Financing the Electrified Transport Transition

Dr. Naveed Arshad

Director

LUMS Energy Institute

0300-5551502

naveedarshad@lums.edu.pk

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EV Transition is Expensive Upfront?

Who should pay the upfront cost?

Buyers
Governments
DFIs
Bilateral/Multilateral Agencies
Commercial Banks
NBFIs
Investors
Climate Finance

What is climate change?

Climate change is the process of our planet heating up.

Our planet has warmed by an average of **1°C** in the last 100 years.

This is already having huge impacts across the planet for people and wildlife.

Greenhouse gases

When we burn fossil fuels we release greenhouse gases into the atmosphere.

Greenhouse gases keep our planet warm.

By releasing more and more greenhouse gases into the atmosphere, we are causing our planet to warm up very quickly.

ADAPTATION VS. MITIGATION

ADAPTATION

A variety of actions that are meant to reduce or compensate for or adapt to the adverse impacts that arise from changes in the Earth's climate

MITIGATION

Actions or changes in societal behavior taken to reduce or eliminate greenhouse gas (GHG) emissions and/or to remove GHGs from the atmosphere to prevent significant adverse climate effects

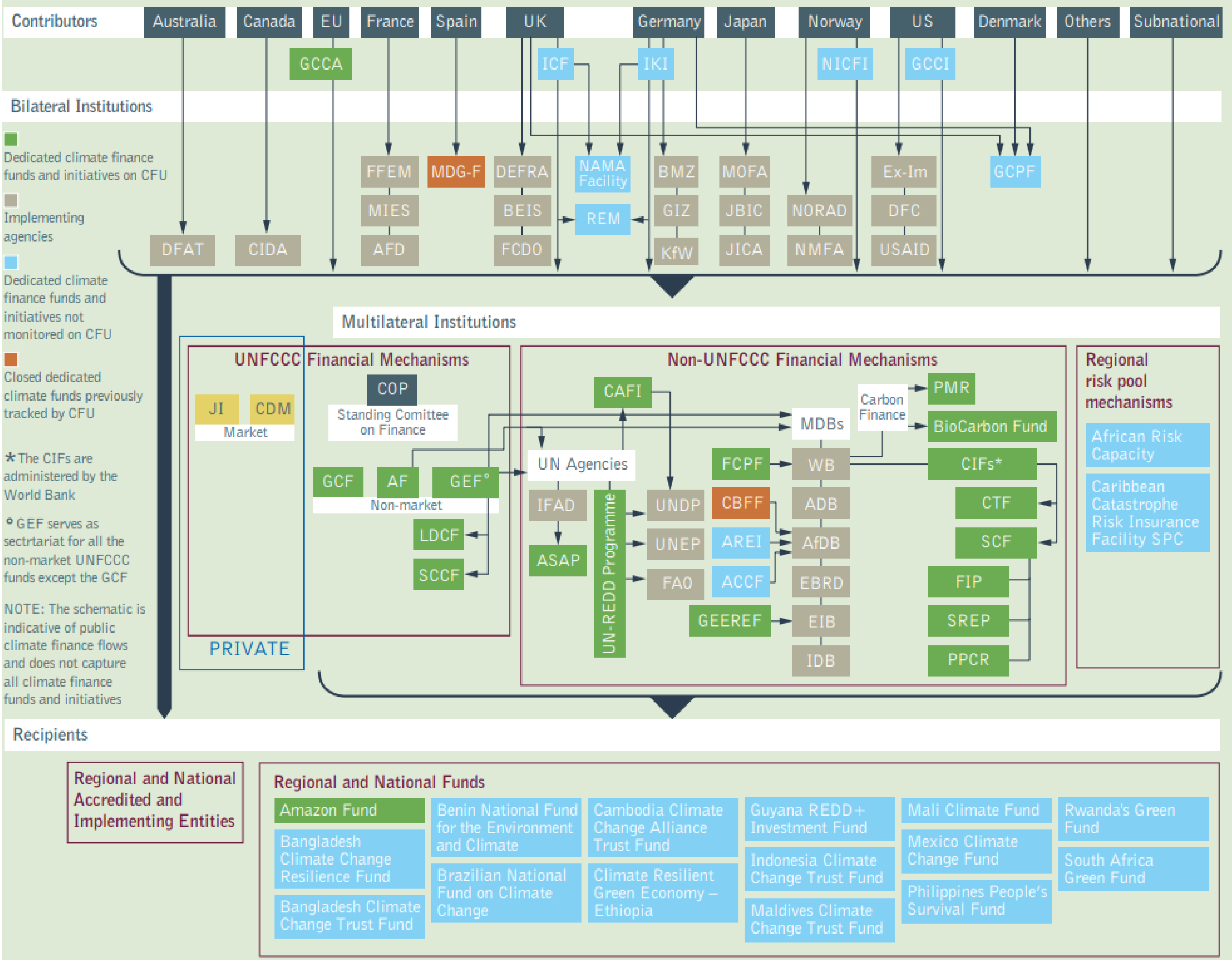
What is climate finance?

