Scaling up Financing for Clean Energy, Sustainable Landscapes, and Climate Adaptation

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Moderator: Pablo Torres, CA-USA
Eric Hyman, USAID
Charlotte Mack-Heller, Resonance
Glen Anderson, Winrock International

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Pablo Torres

- CEADIR Chief of Party, Crown Agents USA
- Over 15 years of international development experience
- Analyst for the Climate Investment Funds in 2013-2014
- Master of Environmental Management from Yale School of the Environment
Welcome to the CEADIR Series and Introduction

*Pablo Torres*, CEADIR Chief of Party, Crown Agents USA

**Climate Finance Assessment: Clean Energy**

*Dr. Eric Hyman*, Economist, USAID Economics and Market Development Center

**Climate Finance Assessment: Sustainable Landscapes**

*Dr. Glen Anderson*, Senior Development Economist, Winrock International (formerly, CEADIR) and *Eric Hyman*

**Climate Finance Assessment: Climate Adaptation**

*Charlotte Mack*, Director of Natural Capital, Resonance (formerly, CEADIR)

Open Forum
CEADIR CLIMATE FINANCE ASSESSMENT

- Emphasizes private sector investments
- Also addresses international and domestic public investments
- Challenges in scaling up investments
- Descriptions and examples of financial instruments and nonfinancial support
- Criteria for selection of opportunities
  - Replicability and scalability
  - High-impact
  - Value for money
Eric Hyman, Ph.D

• Economist, USAID Economics and Market Development Center

• Formerly with the U.S. African Development Foundation and Appropriate Technology International/EnterpriseWorks Worldwide

• 40 years of experience in environment and natural resource economics and planning, project design, finance, and monitoring and evaluation for agriculture, energy, forestry, and small enterprise development
CLEAN ENERGY

• Renewable energy is now more economically and financially viable than nonrenewable sources in many cases

• Barriers remain for example with
  • Incentives and disincentives for suppliers and consumers
  • Awareness of the benefits and costs
  • Bank willingness to provide appropriate loan products
  • Capacity and interests of government agencies and utilities
  • Use of public-private partnerships (PPPs) and innovative procurement approaches to increase competition

Photos:  https://www.cnbc.com/2015/07/19/will-asia-disrupt-renewable-energy-financing.html; Chris Lim, Wikipedia Commons
## Options for Clean Energy Financing

<table>
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<th>Clean Energy</th>
<th>Enabling Environment</th>
<th>Information and Capacity Development</th>
<th>Financial Instruments and Markets</th>
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<td></td>
<td>Create incentives for competitive markets</td>
<td>Assess and develop individual and institutional capacity</td>
<td>Assess and mitigate financing risks</td>
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<td>Promote favorable fiscal, investment, and regulatory policies</td>
<td>Improve quality, access, and use of energy resource information</td>
<td>Support specialized lending facilities or funds</td>
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<td>Develop standardized contracts</td>
<td>Increase bank willingness and capacity to lend</td>
<td>Support green credit lines in commercial or development banks</td>
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<td>Foster public-private partnerships</td>
<td>Support financing networks and platforms</td>
<td>Support development of green bonds</td>
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<td>Align investments with development strategies and plans</td>
<td>Support CE innovation labs and business incubators</td>
<td>Support innovative payment systems for off-grid energy users</td>
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<td>Support PPPs</td>
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**Clean Energy**
PROMOTE RENEWABLE ENERGY PROCUREMENT THROUGH REVERSE AUCTIONS

• Competition for efficient price discovery to reduce costs
• Long-term Power Purchase Agreements (PPAs), preferably with inflation-indexed U.S. dollar pricing
• Enabled access to private sector financing
  • Global energy companies used corporate equity and on-balance sheet debt
  • Independent power producers and domestic developers used project finance from commercial or development banks
  • Some financing from investment funds or institutional investors
• Important to ensure grid access and avoid excess capacity
  *(Molina, Scharen-Guivel, and Hyman 2018)*
DEVELOP CAPACITY OF BANKS TO INCREASE CLEAN ENERGY LENDING

• Provide toolkits and TA to help banks assess market and profitability of CE lending
• Clean Energy Lending Toolkit
  • AILEG developed and piloted (https://pdf.usaid.gov/pdf_docs/PA00JS5M.pdf)
  • CEADIR used to train banks in 4 Central American and 8 West African countries
SUPPORT CLEAN ENERGY INNOVATION LABS AND BUSINESS INCUBATORS

