Parliamentary Budget Office

Preparing for Climate Impacts	
Party:	Australian Greens

Summary of proposal:

The proposal includes four components which would provide funding to prepare and respond to natural disasters.

- **Component 1:** Provide $5 billion, divided evenly over ten years, to be used as funding to support fire and emergency services across state and territories. Funding would be administered through grants to address difficulties in upgrading equipment, bushfire prevention and land management programs, as well as supporting the hiring and training of new personnel. Additional funding would be provided to meet departmental expenses.
- **Component 2:** Provide one-off grants of up to $20,000 to all single dwelling households in high-risk areas for flood or cyclone to subsidise the costs of proofing the house against cyclones and floods.
  - Existing dwellings, and dwellings built after 1 July 2023 would be eligible for the grant.
  - Where a household is seeking a grant more than $3,000 – itemised quotes of the work to be undertaken would be provided with the application.
  - Payments would be made available when cyclone and/or flood proofing contracts are entered into.
  - Applicants would be required to make a 50% co-contribution towards the approved works.
- **Component 3:** Provide $600 million per year until 2026-27, to fund mitigation works across the nation, to be drawn from the Emergency Response Fund (ERF) in addition to what is already drawn. From 2027-28, an additional $300 million per annum would be provided. This money must be spent each year on mitigation works.
- **Component 4:** Provide $25 million a year, indexed at consumer price index (CPI), to establish a new research institute to examine and propose measures to help draw down carbon from the atmosphere and prevent climate change. It would be co-located within existing public service premises.

The proposal would be ongoing from 1 July 2023.

Costing overview

The proposal would be expected to decrease the fiscal balance by around $6,510 million and decrease the underlying cash and headline cash balance by around $6,490 million over the 2022-23 Budget forward estimates period.

The proposal would have an impact beyond the 2022-23 Budget forward estimates period. A breakdown of the financial implications over the period to 2032-33 is provided at Attachment A. The financial implications include the impact on public debt interest because Component 3 of the proposal involves changes in financial assets held by the Australian Government through the ERF.

The financial implications of Component 2 are sensitive to assumptions around the program uptake, which is driven by behavioural responses from eligible households and the building construction industry. Payments would be made available once contracts are entered into rather than as work is done. This means there would be a delay between contracting work and the work being performed.

The financial implications of Component 3 are sensitive to estimates around the rate of return that would be achieved by the fund. It is assumed that the fund's benchmark would be representative of the performance of the fund over the medium term.

The current estimated earnings of the ERF are sufficient to cover the funds for existing commitments, but not the additional specified payment amounts. This means ERF's balance would decrease over time under the proposal.

Table 1: Financial implications ($m)[(a)(b)]

	2022-23	2023-24	2024-25	2025-26	**Total to 2025-26**
Fiscal balance	-	-2,071.7	-2,165.3	-2,271.2	**-6,508.2**
Underlying cash balance	-	-2,068.7	-2,159.3	-2,265.2	**-6,493.2**
Headline cash balance	-	-2,068.7	-2,159.3	-2,265.2	**-6,493.2**

(a) A positive number represents an increase in the relevant budget balance; a negative number represents a decrease.

\- Indicates nil.

Key assumptions

The Parliamentary Budget Office (PBO) has made the following assumptions in costing this proposal.

Component 2

- On average, around 48,000 eligible households would apply for the grant per year over the medium term. Of the eligible households, around 30,000 grants would be for new dwellings and around 18,000 would be for existing dwellings.
  - Program uptake for new households would be driven by the rate of new dwelling construction. Program uptake for the existing dwellings cohort would be higher in the first half of the medium-term.
  - Owners of all eligible new dwellings would apply for the full $20,000 grant due to the financial incentives and relative ease to incorporate enhancements during the construction process.
  - Exiting homeowner uptake is informed by the take-up rate of the Household Resilience Program in 2019-20 administered by the Queensland Government and adjusting for the value of co-contribution.
  - The behavioural impact of co-contribution is based on the price elasticity of demand for house insurance of -0.1 (in line with a 2008 Australian National University research paper *Insurance Law and Economics: An Analysis of the Demand for House and Contents Insurance in Australia*).
- Eligible existing homeowners would access on average $15,000 to retrofit their dwelling.

- Grants would be administered by the states and territories, leveraging existing resources. As such, Commonwealth departmental expenses would be absorbed by existing resources and are therefore not significant.

Component 3

- The annual rate of forgone return from the ERF would be equivalent to the benchmark rate of return of 2.5% above the CPI over the medium term.
- Associated departmental expenses would be minimal and absorbed by existing resources.
- In the absence of this proposal, $50 million would be drawn from the ERF each year.

Methodology

Component 1

Administered expenses were distributed evenly over 10 years as specified in the costing request. Departmental expenses were based on a program of similar nature.

Component 2

Financial implications were calculated by multiplying the specified payment amount by the estimated number of new eligible new dwellings and a proportion of existing dwellings as described above.

