

## NOTICE OF FILING

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A handwritten signature in blue ink that reads 'Sia Lagos'.

Registrar

### Important Information

This Notice has been inserted as the first page of the document which has been accepted for electronic filing. It is now taken to be part of that document for the purposes of the proceeding in the Court and contains important information for all parties to that proceeding. It must be included in the document served on each of those parties.

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**Pabai & Anor v Commonwealth of Australia (VID622/2021)**  
**Federal Court of Australia**

**Supplementary Expert Report of Emeritus Professor John Church AO FAA FTSE**  
**Climate Change Research Centre**  
**University of New South Wales**

I have prepared this supplementary report in response to an expert brief provided to me by Phi Finney McDonald who are acting on behalf of Pabai Pabai and Guy Paul Kabai.

I acknowledge that I have been provided with, read, complied with, and agree to be bound by the Federal Court of Australia Expert Evidence Practice Note (GPN-EXPT) and Harmonised Expert Witness Code of Conduct.

My opinions in this supplementary report are based wholly or substantially on specialised knowledge arising from my training, study or experience.

I have made all the inquiries which I believe are desirable and appropriate (save for any matters identified explicitly in this report) and confirm that no matters of significance which I regard as relevant have, to my knowledge, been withheld from the Court.

Yours Sincerely,

A handwritten signature in cursive script that reads 'John Church'.

John Church  
18/11/2023

**Supplementary Question 1**

*We understand that you wish to clarify your opinion in paragraph 60 of your expert report dated 14 July 2023. To the extent you consider appropriate, please set out that clarification.*

1. To clarify the Slangen et al. (2016) result (paragraph 60 of my original Export Report) that after 1970 anthropogenic climate change was responsible for  $69 \pm 31\%$  of the observed sea level rise, I list three factors that suggest Slangen et al. (2016) may have underestimated the climate-related anthropogenic component of sea-level rise since 1970:
  - a. Roe et al. (2021) argued that Marzeion et al. (2014, as used by Slangen et al. 2016) had underestimated the anthropogenic component of glacier mass loss since 1900.
  - b. Simulations of sea-level rise over 1971-2010 explain 90% (60 to 120%) of the observed rise (Church et al. 2013; see also Slangen et al. 2017). (Note the IPCC AR6 (Fox-Kemper et al. 2021) has similar budget closure estimates.)
  - c. The only clear non-climate related anthropogenic component over 1971 to 2010 is a decrease in land water storage at 6% (2 to 11%) of the observed rise (Church et al. 2013).

Together these results indicate that the observed sea-level rise since 1970 is mostly the result of anthropogenic climate change, with a small contribution from a decrease in land water storage and an increasing ice sheet contribution.