- Business incubators: Space, training, consulting, and/or financing for early-stage companies
- Innovation labs design and test new solutions and facilitate collaborations
- USAID Development Innovation Ventures Program (DIV)
  - Tests and scales up creative solutions to development challenges with high-impact potential in any sector and country where USAID operates
  - Open to not-for-profit and for-profit organizations in any country (government agencies only through subaward agreements)
  - Rolling application review process for tiered grants based on an Annual Program Statement
    - Stage 1: Proof of Concept (Up to $200,000)
    - Stage 2: Testing and Positioning for Scale (Up to $1,500,000)
    - Stage 3: Scaling (Up to $5,000,000)
    - Evidence Grants (Up to $1,500,000)
- India Innovation Lab for Green Finance: Investment trusts for rooftop solar developers and green bonds for impact investors
SUPPORT FINANCING NETWORKS AND PLATFORMS


## ASSESS AND MITIGATE INVESTMENT OR FINANCING RISKS

<table>
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<tr>
<th>Risk Mitigants</th>
<th>Political</th>
<th>Policy or Regulatory</th>
<th>Counterparty</th>
<th>Grid and Transmission</th>
<th>Technology</th>
<th>Currency</th>
<th>Liquidity and Refinancing</th>
<th>Resource</th>
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<td>Political risk insurance</td>
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<td>Currency hedging instrument</td>
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<td>Liquidity guarantee</td>
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<td>Loan guarantee</td>
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Source: Adapted from IRENA 2016
HELP ENERGY SUPPLIERS DEVELOP BANKABLE LOAN APPLICATIONS

- Some banks interested in renewable energy lending report an insufficient pipeline of good loan applications
  - Ecobank/Ghana had an untapped USAID Development Credit Authority (DCA) guarantee for beyond-the-grid renewable energy loans
- CEADIR contracted with business advisory service (BAS) providers in Ghana and Rwanda to help developers prepare loan applications
- BAS providers compensated on a payment-for-results basis
  - Limited milestone payments based on progress in loan approval process
  - Bulk of payment tied to loan approval and based on transaction value
- Led to $6.6 million of renewable energy loans from Ecobank in Ghana
SUPPORT CLEAN ENERGY LENDING FACILITIES OR FUNDS:

- Reduce barriers to pre-investment and early-stage investment
  - Small-Scale Renewables Financing Facility (Global Innovation Lab for Climate Finance)
  - Sustainable Energy Fund for Africa (African Development Bank)
  - Power Africa Grid and Beyond-the-Grid Programs (USG)

U.S. DEVELOPMENT FINANCE CORPORATION

• Established in 2019 to consolidate capabilities of the Overseas Private Investment Corporation (OPIC) and USAID Development Credit Authority

• Expanded investment cap to $60 billion and increased focus on development impact

• Equity Financing: New authority for direct equity and support for investment funds

• Debt Financing: Direct loans and loan guarantees of up to $1 billion for up to 25 years, with specific programs targeting small and medium U.S. businesses

• Political Risk Insurance: Coverage for up to $1 billion for losses from currency inconvertibility, government interference, political violence, and terrorism.
  • Reinsurance to increase underwriting capacity

• Technical Development: Feasibility studies and technical assistance for project identification and preparation
FINANCE PAYGO SYSTEMS FOR RENEWABLE ENERGY USERS

Source: https://solarmagazine.com/mobile-apps-cloud-services-key-to-tackling-global-sustainable-energy-challenge/
SUPPORT GREEN BOND ISSUANCE

- Tradable debt securities for investments with environmental benefits
  - Meets Green Bond Principles of the International Capital Market Association
  - Issued by governments, multilateral or national development banks, or corporations
  - Minimum size $80-100 million to attract investors and reduce transaction costs
  - May require aggregation and warehousing of loans from multiple sources
  - Lower interest rates not available yet in nascent market
  - May be easier to sell to impact investors and financial institutions
- Example: Inter-American Development Bank support for green bonds for minigrids in Colombia
# Green Bonds Taxonomy

