Parliamentary Budget Office

ECR-2025-3200

Support for household electrification - storage solutions	
Party:	Australian Greens
Summary of proposal: The proposal would provide households access to grants of up to $5,000 and low-interest loans of up to $10,000 to install household storage technology. The proposal would start on 1 July 2025.	

Costing overview

The proposal would be expected to decrease the fiscal balance by around $2.3 billion, the underlying cash balance by around $2.0 billion and the headline cash balance by around $3.4 billion over the 2025-26 Budget forward estimates period (see Table 1). This impact reflects an increase in administered expenses for provisioning grants and loans, an increase in administered revenue from loan repayments and interest, and a slight increase in departmental expenses.

The proposal would be expected to have an impact beyond the 2025-26 Budget forward estimates period. A breakdown of the financial implications over the period to 2035-36 is provided at Attachment A.

Table 1: Support for household electrification - storage solutions – Financial implications ($m)[(a)(b)]

	2025-26	2026-27	2027-28	2028-29	**Total to 2028-29**
Fiscal balance	-523.3	-549.0	-577.6	-610.2	**-2,260.1**
Underlying cash balance	-443.3	-475.0	-513.6	-555.2	**-1,987.1**
Headline cash balance	-839.3	-842.0	-850.6	-861.2	**-3,393.1**

(a) A positive number represents an increase in the relevant budget balance; a negative number represents a decrease.
(b) PDI impacts are included in the totals.

Consistent with the Parliamentary Budget Office (PBO) Guidance 02/2015, PDI expense impacts have been included in this costing because the concessional loans provided under this proposal involve financial asset transactions.

The fiscal, underlying cash and headline cash balance impacts differ in the treatment of interest and dividend payments, and the flow of equity and loan principal. In particular, only the fiscal balance reflects the concessional loan discount expense and associated unwinding income, and only the headline cash balance includes transactions related to equity and loan principal amounts. The impact on net debt will be broadly consistent with movements in the headline cash balance. A note on the accounting treatment of concessional loans is included at Attachment B.

Uncertainties

The financial implications of the grant and loan schemes for household solar storage are sensitive to and have uncertainties around the:

- uptake rates of the concessional loans and grants for battery storage units; the percentage of eligible households, external economic shocks, changes to the current financial incentives and schemes for electricity generation, interactions of existing state/territory schemes with this policy, technological advancements, climate and the perceived benefits (or risks) of installations.
- upfront costs for solar storage systems across the medium term, and the projected costs of home batteries over the next decade.
- average battery size sought by consumers across the medium term.

The PBO has not made any assessment of how this proposal would interact with other subsidies or schemes available.

Behavioural response

The number of households that would purchase home batteries nationally is estimated to increase by 10%. This behavioural response is informed by the *Small-scale solar PV and battery projections 2022* report conducted by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) on behalf of the Australian Energy Market Operator (AEMO). In this report they projected take-up rates of solar battery storage in various scenarios. The PBO has used the "Progressive Change" scenario as a baseline (AEMO's conservative projection).

Departmental

Departmental funding has been allocated to account for the compliance, policy development, program administration and information communication technology (ICT) costs associated with provisioning grants and managing the concessional loans.

Key assumptions

The PBO has made the following assumptions in costing this proposal.

- The number of household battery installations would initially be around 80,000 in 2025-26 and would grow in line with projected demand of solar storage rebates in the states and territories. This is informed by:
  - projections from the AEMO
  - analysis from the Clean Energy Council's *Rooftop solar and storage report.*
- A 10% behavioural response would occur with regards to the number of additional households that would apply for this policy (as detailed under "Behavioural response" above).
- Battery installation and upgrade costs would decrease in line with the CSIRO's projected figures in the *2023-24 GenCost Final Report* until 2035-36.
  - GenCost only projects capital costs for large-scale batteries, but they state in the report that capital costs for home batteries are around double this amount.
- The estimated solar battery size (10 kilowatt-hours, kWh) would be the same over the medium term based on assumption made in Aurecon's *2023 Costs and Technical Parameters Review* regarding a typical residential battery energy storage system.

  - AEMO projections are used for the average cost per kilowatt indexed by the Consumer Price Index (CPI) over the medium term.
  - All households would purchase the average battery size of around 10 kWh.
- All households accessing the grants would fund any outstanding installation costs using a concessional loan up to the specified amount (around $5,000).
- All households which access a concessional loan would also seek a grant.
- The average loan maturity would be 10 years and the default rate for households would be 1.2%. Default rates are based on the RBA observations of non-performing loans and default probabilities for each sector.
- There will be sufficient solar batteries and skilled workers available to carry out the extra installations this policy would generate.

Methodology

The financial implications for this proposal were derived by estimating the number of eligible households that would take up a grant for solar storage and the average costs of installation. The cost of installing solar storage technology would be funded by the full amount of the grant and the remaining amount is funded through the concessional loan.