The estimates of the number of eligible households were informed by:

- The cyclone and floods risk analysis published by the Insurance Australia Group (IAG) and SGS Economics and Planning
- Actual uptake of the Household Resilience Program adjusted for the expended geographical coverage and a greater scope of eligibility of the proposed scheme, as well as the assumed lower take-up in response to the higher co-contribution percentage.

Component 3

Financial implications were the impact of the specified payments and net of the forgone earnings. The financial impact of the proposal would be partially offset by a reduction in fund management costs associated with the decreasing value of the ERF.

Component 4

Financial implications for the institute by CPI as specified in the costing request.

Financial implications were rounded consistent with the PBO's rounding rules as outlined on the PBO Costings and budget information webpage.[1]

Data sources

Data for the number of eligible dwellings located in Local Government Areas (LGAs) at high risk of cyclone and flood damage was taken from the sum of dwellings categorised as a 'separate house' in

[1] https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Budget_Office/Costings_and_budget_information

the dataset, Australian Bureau of Statistics (ABS), *LGA 2011 based data for Dwelling Structure Basic Community Profile Table B31*, 2011, accessed 9 November 2021.

Details of the Household Resilience Program was taken from the Department of Housing and Public Works, *2019-2020 Annual Report*, page 10, Australian Government, 2020, accessed 9 November 2021.

Estimates of tropical cyclone risk and flood risk by LGA was taken from the dataset, Insurance Australia Group (IAG) and SGS Economics and Planning, *SGS Economics and Planning and IAG - Natural Perils Risks*, 2016, accessed 9 November 2021.

Information on the benchmark return and risk of capital loss of the Emergency Response Fund was taken from the, Future Fund Board of Guardians, *Statement of Investment Policies*, February 2021, accessed 9 November 2021.

The annual limit on amounts debited from the ERF Special Account was taken from the Emergency Response Fund Act 2019, section 34, accessed 9 November 2021.

The Department of Finance provided estimates of the Emergency Response Fund net assets under management and management costs over the medium term.

The Department of the Treasury provided CPI projections as at the 2022-23 Budget.

The estimate for the price of demand of elasticity for house insurance is from, G Barker and R Tooth, 'Insurance Law and Economics: An Analysis of the Demand for House and Contents Insurance in Australia', *ANU Centre for Law and Economics*, Working Paper No.1, 2008, accessed 14 February 2022.

The rate of change in the number of dwellings located in LGAs at high risk of cyclone and flood damage was calculated from the sum of dwellings categorised as 'separate house' between 2006 and 2016, taken from the dataset, Australian Bureau of Statistics (ABS), *Census Time Series 2016, 2011, 2006: T24 Dwelling Structure by Dwelling Type (LGA)*, accessed 9 November 2021.

Tropical cyclone risk and flood risk by LGA was informed by the report, Insurance Australia Group (IAG) and SGS Economics and Planning, *At what cost? Mapping where natural perils impact on economic growth and communities*, accessed 9 November 2021.

Attachment A – Preparing for Climate Impacts – financial implications

Table A1: Preparing for Climate Impacts – Fiscal balance ($m)[(a)]

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total to 2025-26	Total to 2032-33
Non – tax revenue													
Component 3: Investment earnings	-	-36.0	-71.0	-106.0	-138.0	-160.0	-186.0	-214.0	-243.0	-269.0	-299.0	**-213.0**	**-1,722.0**
Total – administered non-tax	-	**-36.0**	**-71.0**	**-106.0**	**-138.0**	**-160.0**	**-186.0**	**-214.0**	**-243.0**	**-269.0**	**-299.0**	**-213.0**	**-1,722.0**
Expenses													
Administered													
Component 1: Grants to support fire and emergency services	-	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	**-1,500.0**	**-5,000.0**
Component 2: Grants to retrofit for cyclones and floods	-	-871.0	-895.0	-919.0	-926.0	-916.0	-905.0	-861.0	-783.0	-704.0	-711.0	**-2,685.0**	**-8,491.0**
Component 3: Grant payments	-	-600.0	-600.0	-600.0	-600.0	-300.0	-300.0	-300.0	-300.0	-300.0	-300.0	**-1,800.0**	**-4,200.0**
Component 3: Reduction in management fees	-	2.6	5.3	8.1	11.1	12.9	14.8	16.9	19.0	21.2	23.6	**16.0**	**135.5**
Total – administered	-	**-1,968.4**	**-1,989.7**	**-2,010.9**	**-2,014.9**	**-1,703.1**	**-1,690.2**	**-1,644.1**	**-1,564.0**	**-1,482.8**	**-1,487.4**	**-5,969.0**	**-17,555.5**
Departmental													
Component 1: Grants to support fire and emergency services	-	-19.3	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	**-35.1**	**-90.4**
Component 4: New research institute	-	-25.0	-25.7	-26.4	-27.0	-27.7	-28.3	-29.0	-29.8	-30.5	-31.3	**-77.1**	**-280.7**
Total – departmental	-	**-44.3**	**-33.6**	**-34.3**	**-34.9**	**-35.6**	**-36.2**	**-36.9**	**-37.7**	**-38.4**	**-39.2**	**-112.2**	**-371.1**
Total – expenses	-	**-2,012.7**	**-2,023.3**	**-2,045.2**	**-2,049.8**	**-1,738.7**	**-1,726.4**	**-1,681.0**	**-1,601.7**	**-1,521.2**	**-1,526.6**	**-6,081.2**	**-17,926.6**
Total (excluding PDI)	-	**-2,048.7**	**-2,094.3**	**-2,151.2**	**-2,187.8**	**-1,898.7**	**-1,912.4**	**-1,895.0**	**-1,844.7**	**-1,790.2**	**-1,825.6**	**-6,294.2**	**-19,648.6**
PDI impacts	-	**-23.0**	**-71.0**	**-120.0**	**-175.0**	**-232.0**	**-291.0**	**-356.0**	**-426.0**	**-502.0**	**-584.0**	**-214.0**	**-2,780.0**
Total (including PDI)	-	**-2,071.7**	**-2,165.3**	**-2,271.2**	**-2,362.8**	**-2,130.7**	**-2,203.4**	**-2,251.0**	**-2,270.7**	**-2,292.2**	**-2,409.6**	**-6,508.2**	**-22,428.6**

