Climate Finance Policy in Practice

A Review of the Evidence

CLIMATE POLICY LAB

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Climate finance needs versus actuals

$1.6 - 3.8 TRILLION ENERGY SYSTEM INVESTMENT REQUIREMENT FOR 1.5 DEGREE SCENARIO (IPCC 2018)

$1.8 TRILLION ADAPTATION INVESTMENT REQUIREMENT

(GCA 2019)

ACTUAL INVESTMENT IS $463 BILLION

(CPI 2018)

FOSSIL INVESTMENTS ARE ALMOST TWICE AS LARGE AS CLIMATE INVESTMENTS

Figure: Climate Policy Initiative 2018, "Global Climate Finance: An Updated View."

Research questions

- **What works in climate finance policy, what doesn't, and why?**
  - Which policies mobilize finance most effectively?
  - Which policies are most economically efficient?
  - Which policies are most equitable?
  - Which policies result in the highest environmental integrity?
- **Which policy tools can national governments confidently use to accomplish which climate finance goals?**

Analysis of climate finance instruments

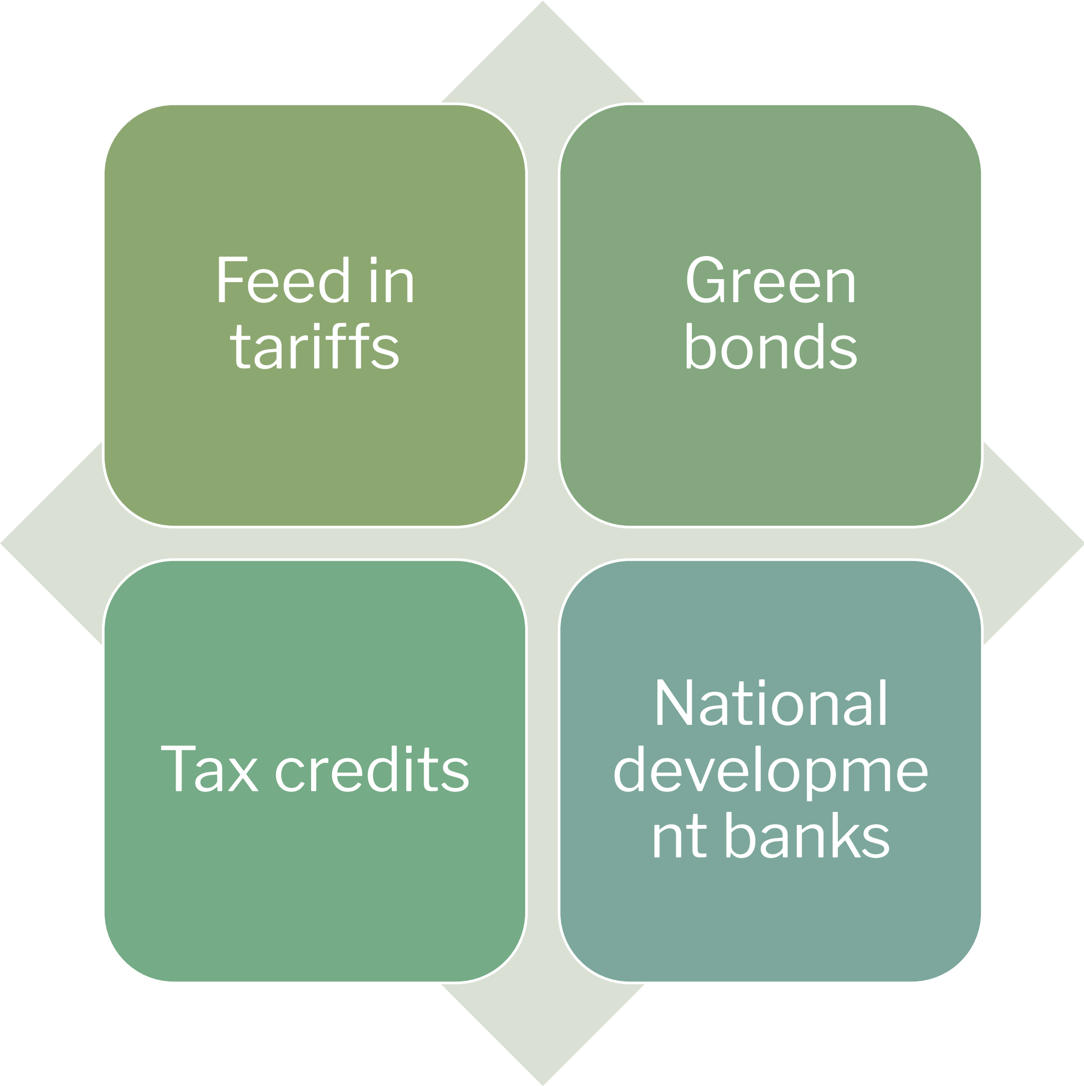
- Targeted lending
- Green bonds
- Loan guarantees
- Weather index-based insurance
- Tax credits
- Feed-in tariffs
- National development banks
- National climate funds
- Disclosure