- This reflects the assumption that consumers would maximise any grant funding by installing a storage system that qualified them for the maximum grant amount.
- The remaining installation costs would be treated as a concessional loan. The PBO has used its existing concessional loan model to calculate the impact to the fiscal, underlying cash and headline cash balances of the loan funding provided, with interest payments at the RBA cash rate, and repayments spread evenly over the maximum 10-year period.
- Average battery costs were based on CSIRO's GenCost two-hour duration battery projections over the medium term under the "Global net zero emissions post-2050" scenario (to match the "Progressive Change" scenario used in the 2022 CSIRO report). These figures were doubled to reflect the CSIRO's assumption that home battery capital costs are double those of large-scale batteries.
- An average battery size of 10 kWh was used over the medium term, which reflects the assumption made by Aurecon in their *2023 Costs and Technical Parameter Review*.
- Battery projections over the medium term were provided by AEMO from 2025-26 until 2033-34, and were used to estimate the figures until 2035-36, by growing the 2025-26 estimated figure in line with the average growth rate over the available projected period.

Departmental costs were based on similar programs administered by the DCCEEW portfolio and estimated using the PBO's departmental cost calculator, which includes indexation to the Wage Cost Index 3 less an efficiency dividend.

Financial implications were rounded consistent with the PBO's rounding rules.[1]

[1] https://www.pbo.gov.au/for-parliamentarians/how-we-analyse/pbo-rounding-rules

Data sources

The Australian Energy Market Operator (AEMO) provided data on projected solar battery uptake over the period from 2022-23 to 2033-34, as at December 2022.

Aurecon (2024) *2023 Costs and Technical Parameters Review*, report to AEMO, Aurecon.

Clean Energy Council (2025) *Rooftop solar and storage report (July—December 2024)*, Clean Energy Council website, accessed 27 May 2025.

CSIRO (Commonwealth Scientific and Industrial Research Organisation) (2022) *Small-scale Solar PV and Battery Projections 2022 (Commissioned by the Australian Energy Market Operator)*, CSIRO website, accessed 26 May 2025.

CSIRO (2024) *GenCost 2023-24: Final report*, CSIRO, accessed 26 May 2025.

CSIRO (2024) *GenCost 2023-24 - Appendix Tables*, CSIRO, accessed 26 May 2025.

Commonwealth of Australia (2025) *Pre-election Economic and Fiscal Outlook 2025,* Commonwealth of Australia.

Department of Climate Change, Energy, the Environment and Water (2023) *Portfolio Budget Statements 2023-24*, Commonwealth of Australia.

RBA (Reserve Bank of Australia) (2024) *Personal Lending Rates – F8* [data set], RBA website, accessed 26 May 2025.

RBA (2024) *Statement by the Reserve Bank Board: Monetary Policy Decision*, RBA website, accessed 26 May 2025.

Attachment A – Support for household electrification - storage solutions – Financial implications

Table A1: Support for household electrification - storage solutions – Fiscal balance ($m)[(a)]

	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	**Total to 2028-29**	**Total to 2035-36**
Revenue													
Administered non-tax													
Income from unwinding concessional loans	*15.0*	*29.0*	*42.0*	*55.0*	*68.0*	*79.0*	*89.0*	*99.0*	*106.0*	*112.0*	*116.0*	***141.0***	***810.0***
Interest accrued from loans	*17.0*	*33.0*	*48.0*	*61.0*	*74.0*	*85.0*	*95.0*	*104.0*	*111.0*	*117.0*	*121.0*	***159.0***	***866.0***
Total – revenue	**32.0**	**62.0**	**90.0**	**116.0**	**142.0**	**164.0**	**184.0**	**203.0**	**217.0**	**229.0**	**237.0**	**300.0**	**1,676.0**
Expenses													
Administered													
Solar storage grants	*-441.0*	*-458.0*	*-475.0*	*-493.0*	*-479.0*	*-455.0*	*-432.0*	*-402.0*	*-370.0*	*-375.0*	*-381.0*	***-1,867.0***	***-4,761.0***
Concessional loan discount expenses	*-91.0*	*-94.0*	*-97.0*	*-101.0*	*-105.0*	*-109.0*	*-113.0*	*-117.0*	*-121.0*	*-126.0*	*-131.0*	***-383.0***	***-1,205.0***
Total – administered	***-532.0***	***-552.0***	***-572.0***	***-594.0***	***-584.0***	***-564.0***	***-545.0***	***-519.0***	***-491.0***	***-501.0***	***-512.0***	***-2,250.0***	***-5,966.0***
Departmental													
Department of Climate Change, Energy, the Environment and Water	*-5.3*	*-4.0*	*-3.6*	*-3.2*	*-2.9*	*-2.6*	*-2.4*	*-2.1*	*-1.9*	*-1.7*	*-1.5*	***-16.1***	***-31.2***
Total – expenses	**-537.3**	**-556.0**	**-575.6**	**-597.2**	**-586.9**	**-566.6**	**-547.4**	**-521.1**	**-492.9**	**-502.7**	**-513.5**	**-2,266.1**	**-5,997.2**
Total (excluding PDI)	**-505.3**	**-494.0**	**-485.6**	**-481.2**	**-444.9**	**-402.6**	**-363.4**	**-318.1**	**-275.9**	**-273.7**	**-276.5**	**-1,966.1**	**-4,321.2**
PDI impacts	***-18.0***	***-55.0***	***-92.0***	***-129.0***	***-167.0***	***-203.0***	***-238.0***	***-272.0***	***-304.0***	***-335.0***	***-367.0***	***-294.0***	***-2,180.0***
Total (including PDI)	**-523.3**	**-549.0**	**-577.6**	**-610.2**	**-611.9**	**-605.6**	**-601.4**	**-590.1**	**-579.9**	**-608.7**	**-643.5**	**-2,260.1**	**-6,501.2**

