

29 August 2019

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Dear Sir

### **Supplementary Submission: Local Government Funding and Financing**

We make the following supplementary comments on the proposals.

Some of our members believe there should be more emphasis placed on climate change and that it should not be referred to as sea-level rise alone. Doing so gives an impression this is the only issue to deal with, when in fact climate change is not just a sea-level rise problem but is also likely to increase the probability\* of extreme events.

We are likely to experience more droughts, floods, high intensity short duration rainfall events and more storm-surge and high-wave events at shorelines. The corresponding effects will include, but not be limited to:

- droughts and the need to find, and implement, additional or alternative water sources for water supplies
- increased summertime demands (for both human consumption and garden/lawn watering)
- increased risk of compromise or security breached for water supply source systems (eg; well surrounds being eroded and thus the “secure” status being placed at risk)
- increased failure rates for stormwater systems and/or the need for upgrades
- increased pumping for outfalls which pump into receiving river systems which will be at a higher level more often
- increased inflows and infiltration into wastewater systems
- increased risk of compromise or security breached for water supply source systems (eg; well surrounds being eroded and thus the “secure” status being placed at risk)
- greater need for stormwater system retention storage and upgraded infrastructure
- higher/earlier wastewater overflows due to higher inflows and infiltration and so the need for upgraded infrastructure
- more storm-surge/high-wave events
- increased ‘attack’ on shoreline protection
- increased erosion of sand dune protections
- increased erosion of shorelines
- exposure of old waste-material ‘dumps’ near shorelines and estuaries.

\*NIWA et al data has suggested a halving (or worse) of the ARI, (eg; more frequent high intensity rainfall). Thus, extreme events could be twice as likely and so consequences will be significant. For example; if a stormwater system is designed for an ‘old’ 50 year event, it will

need to be significantly upgraded to cater for the same probability post climate-change – alternatively higher failure rates will need to be factored in, both in terms of community understanding AND the additional finance needed to rectify damage and restore infrastructure.

Similarly, if a drought occurs more often AND a water supply well is affected by saltwater intrusions, a sea-level rise PLUS the extra demand loading from a drought will provide a major detrimental compounding effect.

As river floods and sea storm surges occur more frequently, damage to riverbank and sea shoreline protections, soils and buried hazards (eg; old 'dumps') will have a major funding (and environmental) impact.

Yours sincerely

A handwritten signature in black ink, appearing to read "J Pfahlert". The signature is written in a cursive, flowing style.

John Pfahlert  
Chief Executive