- "finance that aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts."

  - UNFCCC Standing Committee on Finance – https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2014_biennial_assessment_and_overview_of_climate_finance_flows_report_web.pdf

- Overlapping concepts: green finance, environmental finance, sustainable finance, or low-carbon finance etc..

Figure 1: Global climate finance architecture



Implementing Agencies and Institutions	
AfDB	African Development Bank
AFD	Agence Française de Développement (French development agency)
ADB	Asian Development Bank
BEIS	Department for Business, Energy & Industrial Strategy (UK)
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (federal ministry of economic cooperation and development, Germany)
CIDA	Canadian International Development Agency
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DFAT	Department of Foreign Affairs and Trade (Australia)
DFC	United States International Development Finance Corporation
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
Ex-Im	Export-Import Bank of the United States
FAO	Food and Agriculture Organization of the United Nations
FCDO	Foreign, Commonwealth and Development Office (UK)
FFEM	Fonds Français pour l'Environnement Mondial (French global environment facility)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German technical cooperation)
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
JBIC	Japan Bank of International Cooperation
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (German development bank)
MIES	Mission Interministérielle de l'Effet de Serre (inter-ministerial taskforce on climate change, France)
MOFA	Ministry of Foreign Affairs (Japan)
NMFA	Norwegian Ministry of Foreign Affairs
NORAD	Norwegian Agency for Development Cooperation
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WB	World Bank

Multilateral Funds and Initiatives	
AF	Adaptation Fund (GEF acts as secretariat and WB as trustee)
ACCF	Africa Climate Change Fund
AREI	African Renewable Energy Initiative
ASAP	Adaptation for Smallholder Agriculture Programme
CAFI	Central African Forest Initiative
CBFF	Congo Basin Forest Fund (hosted by AfDB)
CDM	Clean Development Mechanism (implemented under the Kyoto Protocol)
CIF	Climate Investment Funds (implemented through WB, ADB, AfDB, EBRD and IDB)
CTF	Clean Technology Fund (implemented through WB, ADB, AfDB, EBRD and IDB)
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program (implemented through WB, ADB, AfDB, EBRD and IDB)
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GEF	Global Environment Facility
GEEREF	Global Energy Efficiency and Renewable Energy Fund (hosted by EIB)
JI	Joint Implementation (implemented under the Kyoto Protocol)
LDCF	Least Developed Countries Fund (hosted by the GEF)
PMR	Partnership for Market Readiness
PPCR	Pilot Program for Climate Resilience (implemented through WB, ADB, AfDB, EBRD and IDB)
SCCF	Special Climate Change Fund (hosted by the GEF)
SCF	Strategic Climate Fund (implemented through WB, ADB, AfDB, EBRD and IDB)
SREP	Scaling Up Renewable Energy Program in Low Income Countries (implemented through WB, ADB, AfDB, EBRD and IDB)
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation

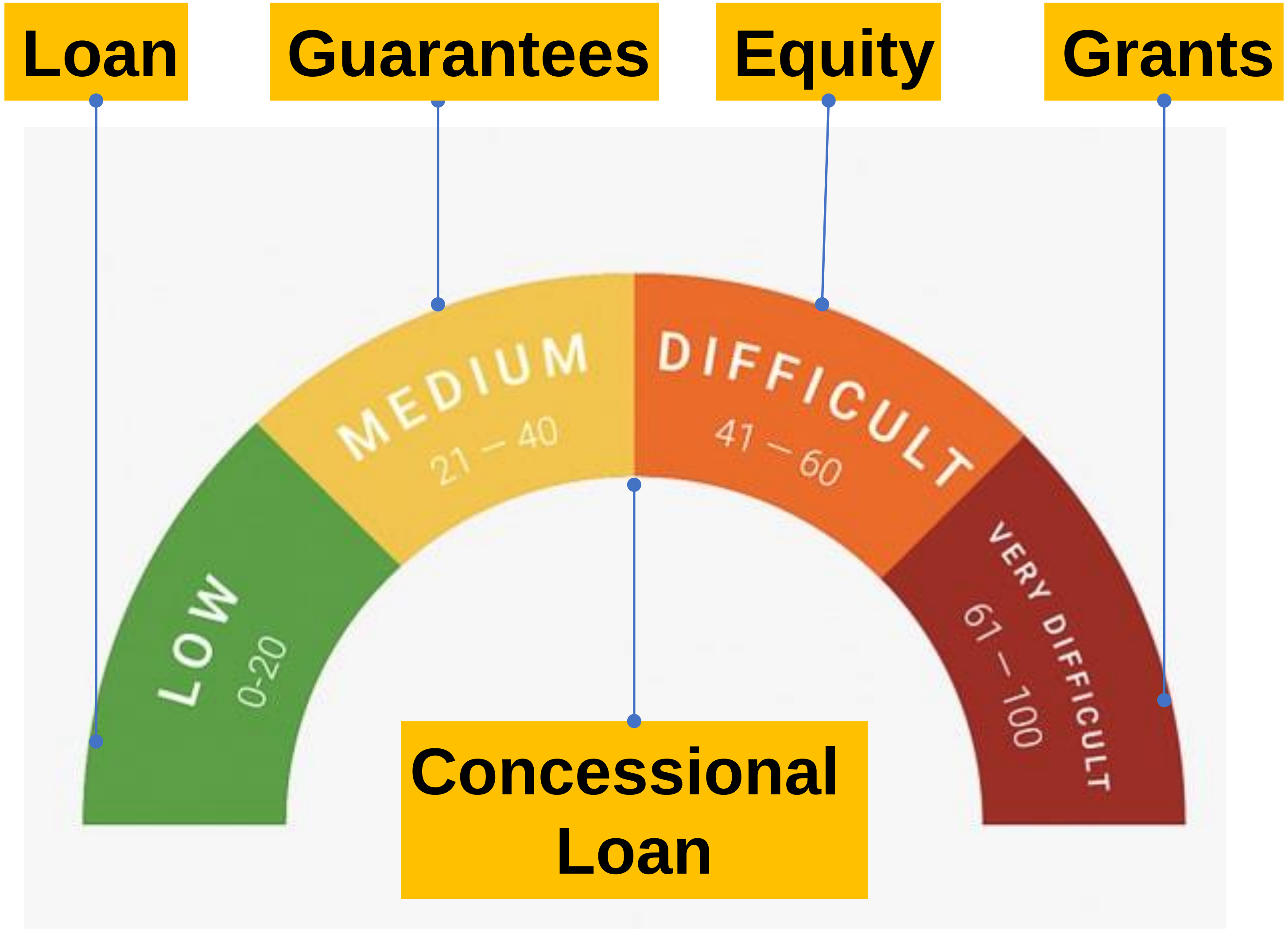
Bilateral Funds and Initiatives	
GCCI	Global Climate Change Initiative (US)
GCPF	Global Climate Partnership Fund (Germany, UK and Denmark)
ICF	International Climate Finance (UK)
IKI	Internationale Klimaschutzinitiative (international climate initiative, Germany)
MDG-F	MDG Achievement Fund (implemented by UNDP)
NAMA Facility	Nationally Appropriate Mitigation Action Facility (UK, Germany, Denmark and the EC)
NICFI	Norway's International Climate Forest Initiative
REM	REDD+ Early Movers (Germany and UK)