(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.

Table A2: Support for household electrification - storage solutions – Underlying cash balance ($m)[(a)]

	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	**Total to 2028-29**	**Total to 2035-36**
Receipts													
Administered non-tax													
Interest repayments received on loans	*17.0*	*33.0*	*48.0*	*61.0*	*74.0*	*85.0*	*95.0*	*104.0*	*111.0*	*117.0*	*121.0*	***159.0***	***866.0***
Total – receipts	**17.0**	**33.0**	**48.0**	**61.0**	**74.0**	**85.0**	**95.0**	**104.0**	**111.0**	**117.0**	**121.0**	**159.0**	**866.0**
Payments													
Administered													
Solar storage grants	*-441.0*	*-458.0*	*-475.0*	*-493.0*	*-479.0*	*-455.0*	*-432.0*	*-402.0*	*-370.0*	*-375.0*	*-381.0*	***-1,867.0***	***-4,761.0***
Total – administered	***-441.0***	***-458.0***	***-475.0***	***-493.0***	***-479.0***	***-455.0***	***-432.0***	***-402.0***	***-370.0***	***-375.0***	***-381.0***	***-1,867.0***	***-4,761.0***
Departmental													
Department of Climate Change, Energy, the Environment and Water	*-5.3*	*-4.0*	*-3.6*	*-3.2*	*-2.9*	*-2.6*	*-2.4*	*-2.1*	*-1.9*	*-1.7*	*-1.5*	***-16.1***	***-31.2***
Total – payments	**-446.3**	**-462.0**	**-478.6**	**-496.2**	**-481.9**	**-457.6**	**-434.4**	**-404.1**	**-371.9**	**-376.7**	**-382.5**	**-1,883.1**	**-4,792.2**
Total (excluding PDI)	**-429.3**	**-429.0**	**-430.6**	**-435.2**	**-407.9**	**-372.6**	**-339.4**	**-300.1**	**-260.9**	**-259.7**	**-261.5**	**-1,724.1**	**-3,926.2**
PDI impacts	***-14.0***	***-46.0***	***-83.0***	***-120.0***	***-157.0***	***-194.0***	***-229.0***	***-263.0***	***-296.0***	***-327.0***	***-359.0***	***-263.0***	***-2,088.0***
Total (including PDI)	**-443.3**	**-475.0**	**-513.6**	**-555.2**	**-564.9**	**-566.6**	**-568.4**	**-563.1**	**-556.9**	**-586.7**	**-620.5**	**-1,987.1**	**-6,014.2**

(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.

Table A3: Support for household electrification - storage solutions – Headline cash balance ($m)[(a)]

