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POLICY BRIEF
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From $113 to $25 a tonne: Unlocking the TFFF Potential

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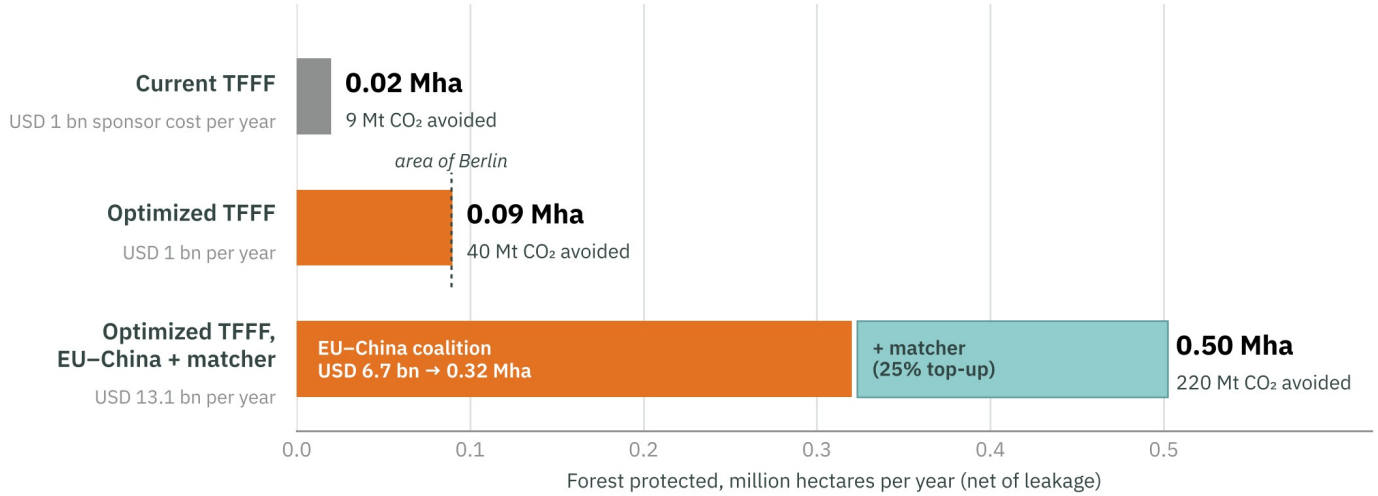
The Tropical Forest Forever Facility rewards tropical countries for keeping their forests standing. Our analysis shows that its current design buys little forest protection per dollar. Three rule changes would make every dollar four to five times more effective. That gives the EU a reason of its own to pay, and it opens the door to bilateral funding pacts such as an EU–China pact that a third donor can then multiply.

Key messages

1. **More forest.** For USD 1 billion a year, the current design protects about 20,000 hectares of forest annually. The optimized design protects 90,000 hectares.
2. **Far cheaper climate protection.** The cost of avoiding one tonne of CO_2 falls from USD 113 to USD 25.
3. **The EU gains by paying.** Each tonne avoided spares the EU about USD 36 in climate damage. Under the current design a purely self-interested EU would pay nothing; under the optimized design it could pay about USD 0.8 billion a year.
4. **Coalitions multiply the money.** An EU–China matching pact raises funding to USD 6.7 bn a year out of self-interest. A third (altruistic) donor topping this up by 25% lifts it to USD 13.1 billion, protecting 0.5 million hectares and avoiding 220 Mt CO_2 every year.

Forest protected each year under three schemes

Better rules multiply the forest saved per dollar; a coalition (motived by self-interest) and an altruistic 'matcher' (conditional donor) multiply the dollars.



Current TFFF: USD 1 bn of sponsor cost per year, of which about USD 0.8 bn reaches forests after administrative costs. **Optimized TFFF:** direct contributions, one constant reward per hectare saved, and a reference deforestation rate set according to the budget. Coalition amounts are what self-interested donors would choose to give. All figures are net of 40% leakage, for a social cost of carbon of USD 210/tCO_2.

4–5×
more forest per dollar
same budget, better rules

$113→$25
cost per tonne of CO_2 avoided
current vs. optimized design

$0→$0.8 bn
what the EU would give out of self-interest
per year, current vs. optimized

$13.1 bn
a year from EU, China and a matcher
more than 5× today's public forest finance

Why the current design falls short

Under the current plan, donors lend capital cheaply to a fund that invests in high-risk emerging-market bonds and pays forest countries out of the returns. About a fifth of those returns is lost to financial intermediation, and payments rise and fall with financial markets.

The payout rule adds a second problem. It rewards some cuts in deforestation more generously than others: saving a hectare is worth twice as much in a country with a deforestation rate between 0.3% and 0.5% as in one below 0.3%. And the 0.5% eligibility line is fixed, regardless of how much money the fund has. Above this line, a country gets paid nothing.

Adjusting the 0.5% eligibility line downwards would concentrate scarce funds in countries with already low deforestation rates and allow for larger marginal rewards paid. This, in turn, conserves more forests under a given budget.

