

International practice in tracking climate finance and support

- Climate finance and climate support
- Countries reporting on support and related challenges
- Approaches to report support received and support needed

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CBIT-GSP

CLIMATE TRANSPARENCY



Federico A. Canu
Advisor - Finance
UNEP Copenhagen Climate Centre
federico.canu@un.org

Financial support in the context of UNFCCC

- At the 15th Conference of Parties (COP15) of the UNFCCC in Copenhagen in 2009, developed countries committed to a collective goal of mobilising USD 100 billion per year by 2020 for climate action in developing countries
- Released on 29 May 2024: The OECD's seventh assessment of progress towards the UNFCCC goal finds that in 2022 developed countries provided and mobilised a total of USD 115.9 billion in climate finance for developing countries, exceeding the annual USD 100 billion goal for the first time, two years later than the original 2020 target.
- COP29 closed with a new finance goal:
 - Triple finance to developing countries, to USD 300 billion annually by 2035.
 - Scale up finance to developing countries, from public and private sources, to USD 1.3 trillion per year by 2035.

Climate finance for developing countries

Amounts provided and mobilised by developed countries, billion USD



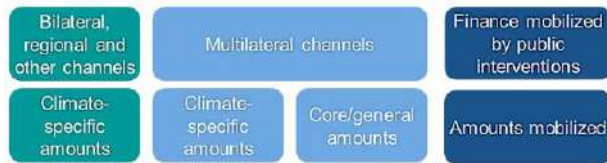
The gap in the private finance series in 2015 is due to the implementation of enhanced measurement methodologies. As a result, private flows for 2016-22 cannot be directly compared with private flows for 2013-14.
Source: OECD (2024), Climate Finance Provided and Mobilised by Developed Countries in 2013-2022.

Climate finance vs support

No clear commonly agreed definition

Not all climate finance is support

Not all support is finance



Source: UNFCCC, 2023; UNFCCC BTR Review Training: Course D – Financial, Technology Development and Transfer and Capacity Building Support

Countries should provide information to understand how they define climate finance and support.

However, not possible to accurately aggregate support flows without common methods and approaches.

LANDSCAPE OF CLIMATE FINANCE IN 2023

Values are in USD billion



SOURCES AND INTERMEDIARIES

Which types of organizations are sources or intermediaries of capital for climate finance?

Governments \$133
National DFIs \$140
Multilateral DFIs \$119
State-owned FIs \$109
Bilateral DFIs \$42
Multilateral Climate Funds \$3
SOEs \$88
Other* \$29

Commercial FIs \$436
Corporations \$335
Household/Individuals \$470

INSTRUMENTS

What mix of financial instruments is used?

Grant \$57
Low-cost project debt \$68
Project-level market rate debt \$817
Project-level equity \$146
Unknown \$4
Debt \$231
Balance sheet financing
Equity \$580

USES

What types of activities are financed?

Adaptation \$65
Dual benefit \$58
Mitigation \$1,781

1.9 TRILLION USD IN 2023

SECTORS

What is the finance used for?

AFOLU \$38
Industry \$26
Water & wastewater \$49
Information & communications technology \$1
Waste \$29
Others & cross-sectoral \$92
Buildings & infrastructure \$290
Transport \$545
Energy systems \$834

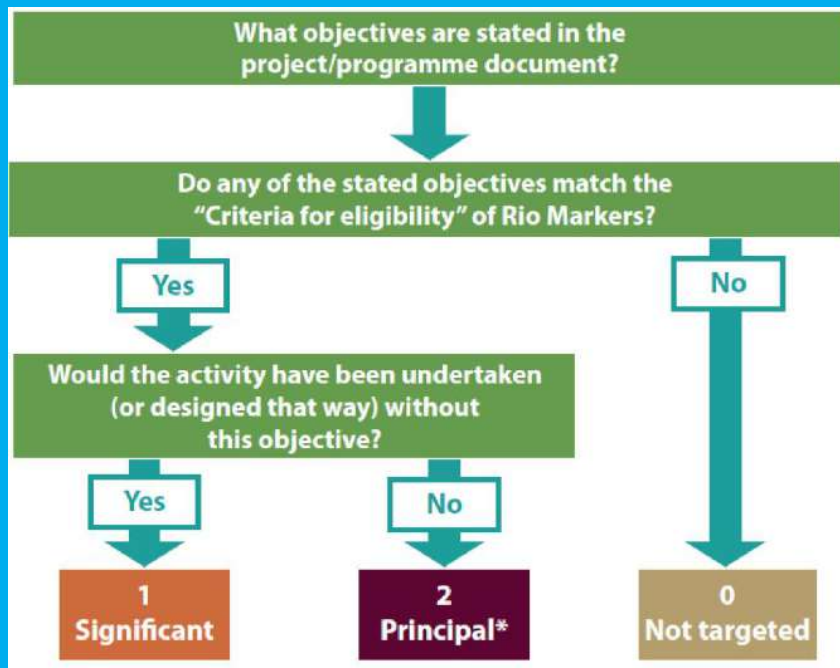
PUBLIC PRIVATE

Other public sources include export credit agencies and unknown public funds

Other private sources include institutional investors, funds, philanthropies, and unknown

AFOLU stands for agriculture, forestry, other land use, and fisheries.

How donors see support - provided - Rio Markers



Source: OECD, *OECD DAC Rio Markers for Climate Handbook*

The screenshot shows the OECD website's 'Climate Change: OECD DAC External Development Finance Statistics' page. It includes a navigation bar with links to Data, Publications, More sites, News, and Job vacancies. The main content area features a search bar, a list of related topics, and a section titled 'Explore statistics with the following:' which lists various reports and data sets related to climate-related development finance.

