ESTIMATING BACKFLOWS FROM PUBLIC CLIMATE LOANS

Methods and supporting evidence for “The Climate Finance Boomerang” report published by CARE

By Rasmus Bo Sørensen, INKA Consult



2 November 2026

TABLE OF CONTENTS

1 Summary and reading guide 3
2 Sources and reported loan values 4
3 Loan terms and repayment calculations 7
4 Results and strength of evidence 10
5 Continued lending assumptions and results 13
6 Interpretation comparisons and validation 16
Annex A Full lender breakdown 19
Annex B Valuation source versions and detailed checks 21
Annex C The public report loan illustrations 23

1 SUMMARY AND READING GUIDE

This companion supports the policy report *The Climate Finance Boomerang*. It explains how we used reported loan amounts and available loan terms to estimate repayments, and gives the evidence needed to assess the findings. Backflows are the estimated amounts due on the public climate loans assessed in this report, including repayment of the amount borrowed, interest and fees we can calculate. They do not record payments actually made, because the source databases do not provide a comprehensive record of repayments linked to these climate loans.

We assessed 18,271 reporting entries from 14 bilateral provider countries and 25 multilateral institutions and funds. We call these entries records. A project can appear in several records or years, so the count does not necessarily represent distinct loans or projects. Reported loan value totals USD 531.3 billion. We could estimate repayment schedules for 17,556 records worth USD 489.3 billion. The remaining 715 records, worth USD 42.0 billion, lack enough information for a schedule.

Under our central assumptions, the scheduled loans generate USD 663.3 billion in lifetime backflows: USD 489.3 billion of principal, USD 171.9 billion of interest and USD 2.1 billion of calculable fees. Annual backflows reach USD 20.1 billion in 2024 and peak at USD 31.5 billion in 2031. These estimates include no lending after 2024. Their last scheduled payment is in 2080.

Table 1. Reported portfolio and central repayment totals | Nominal USD billion

Central portfolio measure	USD billion
Reported loan value assessed	531.3
Reported loan value supporting schedules	489.3
Unresolved reported loan value	42.0
Estimated repayments through 2050	621.5
Estimated repayments after 2050	41.8
Estimated lifetime repayments	663.3
Conditional total including unresolved principal only	705.3

Adding the unresolved USD 42.0 billion as principal alone gives the conditional USD 705.3 billion total. Those loans have no estimated interest, fees or payment dates. Unknown fees are excluded throughout. Interest and fees are not lender profit, which would also depend on funding costs, operating costs and losses.

If lending continues at its 2024 level and terms stay unchanged, backflows from reported and assumed future loans first exceed assumed new loan value in 2036. This is an annual comparison within a stated scenario, not a forecast or a measure of actual net climate-finance transfers. Section 5 explains the assumptions and alternatives.

Schedules cover 92.1% of reported value and 96.1% of records. Clear terms for the individual project cover only 5.0% of value and 4.8% of records. Most schedules use published lender terms or repayment patterns from other loans. Schedule coverage therefore tells us how much we can model, not how many individual contracts we know.

How to use this companion

Sections 1–6 explain the evidence, repayment method, findings and limits. Annex A lists the providers. Annex B gives the core formulas, source versions and checks; Annex C explains the two loan illustrations used in the policy report. Full annual schedules, supplementary scenario tables and additional valuations are available on request.

2 SOURCES AND REPORTED LOAN VALUES

What the assessment includes

We include identifiable public climate loans on both concessional and non-concessional terms. Private finance, equity, guarantees and export credits are outside scope. An instrument labelled "Other" in climate finance databases is included only if the evidence identifies a standard public loan. We exclude instruments whose loan status cannot be established. Bilateral contributions to multilateral institutions are not added again to those institutions' loans.

National Biennial Reports (BRs) and Biennial Transparency Reports (BTRs) to the United Nations Framework Convention on Climate Change (UNFCCC) supply bilateral amounts through 2022 (UNFCCC, n.d.a, n.d.b). Climate-Related Development Finance from the recipient perspective (CRDF-RP), published by the Organisation for Economic Co-operation and Development (OECD), supplies bilateral amounts for 2023–2024 and multilateral amounts throughout (OECD, n.d.a). Its bilateral data also originate in national reporting. OECD Creditor Reporting System (CRS) data and lender documents supply loan terms, not additional loan amounts (OECD, n.d.b).

Bilateral eligibility follows the maintained Annex II list: Australia, Austria, Belgium, Canada, Denmark, the European Union, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States. Only 14 bilateral provider countries have loan records in this portfolio. Eligibility therefore differs from actual representation. Annex A lists every selected provider, including the 25 multilateral reporting labels.

The policy report describes repayments from borrowers in the Global South to bilateral lenders in the Global North and to multilateral institutions. Our channel labels follow the reporting sources. They do not assign every multilateral institution to the Global North or identify the ultimate owners of its capital.

Sources and amount choices

The portfolio estimates use the data versions and model calculations finalised on 20 September 2026. Later releases of the underlying datasets have not been incorporated. Supporting documentation and illustrative loan calculations were updated in October 2026. Table 2 explains each source's role. Annex B identifies the retained versions for readers checking or reproducing the results.

Table 2. What each source contributes

Source role	Evidence used	Meaning for the results
Bilateral loan amounts through 2022	National reports and their financial-support tables, retained for this assessment.	Reporting tables and explanations in the corresponding narrative reports establish whether a provider's amount for a given year describes a commitment, a disbursement or another reporting basis. The later BTR refresh is not substituted.
Multilateral amounts and bilateral 2023–2024	OECD climate-finance data as reported for the selected 2011–2024 loans.	We use climate-specific amounts and subtract any positive adaptation–mitigation overlap once. CRS amounts are not added.
Terms for individual loans and patterns from other loans	Usable CRS loan terms and repayment patterns, grouped by lender, year and type of finance.	Section 3 explains how we select this evidence. A lender pattern needs at least 20 usable projects covering 80% of the group's positive disbursement value in the central case.

Source role	Evidence used	Meaning for the results
Published multilateral lender terms	Documents describing products, recipient eligibility, rates during different repayment phases and fees.	We retain the document, effective period and terms selected for each schedule. A current webpage may not describe an older loan.
Reference rates	The retained USD reference-rate observations and future rate assumptions.	Observed rates include part of 2026. Section 3 explains the central path and the two-percentage-point tests.
Currency treatment	The source's reported US-dollar amounts and exchange-rate treatment.	We retain the source's currency treatment and make no new currency conversion or inflation adjustment.

Some entries cover both adaptation and mitigation. Where separate amounts are available, we add them and subtract any positive overlap once. A blank component becomes zero only if the source total can be reconciled within USD 1. A missing field alone is not enough. This retains the climate-specific amount selection used in the assessment.

A commitment records a promise of finance. A disbursement records an amount paid out. Other entries combine the two or describe amounts through a project's progress. For national reports that mix these bases, we use the reporting tables and explanations to select the amount, rather than automatically choosing the largest figure. For each provider and year, we record whether the selected amount represents a commitment, a disbursement or another reporting basis. The combined portfolio is not a total of cash received.