Why the EU would pay

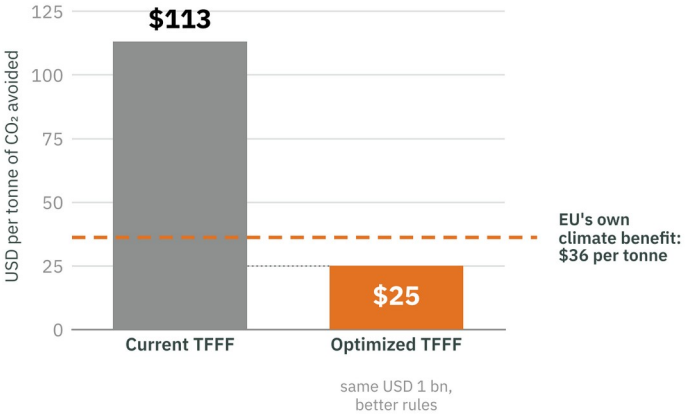
Every tonne of CO_2 avoided reduces climate damage worldwide. The EU's share of that benefit is about **USD 36 per tonne** (its 17% share of nominal world output times a global damage cost of USD 210 per tonne).

Under the current design, extra forest protection costs more than this, so a purely self-interested EU would give nothing. Under the optimized design, paying is worthwhile up to **about USD 0.8 billion a year**.

Note also that this calculation ignores biodiversity, development and diplomatic gains: These would go a long way further strengthening the case.

Cost of avoiding one tonne of CO_2

USD per tonne, for a budget of USD 1 bn a year



Only the optimized design delivers emission cuts at an average cost below the EU's own climate benefit of USD 36 per tonne.

Three Issues with TFFF: The cost of donating the first dollar is already 108$/tCO2 avoided. This is due to:

1) **High financial intermediation costs.** About a fifth of the fund's returns go to administration. Paying in directly lowers the average cost from USD 113 to 91 per tonne when the fund spends USD 1 billion per year.
2) **Unevenly distributed incentives.** The reward per hectare differs between countries. A single reward per hectare, with one fixed eligibility line, lowers the cost from USD 91 to 50 per tonne.
3) **Suboptimal eligibility line**. Setting the line according to the money available, rather than fixing it, allows higher rewards where they change behaviour most. This lowers the cost from USD 50 to 25 per tonne.

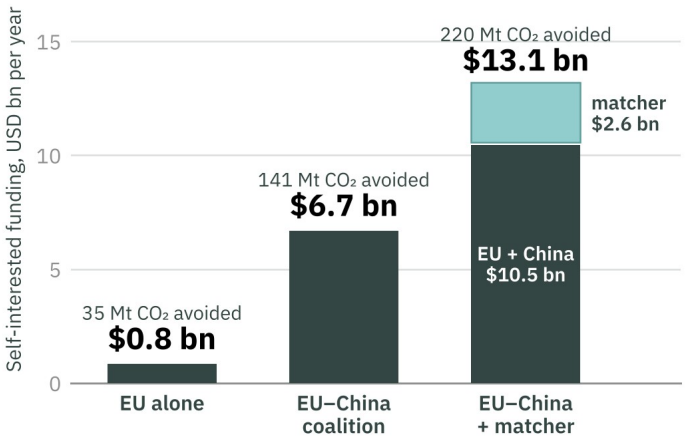
Coalitions and matchers multiply the money

Alone, the EU stops at USD 0.8 billion because others enjoy the climate gains for free. If the EU commits to **match every dollar China gives**, both act as if they count their combined benefit of USD 72 per tonne. The coalition is also internally stable – no country would find it beneficial to leave it. Their joint contribution rises to **USD 6.7 billion a year**, avoiding 141 Mt CO_2.

A third party that is not motivated by self-interest but altruistic motives to enhance conservation can push it further. An unconditional gift replaces money the coalition would have paid itself. Contrary, if the third party pledges to **top up the EU–China contribution by 25%**, it incentivizes the coalition to give 56% more to the fund. Total funding reaches **USD 13.1 billion a year** and avoided emissions rise to 220 Mt CO_2.

Who pays, and how much

Self-interested funding for the optimized TFFF, USD bn per year



What policymakers can do

- **Fund rewards directly** through predictable annual contributions instead of a leveraged investment fund.
- **Pay a uniform reward per hectare** of avoided deforestation, the same for every country.
- **Set the reference level by the budget**, so scarce money goes where it changes most.
- **Build a matching pact:** the EU matches China's contributions, and other donors pledge conditional top-ups rather than unconditional donations.

About the analysis. Results come from an economic model of how governments respond to conservation payments, calibrated to Norway's results-based payments to Guyana. It assumes 40% leakage (deforestation displaced elsewhere) and 440 tCO_2 per hectare. Damage values follow the US EPA (2023) central social cost of carbon of USD 210 per tCO_2 (2020 prices), scaled by GDP shares of 17% (EU) and 34% (EU + China). Under EPA's low and high estimates (USD 130 and 360), EU–China funding ranges from USD 1.6 to 34 billion a year. Full methods are available in the pre-print Kalkuhl, Banerjee, Stern, Edenhofer & Fuss, Reforming tropical forest finance to unlock large-scale cooperation (https://doi.org/10.5281/zenodo.24292633). The manuscript has not been peer-reviewed yet and might change until peer-reviewed publication.

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