OECD DAC External Development Finance Statistics:

Different approaches to the same method (Rio Markers)

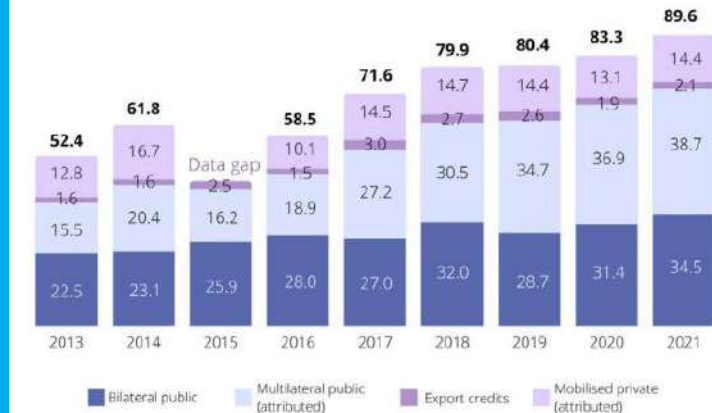
Table 1. Summary of coefficients or other adjustments applied by members to Rio Markers data to compile data for the UNFCCC, 2021-22 data

Provider	Reporting method	Measurement basis	Bilateral public finance			Private finance mobilised	Export credits
			Adaptation or mitigation ONLY		BOTH adaptation and mitigation		
			Principal	Significant	At least one principal marker / both significant		
Australia	Case-by-case, except if specific share cannot be determined	Disbursement					
Austria	Fixed	Commitment	100%	50%	100% / 50%	Same coefficients	Same coefficients ^a
Belgium	Case-by-case	Other					
Canada	Fixed, except when reported by certain agencies	Other ^b	100%	30%	100% / 30%	Different method ^c	Different method ^d
Czechia	Fixed	Commitment	100%	100%	100%		
Denmark	Fixed, except in cases like multiproject programmes	Commitment	100%	50%	100% / 50%	Same coefficients	
Estonia	Other						
European Union	Fixed ^e	Commitment	100%	40%	100% / 40%		
Finland	Case-by-case	Other					
France	Case-by-case, except when reported by certain agencies	Other ^f					
Germany	Fixed	Other ^g	100%	50%	100%	Same coefficients	
Greece	Fixed	Disbursement	100%	40%	100% / 40%		
Hungary	Other						
Iceland	Fixed	Disbursement	100%	100%	100%		
Ireland	Fixed	Disbursement	100%	40%	100% / 40%		
Italy	Fixed	Other ^h	100% ⁱ	40% ^j	100% / 40% ^j		
Japan	Fixed	Commitment	100%	50%	100% / 50%	Same coefficients	Same coefficients
Korea			N/A				
Lithuania	Other						
Luxembourg			N/A				
Netherlands	Fixed, except for a few large programs	Disbursement	100%	40%	100% / 40% ^k	Same coefficients	
New Zealand	Fixed	Disbursement	100%	30% or 50% ^k	100% / 30% or 50% ^k		
Norway	Fixed	Disbursement	100%	40%	100% / 40%	Same coefficients	
Poland	Fixed	Disbursement	100%	100%	100%		
Portugal	Fixed	Disbursement	100%	40%	100% / 40%	Same coefficients	
Slovak Republic	Case-by-case						
Slovenia	Fixed	Other	100%	100%	100%	Same coefficients	Same coefficients
Spain	Fixed	Disbursement	100%	50%	100% ^l	Same coefficients	Same coefficients
Sweden	Fixed	Disbursement	100%	40%	100% / 40%	Different coefficients - always 100%	
Switzerland	Fixed	Disbursement	85%	50%	85% / 50%	Same coefficients	Same coefficients ^m
United Kingdom	Case-by-case	Commitment					
United States	Other						

Source: OECD DAC (2024) - Results of the survey on the coefficients applied to Climate Change Rio marker data when reporting to the UNFCCC, DCD/DAC/STAT(2024)28/REV1

How donors see it - provided and mobilized

Figure 1.1. Climate finance provided and mobilised by developed countries for developing countries, 2016-21 (USD billion)



Source: Based on Biennial Reports to the UNFCCC, OECD DAC and Export Credit Group statistics, complementary reporting to the OECD.

OECD (2023), Scaling Up the Mobilisation of Private Finance for Climate Action in Developing Countries: Challenges and Opportunities for International Providers, Green Finance and Investment, OECD Publishing, Paris, <https://doi.org/10.1787/17a88681-en>.

Improving risk-return profiles of projects

Table A B.1. Overview of the categories of finance considered and data sources

Category	Coverage	Instruments	Data source
Bilateral public	Climate finance outflows from donor countries' bilateral development finance agencies and institutions	Grants, loans, equity investments (USA only: developmental guarantees)	Biennial reports to the UNFCCC and complementary data submissions
Multilateral public (attributed to developed countries)	Climate finance outflows from multilateral development banks and climate funds attributable to developed countries	Grants, loans, equity investments	OECD Development Assistance Committee statistics (total multilateral outflows); institutions' annual reports (for calculating attribution shares)
Export credits	Climate-related export credits provided by developed countries' official export credit agencies, mostly for renewable energy	Export credit loans, guarantees, and insurance	OECD Export Credit Group statistics and complementary data submissions
Mobilised private (attributed to developed countries)	Private finance mobilised by bilateral and multilateral public climate finance	Private finance mobilised by grants, loans, equity and developmental guarantees	OECD Development Assistance Committee statistics and complementary data submissions

Different approaches and different methods - Developing countries

Table 2. Reporting approaches used by some non-Annex I parties for financial support received.