The schedules assume that the full selected amount is used. A commitment does not establish full disbursement, and different drawdown dates or incomplete use would change repayments. Although both bilateral sources draw on national reporting, the switch after 2022 can change coverage and reporting. Year-to-year differences need not reflect lending alone.

We retain the source's nominal US-dollar amounts and exchange-rate treatment. We make no new currency conversion or inflation adjustment. Displayed values are rounded after totals are calculated.

Annual lending and the largest lenders

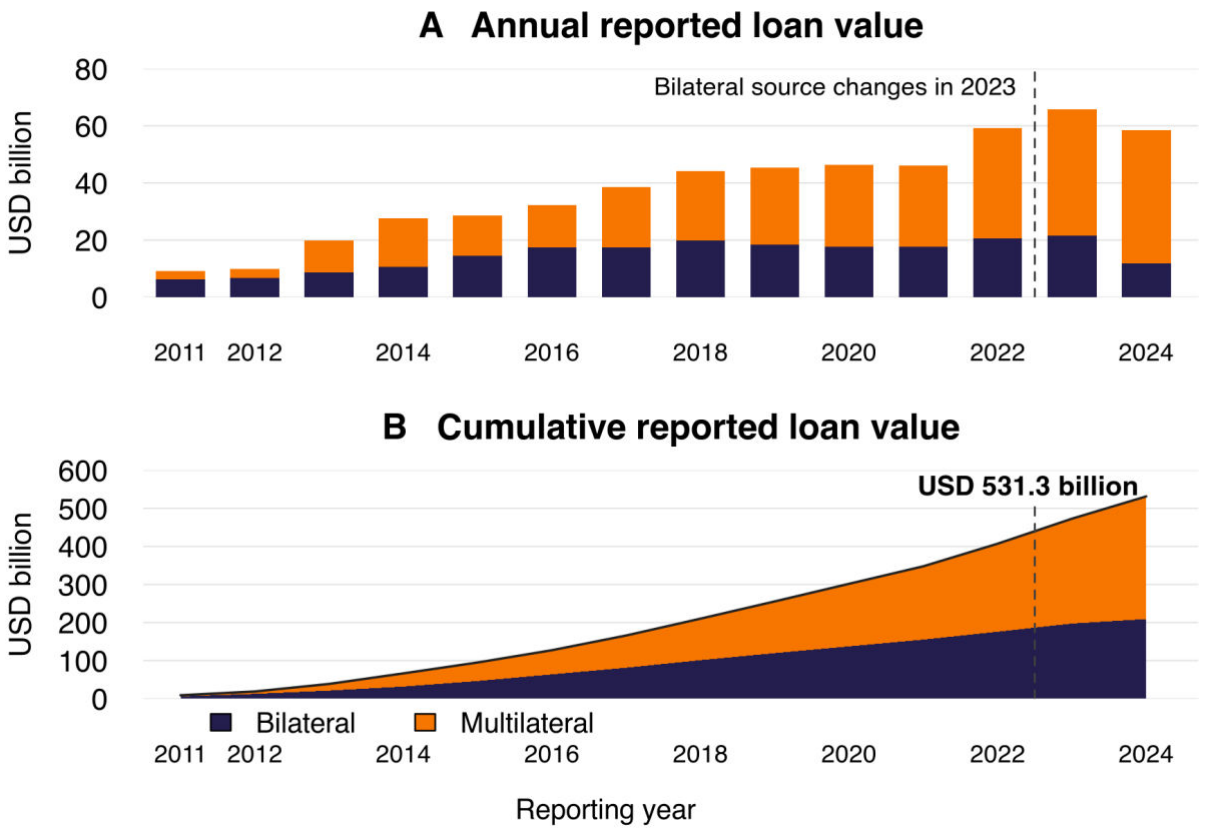


Figure 1. Annual and cumulative reported loan value for 2011 to 2024. The same selected bilateral and multilateral observations are used in both panels. The bilateral source changes in 2023. The final cumulative value is USD 531.3 billion. This is a sum of reported loan values, without deducting repayments; it is not outstanding debt or confirmed cash borrowing.

Annual reported value rises from USD 9.2 billion in 2011 to around USD 60 billion in 2022–2024. Each year adds bilateral and multilateral amounts. The cumulative series then adds those annual totals from 2011. The full annual values are available on request. The final sum reconciles to the portfolio within USD 0.01.

Table 3. Largest bilateral and multilateral lenders | Nominal USD billion. Values include loans without schedules and do not rank loan quality.

Bilateral lender	USD billion	Multilateral lender	USD billion
Japan	96.5	World Bank (WB)	141.6
France	58.2	European Bank for Reconstruction and Development (EBRD)	37.4
Germany	38.7	European Investment Bank (EIB)	34.1
United States	9.2	Asian Development Bank (AsDB)	33.6
Spain	2.4	Inter-American Development Bank (IDB)	25.6

3 LOAN TERMS AND REPAYMENT CALCULATIONS

Why loan terms matter

Concessional loans offer more favourable terms than market borrowing through lower charges, longer maturities or principal grace. They still create obligations. A fixed rate stays unchanged, while a variable rate moves with a reference rate. This is a separate distinction from concessionality. Annex C explains the two selected lending products used in the policy report. Debt service comprises principal repayments, interest and fees. A service charge is a lender's fee.

The policy report compares two USD 100 loans to an assumed eligible least developed country (LDC). The regular IDA-only US-dollar credit from the International Development Association (IDA), on July 2024 terms, has a 38-year maturity, six full years before principal repayments and a fixed 1.37% annual service charge. Lifetime backflows remain USD 130.48. The non-concessional regular IDA Scale-Up Window (SUW) illustration has a 20-year maturity and five full years before principal repayments. At the Secured Overnight Financing Rate (SOFR) held at 2.5% plus a 1.24 percentage-point spread and a USD 0.25 upfront fee, it totals USD 147.94. At the same 9% annual discount rate, their grant elements are 67.7% and 36.7%. Annex C gives the calculation steps, sources, eligibility and valuation assumptions.

Oxfam's analysis of 2021–2022 found higher grant elements in bilateral climate loans than in multilateral development bank (MDB) loans (Oxfam, 2024). A grant element is the share of a loan's value treated as a subsidy after valuing future repayments. The analysis uses representative terms where individual terms are missing and retains instrument classifications. It is related earlier INKA work, not a concessionality estimate for this portfolio. OECD bilateral and MDB concessionality classifications use different definitions, so their percentages are not directly comparable (OECD, 2026). Nominal lifetime repayment totals alone do not establish the same comparison.

How we estimate missing loan terms

Suppose a reporting entry gives a loan amount and year but no repayment terms. We first look for a usable match in CRS with the same provider, commitment year, type of finance and standardised project identifier. It must identify one clear set of terms. If it does not, we look for evidence from other lending. Each record receives the first usable source in the order below.

