

Leveraging Private Investment for Climate-Related Activities

CCXG Global Forum, OECD

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ACCELERATING CLIMATE FRIENDLY INVESTMENTS IS A COMPLEX PROBLEM.....

....FINANCE IS ONLY ONE PART OF THE SOLUTION

ANNUAL INVESTMENT REQUIRED TO ACHIEVE 2°C PATHWAY

USD Bn, average per annum 2011–2020 to reach 14 Gt of abatement

■ More than 5 Bn ■ 1–5 Bn ■ Less than 1 Bn

	Nations												Total	Percent
	China	United States	EU 27	Africa and Middle East	Rest of developing Asia	India	Russia and Eastern Europe	Latin America	Japan	Rest of OECD Pacific	Canada	Rest of OECD Europe		
Power ¹⁾	65	47	44	21	22	20	12	10	14	12	5	3	275	41%
Industry	41	10	9	7	3	6	6	5	4	2	1	2	96	14%
Transport road	22	21	17	4	4	4	5	6	5	3	2	1	94	14%
Buildings	34	35	36	12	3	6	9	5	4	6	4	2	156	23%
Waste	1	3	2	3	2	0	2	2	0	1	1	0	16	2%
Forestry	1	0	0	2	11	1	0	2	0	0	0	0	17	3%
Transport Air and Sea ²⁾	12												12	2%
Total	163	116	109	62	45	37	34	30	27	23	12	8	650–700	
Percent	24%	17%	16%	9%	7%	6%	5%	4%	4%	3%	2%	1%		

Note: Cement and Deforestation have been taken out

1) Represents total Capex

2) No breakdown on country level available

Source: Credit Suisse/WWF analysis based on McKinsey's Climate Desk tool. Any conclusions are the sole responsibility of Credit Suisse/WWF.

Some estimates suggest up to USD 2,100 bn p.a. of investment requirement

Source: Transition to a low carbon economy: the role of banks, (2011), by Credit Suisse and World Wildlife Fund