	Reported in tabular format				Allocation channels						Sectors			Financial instruments					Other					
	Per project or activity	Per donor	Per thematic area ^a	Only headline figures	Top donors	Bilateral	Multilateral	Multilateral financial institutions	Multilateral climate change funds	Specialized United Nations bodies	GEF	Private foundations	Private sector	Thematic ^a	Economic ^b	Grant	Concessional loan	National Loan budget	Result-based		ODA/non-ODA	Status of finance ^c	Domestic finance flows	Co-financing
																			payment	Leasing				
Argentina		✓			✓						✓													✓
Armenia	✓					✓		✓	✓	✓														
Brazil		✓				✓	✓	✓			✓													
Chile	✓					✓	✓	✓	✓	✓				✓	✓							✓		
Colombia		✓				✓		✓	✓	✓														
Ghana	✓					✓	✓				✓	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓
Indonesia		✓				✓		✓		✓						✓		✓				✓	✓	
Lebanon		✓			✓	✓		✓	✓															
Malaysia	✓					✓			✓	✓														
Mauritania	✓					✓		✓		✓								✓			✓			
Mexico				✓										✓	✓	✓		✓						
Montenegro		✓			✓					✓	✓					✓		✓						
Morocco	✓					✓		✓	✓	✓				✓		✓	✓						✓	
Paraguay		✓				✓		✓		✓	✓					✓	✓							
Peru	✓					✓		✓	✓					✓		✓	✓							✓
Moldova (R. of)	✓					✓		✓	✓	✓				✓	✓	✓		✓			✓			
South Africa	✓					✓		✓	✓					✓		✓		✓			✓		✓	✓
Thailand	✓					✓				✓	✓			✓										
Tunisia	✓					✓				✓	✓			✓										
Viet Nam			✓											✓									✓	

Source: Data extracted from UNFCCC SCF (2016, pp. 32–33; pp. 103–105).

^aFor example, mitigation and adaptation.

^bFor example, energy, transport and agriculture.

^cReceived or approved. Parties are shown in alphabetical order. The 20 non-Annex I Parties included in this table are those that had submitted their BURs as at 30 June 2016 and that provided summary information on financial support received during a certain period of time. In total, 32 non-Annex I Parties had submitted their BURs by 30 June 2016. Twelve of these 32 non-Annex I Parties do not appear in this table because they indicated financial support received only for some projects, activities, sectors or donors, or did not include quantitative financial information at all in their BURs.

Current observed challenges

Financial

- Many countries do not have a fully functioning climate budget tagging system
- In some cases, only dedicated climate projects are captured, while other multi-purpose budgetary measures are overlooked
- Many recipient countries report on received funds for dedicated climate projects, while this is not necessarily the approach used by donors

Technology development and transfer

- We see in general little information on technology related support, and countries often lack a method to capture this information from projects (received), and translation from sectoral plans and strategies into BTR
- Technology components of projects reported under financial support seldom make it to the Technology sheets

Capacity-building

- Capacity building needs and received support are often detached from the financial reporting. There is in many cases more information than on technology, but still lacking streamlined process to capture this information

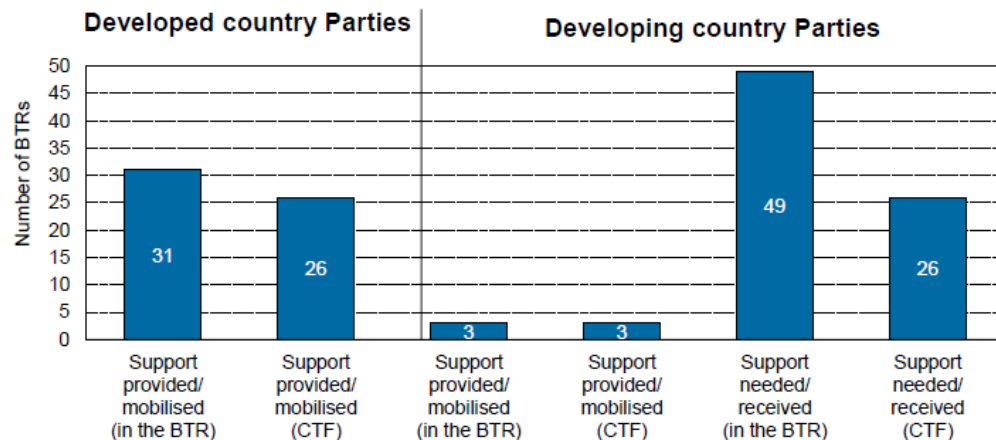
Transparency (Article 13)

- Transparency is often a component in many wider projects but is seldom captured in the reporting. Mainly, the wide initiatives are captured here.

Current observed challenges in BTR reporting on support

- 49 of 55 developing country BTRs included elements of support
- Still challenges streamlining available information with specific (voluntary) requirements of the MPGs
- Approaches and methods differ which complicates aggregation and comparability

Figure 4: Submitted elements relating to support



Source: Moosmann, 2025: A First Look at Biennial Transparency Reports Under the Paris Agreement, Oeko-Institut Working Paper 1/2025

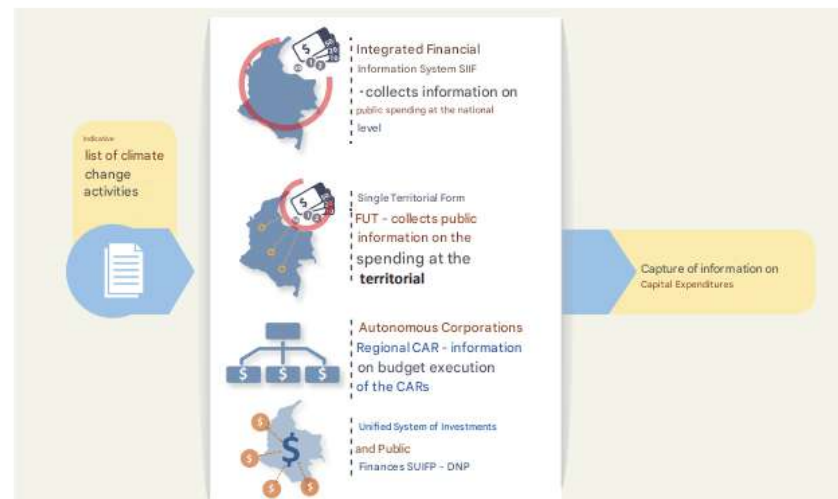
Climate Support - Approaches for Institutional arrangements

Type of Finance		Sources of information		Compilation into reports to UNFCCC	QA & QC (in addition to internal procedures)	Validation	Use
		Potential decentralized data sources	Centralized				
Public	Domestic	-Each sectoral ministry	-Ministry of Finance	Ministry of Environment / CC Department or similar	-Academia -National Statistics -Independent units in Ministry of Environment / Finance	-Council of Ministers -Ministry of Finance	-National and regional governments -Climate finance providers (Nat. /Int. - Public /private -Private sector -Academia -UNFCCC
		-Regional / Local governments					
		-National Development Bank					
	International	-Mix of sectoral ministries	-Ministry of Environment -CC Committee				
-National Development Bank							
Private	Domestic	-Ministry of Finance	-Ministry of Finance -Climate Change Committee				
		-Central Bank /Regulator					
		-National Statistics					
		-Private companies					
	International	-Ministry of Finance					
		-Mix of sectoral ministries					
		- Multilateral Development Banks					