SELECTED POLICIES AND COUNTRY EXPERIENCE

Policy Instrument	Country experience
Targeted lending	India, China
Green bonds	China, Indonesia, India, Europe, United States
Loan guarantees	United States World Bank
Weather index-based insurance	Asia, Africa
Tax credits	United States Netherlands Japan
Feed-in-tariffs	Spain, Germany, Italy, China
National development banks	Germany, China, India
National climate funds	Amazon Fund (Brazil), CRGE Facility (Ethiopia), Climate Change Resilience Fund (Bangladesh), Climate Change Trust Fund (Indonesia)
Disclosure	United States

CRITERIA FOR EVALUATING CLIMATE FINANCE POLICY

Criteria	Metric or indicator
Mobilization effectiveness	Volume of finance mobilized; term of finance (long or short), cost of capital
Economic efficiency	Net cost of policy to government or public (cost minus benefit)
Environmental integrity	Emissions reductions or measurable adaptation benefit
Equity	Access to finance by all stakeholders



Mobilization effectiveness

Economic efficiency

- Loan guarantees
- Green bonds
- Disclosure
- National development banks

Environmental integrity

Assuming that low-carbon technologies are targeted

- Feed in tariffs
- Loan guarantees and targeted lending
- Tax credits
- National development banks & climate funds

Equity in access

- Feed in tariffs
- Weather index-based insurance and disclosure
- Tax credits
- National development banks and climate funds

PROS AND CONS

Policy instruments	Pros	Cons
Feed in tariffs	Mobilization of finance, environmental integrity,* transparency	Economic cost
Tax credits	Mobilization of finance, environmental integrity,* transparency, equal access,	Instability, economic cost, can benefit bigger/wealthier firms
Loan guarantees	Mobilization of finance, environmental integrity*, can be inexpensive	Vulnerable to political influence, can benefit bigger/wealthier firms
National development banks	Mobilization of finance, environmental integrity,* can benefit SMEs or neglected sectors	Vulnerable to political influence
Targeted lending	Mobilization of finance, environmental integrity,* can benefit SMEs or neglected sectors	Vulnerable to political influence
Disclosure	Transparency	Mobilization of finance, environmental integrity is unclear
Green bonds	Mobilization of finance, can be inexpensive	Environmental integrity unclear due to lack of standardization
Weather index-based insurance	Administrative ease, addressing adaptation need	Mobilization of finance unclear
National climate funds	Gives country a degree of autonomy and credibility, mobilization of finance, environmental integrity	Mobilization of finance, vulnerable to political influence unless insulated or autonomous
*If climate-friendly sectors or technologies are targeted		

Findings

Policy objectives are central; pros and cons exist for all of the policy instruments

No policy “silver bullet” because climate finance policies work best nested in a coherent set of climate policies

Feed-in tariffs, tax credits, loan guarantees, and national development banks are all effective at mobilizing private finance, but some are costly.