OTHER BARRIERS AND RISKS ALSO NEED TO BE ADDRESSED

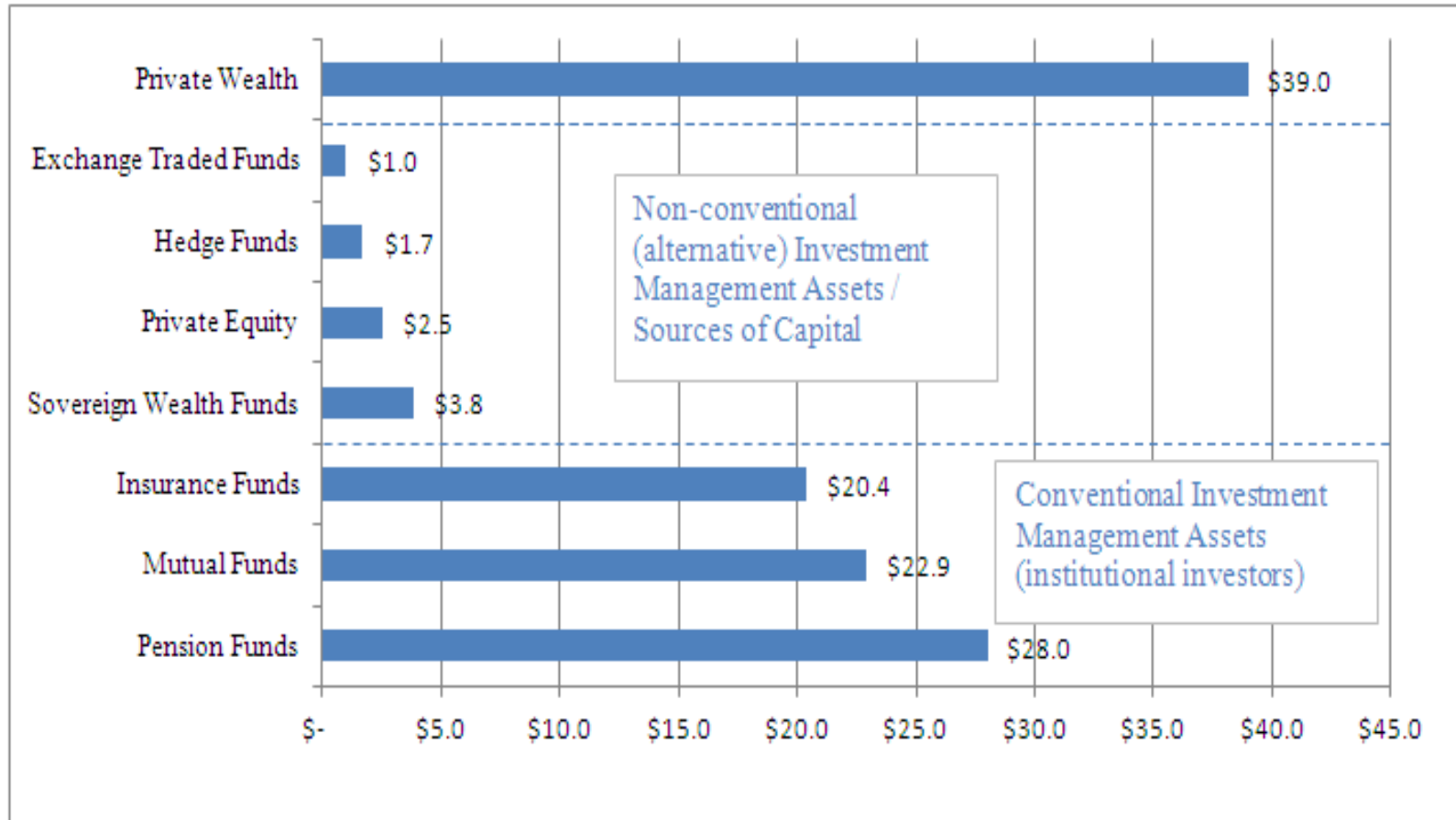
EXAMPLES FOR SELECTED CLIMATE SECTORS IN DEVELOPING COUNTRIES

PROJECT TYPE	KEY BARRIERS	HOW TO ADDRESS
Renewable Energy	<ul style="list-style-type: none"> • Fossil fuel subsidies • Large up-front capital cost • Some technology risk • Network effects 	<ul style="list-style-type: none"> • Price externality • Feed-in tariffs • Predictable regulation • Risk reduction measures • Network upgrades • Develop project risk data
Industrial Energy Efficiency	<ul style="list-style-type: none"> • Energy pricing distortions • Lack of standards • Lack of ESCOs / in-house technical expertise • Transaction costs • Inability to price risk 	<ul style="list-style-type: none"> • Develop and enforce standards • Local banking capacity • Risk reduction measures • Demonstration projects • Develop industry/risk data
Building Energy Efficiency	<p>In addition to the barriers for industrial energy efficiency:</p> <ul style="list-style-type: none"> • Agency problems 	<p>In addition to the measures for industrial energy efficiency:</p> <ul style="list-style-type: none"> • Reduce builder-user information asymmetry by establishing building codes and performance standards
Supply Chains for RE and EE	<ul style="list-style-type: none"> • Dependent on downstream market 	<ul style="list-style-type: none"> • Develop downstream markets for EE and RE
Cleantech	<ul style="list-style-type: none"> • Weak local venture capital or private equity markets • Most technology innovation originating from developed countries 	<ul style="list-style-type: none"> • Support local R&D • Supportive tech transfer regime • Support local venture capital / private equity funds