Approaches for Institutional arrangements - Colombia



Figure 4. Process for capturing information on public spending



Approaches for Institutional arrangements - Colombia

Financiamiento climático general en cifras

Atención: Recuerde que si desea ampliar la vista de análisis de datos puede hacer clic en el botón de maximizar ubicado en la parte inferior derecha

Regresar

Ir a Descargas

Financiamiento climático general - Cifras generales

Restaurar búsqueda

COP - Pesos

USD - Dolares

Total acciones registradas

36,566

Total financiamiento

\$11.88bn

Moneda

USD - Dolares

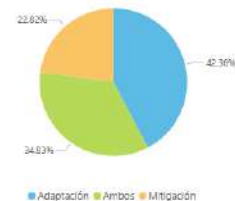
Financiamiento por departamentos



Sectores

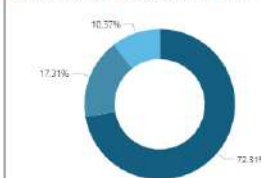


Destino de la inversión por financiamiento



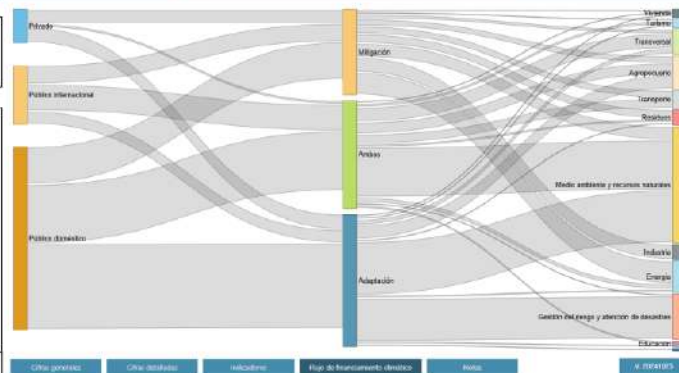
Valor

Fuente



Financiamiento Climático General

Flujos de inversión públicos domésticos, privados y públicos internacionales en cambio climático.



Cifras generales

Cifras detalladas

Indicadores

Flujo de financiamiento climático

Noticias

V. 20241025

Source: https://mr.v.dnp.gov.co/Financiamiento_en_cifras/Paginas/general_cifras.aspx

Institutional arrangements - Mauritius



Source: Dr Prakash (Sanju) Deenapanray, 2020

The Department shall, in collaboration with the Ministries be responsible for the formulation of a National Climate Change Adaptation and Mitigation Strategy and Action Plan, including:

1. national development priorities
2. policy formulation
3. an action plan and investment programme
4. information on compliance with international commitments
5. research and development
6. climate data and information
7. recommendations on education, training and public awareness
8. approaches for monitoring, evaluation and reporting

Take home points

- Lack of common definitions, methods and approaches
- Define how you classify climate finance and financial support
- Identify where mandates, data and information resides and structure arrangements around that

Approaches to assess support received

- Assigning climate components / climate relevance to budgets
- Concessionality aspects of climate finance



Climate support received

Financial

- Funds received in country accounts / transferred?
 - Depends on country's own definition (e.g. private finance)
- Includes activities related to:
 - Technology development and transfer
 - Capacity building
 - Transparency? (avoid double counting)

Technology development and transfer

- Including support not received in country accounts / transferred

Capacity-building

- Including support not received in country accounts / transferred

Transparency (Article 13)

- *Both in and out of country accounts / transferred (avoid double counting)*

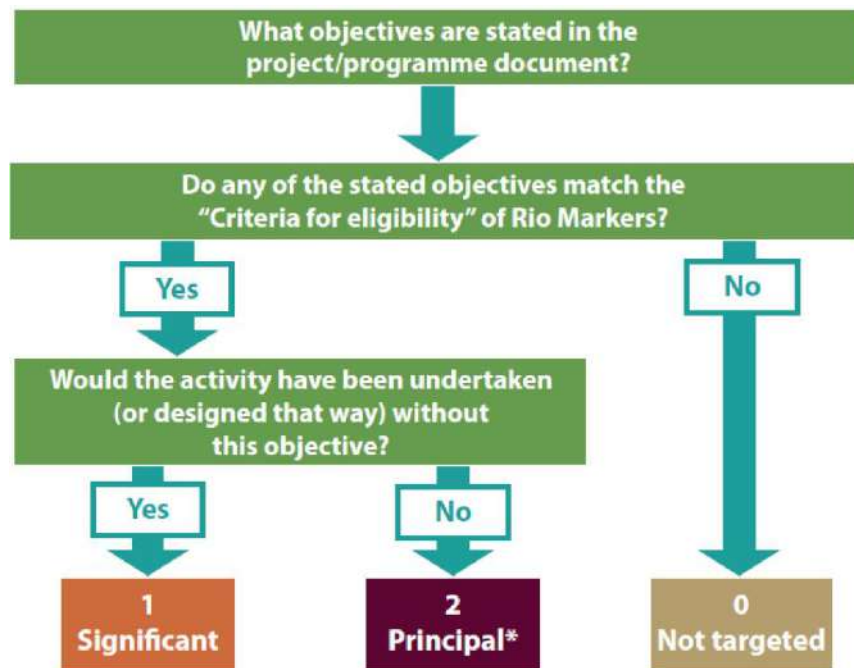


Financial support for CC?