Second, we look for a repayment pattern among usable CRS loans from the same lender, year and type of finance. A pattern shows principal, interest, calculable fees and variable-rate exposure per dollar of disbursement. Larger disbursements receive more weight. We require at least 20 usable projects covering 80% of the group's positive disbursement value. This is a test of evidence coverage, not the chance that the estimate is correct.

We scale that pattern to the reported climate-loan amount and align it with the reporting year. For example, an eligible pattern showing USD 0.10 of principal due per dollar in a given year would imply USD 10 on a USD 100 loan. The pattern can combine different maturities. It does not confirm the individual loan's contract.

Next come published product and recipient terms, representative provider and product terms, and documented alternatives within the same provider, in that order. Usable terms need a positive maturity and payment frequency, non-negative principal grace, a recognised repayment pattern and an evidenced rate. Different rates during grace and repayment, and any fees, require supporting evidence.

If no usable loan-specific or lender-specific evidence is available, we use a broader comparison group of CRS repayment patterns that meet the coverage requirements described above, within the same bilateral or multilateral channel and type of finance. We combine these patterns using weights based on the usable positive disbursements they represent. Patterns from the corresponding year take priority; otherwise, we use the retained 2011–2024 group. We scale the resulting repayment profile per dollar to the reported climate-loan amount. This provides an estimated repayment schedule without establishing the individual loan's contractual terms. This method covers 9,106 records, representing 49.8% of records and 33.6% of reported loan value. Records still lacking usable evidence remain without estimated payment dates. Table 4 shows how much of the portfolio uses each source.

Annex B summarises the matching rules. Detailed alternative coverage checks are available on request.

Principal, grace, interest, and fees

Maturity is the time to the final repayment. Principal grace delays repayment of the amount borrowed, but need not suspend charges. We calculate payments at the supported frequency and add them into calendar years. The reporting year sets the starting point unless the selected dates or pattern specify otherwise. Every schedule runs to its final payment.

An equal-principal loan repays the same share of the amount borrowed at each instalment after grace. Interest is charged on the balance still outstanding, so it falls as principal is repaid if the rate stays constant. A bullet loan repays principal at maturity. An annuity has a constant combined principal-and-interest payment at a fixed rate. Annex B gives the interest and annuity formulas; fees enter separately where evidence supports them.

Fixed-rate loans keep their rates, including different rates during grace and repayment where documented. An annuity with a rate change that the method cannot support remains unresolved. For variable-rate loans, we separate the benchmark from fixed interest and the lender's margin. A change in the benchmark therefore affects only the supported variable part.

A fee enters the schedule only if evidence supports its rate, calculation base and timing. A service charge may apply to the outstanding balance, while another fee may use a different amount or date. Some service charges are already included in lending rates. A fee mentioned without enough detail remains unknown and is excluded. Including unrecorded positive fees would increase estimated backflows if other assumptions stayed unchanged.

Published lender terms give positive principal grace to at least 4,886 scheduled records, or 27.8% of 17,556 records. The policy report rounds this to 28%. This is a lower bound within the model, not a count of confirmed contracts. Some other schedules use patterns that do not assign one grace period to each loan. Annex B gives the supporting counts.

Central interest rates and sensitivity cases

For 2011–2021, the reference series uses the annual six-month US-dollar London Interbank Offered Rate (LIBOR). From 2022 it uses the annual mean of the SOFR 180-day-average series. We use SOFR as the replacement benchmark following the phase-out of USD LIBOR (Federal Reserve Board, n.d.). The last retained observation covers part of 2026. Switching the model's benchmark in 2022 does not mean every loan changed its contract then.

The retained reference series averages 5.35% in 2024, 4.47% in 2025 and 3.90% in the partial 2026 observations. After 2026, the central benchmark moves gradually to 2.5% over seven years, reaching that level in 2033 and remaining there. We add supported lender margins separately and leave fixed-rate loans unchanged. The 2.5% level is a chosen long-term assumption for the assessment, not a market forecast or a rate derived from the historical averages below. The 2.5% long-run assumption is conservative relative to Federal Reserve participants' 3.2% longer-run federal funds projection and the Congressional Budget Office's (CBO) 3.1–3.4% short-rate averages for 2031–2036 (Federal Reserve, 2026; CBO, 2026). These are indicative comparisons with other rates, not direct SOFR forecasts or a lower bound for total repayments. Annex B records the benchmark limits and other settings.

As a historical check, the retained benchmark observations average about 1.5% over 2011–2024, 2.0% over 2005–2024, 2.2% over 2000–2024, 3.2% over 1990–2024 and 3.7% over 1986–2024, giving each year equal weight. The choice of period therefore matters. These checks combine USD six-month LIBOR through 2021 and SOFR 180-day averages from 2022, before lender margins. LIBOR includes bank credit risk whereas SOFR is secured, so the combined averages are indicative checks rather than estimates of future SOFR (Federal Reserve Board, n.d.). They leave the central assumption and reported sensitivity cases unchanged. The 1986 start is the beginning of the full retained series, not a selected 40-year window: standardised British Bankers' Association (BBA) LIBOR publication began in January 1986 (ICE Benchmark Administration, 2020).

The lower and higher cases subtract or add two percentage points to eligible variable-rate benchmarks from 2025. Fixed components stay unchanged.

Grant equivalents and repayment totals

Grant equivalents estimate a loan's subsidy by valuing future repayments at a stated discount rate and subtracting that value from the amount lent. Later payments count for less at a positive discount rate, raising the grant element if the payments stay unchanged. Our main totals add payments without discounting to show the amounts due over time. Annex B defines the calculation; Annex C applies it to the two public-report illustrations.

4 RESULTS AND STRENGTH OF EVIDENCE

Coverage and selected treatments

Table 4. Evidence used for repayment schedules in selection order | Whole portfolio denominator

Selected treatment	Records (share)	USD bn (share)
1. Unambiguous project terms	879 (4.8%)	26.6 (5.0%)
2. Pattern from the same lender, year and type of finance	2,674 (14.6%)	160.9 (30.3%)
3. Published product and recipient terms	4,408 (24.1%)	112.9 (21.2%)
4. Representative provider and product terms	143 (0.8%)	1.6 (0.3%)
5. Documented alternative within the provider	346 (1.9%)	8.7 (1.6%)
6. Approved comparison group	9,106 (49.8%)	178.7 (33.6%)
Unresolved or excluded from schedules	715 (3.9%)	42.0 (7.9%)

The percentages in Table 4 are calculated against the full portfolio of 18,271 records and USD 531.3 billion of reported value. Only 879 records have clear project terms that we can link unambiguously to the finance records, compared with 17,556 records with estimated schedules. This reflects gaps in usable reporting and matching, not proof that terms are unpublished everywhere else. We use published multilateral lender terms and repayment patterns from other loans where individual terms cannot be established. Providers should publish each loan's terms and repayments alongside an identifiable climate-finance record, so that documented terms can replace estimates.