Source: Climate Finance: Engaging the Private Sector, (2011), IFC

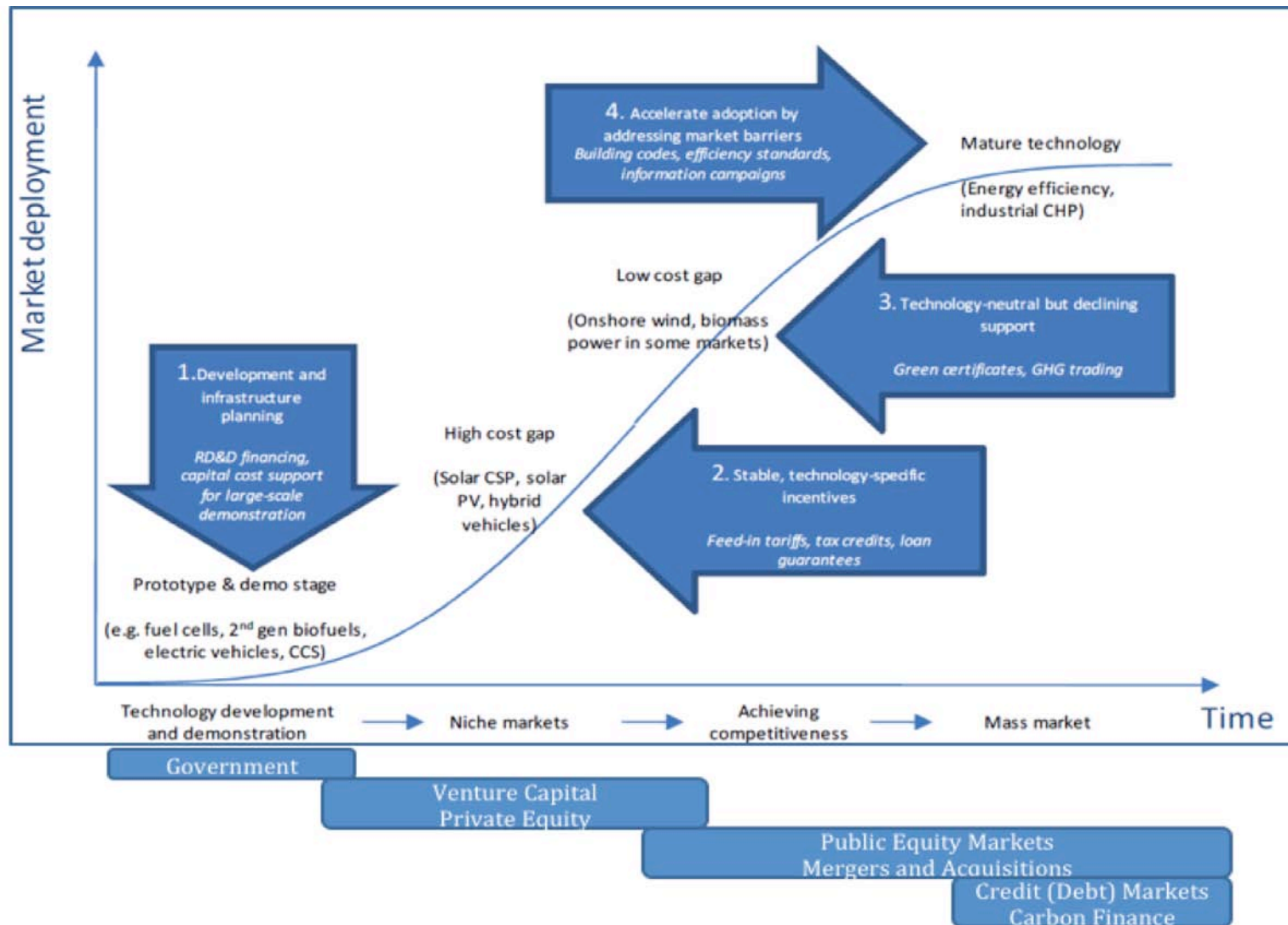
**FINANCING NEEDS, MARKETS,
TECHNOLOGIES AND INVESTORS
ARE HETEROGENEOUS - REQUIRING
A RANGE OF INSTRUMENTS**

2009 GLOBAL FUND MANAGEMENT INDUSTRY: ASSETS UNDER MANAGEMENT (US\$TN)



Source: The Role of Pension Funds in Financing Green Growth Initiatives. (2011), Della Croce, R., Kaminker, C., Stewart, F., OECD

MAPPING SOURCES OF FINANCING TO SPECIFIC NEEDS



Source: Adapted from OECD (2011) and Bloomberg New Energy Finance (2011)