A few instruments – the most common

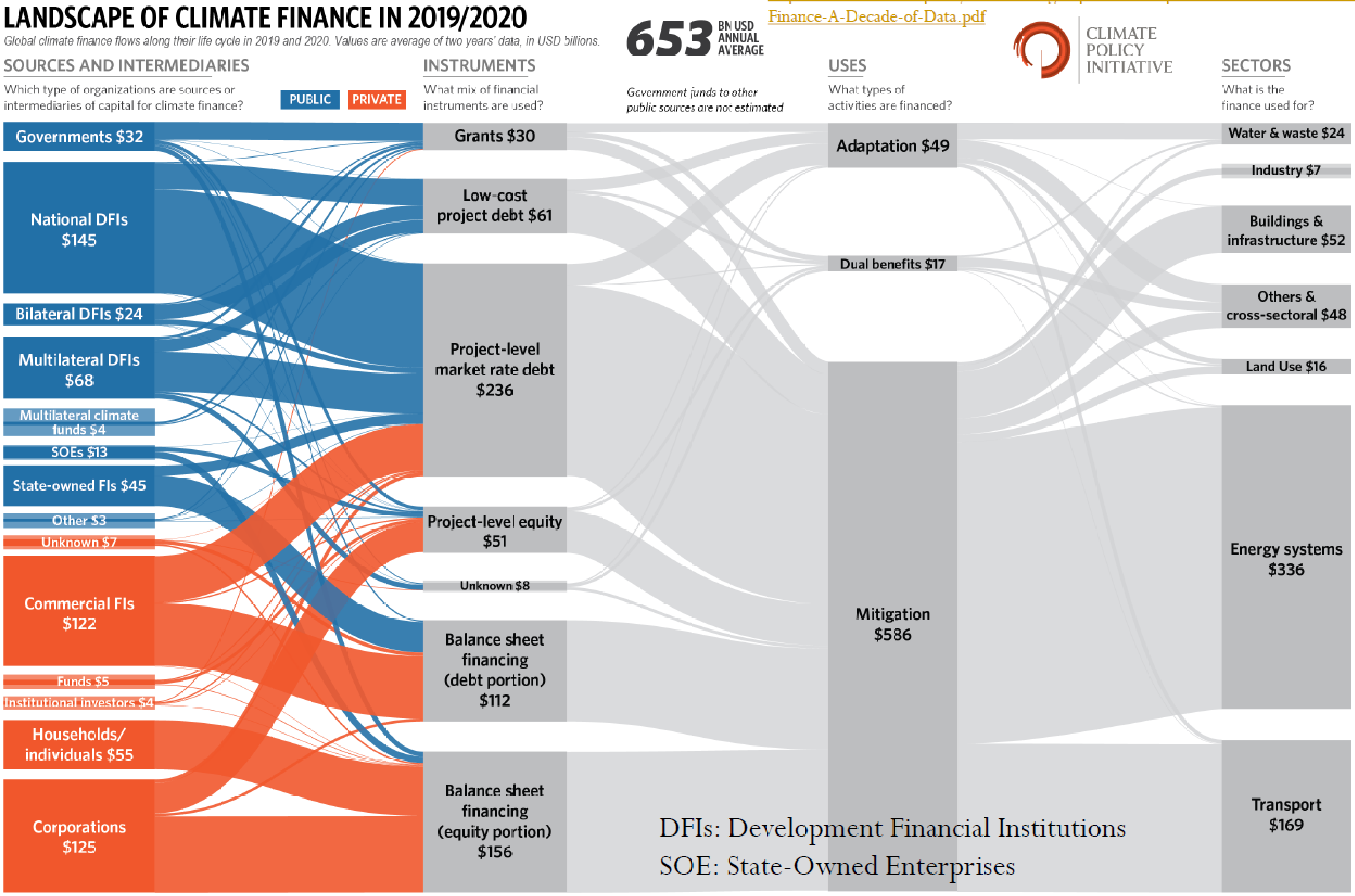
Instrument/ Modality	Definition	Advantages/Disadvantages	Examples
Grant	Resources aimed at funding investments without the expectation that the money be repaid.	Advantage: Provides technical assistance and capacity building. Gives viability to a project. Covers full cost of adaptation, complement other instruments. Disadvantage: there are no reflows.	In 2012, ADB provided a technical assistance grant financed by the Japan Fund for Poverty Reduction to help the Government of Indonesia build strong capacity so that it can continue developing good climate change policies that can be turned into planning and programme implementation at the national and local levels.
Concessional loan	Upfront transfer of resources with the agreement that the money will be repaid on conditions more favourable than market terms by offering low or no interest rates, longer repayment and/or grace periods, or a combination of them.	Advantage: Used when market financing would make the investment unviable. Reduces risk to all lenders, it can encourage local banks to enter the lending market for energy efficiency and renewables.	IADB loan to Trinidad and Tobago to strengthen and modernize the regulatory, institutional and policy framework to develop and promote instruments to assess and reduce vulnerability and risks associated with climate change and to promote carbon markets and policies to reduce GHG emissions.
Guarantee	Commitments in which a guarantor undertakes to fulfill the obligations of a borrower to a lender in the event of non-performance or default by the borrower of its obligations, in exchange for a fee.	Advantage: Attracts capital through debt on terms that could ensure the feasibility of a project. Mitigates or manages risks. Disadvantage: it is hard to quantify risks and in international financial institutions, it accounts for the same amount of financing quota as a loan.	IFC partial credit guarantees to provide financing to various segments, including residential, commercial, municipal and energy supply.
Equity	Injection of capital to grow operation of a project or a firm to leverage resources as it mitigates risk for other investors, used when the probability of failure is high, but still with positive probability of success, therefore, of return to the equity holder.	Advantage: Support for innovation of start-ups. Leverages resources. Disadvantage: difficult to quantify risks and define with certainty the level of participation in the total equity.	IFC/GEF Photovoltaic Market Transformation Initiative designed to accelerate the sustainable commercialization and financial viability of energy services, based on solar electricity technology in India, Kenya and Morocco.