Table 5. Reported value, scheduled value and repayments by channel | Nominal USD billion except final year

Channel	Reported loan value	Scheduled loan value	Lifetime repayments	After 2050	Final year
Bilateral	209.2	167.2	195.8	16.9	2080
Multilateral	322.1	322.1	467.5	24.9	2075

Repayment timing and rate sensitivity

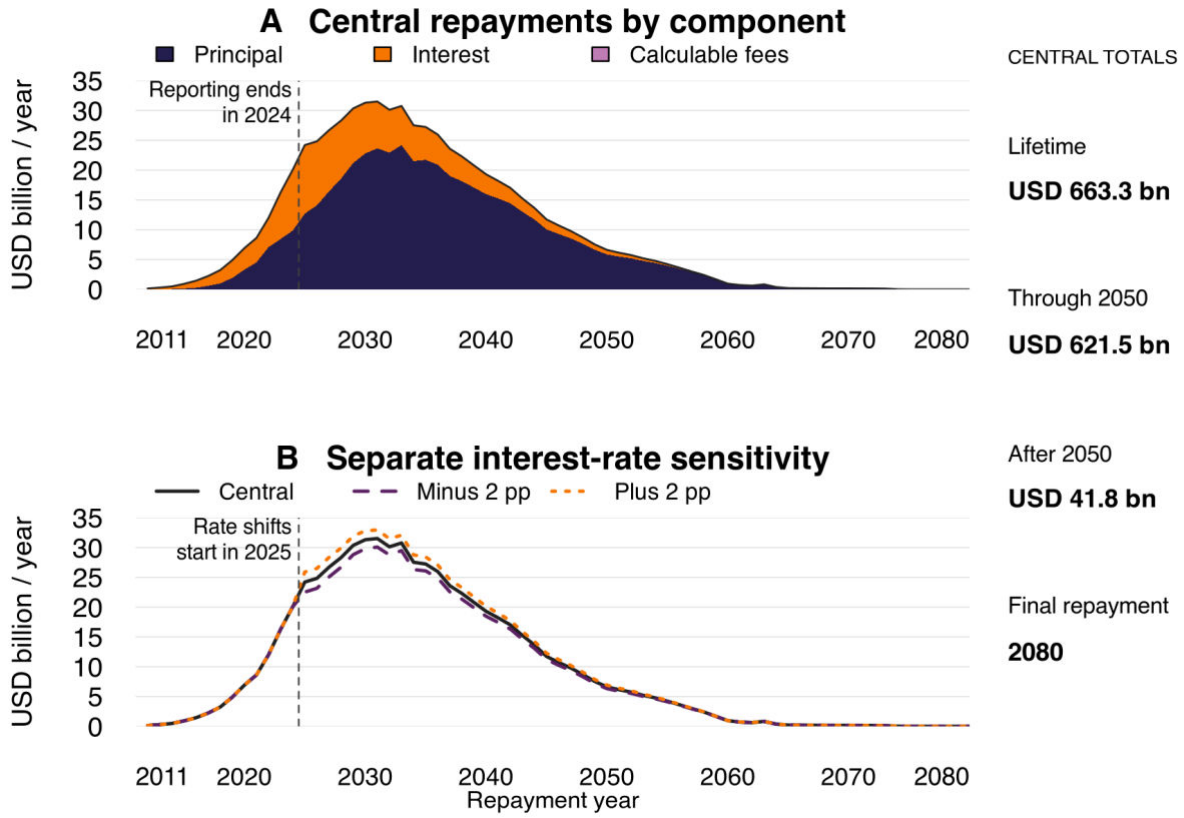


Figure 2. Estimated annual repayments from the reported 2011 to 2024 loans, extended to their last payment in 2080. Panel A separates principal, interest and calculable fees; Panel B shows the central rate and the shifts of two percentage points from 2025. All payments are estimated, including those before 2025. The source series begins in 2012 and has no 2011 observation. Unknown fees and unresolved loans are excluded.

Central annual backflows rise from USD 6.9 billion in 2020 to USD 20.1 billion in 2024 and peak at USD 31.5 billion in 2031. Earlier lending was lower, grace postpones principal, and higher reference rates increase costs on variable-rate loans. We do not calculate a separate contribution from each factor. Figure 2 includes no lending after 2024.

Table 6. Repayments through and after 2050 by rate case | Nominal USD billion

Rate case	Through 2050 USD bn	After 2050 USD bn
Central	621.5	41.8
Minus 2 percentage points	595.4	40.7
Plus 2 percentage points	647.7	42.9

Lifetime repayments are USD 636.2 billion in the lower rate case, USD 663.3 billion centrally and USD 690.6 billion in the higher case. These tests change one assumption. They are not confidence intervals and leave use of loans, substitute terms, unresolved loans and missing fees unchanged. The full central annual schedule is available on request.

Included fees and remaining gaps

Table 7. Calculable fees included in the schedules | Nominal USD million

Provider	Included fees USD million
Inter-American Development Bank (IDB)	1,270.1
International Monetary Fund Resilience and Sustainability Trust (IMF RST)	301.3
African Development Bank (AfDB)	267.7
African Development Fund (AfDF)	237.6
Asian Development Bank (AsDB)	31.9
World Bank (WB)	20.8
Central American Bank for Economic Integration (CABEI)	2.8
Total	2,132.2

The schedules include USD 2.132 billion in calculable fees, rounded to USD 2.1 billion in the policy report. These come from seven multilateral provider labels. They do not cover every fee type. Bilateral fees remain unknown, and a loan with one calculable charge may have other unknown charges. No complete-fee coverage percentage is claimed.

5 CONTINUED LENDING ASSUMPTIONS AND RESULTS

How we build the scenarios

We start with the 2,057 public-loan records reported for 2024, worth USD 58.516 billion. Each year from 2025 to 2050 repeats that portfolio at a scaled amount, keeping the same mix of providers, recipients, products and terms. Lending either stays constant or changes by the stated percentage each year, applied to the previous year's amount.

For example, zero growth repeats USD 58.516 billion in 2025. Growth of 2% makes it USD 58.516 billion multiplied by 1.02. We shift the selected repayment schedule forward for each new lending year. Every starting record receives a schedule in this run, which does not mean its individual contract is known. The model assumes full use and does not add unknown fees, defaults, restructuring or changes in terms or composition.

Nine main cases combine lending growth of minus 2%, zero or plus 2% with the central, lower and higher interest-rate cases. Two further tests use minus 5% and plus 5% growth at central rates. New lending stops in 2050, but repayments continue to 2106. All eleven cases retain the full schedules.

Future-only results include just the assumed loans for 2025–2050. Combined results add their estimated repayments to the reported-loan schedule once, using the same interest-rate case.

Combined lifetime totals include obligations on reported loans that fall before 2025. They therefore cover more than payments due after 2024. Amounts through 2050 and after 2050 add to the lifetime total. Stopping new lending or ending a chart in 2050 does not end the repayments.