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>TRANSPORT</th>
<th>WATER</th>
<th>BUILDINGS</th>
<th>Land Use &amp; Marine Resources</th>
<th>Industry</th>
<th>Waste</th>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>Private transport</td>
<td>Water monitoring</td>
<td>Residential</td>
<td>Agriculture</td>
<td>Cement production</td>
<td>Preparation</td>
<td>Broadband networks</td>
</tr>
<tr>
<td>Wind</td>
<td>Public passenger transport</td>
<td>Water storage</td>
<td>Commercial</td>
<td>Commercial Forestry</td>
<td>Steel, iron &amp; aluminium production</td>
<td>Reuse</td>
<td>Telecommuting software and service</td>
</tr>
<tr>
<td>Geothermal</td>
<td>Freight rail</td>
<td>Water treatment</td>
<td>Products &amp; systems for efficiency</td>
<td>Ecosystem conservation &amp; restoration</td>
<td>Glass production</td>
<td>Recycling</td>
<td>Data hubs</td>
</tr>
<tr>
<td>Bioenergy</td>
<td>Aviation</td>
<td>Water distribution</td>
<td>Urban development</td>
<td>Fisheries &amp; aquaculture</td>
<td>Chemical production</td>
<td>Biological treatment</td>
<td>Power management</td>
</tr>
<tr>
<td>Hydropower</td>
<td>Water-borne</td>
<td>Flood defence</td>
<td>Supply chain management</td>
<td>Fuel production</td>
<td>Waste to energy</td>
<td>Landfill</td>
<td>Radioactive waste management</td>
</tr>
</tbody>
</table>

- Certification Criteria approved
- Criteria under development
- Due to commence

12/2019

*Slide Source: Climate Bonds Initiative*
Support green bond issuance (cont’d)

European issuance remains strong but Asian volumes are rising

Asia-Pacific issuance grew 35% in 2018

5 new sovereign GB issuers in 2018:
- Europe: Belgium, Ireland, Lithuania
- APAC: Indonesia
- Africa: Seychelles

2 new sovereign GB issuers in 2019:
- Europe: Netherlands
- LAC: Chile

Slide source: Climate Bonds Initiative
Corporate sector and sovereigns becoming increasingly active

Key players:

- Development banks
  - Initiated green bond market. Still quite active in Emerging Markets
  - EIB is largest issuer
  - IFC now mainly emerging markets GB investor

- Corporate sector
  - Financial corporates now engaging as issuers & underwriter roles

- SSA sector
  - Government backed entities particularly important issuers – ABS issuance enhanced by Fannie Mae Green MBS
  - Sovereigns raising their game: 2018 debut deals from Indonesia, Belgium, Lithuania + repeats from Poland, France

Slide Source: Climate Bonds Initiative
BLENDED PUBLIC/PRIVATE FINANCE: REDUCE INFORMATION BARRIERS AND TRANSACTION COSTS

• Examples of USAID Invest Assistance
  • Grand Challenge on Water and Energy for Food
  • Develop pipeline for Prosper Africa Initiative on trade
  • Private sector engagement with gender and/or COVID-19 recovery focus in Moldova, Ukraine, and other countries
  • Caribbean Resilience Fund
  • Transaction support for four off-grid RE companies in Kenya mobilized $105 million
  • Technical assistance to Government of Haiti on long-term concessions for electricity generation and distribution

• Scope and results
  • 255 partners in 12 sectors in 57 countries
  • $160 million in private capital directly mobilized
BLENDED PUBLIC/PRIVATE FINANCE: REDUCE INFORMATION BARRIERS AND TRANSACTION COSTS
Glen Anderson, Ph.D

• Senior Development Economist, Winrock International
• Formerly, CEADIR Adaptation Lead, Abt Associates
• 29 years of international experience in climate adaptation and finance, water, agriculture, and economic development
SUSTAINABLE LANDSCAPES

- Many investments in forestry, agriculture, and other land uses can increase productivity and profitability while reducing GHG emissions
- However, it can take many years to recoup the capital costs of planting and maintaining trees
- Many developing countries lack the resources and capacity to reduce deforestation and forest resource degradation
- Investment in sustainable landscapes is often hindered by lack of clear land tenure or resource use rights
- Environmental benefits of sustainable landscapes are often unquantified or not valued in monetary terms
# Options to Increase Sustainable Landscapes