Source: GCF, 2021

Difficulty Scale in Accessing Climate Finance

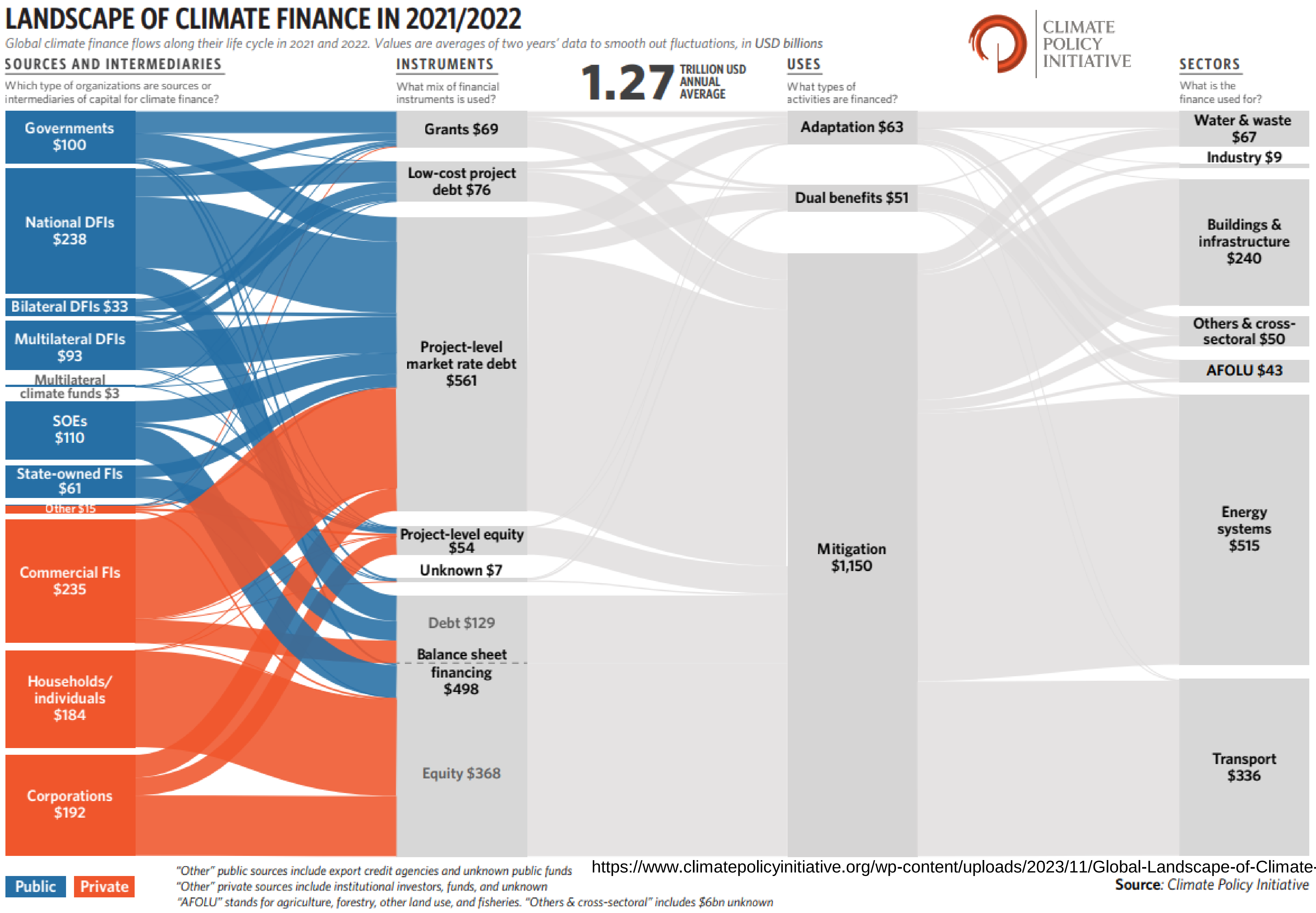


https://www.climatepolicyinitiative.org/wp-content/uploads/2022/10/Global-Landscape-of-Climate-Finance-A-Decade-of-Data.pdf