The three central lending paths

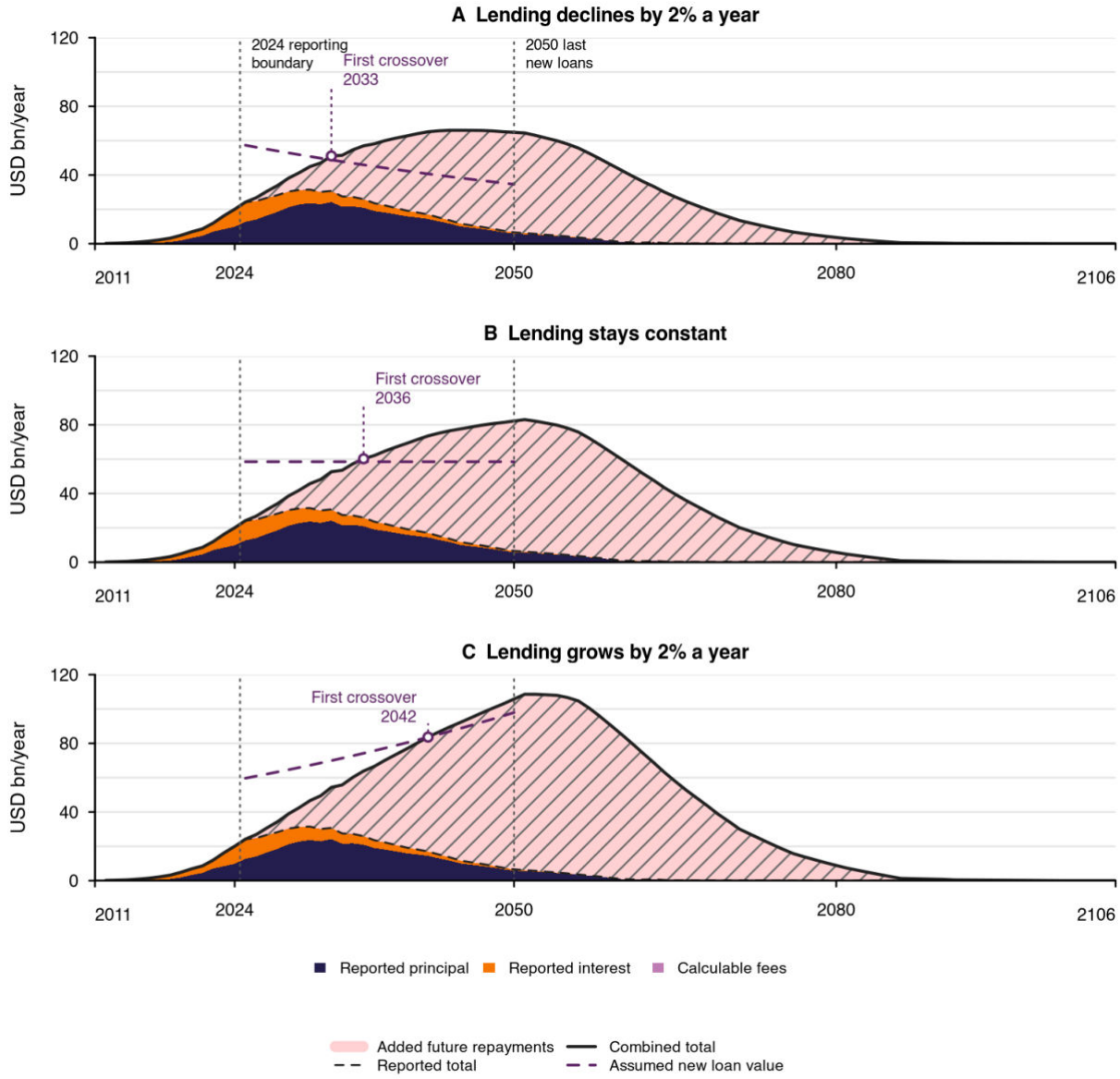


Figure 3. Central-rate annual repayments under declining, constant and growing lending, extended through final maturity in 2106. The base reproduces the reported-loan schedule in Figure 2; the hatched addition contains future principal, interest and calculable fees. The purple dashed line shows assumed new loan values only during 2025 to 2050. Markers identify the first annual repayments above those values in 2033, 2036 and 2042. All panels share the same scale and central rate assumptions.

Table 8. Central continued lending paths and repayment horizons | Nominal USD billion

Lending path	Scenario loan value	By 2050	After 2050	Lifetime
−2%/yr	1,171.6	1,475.7	911.8	2,387.5
Flat	1,521.4	1,631.4	1,270.1	2,901.5
+2%/yr	2,009.7	1,826.3	1,792.6	3,618.9

This reproduces policy-report Table 4. Scenario loan value covers new lending in 2025–2050; the repayment columns combine those loans with reported 2011–2024 loans. In the constant-lending case, lifetime repayments are USD 2,901.5 billion and USD 1,270.1 billion falls after 2050. Central combined totals range from USD 2,387.5 billion with declining lending to USD 3,618.9 billion with growing lending.

With constant lending and unchanged terms, annual combined repayments first exceed new loan value in 2036. The year is 2033 with declining lending and 2042 with growing lending. We compare the two amounts in each year from 2025 to 2050 and take the first year when repayments are strictly greater. Results for all nine main cases, including those with no crossing by 2050, are available on request.

This compares estimated obligations with assumed reported loan amounts. It does not measure actual cash transfers or country affordability, or test whether grants and all other climate finance cover repayments. The scenarios show what follows from fixed assumptions rather than predict future lending policy.

Where to find the full results

The supporting material available on request contains all eleven cases, their principal, interest and fee components, full annual schedules, and repayments through and after 2050. It also includes the supplementary present-value calculations and the source and validation records. These additional results do not change the findings reported here.

Supplementary valuations use their stated discount rates and starting dates. They are distinct from the nominal repayment totals in this report and are not used to calculate a net climate-finance figure.

6 INTERPRETATION COMPARISONS AND VALIDATION

What the findings support

Published climate-finance statistics do not provide a comprehensive record of repayments on the assessed loans. We reconstruct their size and timing from reported amounts and available loan-term evidence. Project-specific terms cover only a small share, so most schedules use published lender terms or repayment patterns from similar loans. For each loan, providers should publish its climate-finance amount, interest rate, charges and repayment schedule, together with amounts actually repaid. Readers could then distinguish what was due from what was paid.

CARE's recommendations on grants, loan suitability and debt relief draw on this evidence and its policy position. The calculations alone cannot establish whether a loan is unaffordable, causes debt distress, harms welfare or generates lender profit. Those judgements need evidence about debt, repayment capacity, project returns and climate vulnerability. The policy report's external-debt context concerns debt overall.

Private investors generally expect capital recovery and a return. Repayments and investor returns can therefore be expected, but current provider reporting does not provide enough information to estimate these amounts. They remain outside the assessment.

