

From: [REDACTED]
Date: Friday, 16 July 2021 at 12:20
To: Wendy McGuinness <wmcg@mcguinnessinstitute.org>
Subject: RE: OIA 2021/13: New Zealand Reference Scenarios

Kia ora Wendy

Many thanks for your email. I have responded to your questions below.

Nga mihi
[REDACTED]

From: Wendy McGuinness <wmcg@mcguinnessinstitute.org>
Sent: Friday, 16 July 2021 8:28 AM
To: [REDACTED]
Subject: OIA 2021/13: New Zealand Reference Scenarios

Mōrena [REDACTED]

The Institute is undertaking some research into New Zealand reference scenarios. To this end we wondered if you or your team could answer a few quick questions.

Background

Given our preliminary research, NIWA appears to be the designated government provider of climate scenarios (see links: [Climate change scenarios for New Zealand](#) and [Earlier New Zealand regional scenarios](#)). We note that NIWA has also prepared a 2018 report on the topic for MfE: [Climate Change Projections for New Zealand](#). We understand MBIE has completed some work in this area, but this tends to be quite specific – for example, their 2019 report on [Electricity demand and generation scenarios: Scenario and results summary](#). On Tuesday we attended an event where Karen Silk (Westpac) referred to a project where the banks were working with NIWA on climate projections, which further supported this view.

Our interest in New Zealand reference scenarios is two-fold. The Institute has been working on TCFD-based reporting (see for example our latest research on annual reports of NZSX-listed companies that publish TCFD-based information, Working Paper 2021/06, found [here](#)). We are interested in ensuring preparers have useful and relevant scenarios for assessing their business strategy and therefore their organisation's resilience. The 2017 TCFD recommendations can be found [here](#), and the eleven disclosure requirements found in Figure 3 (p.14) are copied below – see the relevant disclosure in the second column Strategy (c). Secondly, we are interested in ensuring New Zealanders have the best scenarios possible to make decisions, this includes citizens, councils, iwi, departments and of course business. To this end, we have eight questions.

Questions

1. Is there any other major document (in addition to the website page noted above) on New Zealand's 2016 climate change scenarios?

The 2018 report for MfE is NIWA's most up-to-date and comprehensive report on climate change projections for Aotearoa. We have also produced several regional reports

(see: <https://niwa.co.nz/climate/research-projects/providing-climate-change-advice-to-new-zealands-regions>) based on the same climate model dataset. The projected climate change hazard information in the NCCRA was also based on the same dataset.

2. What work is being done to update the 2016 climate change scenarios for New Zealand? Can you advise who is involved and whether the type of content will be similar to the 2016 scenarios?

We utilise NIWA allocated Strategic Science Investment Fund (SSIF) resources to continually improve our regional climate modelling which we use in association with the latest global climate model output (e.g. from CMIP6 and from the NZ Earth System Model being developed by the Deep South NSC). Our goal is to continually improve the accuracy and resolution of the regional climate model so that climate projections for Aotearoa have the greatest relevancy to all stakeholders. At present, we are working to a schedule to update the climate change dataset for Aotearoa by 2023/24. The dataset will be similar to the current projections, but will be based on a range of SSP/RCPs consistent with the IPCC 6th Assessment.

3. Do you consider, or would you consider, the 2016 scenarios 'New Zealand reference scenarios' (or equivalent)?
Note: The Institute believes these are New Zealand's reference scenarios but we would like this clarified.

Whilst NIWA is committed to producing updated climate change datasets utilising our regional climate model and based on global model output, and whilst we have been commissioned in the past by central government (e.g. MfE, MPI, DoC), regional and local government, iwi and various organisations to produce guidance based on these datasets, as far as I'm aware the datasets have never been referred to as 'New Zealand reference scenarios'.

4. Do you know of another organisation being tasked with preparing the government's climate change reference scenarios for New Zealand?

No, I am unaware of this.

5. As far as you are aware, is NIWA the designated preparer of climate change scenarios for New Zealand?

As far as I'm aware, NIWA has not been designated as such. Our [Statement of Core Purpose](#) (defined by the government) includes the following text:

"NIWA'S purpose is... to provide understanding of climate and the atmosphere and increase resilience to weather and climate hazards to improve safety and wellbeing of New Zealanders."

NIWA's response to how we will fulfil the SCP is described in our [2021/22 Statement of Corporate Intent](#), which includes the following text (page 13):

"To provide the guidance and expertise required by New Zealand decision makers to respond and adapt to the impacts of climate change, NIWA will:

- Develop improved high-resolution projections of climate, freshwater and ocean state, including extremes, on timescales from months to a century. This will be achieved using a state-of-the-art

modelling chain (covering the observations and Earth system, regional climate, and hydrological modelling) and data analytics on NIWA's High Performance Computing Facility."

6. When is NIWA hoping to publish a new set of climate change scenarios for New Zealand (updating the 2016 scenarios)?

Our current plan (if all goes well) is to publish these data in 2023/24.

7. Can you advise if the type of work the banks have undertaken/are undertaking with NIWA (as per Karen Silks comment above), relates specifically to scenarios, or are more general in nature? If they do relate to scenarios, will this information be made public?

The work with banks is primarily around building a tool for internal display and analysis of exposure of their assets and locations of interest to coastal flooding associated with storm surge and sea level rise. It is for the banks to decide how they will use this exposure information internally, to better manage their risks. The coastal inundation data are not public, but previous versions of these data have been used for public-release reports such as for the PCE.

8. Would you be able to direct us to a report, paper or even provide an opinion on why New Zealand needs its own set of reference scenarios? Note: The Institute considers this is essential but it would be useful to have an expert explanation that provides or at least explores the pros and cons.

I am unaware of any such report or paper. NIWA is very happy to work with the government and others to address all stakeholders' climate change data and information needs in whatever way is most useful.

The Institute would like to do further work in this space, in particular, exploring what would make a set of New Zealand reference scenarios successful. If we do progress this work, would you or one of you staff be interested in joining us for a lunch discussion on the topic?

Thank you Wendy. I'm very happy to participate.

Thank you again for sharing your data on. We were delighted with the feedback we received from social media on the [Carbon dioxide concentration \(data from Baring Head, Wellington\)](#).

Best wishes, Wendy

PS: Thank you also for providing your [climate maps](#), we have found them very useful.

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