SUMMARY OF FINANCIAL LEVERAGING TOOLS

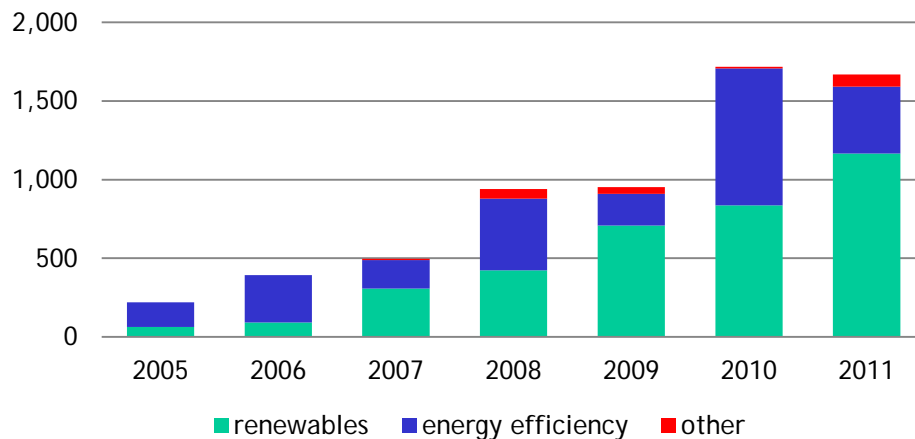
Mechanism	Direct public financing or guarantees	Debt or equity?	Risk level	Mitigates many risks or few?	Estimated leverage ratio	When tool most useful /in what contexts?
Loan guarantees	Guarantee	Debt	High	Many	6x-10x	Countries with high political risk, dysfunctional energy markets, lack of policy incentives for investment
Policy insurance	Guarantee	Debt	Medium	Adaptable to many, but ultimately one	10x & above	Countries with strong regulatory systems and policies in place, but where specific policies are at risk of destabilizing
Forex liquidity facility	Direct Financing	Debt	Low	One	?	Countries with currency fluctuations
Equity 'pledge' fund	Direct Financing	Equity	Low	Many	10x	Projects with strong IRR, but where equity cannot be accessed. Projects need to be proven technology, established companies
Subordinated equity fund	Direct Financing	Equity	High	Many	2x-5x	Risky projects, with new or proven technologies, new or established companies

Source: Leveraging private investment: the role of public sector climate finance, (2011), Brown, J. and Jacobs, M., Overseas Development Institute

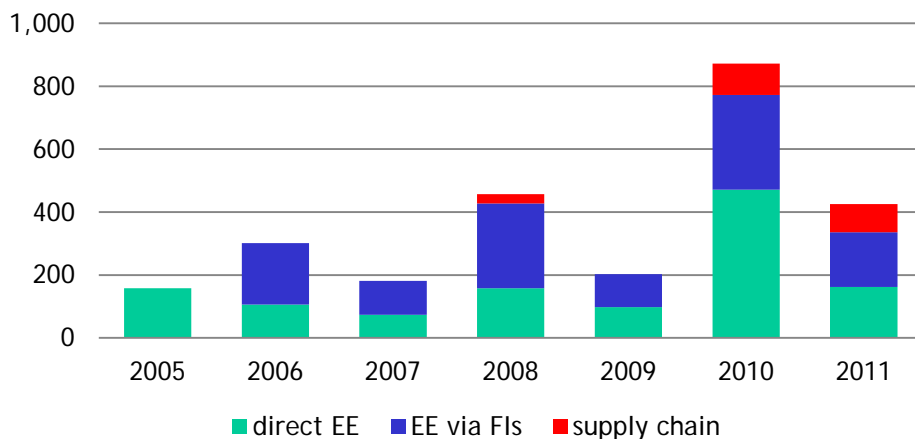
IFC' EXPERIENCE OF TARGETING INSTRUMENTS TO SPECIFIC PROBLEMS & LEVERAGING RESOURCES

IFC'S OWN ACCOUNT INVESTMENTS...