## Financing

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<th>Enabling Environment</th>
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<th>Financial Instruments and Markets</th>
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</thead>
<tbody>
<tr>
<td>• Support certifications and sustainability standards</td>
<td>• Support innovation through labs and technology</td>
<td>• Assess and mitigate risks</td>
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<tr>
<td>• Improve policies and incentives</td>
<td>• Develop capacity in financing, implementation, and reporting</td>
<td>• Support investment funds and credit lines</td>
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<tr>
<td>• Foster public-private partnerships</td>
<td>• Improve information collection, analysis, and dissemination on investments</td>
<td>• Support development of green bonds</td>
</tr>
<tr>
<td>• Develop investment strategies and financing plans</td>
<td>• Support climate finance readiness</td>
<td>• Support payments for environmental services</td>
</tr>
<tr>
<td></td>
<td>• Improve quality, accessibility, and use of climate information</td>
<td>• Promote reducing emissions from deforestation and forest degradation (REDD+)</td>
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</table>
• Transnational corporations (TNCs) can require input suppliers to meet certification or sustainability standards
  • Meet pledges for no deforestation, peatland conversion, or exploitation of labor (NDPE)
  • Obtain higher environmental, social, and governance (ESG) ratings
  • Possibly improving ability to market products or obtain higher prices
• Suppliers meeting certification or sustainability standards may have better access to credit
  • TNCs access less costly commercial credit due to lower risk and transaction costs
  • TNCs can help leverage concessional financing
• TNC loans to suppliers with interest rates tied to ESG ratings
  • Danone: €2 billion Positive Incentive Loan Facility
NGO SUPPORT FOR CERTIFICATIONS AND SUSTAINABILITY STANDARDS: THE BORNEO INITIATIVE

- Foundation grants for certification costs for natural forest enterprises in Kalimantan, Indonesia
  - Up to $150,000 for 35,000-75,000 ha
  - Up to $300,000 for 75,000+ ha
- Forest Stewardship Council certifications for 35 enterprises
- 2.9 million ha certified in Kalimantan, Indonesia through 2019
- 1.1 million ha certifications underway through 2019
- Certification costs high
- Price premium may not be available
- Unclear impacts on sustained yield of forest products and carbon mitigation

Source: The Borneo Initiative (2019) and https://theborneoinitiative.org/
EXPAND PUBLIC-PRIVATE COOPERATION TO REDUCE DEFORESTATION IN SUPPLY CHAINS

• Initiative for Sustainable Forest Landscapes (ISFL) – two funding mechanisms
  • BioCarbon Fund (BioCFplus): $133 million pledged for grants to strengthen enabling environment, pilots, and GHG emissions monitoring
  • BioCarbon Tranche 3: $222 million pledged for results-based finance and payments to shift to sustainable development trajectory

• Country programs
  • Ethiopia: Nespresso helping coffee farmers improve practices
  • Colombia: Partnership between regional government and Sustainable Orinoquia Pact regional stakeholders on sustainable cocoa, cattle and dairy, rice, and palm oil
  • Indonesia: Private sector partnership in Jambi, Sumatra, for improved forest and land management, fire management, designation of “green villages” meeting criteria for sustainable land management
  • Zambia: ISFL private sector strategy for low-carbon rural economy with agroforestry focused on increasing production of groundnuts, honey, sustainably produced charcoal

TROPICAL FOREST ALLIANCE (FORMERLY TFA 2020)

- Governments, companies and civil society organizations committed to zero net deforestation in palm oil, soy, beef, dairy, and pulp and paper
- Global and regional dialogues on sustainable landscape policies and management practices and information-sharing platform
  - Africa Palm Oil Initiative: Reduce palm oil deforestation in 11 West and Central African countries
  - Southeast Asia Initiative: Smallholder farmer task force to improve governance and peat restoration
  - Colombia: Zero Deforestation Agreements for zero-deforestation for palm oil, cocoa, beef, and dairy
  - Financial Sector Engagement Initiative: Promoting bank lending for deforestation-free supply chains
  - Better Growth With Forests: Analyzing economic and political benefits of zero-deforestation commitments

Source: https://www.tropicalforestalliance.org/en/our-work/
PAYMENT FOR ENVIRONMENTAL SERVICES (I): VIETNAM

- USAID funded Winrock International to help Vietnam draft legislation, assess benefits, and design Payment for Forest Ecosystem Services (PFES) in 2006
- PFES payments deposited in Forest Protection and Development Fund (PFDF)
- $500 million in voluntary contributions received from hydroelectric companies, municipal water companies, and tourism companies (2012-2019)
- Thousands of households in 44 provinces have received grants or loans
- Vietnam piloting carbon–PFES program in 2020
  - $1.35/ton of CO₂ from cement factories
  - $2.00/ton of CO₂ from coal-fired power plants