Uncertainty that the rate cases do not resolve

Actual use and drawdown can differ from reported amounts. Substitute terms can differ from contracts, unknown fees omit some charges, and unresolved loans lack payment dates. Defaults, restructuring or changes in future lending would alter the scenarios. Project returns and benefits are outside the model. The interest-rate cases do not capture all these uncertainties.

The scale comparison with public climate finance

In 2024, backflows were equivalent to around one fifth of the USD 101.6 billion in public climate finance reported by the OECD (OECD, 2026).

The OECD total provides a meaningful benchmark because it describes international public support for climate action and counts loan finance without deducting associated repayments. Backflows show the scale of repayment claims alongside that reported support. Comparing annual amounts is relevant even when repayments concern older loans: the policy question is how finance reported in a given year compares with the repayment burden falling due that year. Including grants and equity places that burden in the context of overall public climate finance, rather than lending alone (OECD, 2020).

The calculation compares USD 20.1 billion in backflows with USD 101.6 billion in OECD-reported public climate finance, both for 2024 and expressed in US dollars. The figures differ in their coverage of loans and providers, reporting bases and rules for attributing multilateral finance to developed countries. The comparison therefore illustrates the significance of repayment obligations alongside headline finance figures; it does not establish that a fifth of the OECD-reported finance was repaid or quantify a reduction in net finance or donor effort (OECD, 2026).

Why we do not calculate an OECD net figure

The OECD's latest headline series covers 2013–2024 (OECD, 2026). Its public subtotal includes grants, loans and equity. Export credits and mobilised private finance are separate parts of the broader headline. Our loan portfolio combines national climate-finance reports and OECD activity-level data under the selection rules described in Section 2. Its bilateral provider group is limited to Annex II Parties, while the OECD headline also covers other EU Member States, Liechtenstein and Monaco (OECD, 2020, 2022, 2024, 2026).

The published OECD headline reports do not provide the linked climate-loan records and annual principal, interest and fee payments needed to reconstruct a fully comparable net public climate-finance figure. Underlying OECD development-finance data include disbursements and repayments for parts of that finance, so a narrower analysis may be possible. It would still need consistent providers and recipients, multilateral attribution, instruments, annual timing and older loans, currency and prices, reporting bases, climate shares and treatment of repayments already deducted. Those requirements do not follow automatically from the headline reports (OECD, 2026, n.d.e). Loans reported before 2011 are outside our reconstruction. Lifetime obligations also cannot be subtracted from one year's finance.

Net lending deducts principal repaid from new loan disbursements in the same year. A resource-transfer measure also deducts interest and fees paid. These require actual, consistently matched payments; our assessment estimates amounts due. A calculation of net public climate finance would also include grants and would need to ensure that no repayment is deducted twice.

We therefore retain the one-fifth comparison as an illustration of scale. A net estimate would require matched finance and payment records. Results for a matched subset could not automatically describe the OECD headline.

Checks and access to supporting evidence

We checked that principal matches loan amounts, that annual payments add to lifetime totals, and that lender and channel totals match the portfolio. We also checked the scenario totals and their full repayment periods. Annex B gives the detailed checks and tolerances.

These checks establish internal consistency. They do not show whether substitute terms match individual contracts or whether the estimated payments were actually made. Supporting data are available on request, including source versions, reporting bases, loan-term evidence, exact figure data and validation records.

References and analytical basis

OECD (2020). Climate Finance Provided and Mobilised by Developed Countries in 2013–18. 6 November. Paris: OECD Publishing. Annex B, footnote 4, on gross face-value flows.

OECD (2022). Climate Finance Provided and Mobilised by Developed Countries in 2016–2020. 22 September. Paris: OECD Publishing. Annex A, on reporting and export-credit overlap adjustments.

OECD (2024). Climate and development finance FAQ. 2 December. Paris: OECD. See recipient and provider perspectives, multilateral attribution and reporting-basis distinctions.

OECD (2025). Modernising official development assistance: frequently asked questions. 17 March. Paris: OECD. See the sections on grant equivalents, discount rates and climate finance.

OECD (2026). Climate Finance Provided and Mobilised by Developed Countries in 2013–2024. 21 May. Paris: OECD Publishing. Chapter: Data sources, methodologies and coverage.

OECD (n.d.a). Climate-related development finance at the activity level: recipient perspective (CRDF-RP), 2011–2024. Paris: OECD Development Co-operation Directorate. Used for selected climate-loan amounts, as explained in Section 2. Retained versions are identified in Annex B.

OECD (n.d.b). Creditor Reporting System (CRS), activity-level database. Paris: OECD Development Co-operation Directorate. Used for loan-term evidence. Sections 2–3 explain its role and matching rules. Annex B identifies retained versions.

OECD (n.d.c). Modernising official development assistance (ODA). Paris: OECD. Guidance on the grant-equivalent system and discount-rate conventions; consulted 5 October 2026.

OECD (n.d.d). Official development assistance: definition and coverage. Paris: OECD. Background to ODA eligibility and concessionality; consulted 5 October 2026.

OECD (n.d.e). Official development assistance (ODA): Frequently asked questions. Sections on net ODA and CRS coverage. Consulted 24 October 2026.

Oxfam (2024). Climate Finance Short-Changed, 2024 Update. Climate-Specific Net Assistance methodology note. June. See pp. 5 and 9–11.

Federal Reserve Board (n.d.). Background and Summary of Regulation ZZ. Explanation of the credit-risk and term differences between LIBOR and SOFR; consulted 25 October 2026.

Federal Reserve (2026). Summary of Economic Projections. 16 September. Table 1, longer-run federal funds rate. https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20260916.pdf

Congressional Budget Office (CBO) (2026). The Budget and Economic Outlook 2026 to 2036, By the Numbers. 11 February. Calendar-year averages for 2031–2036. https://www.cbo.gov/system/files/2026-02/61882-By-the-Numbers.pdf

UNFCCC (n.d.a). Biennial Report submissions by Annex I Parties (BR1–BR5), including Common Tabular Format financial-support tables. Bonn: UNFCCC national reporting repository. Selected bilateral reporting years and source versions are documented in the technical companion, Section 2.

UNFCCC (n.d.b). First Biennial Transparency Reports (BTR1s) and Common Tabular Format tables on financial support provided. Bonn: UNFCCC Biennial Transparency Reports repository. Selected reporting years and source versions are documented in the technical companion, Section 2.

ANNEX A FULL LENDER BREAKDOWN

All selected providers are listed, with abbreviated source labels written out for readability. The original labels are retained in the supporting data. Values include unresolved loans; scheduled and unresolved values partition reported value before rounding. A positive value below USD 0.05 billion is shown as <0.05; 0.0 means an actual zero in these provider cells. Alphabetical listing does not rank contract evidence or creditor ownership. The five largest labels together account for 70.1% of reported value. OFID is the historical abbreviation of the OPEC Fund for International Development.