Depending on the
provider /recipient
perspective



Rio Markers Scoring system - simple



Source: OECD, *OECD DAC Rio Markers for Climate Handbook*

Used for financial contributions labelled as Official Development Assistance (ODA)

Indicate if the objective is related to environmental issues including climate change

Not Targeted (0)

The activity does not target the objective (mitigation or adaptation) significantly

Significant (1)

Mitigation or adaptation is explicitly stated but it is not the fundamental driver. The activity has other prime objectives but it has been formulated or adjusted to help meet the relevant climate concerns.

Principal (2)

Mitigation or adaptation is explicitly stated as fundamental in the design of, or the motivation for, the activity.

Fixed percentages of the overall budget are considered to be relevant for the respective themes. (E.g. The EU uses 0%, 40% and 100%, respectively)

CPEIR weight examples – more precise

High relevance	Rationale	Clear primary objective of delivering specific outcomes that improve climate resilience or contribute to mitigation
Weighting more than 75%	Examples	<ul style="list-style-type: none"> • Energy mitigation (e.g. renewables, energy efficiency) • Disaster risk reduction and disaster management capacity • The additional costs of changing the design of a programme to improve climate resilience (e.g. extra costs of climate proofing infrastructure, beyond routine maintenance or rehabilitation) • Anything that responds to recent drought, cyclone or flooding, because it will have added benefits for future extreme events • Relocating villages to give protection against cyclones/sea-level • Healthcare for climate sensitive diseases • Building institutional capacity to plan and manage climate change, including early warning and monitoring • Raising awareness about climate change • Anything meeting the criteria of climate change funds (e.g. GEF/PPCR)

Low relevance	Rationale	Activities that display attributes where indirect adaptation and mitigation benefits may arise
Weighting between 25% – 49%	Examples	<ul style="list-style-type: none"> • Water quality, unless the improvements in water quality aim to reduce problems from extreme rainfall events, in which case the relevance would be high • General livelihoods, motivated by poverty reduction, but building household reserves and assets and reducing vulnerability in areas of low climate change vulnerability • General planning capacity, either at national or local level, unless it is explicitly linked to climate change, in which case it would be high • Livelihood and social protection programmes, motivated by poverty reduction, but building household reserves and assets and reducing vulnerability. This will include programmes to promote economic growth, including vocational training, financial services and the maintenance and improvement of economic infrastructure, such as roads and railways

programme | climate centre

Medium relevance	Rationale	Either (i) secondary objectives related to building climate resilience or contributing to mitigation, or (ii) mixed programmes with a range of activities that are not easily separated but include at least some that promote climate resilience or mitigation
Weighting between 50% to 74%	Examples	<ul style="list-style-type: none"> • Forestry and agroforestry that is motivated primarily by economic or conservation objectives, because this will have some mitigation effect • Water storage, water efficiency and irrigation that is motivated primarily by improved livelihoods because this will also provide protection against drought • Bio-diversity and conservation, unless explicitly aimed at increasing resilience of ecosystems to climate change (or mitigation) • Eco-tourism, because it encourages communities to put a value of ecosystems and raises awareness of the impact of climate change • Livelihood and social protection programmes, motivated by poverty reduction, but building household reserves and assets and reducing vulnerability. This will include programmes to promote economic growth, including vocational training, financial services and the maintenance and improvement of economic infrastructure, such as roads and railways

Marginal relevance	Rationale	Activities that have only very indirect and theoretical links to climate resilience
Weighting less than 25%	Examples	<ul style="list-style-type: none"> • Short term programmes (including humanitarian relief) • The replacement element of any reconstruction investment (splitting off the additional climate element as high relevance) • Education and health that do not have an explicit climate change element

Project based accounting – even more precise

Look at each individual component / activity in projects and tag by component / activity.

- Time consuming but more precise
- Needs a decentralized approach where project managers are involved.

Concessionality

- Is all climate relevant finance support?

Figure 1.4. Bilateral climate finance loans by concessionality level, (2016-18, %)

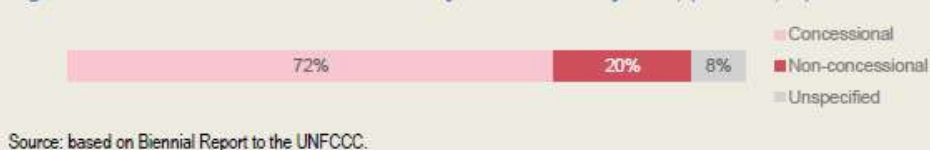
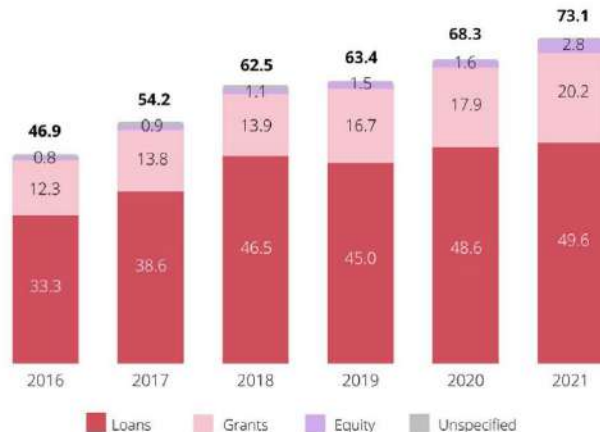


Figure 1.5. Multilateral climate finance loans by concessionality level (2016-18, %)



OECD (2020), Climate Finance Provided and Mobilised by Developed Countries in 2013-18, OECD Publishing, Paris, <https://doi.org/10.1787/f0773d55-en>

Figure 3. Instrument split of public climate finance in 2016-2021 (USD billion)



Note: Figures may not add up to totals due to rounding.

Source: Based on Biennial Reports to the UNFCCC and OECD Development Assistance Committee, as well as complementary reporting to the OECD.

OECD (2023), Climate Finance Provided and Mobilised by Developed Countries in 2013-2021: Aggregate Trends and Opportunities for Scaling Up Adaptation and Mobilised Private Finance, Climate Finance and the USD 100 Billion Goal, OECD Publishing, Paris, <https://doi.org/10.1787/e20d2bc7-en>

Things to consider:

- What is the support aspect of the loan or financial instrument?
 - Is it fair to only report the grant component?
- Can loans at market rate be considered support?
 - Potentially yes, if the recipient could not get it under regular circumstances?