Photo: https://www.climatelinks.org/blog/vietnam%E2%80%99s-payment-forest-environmental-services-safeguarding-resources-and-improving-lives
PAYMENT FOR ENVIRONMENTAL SERVICES (2): CLOUD FOREST BLUE ENERGY

- Pay for results financing for better land and water management
- Downstream hydropower owners pay for measured water supply and quality benefits
- Finance and implement improved sediment management for hydropower dams
- Global Innovation Lab for Climate Finance supporting Conservation International and Nature Conservancy
  - Stage 1 (2017-2019): R&D to identify watershed of potential interest
  - Stage 2 (2020-2025): Demonstrate business case and raise $30 million of blended finance
  - Stage 3 (2026 on): Commercial roll-out

Source: https://www.climatefinancelab.org/project/cloud-forest-blue-energy-mechanism/
## MITIGATE INVESTMENT RISKS THROUGH INSURANCE, PRICE COMMITMENTS, OR HEDGING

**Physical Risks**
- Theft and vandalism
- Insects
- Climate variability
- Disease

**Financial and Economic Risks**
- Volatility of supply, demand, and prices of inputs and products
- Domestic currency risks

**Institutional Risks**
- Policy and regulatory
- Tenure conflicts or uncertainty
- Resource conflicts
- Corruption
- Expropriation

- Promote insurance use to reduce risks
  - Actuarial-risk based
  - Weather-indexed
  - Political risks
- Design price contracts as incentives for production
  - Advance purchase agreements
  - Guaranteed minimum price
  - Formula-based price
- Hedging: Costly, where available
  - Domestic or foreign currency values
  - Put or call options for major cost or revenue items
MITIGATE RISKS THROUGH ADVANCE PURCHASE AGREEMENTS AND BUNDLED ASSISTANCE

- Rocky Mountain Arabica Coffee Co. in the Philippines
  - Coffee producer/processor contracts with farmers near its own plantations
  - Helped contract farmers secure land use rights
- Bank Andara (commercial bank established by Mercy Corps) gives loan to local bank (BPR Pesisir Akbar) in Indonesia
  - Local bank provides microfinance loans through maize farmer groups
  - Local traders deduct farmer loan repayments from sale proceeds
  - Farmer advisory service and crop micro-insurance through Syngenta, Mercy Corps, and ACA
- Minh Phu Co. buys aquaculture shrimp in Vietnam
  - Donors fund upfront costs of Naturland certification and monitoring
  - Company pays mangrove restoration fee
PROJECT PREPARATION AND FINANCING FACILITIES: INDONESIA TROPICAL LANDSCAPES FINANCE FACILITY (TLFF)

• Non-deforesting sustainable landscape and renewable energy investments
• United Nations Office for Project Services provides technical assistance and training on sustainable and certified production and traceability
• ADM Capital manages loan finance facility to capitalize BNP Paribas
• BNP Paribas provides long tenor loans for large, private investments
GREEN BOND FOR SUSTAINABLE LANDSCAPES:
TROPICAL LANDSCAPES FINANCE FACILITY

- First green bond for sustainable landscapes
  - Secured, fixed rate, Moody’s rated Aaa bond
  - Issued by UN Environment, BNP Paribas, ADM Capital, and ICRAF
  - For 88,000 ha of degraded land in concessions for rubber in Indonesia
  - Joint venture Michelin and PT Barito Pacific (PT Royal Lestari Utama)

- 5 loans: Tenors of 5-15 years, various interest rates and amortization schedules
  - 1st tranche: $95 million in 2017 (including $40 million for small-scale farmers)
  - 49% for high-yield, rubber tree plantations (company and small-scale farmers)
  - 51% for community partnerships, ecosystem restoration, and biodiversity conservation
  - Improved inputs and practices to increase rubber yields from 0.8 t/ha/y to 1.7 t/ha/y
  - Buffer zone to reduce land speculation and encroachment around national park
  - Expected to provide 10% of Michelin’s natural rubber supply and 16,000 fair-wage jobs
ENCOURAGE PRIVATE SECTOR GREEN BONDS:
STARBUCKS

