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Reward Governments, Not Projects

International incentives for national climate policy: an overview of section 4

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ABSTRACT

The benefits of cutting emissions are global and the costs national, so incentives for national climate policy have to come from outside. Cash transfers on the scale needed are politically impossible. This section of papers argues that the international system should instead reward governments with what it can supply cheaply and they value highly: cheaper borrowing, delivered through guarantees and collateral. A guarantee saves the borrower the full credit spread but costs its provider only expected loss and the carry on a buffer, so on the development banks' own sovereign loss record each dollar of donor cost delivers about 80 dollars of interest saving, and 2.7 in a stress case where a new facility does not inherit their preferred-creditor status. Net of the default option the borrower gives up, the country's gain is about 27 per dollar (1.9 in the stress case), and the ratios fall when the guarantor's capital carries a cost or calls must be met in cash, so the institution behind the guarantees matters. Three instruments follow: a notional capitalized value that turns a country's carbon stock into guarantee capacity, debited for every tonne emitted above an allowance; a Climate Investment Trust that holds the capital behind those guarantees instead of spending it; and codified sustainability-linked lending, which delivers the reward but is too small on its own. Capacity that declines as clean technology gets cheaper pays a premium for acting now.

Overview of section 4, version 0.3, October 2026. Stephen J. Stretton, writing in a personal capacity. The views expressed are the author's own and do not represent those of any institution with which he is or has been affiliated. Each paper below comes as a short policy brief and a full working paper.

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Incentives for national policy must come from outside

A government that cuts emissions pays the whole cost and receives a small share of the benefit. That is the free-rider problem at the heart of climate policy, and no amount of domestic persuasion removes it (Nordhaus 2015). If national policy is to go faster than national self-interest, the reward has to come from outside.

Cash on the needed scale is not available. Paying $100 per tonne for cutting even a tenth of global fossil CO_2 emissions, which were 37.8 billion tonnes in 2024, would cost some $380 billion a year (Stretton 2026j), and no group of donor legislatures will vote for that. Existing climate finance is a small fraction of it, and most of it pays for projects rather than for the policies that decide whether projects happen at all.

The international system can supply something else cheaply: lower borrowing costs. Developing countries borrow at spreads of several percentage points over the highest-rated sovereigns, and the cost of capital, not technology, prices their clean power (Ameli et al. 2021; Stretton 2026d). A guarantee from a highly rated institution removes most of that spread. It saves the borrower the full spread every year, but costs the guarantor only its expected loss and the carry on the capital it holds against bad outcomes. That gap between value and cost is the resource this section spends.

Four routes to an incentive

There are four ways to reward a government for climate policy from outside, and they differ in what they cost the giver (Table 1).

Route	What the government gets	What it costs the giver	Where
Carbon pricing and policy crediting	Payment per tonne cut by a policy, measured as a carbon-price equivalent	Cash, per tonne	Section 1 (1.1, 6.1)
Conditional de-risking	An intermediary and guarantees for its clean power pipeline, on condition of utility and tariff reform	Expected loss on contingent exposure	Section 3 (3.1, 3.2)
Sustainability-linked lending	A lower interest rate if agreed indicators are met	Forgone interest; small per loan	4.3
Notional capitalized value, backed by the Climate Investment Trust	A balance, credited for carbon stocks, usable as guarantee capacity on green borrowing	Expected loss and buffer carry, held by a trust rather than paid out	4.1, 4.2

Policy crediting pays the right thing and costs the most. Section 1 proposes paying for the tonnes a policy cuts, measured on one carbon-price-equivalent scale, rather than for individual projects (Stretton 2026f, 2026e). It is the cleanest incentive and the dearest, because every tonne is paid in cash.

Conditional de-risking is cheap but small. The guarantees in section 3 reward reform only indirectly, by making a reforming country's projects cheaper to finance (Stretton 2026d, 2026c).

The instruments in this section aim for both size and low cost. They pay in the currency the international system holds most of, balance-sheet strength, and they attach the reward to the government's own policy record.

Reward the stock as well as the flow (paper 4.1)

Climate finance pays for marginal cuts against counterfactuals nobody can observe, and pays almost nothing for carbon that was never released. A country that kept its forest standing for a century has earned nothing; one that cleared it and partly replanted can be paid for the replanting. Counterfactual baselines also reward weak plans and arrive years after the reform they pay for.