Climate ODA by climate themes and objectives

Universal ODA supports adaptation and mitigation objectives differently. Climate mitigation is more likely to be reported as the principal objective of the activity, while climate adaptation is achieved by implementing both objectives, and is more often reported as having climate as a significant objective. Overall, 41% of total climate-related ODA is identified with a principal climate objective.

ODA in support of climate change adaptation and/or mitigation
Annual averages by climate themes and objectives in 2022-23, USD billion, constant 2023 prices

Related data

Recipient perspective

Provider perspective

<https://webfs.oecd.org/climate/RecipientPerspective/>

- Year
- Provider
- Amounts
- Scope
- Sector/sub-sector
- Financial instrument
- Short description

From developing country perspective:

- How do you define support?
- Doesn't capture technology development and transfer and capacity building

[illegible]

Take home points

OECD DAC to get information on support provided as bases to map support received and cross reference

Make your own assessment of what you consider climate relevant and appropriate weights

Consider what you classify and differentiate between finance and support taking different financial instruments and use of funds into consideration

Approaches to assess support needed

- What is financial support needed from a developing country perspective?
- Proposed steps to map support needed



Financial support needed - tentative

In theory: Total climate related investments needed (public and private, national and international), and subtract available/expected national (public and private) contributions

In practice, more complex...

There might be overlaps, focus should be on clear definitions and descriptions

- Full size of investment VS
- Financial support addressing investment barriers, technology and capacity gaps VS
- Only concessional aspects (grant equivalent)

Financial support –

1. NDC costing (and benefits)



You cannot communicate financial support needs without an overview of costs.

- Map costs / investment needs for the NDC, action by action
- Translate policies and programmes into activity data and assign costs to the activities (e.g. number of PV systems, type of early warning system, trees to be planted, number of rangers for forest protection etc.)
- Identify technology and capacity needs and estimate costs of technical assistance

Financial support –

2. Estimate revenue streams / savings



Climate action is not only costs. Many actions will generate revenues or lead to savings (e.g. electricity sales / savings, reduced damage from flooding etc.)

- For each costed action identify revenue streams / savings to identify the cost/revenues expected from each action
- Compare Costs and Benefits
- Costs should include the cost of financing

Efficient residential air conditioner (1000 units)					
Costs in US\$	Reduction Option	Reference Option	Increase (Red.-Ref.)	General inputs:	
Total investment	130,000			Discount rate	7%
Project life	8			Average electricity price	0.12 US\$/kWh
Lev. investment	21,771	0		CO2-eq. emission coefficient	0.80 ton CO2-eq./MWh
Annual O&M	0	0		Grid loss	18.6%
Annual electricity cost	315,000	471,910	-156,910	Reduction option: Efficient air conditioner	
Total annual cost	336,771	471,910	-135,139	O&M	0% US\$
				Activity	1,000 Air conditioner
Annual emissions (tons)	Tons	Tons	Reduction	Lifetime	5 yrs
Fuel CO2-eq. emission	2,580	3,865	1,285	Extra cost for eff. air conditioner	130.0 US\$
Other				Cooling capacity	2.50 kW
Total CO2-eq. emission	2,580	3,865	1,285	COP	4.00
				Input power	0.63 kW
US\$/ton CO2-eq.			-105	Annual usage	4,200 hrs
				Annual electricity used	2625 MWh
Notes:				Reference option: Conventional air conditioner	
COP=Coefficient Of Performance = cooling capacity divided by input power Most airconditioner have input power of 9000 Btu/hr (995W) or 12000 Btu/hr (1120 W) Conventional COP from PWC Energy Audit				O&M	- US\$
Efficient COP from most used efficient air conditioner				Activity	1000 Air conditioner
				Cooling capacity	2.50 kW
				COP	2.67
				Input power	0.94 kW
				Daily usage	14 Hours/day
				Days used	300 Days/year
				Annual usage	4,200 hrs
				Annual electricity used	3933 MWh
				Electricity saved 1 unit	1308 MWh
				Electricity saved compared to reference	0 Saving
1 MW Biomass power from biomass residues - 2025					
Costs in US\$	Reduction Option	Reference Option	Increase (Red.-Ref.)	General inputs:	
Total investment	1,489,720			Discount rate	7%
Project life	20			Reference electricity price	0.12 US\$/kWh
Lev. investment	140,619		140,619	CO2-eq. emission coefficient	0.80 ton CO2/MWh
Annual O&M	59,589		59,589	Reduction option: Biomass residues power plant	
Annual fuelcost	169,541	600,000	-430,459	O&M	4.0%
Total annual cost	369,749	600,000	-230,251	Activity	1 MW
				Investment in Activity	1489.7 Million US\$
Annual emissions (tons)	Tons	Tons	Reduction	Capacity factor	5000 Full time hours
Fuel CO2-eq. emission		4,000	4,000	Electricity production	5000 MWh/ year
Other				Calorific value of biomass	13.0 GJ/t
Total CO2-eq. emission	0	4,000	4,000	EL efficiency of power plant	30.0%
US\$/ton CO2-eq.			-57.6	Specific use of biomass	0.93 ton biomass/MWh
				Use of biomass	4626 ton/year
Notes:				Price of biomass	16.6 US\$/ton
				Cost of electricity produced	0.832 US\$/kWh
				Reference option: No Biomass power	