	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	**Total to 2028-29**	**Total to 2035-36**
Receipts													
Administered non-tax													
Interest repayments received on loans	*17.0*	*33.0*	*48.0*	*61.0*	*74.0*	*85.0*	*95.0*	*104.0*	*111.0*	*117.0*	*121.0*	***159.0***	***866.0***
Loan repayments	*43.0*	*88.0*	*135.0*	*183.0*	*233.0*	*285.0*	*339.0*	*395.0*	*453.0*	*514.0*	*533.0*	***449.0***	***3,201.0***
Total – receipts	**60.0**	**121.0**	**183.0**	**244.0**	**307.0**	**370.0**	**434.0**	**499.0**	**564.0**	**631.0**	**654.0**	**608.0**	**4,067.0**
Payments													
Administered													
Solar storage grants	*-441.0*	*-458.0*	*-475.0*	*-493.0*	*-479.0*	*-455.0*	*-432.0*	*-402.0*	*-370.0*	*-375.0*	*-381.0*	***-1,867.0***	***-4,761.0***
Loans made	*-439.0*	*-455.0*	*-472.0*	*-489.0*	*-508.0*	*-527.0*	*-546.0*	*-567.0*	*-588.0*	*-610.0*	*-632.0*	***-1,855.0***	***-5,833.0***
Total – administered	***-880.0***	***-913.0***	***-947.0***	***-982.0***	***-987.0***	***-982.0***	***-978.0***	***-969.0***	***-958.0***	***-985.0***	***-1,013.0***	***-3,722.0***	***-10,594.0***
Departmental													
Department of Climate Change, Energy, the Environment and Water	*-5.3*	*-4.0*	*-3.6*	*-3.2*	*-2.9*	*-2.6*	*-2.4*	*-2.1*	*-1.9*	*-1.7*	*-1.5*	***-16.1***	***-31.2***
Total – payments	**-885.3**	**-917.0**	**-950.6**	**-985.2**	**-989.9**	**-984.6**	**-980.4**	**-971.1**	**-959.9**	**-986.7**	**-1,014.5**	**-3,738.1**	**-10,625.2**
Total (excluding PDI)	**-825.3**	**-796.0**	**-767.6**	**-741.2**	**-682.9**	**-614.6**	**-546.4**	**-472.1**	**-395.9**	**-355.7**	**-360.5**	**-3,130.1**	**-6,558.2**
PDI impacts	***-14.0***	***-46.0***	***-83.0***	***-120.0***	***-157.0***	***-194.0***	***-229.0***	***-263.0***	***-296.0***	***-327.0***	***-359.0***	***-263.0***	***-2,088.0***
Total (including PDI)	**-839.3**	**-842.0**	**-850.6**	**-861.2**	**-839.9**	**-808.6**	**-775.4**	**-735.1**	**-691.9**	**-682.7**	**-719.5**	**-3,393.1**	**-8,646.2**

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

Attachment B – Accounting treatment of concessional loans

A concessional loan is a loan provided on more favourable terms than the borrower could obtain in the financial market. The most common concession is a below-market interest rate, but concessions can also include favourable repayment conditions.

Budget impact[2]

The accounting treatment of concessional loans differs across each budget aggregate. The underlying cash balance only captures actual flows of interest related to the loans. The headline cash balance captures actual flows of principal as well as interest. The fiscal balance captures accrued interest, the value of the concession and any write-offs related to the loans. The interest cost of financing these loans is captured in all budget aggregates, and is separately identified by the PBO.[3] Table B1 provides information about the detail provided in a costing. The provision of concessional loans decreases the Australian Government's net worth if the liabilities issued (the value of Commonwealth Government Securities issued to finance the loans) are greater than the assets created (measured at their 'fair value' or price at which the loans could be sold).

Treatment of debt not expected to be repaid (DNER)

All budget aggregates take into account estimates of the share of loans not expected to be repaid when estimating the value of the concession that is being provided. If a portion of loans are not expected to be repaid, an allowance is made for the expected credit loss on the loans' outstanding balance. Such reductions, both when loans are issued and if loans are subsequently re-valued, are recorded in the budget under 'other economic flows', which are also reflected in net worth.

Table B1: Components of concessional loan financial impacts in costing proposals

Budget item	Appears in	Comments
Interest accrued or received	All budget aggregates	Captures the interest accrued or expected to be received on the value of the debt
Concessional loan discount expense and unwinding revenue	Fiscal balance	The net present value of the concession (based on the difference between the market and concessional interest rates) is captured as an expense in the fiscal balance. As loans are repaid, the remaining value of the concession reduces, so this expense is 'unwound' with a positive impact on the fiscal balance. The concessional discount and its unwinding are not recognised in cash balances as there is no cash inflow or outflow.
Write-offs	Fiscal balance	Debt forgiveness, also known as mutually agreed write-downs (for example in the case of the death of the borrower of a HELP loan) are expensed when they occur, reducing the fiscal balance. These transactions do not affect the cash balances as no cash flows occur. An assessment by the Government that a loan (apart from HELP loans) will not be fully repaid is an 'other economic flow', not included in the fiscal balance.
Initial loan; principal repayments	Headline cash balance	Higher estimates of loans not expected to be repaid lowers principal repayments. These transactions are not included in the fiscal balance or underlying cash balance as they involve the exchange of one financial asset (loan) for another (cash).
Public debt interest (PDI)	All budget aggregates	The PDI impact is the cost of the change in the government's borrowing requirements to fund the loans. The net headline cash balance impact excluding PDI is used to estimate the proposal's impact on PDI payments.

[2] The PBO's treatment of these loans is consistent with the Department of Finance costing guidelines.

[3] This is in accordance with *PBO Guidance 02/2015* and the Charter of Budget Honesty Policy Costing Guidelines which specify that costings of proposals that 'involve transactions of financial assets' need to take into account the impact on PDI payments.