• First U.S. corporate sustainability bond (use of proceeds for social purposes)
  • $500 million in 2016 with 10-year maturity
  • 2.54% coupon rate
  • Senior, unsecured bond; rated A/A2/A
• First yen-denominated corporate sustainability bond
  • ¥85 billion (nearly $800 million) in 2017
  • 7-year maturity
• Second U.S. corporate sustainability bond; $1 billion, 30-year
• Increase purchases of certified, ethically grown coffee
  • New and refinanced loans to coffee farmers
  • Debt financing for producer organizations

PROMOTE IMPACT INVESTMENT FUNDS: ALTHELIA CLIMATE FUND

• Began in 2014 for sustainable landscapes in Africa and Latin America
• USAID Development Credit Authority (DCA) loan guarantee of $133.8 million
• $118 million closed-end investment fund with 20 public and private investors
  • Credit Suisse, Church of Sweden, FMO Bank, European Investment Bank, and AXA
  • Acquired by Mirova Natural Capital Ltd.
• Fully committed to 12 investments in 2017
• Investments generate returns from commercial production and sale of carbon credits
• Target rate of return to fund = 8%
• Environmental benefits
  • 2.1 million ha under improved management for conservation
  • Protected habitat for 102 threatened species
  • 22.4 million tCO$_2$e emissions avoided (34.2 million tCO$_2$e by 2021)

https://borgenproject.org/usaid-supports-althelia-climate-fund
LIVELIHOODS VENTURES FUNDS

• Social business based in Paris with climate finance and development goals
  • Sourced capital from companies interested in offsetting future greenhouse gas emissions (mainly in EU)
  • Selected, co-designed, financed, and monitored projects implemented by NGOs in developing countries
  • Focused on agroforestry, mangrove restoration with rice or aquaculture, and improved household wood fuel stoves to balance risks and timing of carbon credits
  • NGOs repay financing costs by signing over all carbon credits (equity-like financing, no cash loan repayments)
  • NGOs receive 50% of higher-than-expected proceeds from carbon credits (bonus for outperformance or carbon price increases)
  • Investors receive certified carbon credits (Gold Standard or Verra) over 10-20 years

Source: https://www.livelihoods.eu/lcf/#investors_lcf
LIVELIHOODS VENTURES FUNDS

• Livelihoods Carbon Fund 1 launched in 2011
  - €40 million invested in 9 projects (no donor funding)
  - 130 million trees planted, 120,000 improved household stoves, 10 million tCO$_2$ sequestered

• Livelihoods Carbon Fund 2 launched in 2017 (no donor funding)
  - €100 million to be invested
  - Target of 12 million tCO$_2$ sequestered

Source and photo credit: https://www.livelihoods.eu/lcf/#investors_lcf
RESULTS-BASED FINANCING: REDD+

• Purpose: Create financial value for carbon stored in forests in developing countries
  • Donor and multilateral development bank results-based funding
  • Market-based mechanisms allowing transfer of mitigation outcomes (many developed countries supported to have option for forest carbon offsets)
• REDD+: Reducing GHG Emissions from Deforestation and forest Degradation Plus
  • Conservation of forest carbon stocks
  • Sustainable management of forests
  • Enhancement of forest carbon stocks
• Social benefits viewed as co-benefits
TREND FOR JURISDICTIONAL OR NESTED REDD+

• Jurisdictional: Based on national or subnational strategies, action plans, and measurement, reporting, and verification (MRV)
  • UNFCCC emphasized importance of national or subnational administration of REDD+ from beginning
  • Now supported by Forest Carbon Partnership Facility’s
  • Carbon Fund, Green Climate Fund, and most bilateral donors

• Nested: Project-based REDD+ embedded in jurisdictional system
  • Accounting, management, certification system, and emissions reporting at national or subnational level
  • Higher-level coordination of strategies and safeguards recommended

• Verra standards exist for jurisdictional and nested REDD+

Photo: Eric Hyman
REQUIRED ELEMENTS FOR REDD+

• National REDD+ strategy
• Governance and legal structures
  • Carbon rights and ownership
  • Dispute resolution mechanisms
• Social and financial structures
  • Consultation process and mechanisms (national and multilateral requirements)
  • Funding streams and distribution of payments
• Action plan/road-map
• National forest reference level (baseline)
• National measurement, reporting, and verification (MRV)
• Safeguards information system
• http://www.fao.org/3/a-i4847e.pdf
RECENT TRENDS IN REDD+ AND CARBON MARKETS