3. Assess national sources of finance



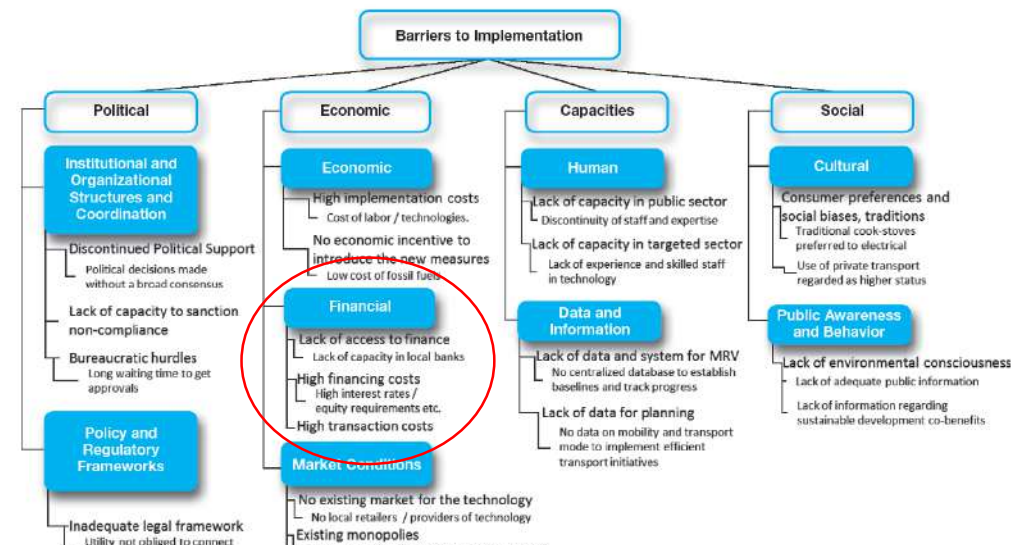
Climate action operates seldom in a vacuum and is usually part of the general development of a country

- Estimate available sources of finance for each action (relates to unconditional component, if relevant)
 - Public programmes, infrastructure and interventions
National financial resources allocated, the national budget
 - Private sector investments
Market trends, costs of technology and assumptions for future developments
- National sources of finance should be subtracted from needed amounts

4. Assess financial / investment barriers

E.g.:

- High cost of capital (e.g. interest rates)
- Risk profile of investments (e.g. currency exchange)
- Long term nature of investments and pay-back
- Expected IRR for investors in local context
- Level of indebtedness



Financial Barriers

- Local financial institutions are unfamiliar with the energy efficiency financing mechanism with persistent implementation failure of precedents.
- Banks are highly risk-averse in energy efficiency financing, thereby imposing high interest rates and asking a borrower for providing stringent credit and/or collateral and high equity injection which local SMEs are remotely capable of clinging to.
- No credit mitigation technique including the de-risking mechanism (such as guarantee or insurance) for energy efficiency in the local market.
- Financial institutions, in particular large-sized banking institutions, have little interest in financing energy efficiency projects since many are relatively small-scale projects led by SMEs with low credit.
- High interest rates or collateral requirements for energy efficiency projects due to risk analysis difficulties.

5. Identify appropriate financial instruments

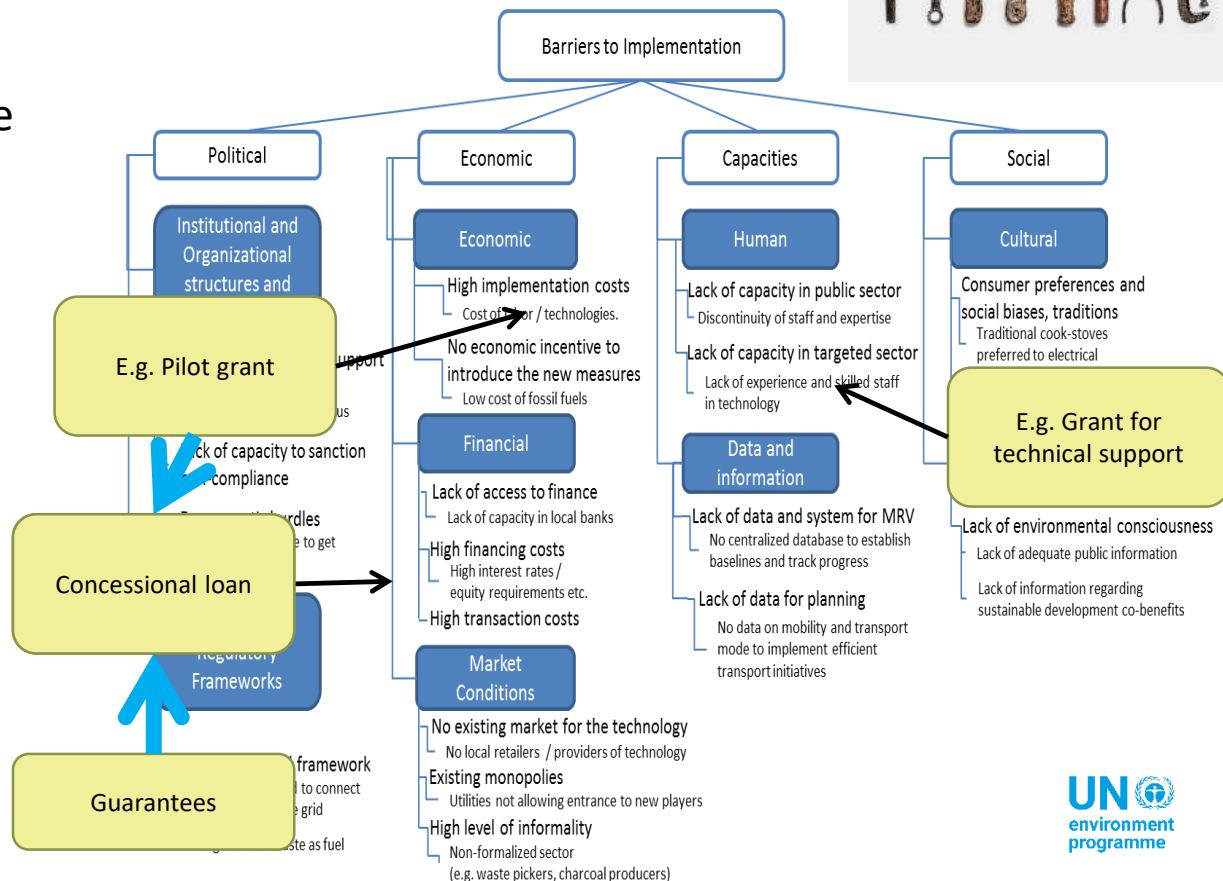


Instruments	Description
Grant	Transfers made in cash, goods, or services for which no repayment is required.
Concessional loan	These are loans that are extended on terms substantially more generous than market loans. The concessionality is achieved either through interest rates below those available on the market or by grace periods, or a combination of these. Concessional loans typically have long grace periods.
Market loan	A marketing loan is a variation of the non- recourse loan whereby, for specified commodities, a producer may repay a loan at a lower rate than the loan rate, equivalent to the prevailing world market price.
Lines of credit	Credit is an amount for which there is a specific obligation of repayment. Credits include loans, trade credits, bonds, bills, etc., and other agreements which give rise to specific obligations to repay over a period of time usually, but not always, with interest.
Risk or credit guarantee	Commitment by an export credit agency to reimburse a lender if the borrower fails to repay a loan. The lender pays a guarantee fee.
Equity	Equity refers to the value of the interest of an owner or partial owner in an asset.