Table 9. All selected providers | Nominal USD billion

Provider	Channel	Reported value	Scheduled value	Unresolved value
African Development Bank (AfDB)	Multilateral	7.9	7.9	0.0
African Development Fund (AfDF)	Multilateral	3.4	3.4	0.0
Arab Fund for Economic and Social Development (AFESD)	Multilateral	0.1	0.1	0.0
Asian Development Bank (AsDB)	Multilateral	33.6	33.6	0.0
Asian Infrastructure Investment Bank (AIIB)	Multilateral	5.0	5.0	0.0
Australia	Bilateral	<0.05	<0.05	<0.05
Austria	Bilateral	0.9	0.5	0.4
Belgium	Bilateral	0.1	0.1	<0.05
Black Sea Trade & Development Bank (BSTDB)	Multilateral	<0.05	<0.05	0.0
Canada	Bilateral	1.4	1.4	<0.05
Caribbean Development Bank (CDB)	Multilateral	0.2	0.2	0.0
Central American Bank for Economic Integration (CABEI)	Multilateral	0.3	0.3	0.0
Climate Investment Funds (CIF)	Multilateral	5.3	5.3	0.0
Council of Europe Development Bank (CEB)	Multilateral	1.2	1.2	0.0
Development Bank of Latin America (CAF)	Multilateral	1.1	1.1	0.0
European Bank for Reconstruction and Development (EBRD)	Multilateral	37.4	37.4	0.0
European Investment Bank (EIB)	Multilateral	34.1	34.1	0.0
Finland	Bilateral	<0.05	0.0	<0.05
France	Bilateral	58.2	48.9	9.2
Germany	Bilateral	38.7	35.5	3.2
Global Environment Facility (GEF)	Multilateral	<0.05	<0.05	0.0
Green Climate Fund (GCF)	Multilateral	6.2	6.2	0.0
Inter-American Development Bank (IDB)	Multilateral	25.6	25.6	0.0
International Fund for Agricultural Development (IFAD)	Multilateral	4.9	4.9	0.0
International Investment Bank (IIB)	Multilateral	<0.05	<0.05	0.0
International Monetary Fund Resilience and Sustainability Trust (IMF RST)	Multilateral	6.8	6.8	0.0
Italy	Bilateral	1.5	1.5	0.0
Japan	Bilateral	96.5	77.1	19.4

Provider	Channel	Reported value	Scheduled value	Unresolved value
New Development Bank (NDB)	Multilateral	6.4	6.4	0.0
Nordic Development Fund (NDF)	Multilateral	<0.05	<0.05	0.0
North American Development Bank (NADBank)	Multilateral	0.2	0.2	0.0
Norway	Bilateral	0.2	0.0	0.2
OPEC Fund for International Development (OFID)	Multilateral	0.3	0.3	0.0
Portugal	Bilateral	0.1	0.1	0.0
Private Infrastructure Development Group (PIDG)	Multilateral	0.6	0.6	0.0
Spain	Bilateral	2.4	1.2	1.2
United Kingdom	Bilateral	<0.05	<0.05	<0.05
United States	Bilateral	9.2	1.0	8.2
World Bank (WB)	Multilateral	141.6	141.6	0.0

ANNEX B VALUATION SOURCE VERSIONS AND DETAILED CHECKS

This note gives the core repayment and grant-equivalent formulas, identifies the retained sources and summarises the checks supporting the policy report. Full source inventories, diagnostic settings and supplementary calculations are available on request.

Repayment calculations

For equal-principal repayments, divide the original amount by the number of principal instalments after grace. Interest for each payment period is calculated on the balance before that payment:

$$I_k = B_{k-1} r_k / f$$

Here I_k is the interest due at payment k, B_{k-1} is the outstanding principal immediately before it, r_k is the annual rate as a decimal, and f is the number of payments a year. Thus 2% is entered as 0.02. A separate service charge on the outstanding balance follows the same calculation at its stated rate; a charge already included in the lending rate is not added again. With USD 100 outstanding throughout the first year, the IDA illustration's 1.37% annual charge totals USD 1.37. Other fees follow their documented amount and timing.

For a fixed-rate annuity, the principal-and-interest payment stays constant across the post-grace repayment periods:

$$A = \frac{Pi}{1 - (1+i)^{-n}}$$

P is the principal to be repaid when the annuity starts, i is the interest rate for one payment period, n is the number of those payments and A is each combined principal-and-interest payment. The period used for i must match the payment frequency. At a zero rate, A is P divided by n. Fees and any charges during grace are treated separately. Unsupported changes in annuity rates remain unresolved, as explained in Section 3.

Present value and grant equivalent

This subsection explains the grant elements presented in Box 2 of the policy report and provides the formulas needed to reproduce the two loan illustrations in Annex C. These illustrative calculations assess concessionality; the portfolio backflow estimates use undiscounted repayments.

Present value expresses future payments as a value at a stated starting date. In the formula, PV is that value, CF_t is a repayment including principal, interest and known fees at time t, and d is the annual effective discount rate written as a decimal. The time t is measured in years since disbursement and can include half-years. The summation sign means add the discounted value of every payment. P is the amount lent; GE is the grant-equivalent amount, in the same currency:

$$PV = \sum_t \frac{CF_t}{(1+d)^t}, \qquad GE = P - PV$$

The grant element is a percentage: divide GE by P and multiply by 100. This percentage describes the subsidy under the chosen discount convention. It is distinct from the total repayments borrowers owe. Annex C shows the calculation using the two USD 100 illustrations.

A higher discount rate mechanically lowers present value and raises grant equivalent. These measures describe concessionality under chosen conventions, not lender profit or recipient welfare.

Official development assistance (ODA) has used headline grant equivalents since reporting year 2018; climate-finance accounting is a separate framework (OECD, n.d.c; OECD, 2025). Neither discounted measure can be deducted from nominal flows to calculate net climate finance.

Retained source versions and matching rules

The main portfolio analysis was finalised on 20 September 2026. It uses the BR1–BR5 compilation version 16, the patched BTR1 workbook, accepted CRDF recipient-perspective version 17 reconciliations, the normalised CRS repayment-pattern tables for 2011–2024 and the selected-treatment register. The later September BTR refresh is not substituted. CRDF amounts reported in USD thousands are multiplied by 1,000 where needed. Source identities and reporting-basis selections are available with the supporting data.

The reference series uses corrected USD selection version 2 and benchmark configuration 2026-08-06-v1. Historical averages give each calendar year equal weight and stop in 2024. The retained series starts on 2 January 1986. The 2017 LIBOR observations have partial coverage; the full-year BCCR fallback leaves the reported one-decimal averages unchanged.

Historical-series source: ICE Benchmark Administration, ICE LIBOR consultation, December 2020, introduction.