National climate funds, targeted lending, disclosure, and green bonds could all theoretically be effective policy instruments, but evidence to date is weak or thin

Policy Implications

- How can we best support new entrants to build track records?
- Enabling national development banks to play a role in creating markets
- Scaling up what we already know
- Climate finance policy is highly skewed toward mitigation; a more concerted effort to think about financing adaptation

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CLIMATE POLICY LAB

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KNOWLEDGE GAPS

- Data availability
  - Public versus private
  - Double counting
- Crowding in versus crowding out?
- In which areas are concessional finance still needed?

Policy implications

- Need for climate "proofing" of all investments
- Lack of government regulation can inhibit effective mobilization of climate finance
- Climate finance policies must anticipate change and be able to be responsive to it.
- Mainstreaming is necessary but will not occur without policy
- Finance policies must be nested in broader array of climate policies
- Developing countries need support to create institutions to steer investment away from boutique approaches
- It may be wiser for governments to choose instruments that reduce and mitigate risks
- Lack of stakeholder participation in policymaking can lead to sub-optimal decision making.
- Will climate change itself undermine the effectiveness of climate finance policies?

Back up slides

Key features of climate finance policy

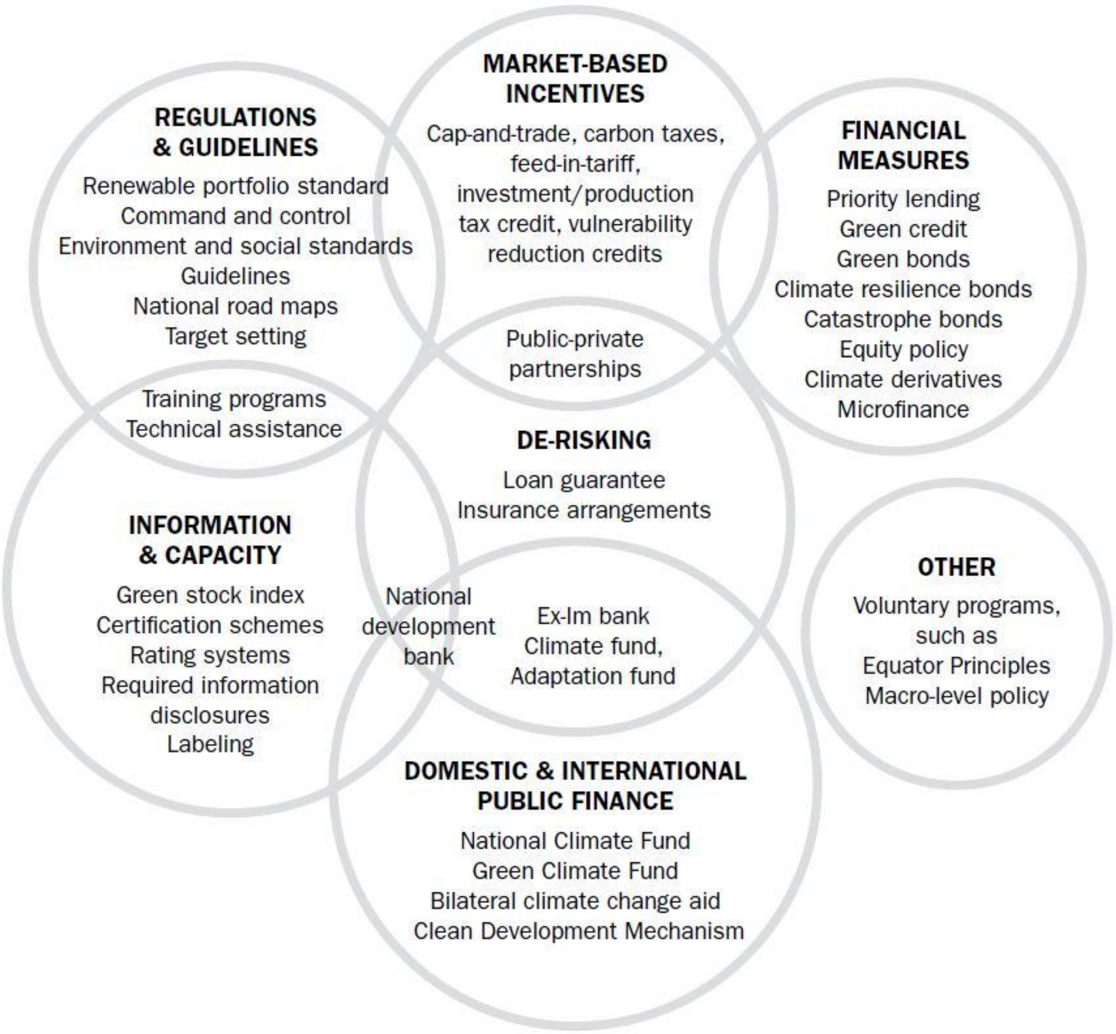
- Stability and durability
- Simplicity
- Transparency
- Consistency and coordination
- Adaptability