5b. Identify appropriate financial instruments

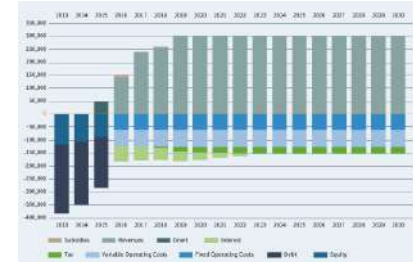


- Consider the most effective instrument to achieve the desired outcome (remove identified barriers)



5c. Identify appropriate financial instruments

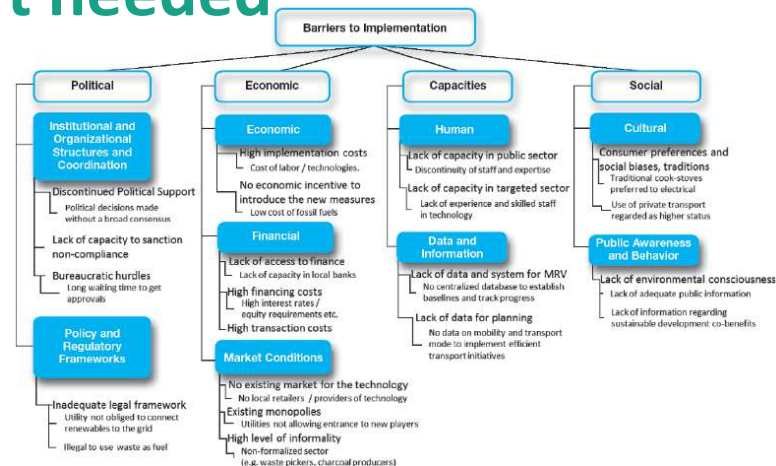
- Consider the most effective instrument to achieve the desired outcome (remove identified barriers)
- Grants are usually not provided for investments, but can be applied for technical assistance, preparatory activities and potentially investments in pilots
- Debt finance is usually used to cover CAPEX and concessional finance (support) is an effective instrument to improve the overall attractiveness of the investment
- Guarantees ensuring expected revenues are realised or losses by investors prevented are effective at lowering financing costs without the need for upfront disbursements
- Financial support dedicated for O&M unrealistic
- Adaptation more likely to receive grants than mitigation



	Activities	Estimated cost	Month start	Month finish
Proposal preparation				
P1	Permits	15,000	1	12
P2	Technical analysis	15,000	1	24
P3	Consultancy contracts	15,000	1	24
	<i>Subtotal</i>	<i>45,000</i>		
Construction & pre-operation				
C1	Land acquisition	240,000	6	12
C2	Engineering	110,000	6	12
C3	Machinery 1	2,381	6	12
C4	Machinery 2	200,000	13	24
C5	Machinery 3	111,000	13	24
C6	Machinery 4	22,333	13	24
C7	Testing 1	300,000	25	36
C8	Testing 2	33,334	25	36
C9	Interest payment during construction	50,952	6	36
	<i>Total</i>	<i>1,070,000</i>		
Operation Phase				
Revenue				
R1	Revenue	Table 4	37	216
Operating costs				
O1	Labour	Table 5	37	216
O2	Rent	Table 5	37	216
O3	Communication	Table 5	37	216
O4	Fuels	Table 5	37	216
O5	General & administration	Table 5	37	216


6. Technology and capacity support needed

- Identify technology and capacity constraints
- Assign monetary value to support needed and incorporate in financial support needed
- Cross-reference between financial and technology and capacity support needed



Demand-side Barriers	<ul style="list-style-type: none"> • Low demand for high-energy efficiency facilities due to low energy tariffs. • Market players lack awareness of assessing energy efficiency technologies and capacity and resources in carrying out its cost-benefit analysis, which partially results in a low prioritisation of investing in energy efficient projects. • Industries are yet to recognise the regulatory requirements with respect to energy efficiency reporting and implementation. • There are not many well-trained in-house energy managers nor extensive pools of experienced experts in energy efficiency, mainly due to little
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Regulatory Barriers	<ul style="list-style-type: none"> • The subsidised energy tariff is a disincentive for industries to invest in energy savings; the price of electricity is US\$ 0.078/kWh for businesses (medium voltage),¹⁰ which is lower than that of other ASEAN Member states.¹¹ As part of the COVID-19 recovery measure, an incentive of 100% (later reduced to 50%) discount on electricity was provided, especially for low-income households and small businesses. • No minimum energy performance standard (MEPS) for industrial equipment and appliance is available to serve as guidance. • No regulation to encourage less energy intensive sectors (motor, boiler, etc.) due to lack of awareness amongst policy makers, despite the large GHG emission from those sectors. • Existing fiscal or non-fiscal incentives from the government to promote the energy efficiency area have not been disseminated to industries or financiers, nor been sufficient enough to boost the market. For instance, Article 20 of Government Regulation No.70/2009 (Energy Conservation) states that incentives may vary in the form of provision from taxation facility for energy saver equipment to low interest-rate funds for the need of investment in energy conservation. It, however, does not work in the market.
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Map costs
AND
benefits

Identify national
sources of finance
available and gaps
to achieve
implementation

Identify financial
barriers for
implementation and
appropriate financial
instruments

Assign monetary
value to technology
and capacity support
needed and include in
financial support

Take home points