An exact CRS match uses the same provider, commitment year, flow type and normalised identifier, with one usable set of terms. Repayment patterns weight eligible loans by positive disbursements. The central selection requires 20 usable projects and 80% coverage of positive disbursement value. Comparison groups stay within channel and flow type, preferring the corresponding year over the approved 2011–2024 group. Other diagnostic thresholds are available with the supporting material.

The common benchmark has a zero floor and a 20% ceiling. Its central path reaches 2.5% in 2033; the reported rate cases shift eligible variable-rate benchmarks by two percentage points from 2025. The lower common benchmark reaches 0.5%, so its floor does not bind in these cases. A separate zero floor applies to loan rates after lender margins.

Of 4,897 records in the published-lender-term categories, 4,886 have positive principal grace and 11 have zero grace. The positive count is 27.8% of 17,556 scheduled records. A pattern derived from other loans does not identify a single grace-period field for each underlying loan. Missing fields are not counted as zero grace.

Validation

The retained checks verify that scheduled principal equals the selected loan value; principal, interest and calculable fees add to repayments; annual values add to lifetime totals; and provider and channel sums match the portfolio. Through-2050 and later amounts partition complete schedules. The repayment-identity tolerance is USD 1 before display rounding.

Scenario checks cover all eleven cases, principal conservation, the fixed 2024 composition and complete repayment periods. Reported-loan repayments enter combined results once and match Figure 2 at the same rate case. Crossing years use the strict annual comparison in Section 5. The annual and cumulative lending series reconcile to USD 531.3 billion. Detailed validation records are available on request.

The OECD's export-credit overlap adjustment prevents double counting of finance. It does not deduct loan repayments. Grant equivalents and present values cannot be subtracted from nominal finance totals (OECD, 2025).

ANNEX C THE PUBLIC REPORT LOAN ILLUSTRATIONS

These illustrations explain how loan terms affect repayments and measured concessionality. They use published historical terms and stated assumptions, and do not replace the terms of any loan in the assessed portfolio.

Both public-report examples assume USD 100 fully disbursed at time zero to an LDC borrower eligible for the relevant product. The regular IDA-only credit uses July 2024 US-dollar terms: 38-year maturity, six full years of principal grace and a fixed 1.37% annual service charge. Equal semiannual principal payments of USD 1.5625 begin at year 6.5 and end at year 38. Charges apply to the opening balance of each half-year. The regular Scale-Up Window example uses an illustrative 20-year maturity and five full years of principal grace, followed by 30 equal semiannual principal payments from year 5.5 to year 20. Its principal-weighted average repayment maturity is 12.75 years. July–September 2024 Group A pricing for that maturity is SOFR plus 1.24 percentage points. Holding SOFR at 2.5% and that spread constant gives 3.74% annual interest, charged half-yearly on the opening balance. A 0.25% front-end fee is paid separately at time zero. Both loans are fully drawn, so no commitment fee accrues. We assume no acceleration, restructuring, additional charges or currency changes. The selected SUW schedule is permitted by the product limits but is not an observed typical loan or a forecast.

Table 10. Totals for the public-report illustrations | USD per USD 100 lent

Timing	IDA principal	IDA service charge	IDA total backflows	SUW interest and fee	SUW total backflows
Upfront	0.00	0.00	0.00	0.25	0.25
Lifetime	100.00	30.48	130.48	47.94	147.94

Amounts are US dollars per USD 100 lent. Exact half-yearly balances are used before rounding. IDA service charges total USD 30.4825 and repayments USD 130.4825. SUW interest totals USD 47.685; adding USD 100 principal and the USD 0.25 upfront fee gives USD 147.935. The full annual schedules are available on request. These illustrations do not change any assessed loan or portfolio result.

Both illustrations use a 9% annual effective discount rate, following the OECD DAC bilateral official-sector convention for LDCs and other low-income recipients. Each half-yearly payment is divided by 1.09 raised to the years since disbursement. The equivalent half-year rate is the square root of 1.09 minus one; the time-zero fee is not discounted. Present values are USD 32.2915 for IDA and USD 63.2555 for SUW. Subtracting these from USD 100 gives grant-equivalent amounts of USD 67.7085 and USD 36.7445. Dividing each by USD 100 and multiplying by 100 gives grant elements of 67.7085% and 36.7445%, rounded to 67.7% and 36.7% in the policy report. Discounting changes valuation, not the interest charged or the nominal amount due. Deferring unchanged payments raises the grant element; extra charges can offset this.

Regular SUW is classified as non-concessional by the World Bank. For bilateral official-sector ODA loans, the OECD minimum grant elements are 45% at a 9% discount rate for LDCs and other low-income countries, 15% at 7% for lower-middle-income countries, and 10% at 6% for upper-middle-income countries. These are bilateral eligibility tests. The 45%/9% test is a comparison yardstick here, not the classification rule for MDB market-based lending. A positive calculated grant element therefore does not make this SUW product concessional. These results describe the chosen schedules and rate assumptions, not every SUW loan. Both SOFR and the funding spread can reset. At flat 5% SOFR, with the same schedule and spread, the illustrative SUW grant element would be 18.5%.

The choice of discount rate affects the measured grant element: a higher rate gives later repayments a lower present value and therefore a higher grant element, without changing any cash payment. OECD rates are contested. Oxfam's 2023 Climate Finance Shadow Report instead values bilateral concessional loans using the provider's long-term funding cost plus a recipient credit-risk margin. The OECD defends stable rates differentiated by income group and notes that there is no universal concessionality benchmark. We use 9% transparently for the two assumed LDC borrowers; it is not evidence that this is the only appropriate valuation rate (Oxfam, 2023, Annex 2; OECD, 2025).

Discount-rate sources: Oxfam (2023), Climate Finance Shadow Report, Annex 2, printed p. 40. OECD (2025), Modernising official development assistance, grant-equivalent system and discount rates.

Regular SUW can lend to eligible LDCs. Under IDA20, countries covered by the low-income debt sustainability framework must be at low or moderate risk of debt distress and satisfy the applicable borrowing policies. LDC status alone does not establish eligibility. Tanzania, an LDC, received USD 500 million of regular SUW financing in December 2023. That operation had a 27-year maturity and 13-year grace period, so it is evidence of access rather than the contract used for this illustration. Regular SUW is distinct from the concessional SUW shorter-maturity component.

Loan illustration sources: World Bank, IDA Terms, July 2024, pp. 1–2. World Bank, IBRD Lending Rates and Spreads, July–September 2024, Table 1. World Bank, IDA Financial Statements, June 2025, lending-terms table.

Valuation sources: OECD, Official development assistance definition and coverage. OECD, Development finance glossary, Grant element. OECD, Reporting Directives, DCD/DAC/STAT(2023)9/ADD2/FINAL, Annex 15.

Eligibility sources: World Bank, IDA20 Building Back Better from the Crisis, Regular Scale-Up Window country eligibility. World Bank, Tanzania Second Inclusive and Resilient Growth Development Policy Financing, tranche release, 7 October 2024, paragraph 1. United Nations, Least Developed Country Category, United Republic of Tanzania profile.