Comparisons of key features

	Stability and Durability	Simplicity	Transparency	Consistency and coordination	Adaptability
Targeted lending	Can be stable, difficult to remove	Clarity in terms of sectoral coverage	Usually lacking in transparency	Consistent in priority sectors	Easy to adapt as new sectors are targeted
Green bond policy	Once the market is established, green bonds appear to be durable	Definitions and standards are still needed in most countries.	Usage of bond proceeds is usually not disclosed.	Lack of consistency on definition of green bond across countries. Usually uncoordinated with other policies.	Adaptable because bonds can be issued for any type of investment. Standardization of definitions will still be needed.
Loan guarantee program	Fiscal nature makes it highly sensitive to politics and budget allocations	The application process is complicated, especially for SMEs	Low transparency regarding the selection process. The U.S. program was plagued by accusations of political interference	Consistency depends on budget authorization. Some degree of coordination with other policies in the United States (e.g. fuel efficiency standards for vehicles)	Can be revised if goals are achieved (e.g. decide not to issue new guarantees for certain technologies)
Weather indexed insurance	Once the market is built, it can be durable	Insurance contract, which is index-based, is hard to understand.	Insufficient data	Consistent where it exists, but unevenly available across countries. No evidence of coordination with other policies.	Can be adapted for each insurance policy renewal
Feed-in-tariff	Typically established by law and therefore stable	The standard contract for feed-in tariffs is typically short and easy to understand.	Policy information is usually readily available on government websites and other platforms	Consistent unless cost of policy becomes overwhelming and then unexpected changes to policy occur. Coordination with other policies such as portfolio standards.	Can be revised if reviews and revisions are planned up front, either through the use of triggers or use of regular calendar reviews
National development banks	Stable, but priorities are subject to government goals and objectives	The application process is simple.	Information is usually readily available on NDB bank websites	Very consistent, highly coordinated with other policies	Can adjust their investment portfolios according to government priorities
Disclosure Policies	Stable but incomplete	Should be simple but lack of standardization and enforcement	Uneven enforcement has resulted in little data that is publicly available	Inconsistency across companies and countries, uncoordinated with other policies	Standardization is necessary, which will make adjustments harder, but not impossible if they are regularly updated
Tax credits	Fundamentally unstable and subject to politics	Sometimes hard to determine eligibility, can be complex	Information is usually readily available on government websites	Consistent due to clear eligibility requirements, not coordinated with other policies	Can be adjusted with each fiscal year
National climate funds	Mixed record of stability	Depends on disclosure	Mixed	Inconsistent due to dependence on various funding sources. Some highly coordinated with other policies, some not.	Can be adjusted depending on the autonomy of the fund

Classification of climate finance policies

Figure 1: Classification of climate finance policies based on function



Source: Adapted from Gallagher and Xuan (2018)

TARGETED LENDING

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Targeted lending	Insufficient data in general. Directing banks' lending from black sectors to green sectors (China).	The cost of setting up the policy is low and no subsidy is required	Dedicated lending to green sectors (+), renewable energy (+), agriculture (uncertain). How "green" the lending is depends on monitoring and evaluation processes	Meant to address distributional concerns, but insufficient data to evaluate
Rating for targeted lending	n/a, √ (China)	√+	√	n/a