DFIs: Development Financial Institutions

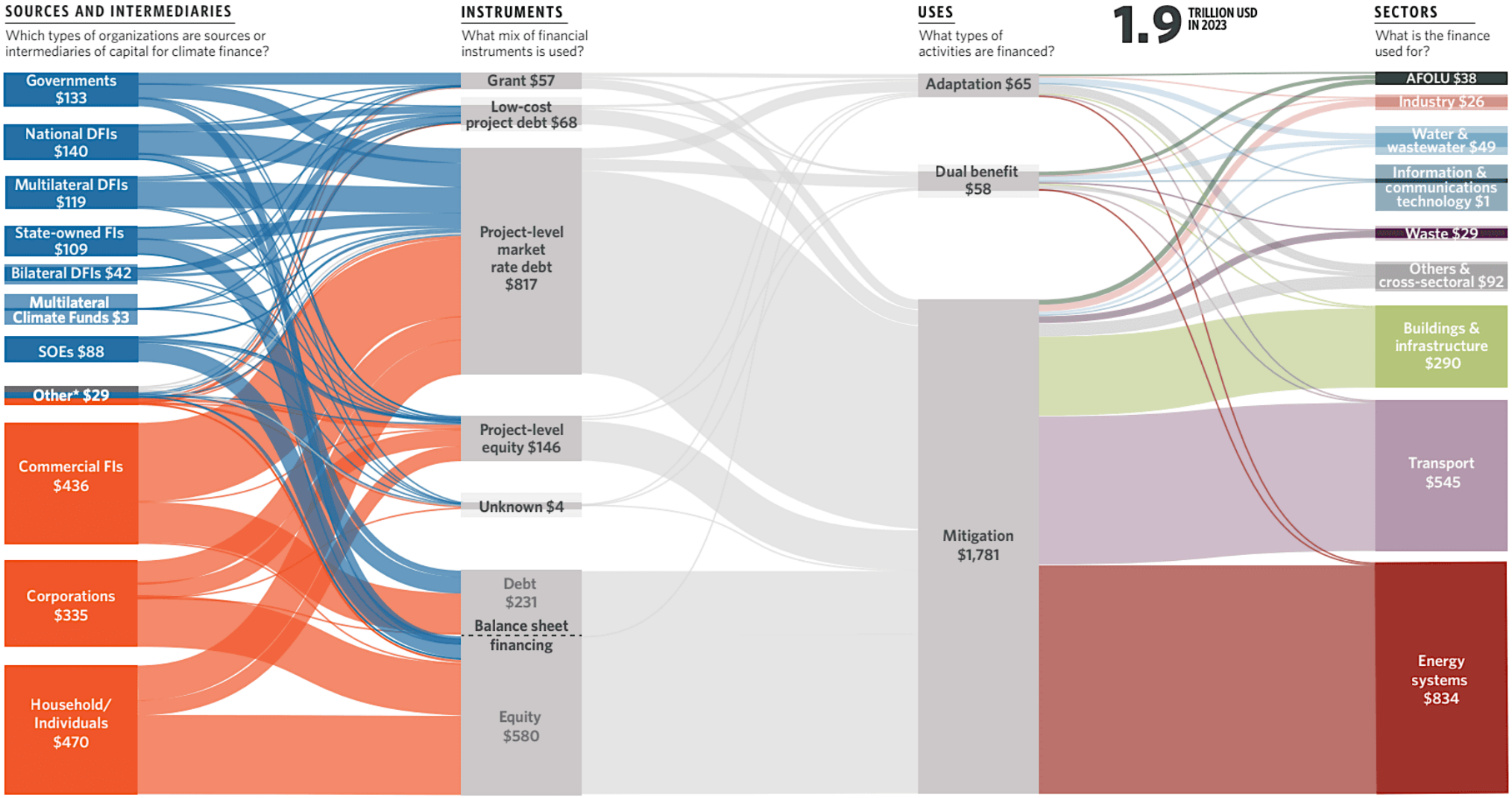
SOE: State-Owned Enterprises



https://www.climatepolicyinitiative.org/wp-content/uploads/2023/11/Global-Landscape-of-Climate-Finance-2023.pdf

LANDSCAPE OF CLIMATE FINANCE IN 2023

Values are in USD billion



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.

Dispelling Some Myths on Climate Finance

- Climate finance is not only for Pakistan but for 130 ODE countries
- Climate finance is not just for fixing local air quality problems?
- Climate finance does not care about geographical boundaries
- Climate finance is not for the poor countries only
- Climate finance does not care about job creation
- Climate finance is not just to support specific sectors
- Climate finance is not just about carbon markets
- Climate finance is not like IMF or World Bank loans
- Climate finance is not for basic Research and Development
- Climate finance does not work around our schedule

Where Can Climate Finance Help?

Writing the First Check

Last Debt Repayment

Taking the First Loss

Long term Concessional Finance

Guarantees for New Asset Classes

Flexibility in Blended Finance Instruments

Technology Access

Market Access

Regulatory Compliance

New Revenue Streams

…

Climate Finance Funding Opportunities (Non-Exhaustive)

- **International Funds**
  - Green Climate Fund
  - Mitigation Action Facility
  - International Climate Initiative (IKI)
  - Bilateral Funds from FCDO, GIZ..
  - Carbon Trust
  - Global Developmental Lab
  - Clean Technology Fund
  - Clean Energy Transition Partnership
  - Climate and Clean Air Coalition Fund
  - Climate Transformation Fund
  - Global Environment Facility
  - Adaptation Fund
  - BioCarbon Fund
  - Climate Investment Fund
  - Loss and Damage Fund
  - ....

Other Climate Financing Windows (Non-Exhaustive)

UKaid from the British people
Transforming Energy Access

IKI International Climate Initiative

Climate & Clean Air Coalition to reduce short-lived climate pollutants
a UNEP convened initiative

UN environment programme

Bezos Earth Fund

U.S. Global Development Lab Powered by USAID

Climate Transformation Fund 2024

Global Innovation Fund

Breakthrough Energy

Carbon Trust

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

AI for Climate Resilience in Emerging Markets

EnAccess

Convergence Blending Global Finance

unicef

Halton Foundation

Coefficient Giving

Clean Cooking Alliance

REPIC

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bloomberg Philanthropies

Gates Foundation

Key Requirements of Bankable Projects

Alignment with National Priorities
Sound Business and Financial Model
Emission Reduction Potential
Market Readiness
Innovation and Catalytic Impact
Financial Leverage
Scalability, Replicability and Sustainability
Co-Benefits
Gender Equity and Social Inclusion
Environmental Safeguards
Risks and Mitigation Measures
Monitoring and Evaluation Framework

Glimpses from a Successful Climate Finance Project

Project Timelines at 'Mitigation Action Facility'

2023 Initial Submission of Concept Notes (500 submissions)

2024 MAF Mission's Visit to Pakistan

Top Six Projects Announced for Project Preparation

Detailed Preparation Phase

2026 Visit of Due Diligence Team to Pakistan

Decision of MAF Board

2026-31 Project Implementation

Four Key Ingredients of a Bankable Climate Finance Project

Region | Greenhouse Gases

Innovation | Sector

Four Key Ingredients of a Bankable Climate Finance Project

Region

130 ODA Eligible Countries

Greenhouse Gases

Carbon dioxide	1
Methane	27-30
Nitrous oxide	273
Hydrofluorocarbons	100-10,000
Perflourocarbons	>10,000
Sulfur hexafluoride	25,200
Nitrogen trifluoride	17,400

Innovation

- Technology
- Financial
- Business
- Operational
- Policy
- Regulatory
- Legal

Sector

- Energy
- Agriculture
- Waste
- Water
- Industry
- Transport
- Infrastructure
- ..