The proposal is a notional capitalized value (paper 4.1). A country's balance is opened by its carbon stock, valued at a low notional price, and debited at a separate price for every tonne emitted above an agreed allowance. The balance is never paid out. It sets the country's guarantee capacity: the maximum outstanding guarantee exposure that development banks will provide on its eligible green borrowing. Two prices are needed because

one cannot do two jobs: the stock price sizes the balance, the debit price sets the incentive at the margin.

The reward is large because a guarantee is worth more than it costs. The series' base case uses the development banks' own sovereign loss record: 0.77 percent of their sovereign loans defaulted each year over 1984–2024, and 95 percent was recovered (European Investment Bank 2025). On that record each dollar of donor cost delivers about 80 dollars of interest saving (Stretton 2026h). That is a budget ratio. A borrower that counter-indemnifies a development bank gives up its option to default, so the country's gain net of that option is about 27 per dollar. The record reflects the banks' status as preferred creditors, which a new climate guarantee facility might not inherit, so the papers also report a stress case, with calls about four times as frequent and a 37 percent loss per call, in which each dollar delivers 2.7 (1.9 net of the default option), and a middle case, with a 10 percent loss per call, in which it delivers 10. For a stylized forest country with Guyana's carbon stock, a $5 billion balance saves $150 million a year in interest and prices emissions at about $30 per tonne if capacity binds and the scheme has no end date (about $20 for a tonne emitted in 2027 if it ends in 2050), at a donor cost of about 40 cents per tonne ($11 in the stress case). Each $1 billion a year of incentive needs about $33 billion of guarantee capacity and costs donors about $13 million a year in expected losses ($370 million in the stress case, with a $3 billion buffer held rather than spent).

The debit must be per tonne, and capacity must bind. If emissions do not reduce the capacity a country actually uses, an extra tonne costs it nothing and the incentive disappears. The working paper shows that this, not the size of the balance, is what gives the instrument a carbon-price equivalent.

Hold the capital, lend its strength (paper 4.2)

Guarantee capacity needs a holder of capital behind it, and grant money is spent once. A concessional loan to one solar plant supports one plant; a grant on results arrives after the spending it was meant to induce and leaves nothing behind.

The proposal is a Climate Investment Trust that holds donor capital rather than spending it, and uses one pool three ways (paper 4.2). It takes second loss on the guarantees that reward policy, behind the government's own first loss and ahead of a highly rated guarantor. It co-invests, for fees, in clean energy development and in regional first-loss funds that hold the equity tranche of section 3′s asset classes. And it holds national beneficiary accounts, credited by performance, that countries can pledge as collateral now and draw only after 2050.

Holding beats spending by the ratio of the spread to the expected loss. On the development banks' loss record each donor dollar held delivers about 80 dollars of interest savings, and a buffer of 0.5 percent of exposure keeps the chance of exhaustion at 1 percent a year, so on paper $5 billion could support about $1 trillion of guarantees. In the stress case the buffer is about 9 percent, $5 billion supports about $54 billion, and each dollar delivers 2.7 (Stretton 2026j).

Three conditions decide how much of that the Trust delivers. Its claims must be honored as a preferred creditor's. Its capital carries a cost: at a 2 percent carry the ratios are 63 and 2.3, and a Trust that prices on the record while holding the stress buffer delivers about 13 per dollar, not 80. And a call needs cash before recoveries arrive: if each call costs a year's debt service, $5 billion on the record supports about $390 billion, unless a highly rated backer provides a liquidity line (Stretton 2026j).

Holding the cautious buffer, the Trust grows on its own yield if losses follow the record. It grows about 3 percent a year with no fee on the record and shrinks about 8.5 percent a year at stress losses; with $95 billion of private co-investment, an upper case, it reaches about $34 billion after 10 years. An allocation rule built as a feebate between national accounts rewards early action at no net cost (Stretton 2026j).

Codify sustainability-linked lending, then give it scale (paper 4.3)

Sustainability-linked lending is the working prototype, and it is too small. Uruguay's 2023 World Bank loan, the leading example, cuts its rate by up to 100 basis points a year if livestock methane targets are met, worth at most about $12.5 million over the loan's life (World Bank 2023; Stretton 2026a) (paper 4.3).

The instrument can be codified: standard indicators measured as outturns rather than process, baselines set by rule, verification from published data and a published pricing schedule. It works better when the investor's return is separated from the government's reward, so investors hold a fixed coupon and a trusted intermediary pays the performance reward (Stretton 2026b). A market sustainability-linked bond buys commitment, not money: the government pays for its own incentive, and it issues one only if the label premium covers the policy's cost, which is why targets tend to be easy.