GREEN BONDS

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Green bonds	Expanding pool of finance but may not necessarily reduce capital costs.	The cost of setting up the policy is low, and no subsidy is required.	Depends on definitions and monitoring and evaluation processes	Big players are favored and small and medium firms are marginalized
Rating for green bonds	√ /√+	√+	√- (China)	√-

LOAN GUARANTEES

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Loan guarantees	De-risks low-carbon projects and induces private investments	An institution to manage the program must be created. Subsidies are required but may not be required if no defaults occur. Transaction costs can be high for firms.	Depends on the eligibility definition of the policy	Most of the money has gone to large and established companies rather than startups.
Rating for loan guarantees	√+	√	√+	√

WEATHER INDEX-BASED INSURANCE

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Weather index-based insurance	Insufficient data	Insufficient data	Insufficient data	Equal opportunity for SMEs and private households
Rating for weather indexing	n/a	n/a	n/a	√

FEED-IN TARIFF

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Feed-in-tariff (FiT)	Mobilizes private finance very effectively	Requires substantial subsidies	Clear definition of eligible technologies	Depends on design. Can burden consumers or taxpayers more than firms.
Rating for FiT	√+	√-	√+	√

TAX CREDITS

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
Tax credit policy	Can mobilize private finance, but sufficient tax liability is required	Costly to government budget	Can be effective at spurring deployment or uptake of certain technologies depending on design. Additionality can be questioned.	Equal access but can be regressive depending on design
Rating for tax credits	√	√-	√/√+	√+

NATIONAL DEVELOPMENT BANK

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
National development banks (NDB)	Expands pool of available finance and increases provision of long-term finance	The cost of setting up the policy is low if an NDB is already available, and only a small subsidy is required	Depends on what is supported but can be very beneficial to national firms	All depends on who is supported, but evidence suggests that SMEs can be targeted effectively
Rating for NDBs	√+	√+	√+ (KfW) √- (CDB)	√+

NATIONAL CLIMATE FUND

	Mobilization effectiveness	Economic efficiency	Environmental integrity	Equity
National climate funds	Huge variability. Very high in some instances where high credibility, very low in others	Administrative and transaction costs can be high. Trusteeship can add cost.	Strong benefits have been identified if fund is operational	Depends on design because agency of national government can be high or low depending on degree of autonomy from donors
Rating for national climate funds	√- (Indonesia) √+ (Brazil)	√	√	√

DISCLOSURE

	MOBILIZATION EFFECTIVENESS	ECONOMIC EFFICIENCY	ENVIRONMENTAL INTEGRITY	EQUITY
Disclosure Policies	Impacts on firms can be mixed. Unclear at national or subnational level.	The cost of setting up the policy is low. Implementation costs to ensure compliance may be high in certain cases.	Information not necessarily usable to investors	Insufficient data
Rating for disclosure policies	√/√-	√+/√-	√	n/a

CLIMATE FINANCE PUZZLES

About 80% of finance is raised in the same country in which it is spent.