• New domestic compliance markets (e.g., California and Colombia) and ambitious country targets (e.g., Netherlands)

• Higher carbon prices for REDD+ than on voluntary markets (and large variation in voluntary market prices)

• Shareholder pressure on transnational corporations for ambitious mitigation targets

• Many countries working on nesting REDD+ projects within jurisdictional approach (including Forest Carbon Partnership Facility’s Carbon Fund)

• Other countries incorporating projects into national REDD+ and NDCs

• Connection to sustainable supply chain movement (Tropical Forest Alliance 2020)

• Increasing global commitment to restoration (e.g., Norway)

• Increasing developing country interest in reforestation (e.g., Ethiopia and India)
JURISDICTIONAL COMMODITY SOURCING LINKED TO REDD+

- Companies commit to buying commodities from country, state, or province committed to reducing deforestation and making progress
  - Buyers must be able to track targeted commodity flows
  - Jurisdictions with authority to work with stakeholders in controlling deforestation
- More efficient than project level or farm-level certifications
- Approved standards
  - Forest Carbon Partnership Facility’s Carbon Fund Methodological Framework
  - Verra Jurisdictional and Nested REDD framework
- Search by commodities or jurisdictions at https://commoditiesjurisdictions.wordpress.com/

NEW FUNDING SOURCES FOR REDD+

- CORSIA: International Civil Aviation Organization’s new sectoral cap-and-trade program
  - Voluntary 2021-2026
  - Mandatory 2027-2035
  - Guidance currently under development
  - Only allows jurisdictional REDD+ to avoid leakage
  - Cannot be double counted toward country NDCs
- California’s Tropical Forest Standard
  - Criteria for jurisdictional offset credits that reduce GHG emissions in tropical forests
  - Eligibility for California’s cap-and-trade program

Images: https://www.icao.int/environmental-protection/CORSIA/Pages/default.aspx; https://ww3.arb.ca.gov/cc/ghgsectors/tropicalforest.htm
Charlotte Mack-Heller

• Director of Natural Capital, Resonance
• Formerly, CEADIR Climate Finance Specialist, Abt Associates
• 13 years working at nexus of climate change and international development
ADAPTATION

• Generally more cost-effective to prevent or reduce negative impacts from climate variability or change since economic damages from impacts of these stressors can be quite large

• However, willingness to make adaptation investments is often limited by uncertainty about the types, extent, and timing of climate impacts

• Also challenges in identifying appropriate adaptation measures for the public and private sectors and estimating their potential benefits against their relative costs

• As a result, most developing countries are not sufficiently well-adapted to existing climate variability (such as a typical five-year flood), let alone the projected impacts from potential future with climate changes
## OPTIONS TO INCREASE CLIMATE ADAPTATION FINANCING

<table>
<thead>
<tr>
<th>ADAPTATION</th>
<th>ENABLING ENVIRONMENT</th>
<th>INFORMATION AND CAPACITY DEVELOPMENT</th>
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<td>• Improve policies and incentives for adaptation investments</td>
<td>• Increase readiness for climate adaptation finance</td>
<td>• Provide technical assistance or grants for pre-investment work</td>
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<tr>
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<td>• Align adaptation financing with strategies, plans, and targets</td>
<td>• Increase willingness and capacity of FIs to provide finance</td>
<td>• Support investment funds and credit lines for adaptation investments</td>
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<tr>
<td></td>
<td>• Support PPPs for climate resilience</td>
<td>• Improve quality, accessibility, and use of climate, weather, and hydrological information for adaptation investments</td>
<td>• Support insurance mechanisms</td>
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IMPROVE POLICIES AND INCENTIVES FOR ADAPTATION INVESTMENTS

- Fiscal Instruments
- Regulations
- Social Policies

ENABLING ENVIRONMENT

FINANCING
PUBLIC-PRIVATE PARTNERSHIPS: DISASTER RISK REDUCTION IN INDIA

USAID/India $2.5 million grant in 2016 to UNDP for disaster risk reduction in 4 cities (Cuttack, Navi Mumbai, Vijayawada and Visakhapatnam)