Four Key Ingredients of Climate Finance - Example

Region

130 ODA Eligible Countries

Pakistan

Greenhouse Gases

Carbon dioxide	1
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Innovation

Technology
Financial
Business
Operational
Policy
Regulatory
Legal

Sector

Energy
Agriculture
Waste
Water
Industry
Transport
Infrastructure
..

Bankability of a Climate Finance Project – Electric Vehicles

Fuel-based Vehicle: 4 tons of CO_2 per year

Electric Vehicle: 1 ton of CO_2 per year

Years of Operation: 15 years

Per Vehicle Emissions Avoided: 45 tons

Number of Vehicles: 340,000

Investment Requirement: $61 million

Total Emissions Avoided: 5 million tons CO_2

- Region
  - Pakistan
- Sector
  - Transport
- Gas
  - Carbon dioxide
- Innovation
  - Technology
  - Financial
  - Business

Mitigation Cost: **$22 per ton CO_2**

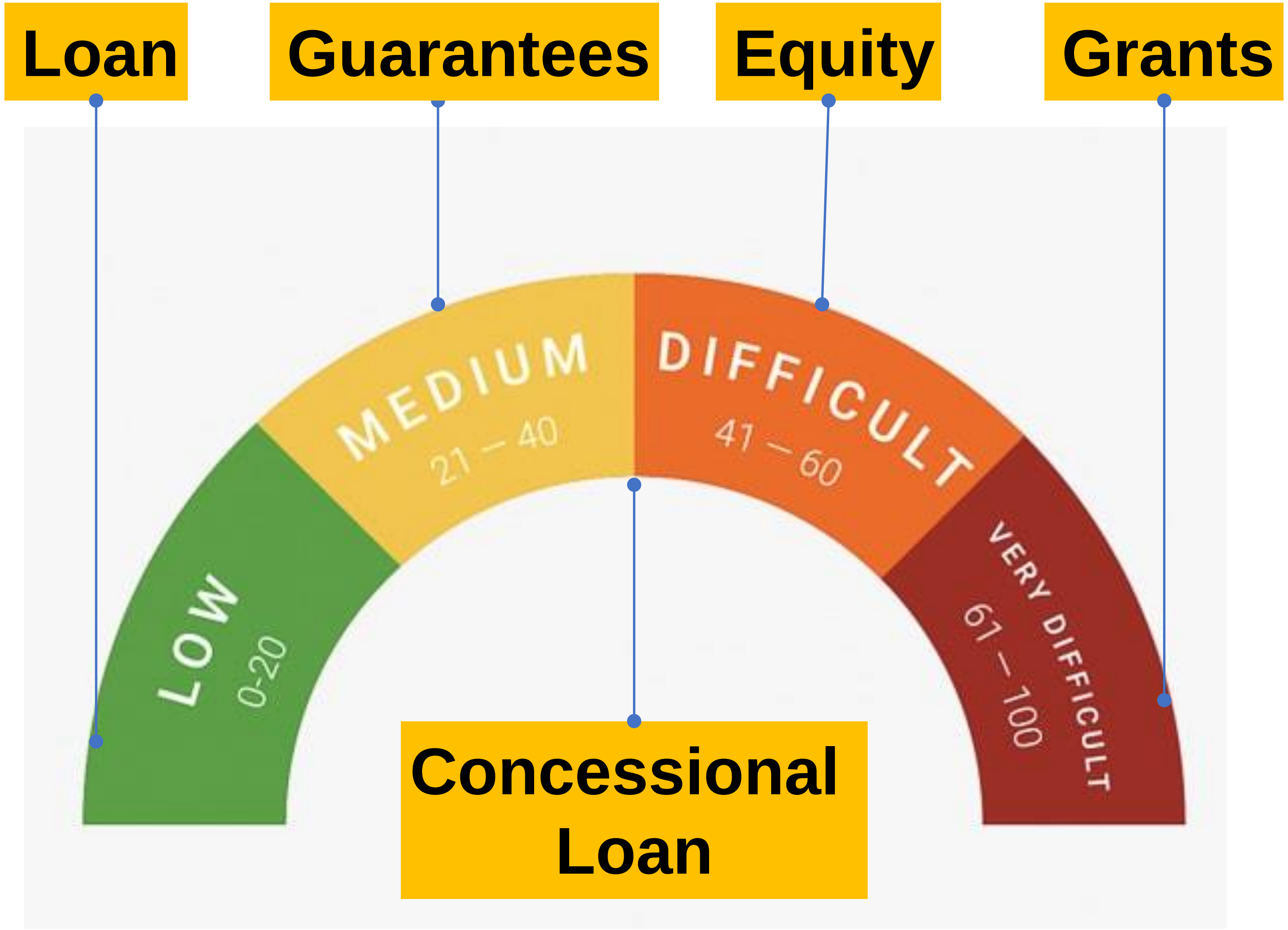
Complaining is not a strategy. You have to work with the world as you find it, not as you would have it be.