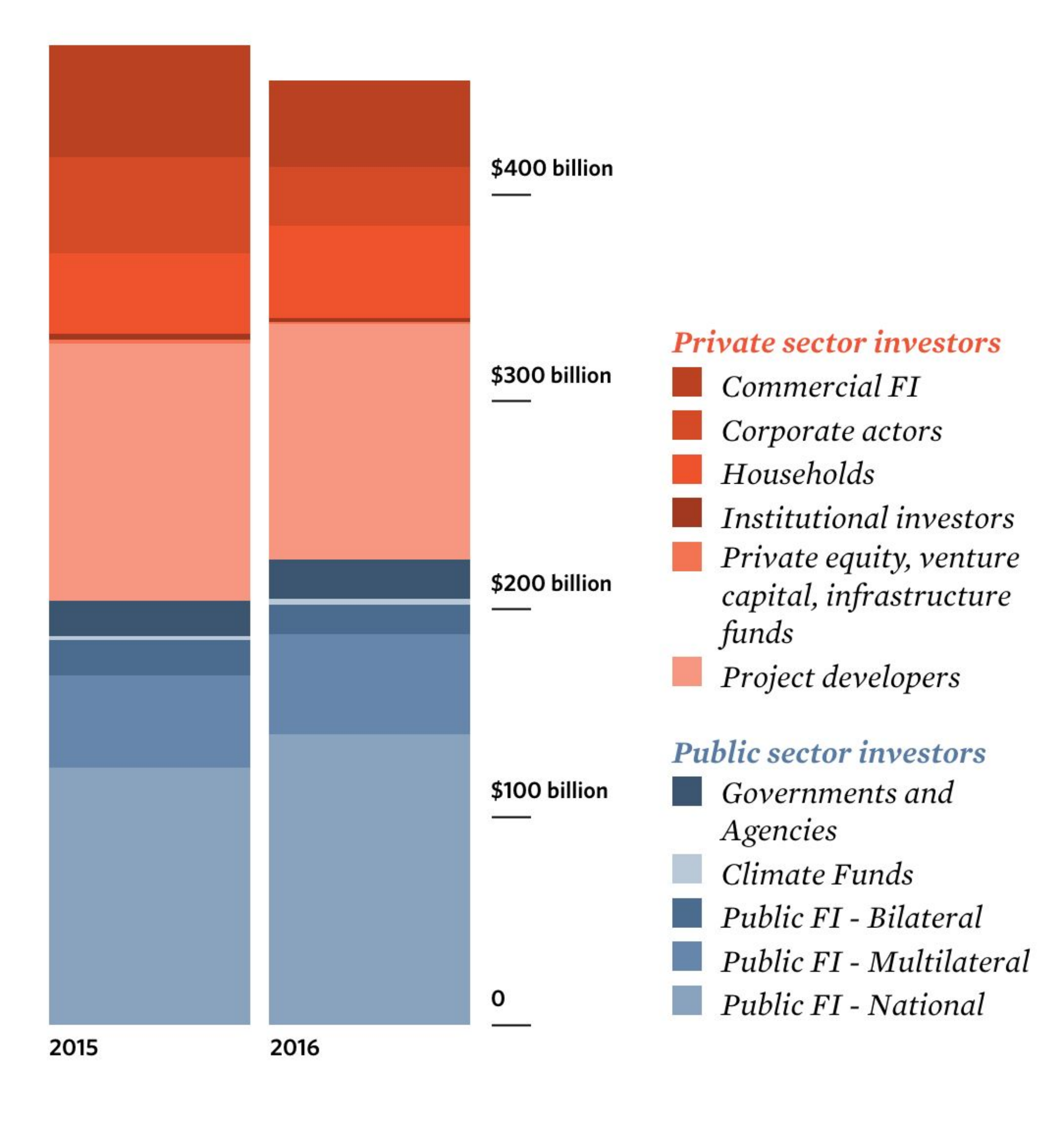


Figure: Climate Policy Initiative 2018, "Global Climate Finance: An Updated View."

MARKET INTERVENTION POINTS OF CLIMATE FINANCE POLICIES

Demand-side	Supply-side	Linkage of demand and supply
Feed-in tariffs	Targeted lending	Guidelines
Regulations	National development banks	
Weather insurance	National climate funds	Short, medium, and long-term targets
Carbon tax or emission and trading system (ETS)	Tax credits (e.g. for renewables or vulnerability reduction)	Roadmaps
Performance standards	Green bonds	Third-party monitoring reporting and verification (MRV)
Rating systems	Catastrophe bonds	Data/information platforms
Tax credits	Ex-Im banks	Training programs and technical assistance
	Microfinance platforms	Disclosure
	Loan guarantees	
	Green Climate Fund, Adaptation Fund, Least Developed Countries Fund (LDCF)	
	Public-private-partnership	