VCAT 1022

onerous requirements for a permit applicant. But in doing so, the long term consequences of development are being addressed.

In *Ronci v Wellington Shire Council*¹⁸ the Tribunal refused a permit for two dwellings in the coastal township of Seaspray. Whilst the permit was refused on character grounds, the decision refers to the application of clause 15.08 of the State Planning Policy Framework and the need for any future permit application to be informed by assessment of the site's vulnerability to the impacts of river and coastal hazards. The Tribunal also drew attention to a gap which exists with respect to single dwellings that do not require a planning permit and may therefore avoid a coastal hazard vulnerability assessment. A planning scheme amendment was required to address this gap.

In reaching its conclusion, the Tribunal said:

- [18] The consideration of climate change is elevated by the Scheme in a way that places a much more significant onus on permit applicants to respond to it in design. Similarly, there is an onus on decision makers to take climate change into account. Mr Traa suggested this is limited to strategic planning but I am not persuaded to agree. The wording of Clause 15.08 makes clear that the provisions apply to development; it is not limited to planning authorities (as distinct from responsible authorities). Moreover, the General Practice Note Managing coastal hazards and coastal impacts of climate change expressly addresses the assessment of applications for planning permits as well as rezonings. I cannot, therefore, agree with Mr Traa that the issue could be effectively ignored here for equity reasons. Rather, the lack of control for detached dwellings (and possibly other forms of development) which Mr Traa highlighted should be addressed by ensuring such control is obtained. One approach would be a Scheme amendment...
- [19] I also do not agree that an acceptance by the owners of the potential risk is a responsible way forward. Decision making is directed by Clause 15.08 to take a precautionary approach and that means making decisions that minimise adverse impacts to current and future generations. Orderly planning, referred to as a decision guideline in Clause 65, and Clause 15.08, both require a different and planned response. In Seaspray, much land is low lying being wedged between the river and foredune. Mr Traa's assessment demonstrates the potential risks. His submission also indicates potential solutions could significantly affect the design response. These are reasons why I do not support addressing this matter through conditions.
- [20] I therefore consider an assessment of the site's vulnerability to the impacts of river and coastal hazards would be required in a future development application based on the current Scheme directions on this matter.

¹⁸ [2009] VCAT 1206

More recently, *Owen v Casey CC*¹⁹ decided that a coastal hazard vulnerability assessment was required for a permit application for two dwellings. Consistent with the decisions of *Myers* and *Ronci*, the Tribunal held that State policy makes it clear that the wider risks and consequences for the community require this matter to be addressed in permit applications and in decision-making. Even though the proposal was only for two dwellings, Melbourne Water had not objected to the permit application, and the obligations may seem onerous, it was not appropriate to avoid an assessment.

The Tribunal specifically rejected the proposition put by the permit applicant that the purported economic life of the proposed units of 40-50 years gives a basis to depart from the direction being pursued by State policy.

Conclusion

To conclude, there has been a marked shift in the planning policy framework affecting decision making involving issues of climate change and impacts on coastal and low lying areas within a short time. In 12 months, the issue of sea level rises due to climate change as a reason for rejecting a development proposal has gone from being headline news to being an established part of the planning decision making framework. VCAT is regularly applying the new policies and the requirement for coastal vulnerability assessments in practical terms.

Yes, they are going to add to the cost of development approval and they may well result in some development not proceeding contrary to previous expectations. Undoubtedly, there will be pressure by developers to 'buy' approval by means of response strategies that attempt to accommodate effects or protect development. In some circumstances, this may be appropriate. However, as the literature points out, such solutions may be very short term or costly, possibly both.

There are too many risks for the community (present and future) and the environment for decision makers to leave it entirely up to developers and future purchasers (and their insurance companies) to make their own assessment of the risks of the environment on private development or to accept potential future risk for the sake of present gain. That sort of attitude has shifted dramatically.²⁰ In Victoria, climate change and its effects on coastal and low lying areas is something that it is now recognised the community as a whole must face up to and deal with.

¹⁹ [2009] VCAT 1946

²⁰ This shift in attitude is reflected in the appointment of the Coastal Climate Change Advisory Committee (CCCAC) by the Minister for Planning in May 2009 to provide advice on how Victoria's land-use planning and development control can best support the Victorian Government's policy for managing the coastal impacts of climate change.