- USAID/W funded CEADIR and The Energy and Resources Institute
  - Identify potential PPPs for disaster risk in the 4 cities
  - Help secure private sector commitments for short-term PPPs
  - 2013 Companies Act mandated corporate social responsibility contributions of 2% of average net profits
- Led to 10 implemented PPPs
  - Funding and procurement of goods and services
  - GIS mapping and analysis
  - Use of private land
  - Logistics support
PUBLIC-PRIVATE PARTNERSHIPS: DISASTER RISK REDUCTION IN MOZAMBIQUE

- USAID Coastal Cities Adaptation Project
  - National Disaster Management Institute (INGC)
  - Human Network International
  - Vodacom
- Launched 3-2-1 service for cellphone customers
  - Disaster preparedness messages
  - Specific disaster messages

INCREASE READINESS FOR CLIMATE ADAPTATION
FINANCE

• Strengthen public and private sector effectively to design, finance, implement, and manage adaptation investments

• Improving government readiness will:
  • Improve strategy behind adaptation financing
  • Strengthen capacity to receive and manage funds and comply with fiduciary standards
  • Build the case for public and private sector engagement in adaptation
CLIMATE FINANCE READINESS: ADAPT ASIA-PACIFIC PROJECT PREPARATION FACILITY

• Helped governments prepare proposals for external financing

• Connected implementers to financing sources

• Strengthened government capacity to manage climate finance

• Guide can help governments and NGOs prepare grant proposals and loan applications and leverage private investment for climate adaptation

AECOM International Development (2017)
INCREASE WILLINGNESS AND CAPACITY OF BANKS TO FINANCE ADAPTATION

• Change bank perceptions about risks and returns from adaptation lending
• Improve ability of banks to assess market size, opportunities, and barriers
• Train bank staff on technologies and business models for adaptation investments
• Help banks develop appropriate loan products for adaptation
• Help banks obtain capital for lending and partner with governments and development assistance organizations
• Help banks improve loan appraisal and loan tracking systems
Weak hydrology and meteorology data, modeling, and analysis limit public and private sector adaptation planning

- Improve data collection
- Improve modeling
- Develop individual and institutional capacity to use information
- Strengthen early warning systems

- $27 million from Green Climate Fund, World Bank, and government

- [https://www.greenclimate.fund/projects/fp074](https://www.greenclimate.fund/projects/fp074)
SUPPORT ADAPTATION TRUST FUNDS AND CREDIT LINES

• Indonesia Climate Change Trust Fund / Indonesia Environment Fund
  • Supports national mitigation and adaptation goals
  • Renewable energy and energy efficiency, sustainable forest and peat land management, marine-based, and adaptation and resilience

• Adaptation Fund
  • Established under the UNFCCC with $720 million committed for 100+ adaptation projects since 2010

• Climate Action Framework Loan II
  • $110 million line of credit from European Investment Bank to Caribbean Development Bank
  • Loan for 50% of climate resilience or mitigation investments
SUPPORT PRIVATE EQUITY FUNDS FOR COMPANIES SUPPLYING ADAPTATION PRODUCTS AND SERVICES
SUPPORT INSURANCE MECHANISMS

• Partner with companies, governments, and donors to test and scale-up new insurance products
  • Analyze insurance market distortions related to subsidy requirements and funding sources
  • Generate market signals about the real cost of climate risks
  • Climate-index based to reduce transaction costs
  • Mobilize private investment by reducing risks the private sector would not accept

Feed the Future Innovation Lab for Markets, Risk, and Resilience

• Index Insurance Innovation Initiative
• 14 efforts focused on improving accuracy, building with other innovations, ensuring consumer have confidence contracts will protect them
QUESTIONS AND ANSWERS

Eric Hyman, Ph.D    Glen Anderson, Ph.D    Charlotte Mack-Heller
FOLLOW UP

• Webinar recording will be made available

• Contacts:
  • Eric Hyman, CEADIR COR: ehyman@usaid.gov
  • Pablo Torres, CEADIR COP: ptorres@crownagents.com
  • Charlotte Mack-Heller: cmackheller@resonanceglobal.com
  • Glen Anderson: Glen.Anderson@winrock.org
  • https://www.climatelinks.org/projects/ceadir
REFERENCES (1)


REFERENCES (2)


Counts, Lauren; Nienke Stam; Manuel Alegre; Argan Visser; Alex Blake; Marcia Gowen Trump; and Eric Hyman. 2014. Clean Energy Lending Toolkit. Bethesda, MD: Abt Associates and ENCLUDE.


REFERENCES (3)


REFERENCES (4)