Jeff bezos

Our '7P Strategy' of Accessing Climate Finance'

Platoon
Proactiveness
Planning
Partnerships
Preparation
Patience
Perseverance

Difficulty Scale in Accessing Climate Finance



Where is Carbon Finance?

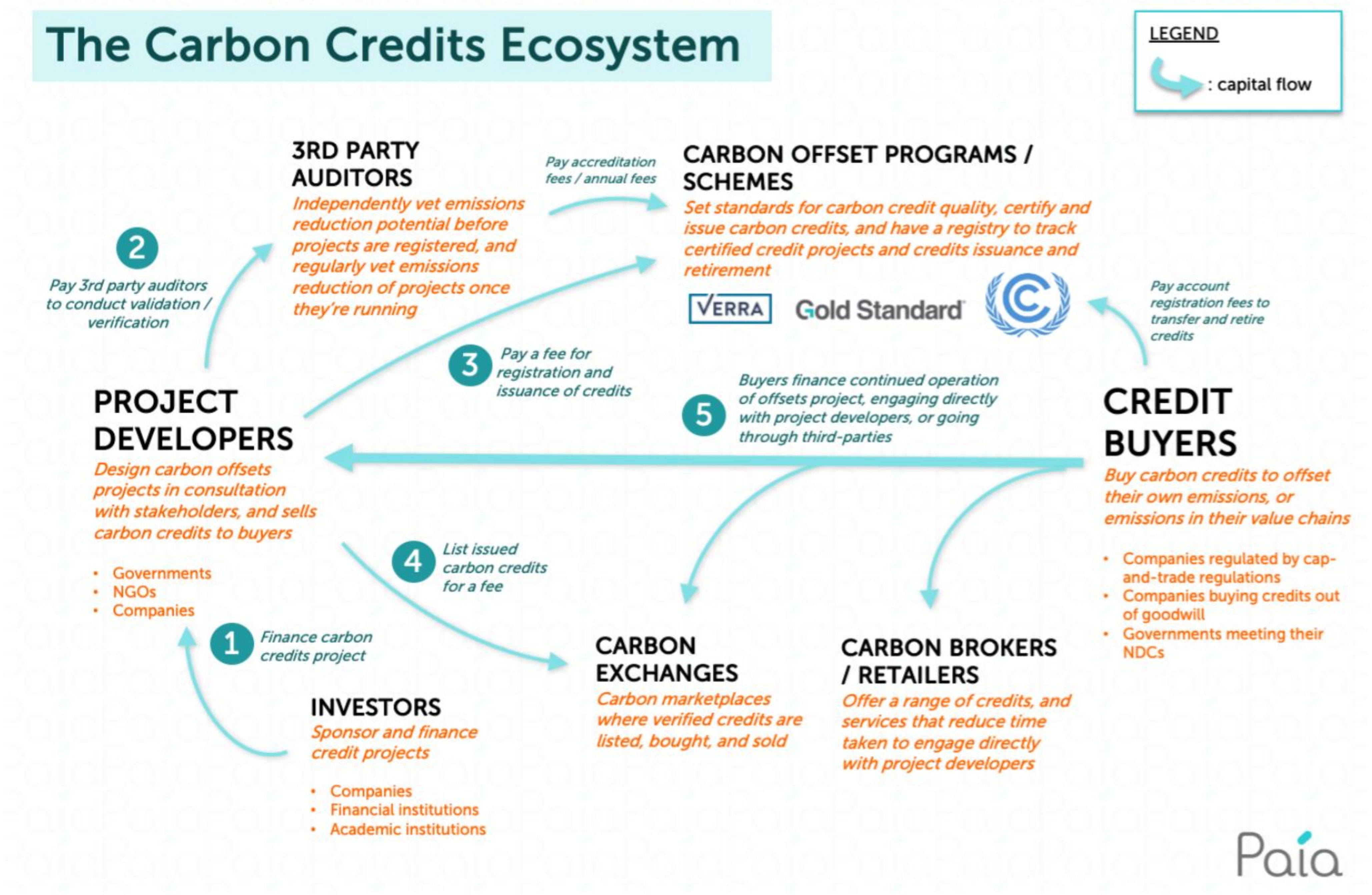


Figure 1: The Carbon Credit Ecosystem, by the Paia Team

Thank you

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