(a) A positive number for the fiscal balance indicates an increase in revenue or a decrease in expenses or net capital investment in accrual terms. A negative number for the fiscal balance indicates a decrease in revenue or an increase in expenses or net capital investment in accrual terms.

\- Indicates nil.

Table A2: Preparing for Climate Impacts – Underlying and headline cash balance ($m)[(a)]

	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total to 2025-26	Total to 2032-33
Non-tax receipts													
Component 3: Investment earnings	-	-36.0	-71.0	-106.0	-138.0	-160.0	-186.0	-214.0	-243.0	-269.0	-299.0	**-213.0**	**-1,722.0**
Total - administered non-tax	-	***-36.0***	***-71.0***	***-106.0***	***-138.0***	***-160.0***	***-186.0***	***-214.0***	***-243.0***	***-269.0***	***-299.0***	***-213.0***	***-1,722.0***
Payments													
Administered													
Component 1: Grants to support fire and emergency services	-	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0	**-1,500.0**	**-5,000.0**
Component 2: Grants to retrofit for cyclones and floods	-	-871.0	-895.0	-919.0	-926.0	-916.0	-905.0	-861.0	-783.0	-704.0	-711.0	**-2,685.0**	**-8,491.0**
Component 3: Grant payments	-	-600.0	-600.0	-600.0	-600.0	-300.0	-300.0	-300.0	-300.0	-300.0	-300.0	**-1,800.0**	**-4,200.0**
Component 3: Reduction in management fees	-	2.6	5.3	8.1	11.1	12.9	14.8	16.9	19.0	21.2	23.6	**16.0**	**135.5**
Total – administered	-	***-1,968.4***	***-1,989.7***	***-2,010.9***	***-2,014.9***	***-1,703.1***	***-1,690.2***	***-1,644.1***	***-1,564.0***	***-1,482.8***	***-1,487.4***	***-5,969.0***	***-17,555.5***
Departmental													
Component 1: Grants to support fire and emergency services	-	-19.3	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9	**-35.1**	**-90.4**
Component 4: New research institute	-	-25.0	-25.7	-26.4	-27.0	-27.7	-28.3	-29.0	-29.8	-30.5	-31.3	**-77.1**	**-280.7**
Total – departmental	-	***-44.3***	***-33.6***	***-34.3***	***-34.9***	***-35.6***	***-36.2***	***-36.9***	***-37.7***	***-38.4***	***-39.2***	***-112.2***	***-371.1***
Total – payments	**-**	**-2,012.7**	**-2,023.3**	**-2,045.2**	**-2,049.8**	**-1,738.7**	**-1,726.4**	**-1,681.0**	**-1,601.7**	**-1,521.2**	**-1,526.6**	**-6,081.2**	**-17,926.6**
Total (excluding PDI)	**-**	**-2,048.7**	**-2,094.3**	**-2,151.2**	**-2,187.8**	**-1,898.7**	**-1,912.4**	**-1,895.0**	**-1,844.7**	**-1,790.2**	**-1,825.6**	**-6,294.2**	**-19,648.6**
PDI impacts	-	***-20.0***	***-65.0***	***-114.0***	***-168.0***	***-225.0***	***-284.0***	***-348.0***	***-418.0***	***-493.0***	***-574.0***	***-199.0***	***-2,709.0***
Total (including PDI)	**-**	**-2,068.7**	**-2,159.3**	**-2,265.2**	**-2,355.8**	**-2,123.7**	**-2,196.4**	**-2,243.0**	**-2,262.7**	**-2,283.2**	**-2,399.6**	**-6,493.2**	**-22,357.6**

(a) A positive number for the underlying cash balance indicates an increase in receipts or a decrease in payments or net capital investment in cash terms. A negative number for the underlying cash balance indicates a decrease in receipts or an increase in payments or net capital investment in cash terms.

\- Indicates nil.