

Conventional Framework for Economic Analysis¹

A conventional public policy economic analysis of the best response to an anticipated adverse event involves assessing:

- 1) its likelihood;
- 2) the net costs the community is likely to incur if that event occurs;
- 3) options for reducing the likelihood of that adverse event and/or its severity;
- 4) the costs and benefits of each option;
- 5) the community's willingness to pay to reduce risks; and
- 6) choosing the option(s) that collectively maximise the net benefit to the community (or minimise a net loss).

1) Likelihood

Bottom Line: No assessment has been made by the KCDC of where the shoreline is likely to be in 50 and 100 years. The Coastal Systems Limited (CSL) Report/KCDC 'prediction lines' are fanciful and extreme conjectures. The most important fact is that NIWA has reported that no statistically significant acceleration is discernible in the long-run rate of sea-level rise in the region of 0.2 metres per century.

- The CSL report made no assessment of where the shoreline was likely to be in 50 and 100 years, despite its misleading 'prediction-line' terminology. Instead it only made 'what-if' projections. It made no assessment of the validity of key input assumptions.
- The KCDC utterly misunderstood this in August 2012 when it wrote to property owners asserting that it was including information in their LIMs relating to "where the shoreline was likely to be" in 50 and 100 years.
- The most-widely asserted authority on these matters, the International Protocol on Climate Change (IPCC) has not predicted what sea-level rise is likely in the next 50 or 100 years
- The KCDC failed to instruct Dr Shand (CSL) to comply with the MfE's recommendation to local authorities in its 2008 Coastal Guide that they use 0.5 metres as the base case for sea level rise to 2090-2099 *along with* a higher rise of 0.8 metres. While the Guide made no case that either of these projections was a likely outcome, its 'base case' terminology suggests that it thought that this projection was the more realistic of the two making the higher one more of a 'sensitivity analysis' nature.
- In the event the CSL Report failed to comply with the MfE's recommendation that 0.5 metres be used.
- No satisfactory reason has been given as to why the KCDC did not require the CSL Report to comply with the MfE Manual in this respect. The KCDC's response that cost was a factor is ludicrous given the amounts at stake.
- NIWA has done an update report in 2010 that does its best to justify projections of an enormous acceleration in the rate of sea-level rise, starting from around 1990, but gives no clear-cut objective scientific evidence of any acceleration in the observational record

¹ This is a lightly edited version (13 July 2015) of versions of a note in late 2012 and early 2013 to assist submitters on the draft PDP.

and clearly bases its conjectures on the ‘what-if’ projections of the IPCC for global sea-level rise. Since these are not likelihood predictions, neither are those in NIWA’s update report.

- The ‘after-the-event’ fall-back position for the KCDC has been that the projections are something like a worst-case scenario, but something called the precautionary principle makes this an acceptable basis for amending LIM reports and forming policy in the proposed District Plan. From a public policy perspective this is ridiculous. The ancient basis for a precautionary approach is embodied the Hippocratic oath “first do no harm”. The KCDC has not identified any harm from waiting for some decades to see if the hypothesised sea level acceleration occurs, yet proposes to impose major anticipatory harms on existing property owners immediately.

2) Net cost to the community of projected sea level rise

- The KCDC has made no estimate of the cost to the community of the feared projected sea level rises
- It has explained in part that it has not done so because it does not know what action private property owners will take to protect their properties in the event of an acceleration in sea-level rise.

3) Options for responding to the feared sea-level rise

- The KCDC has not identified the option of ‘wait and see’ before acting to undermine private property rights
- It has explained that it has not provided even the most basic information about the cost of sea-walls and other protective structures.

4) Costs and benefits of the options

- No costs and benefits have been quantified for any of the options

5) Community willingness to pay to bear risks

- The KCDC has not quantified willingness to pay to bear risks. To the contrary, it is signalling opposition to allowing property owners to increase their exposures when investing in their properties as well as to allowing them to build protective walls.

6) Choosing the option that maximises net benefits within the community

- Since no formal option identification process has been followed and no net benefit calculations have been made, the KCDC is not basing its proposed District Plan on any rigorous and systematic evaluation of community benefit.