An interest rebate can never exceed the interest bill, so on its own it is an order of magnitude too small for major reforms. The fix is to make guarantee capacity under 4.1, or access to the Trust's collateral under 4.2, the reward for meeting the indicators. Sustainability-linked lending then becomes the delivery channel, and notional capitalized value and the Trust supply the size.

Pay a premium for acting now

Timing is the problem this section adds to the climate-finance debate. Clean technology is getting cheaper, carbon markets are immature and dollar interest rates have been high, so a finance minister weighing reform now against reform in five years has good reasons to wait. The option to wait is valuable whenever a reform is costly and hard to reverse (Dixit and Pindyck 1994).

An incentive that does not pay for earliness is an incentive to prepare, not to act. Both flagship instruments pay for earliness by design. A notional capitalized value debited for every tonne makes delay costly from the first year, and the working paper shows that the cheapest capacity schedule that still makes acting now optimal declines at the rate clean technology costs fall; in its example, that halves the donor cost of inducing early action (Stretton 2026h). The Trust's periodic allocation to national accounts does the same, because a tonne cut this year earns allocations every year after.

The boundary with section 3

Section 3 decides who bears a loss once a project exists; this section changes whether the government chooses the policy and the pipeline. A risk mechanism fails when the guarantor cannot pay. An incentive fails when the reward is too small, too late or in the wrong form to be borrowed against.

The two compose. Guarantee capacity earned under 4.1 can stand in the payment intermediary's guarantee waterfall in 3.1 or behind the senior bonds in 3.2. The Trust's regional funds are the natural holders of 3.2's first-loss tranche. The cleanest version of the programme uses the incentive instruments to build the capacity that the risk mechanisms then use.

The papers in this section

4.1 Reward the Stock as Well as the Flow: Notional Capitalized Value and Guarantee-Based Climate Incentives. A balance opened by a country's carbon stock, debited for every tonne emitted above an allowance, and used as guarantee capacity on green borrowing rather than paid as cash. Each dollar of donor cost delivers about 80 dollars of interest saving on the development banks' loss record (about 27 net of the default option), and 2.7 in a stress case; capacity that declines as clean technology costs fall is the cheapest way to make acting now beat waiting. Brief: Climate Fiscal Policy Brief No. 4.1 (Stretton 2026g). Working paper: (Stretton 2026h).

4.2 The Climate Investment Trust: Hold Capital, Lend Its Strength. A trust that holds donor capital and uses it three ways: second-loss cover behind policy guarantees, fee-earning co-investment, and national beneficiary accounts pledgeable now and drawn after 2050. A held buffer delivers about 80 dollars of interest savings per donor dollar on the development banks' loss record, and 2.7 in a stress case, against one for a fund that pays out, provided its claims are preferred, its capital's carry is counted and it has a liquidity line. Brief: Climate Fiscal Policy Brief No. 4.2 (Stretton 2026i). Working paper: (Stretton 2026j).

4.3 Codify Sustainability-Linked Sovereign Lending, Then Give It Scale. Standard indicators, verification and pricing make sustainability-linked lending replicable, and a fixed coupon with an intermediary-paid reward makes it cheaper. Interest rebates are bounded by the interest bill, so guarantee capacity or Trust collateral must be the main reward. Brief: Climate Fiscal Policy Brief No. 4.3 (Stretton 2026a). Working paper: (Stretton 2026b).

A related paper on the development banks' mandate and balance sheets, Reforming MDBs, is outside the series, in Other Writing (paper 8.3.2).

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Stretton, Stephen J. 2026c. *From Projects to Asset Classes: Two-Stage Finance and Synthetic Sovereign Bonds for Clean Power*. 3.2. Climate Fiscal Policy Briefs.

Stretton, Stephen J. 2026d. *Guarantee the Contract, Not the Debt: A Payment Intermediary for Clean Power*. 3.1. Climate Fiscal Policy Briefs.

Stretton, Stephen J. 2026e. *Measure Carbon Pricing by the Emissions It Cuts: The Total Effective Carbon Price*. 6.1. Climate Fiscal Policy Briefs.

Stretton, Stephen J. 2026f. *Price Production and Consumption Separately: A Two-Track Architecture for Carbon Pricing in Open Economies*. 1.1. Climate Fiscal Policy Briefs.

Stretton, Stephen J. 2026g. *Reward the Stock as Well as the Flow: Notional Capitalized Value and Guarantee-Based Climate Incentives*. 4.1. Climate Fiscal Policy Briefs.

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