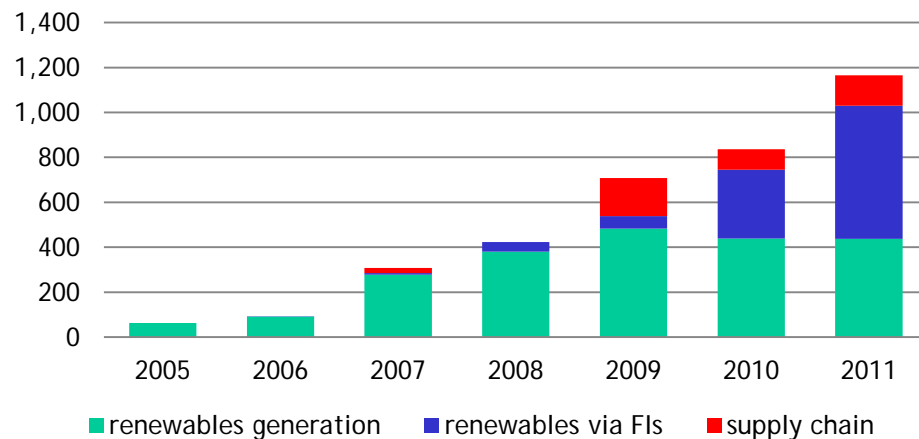
Climate-Related Investment \$ millions



Energy Efficiency Investments \$ millions

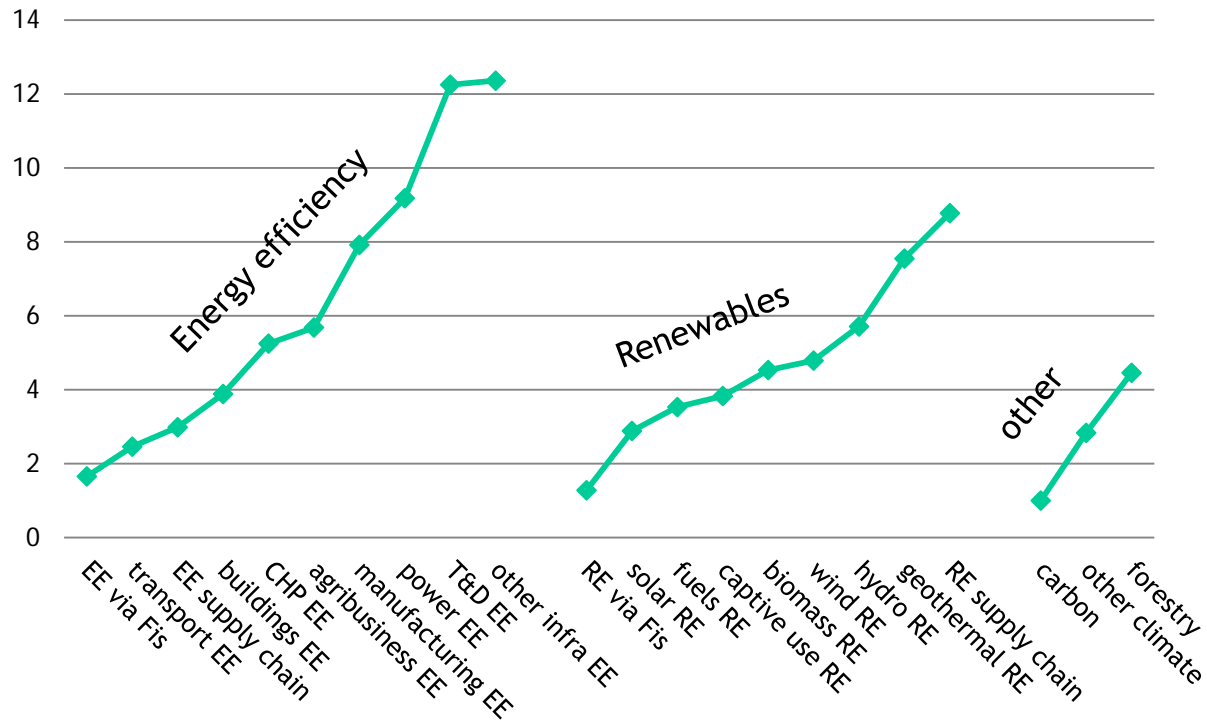


Renewables Investments \$ millions



THUS, ONE IFC DOLLAR LEVERAGES MANY MORE

leverage factors based on IFC project data
2005-2011



Preliminary: not to be quoted

WHY CONCESSIONAL FINANCE IS NEEDED

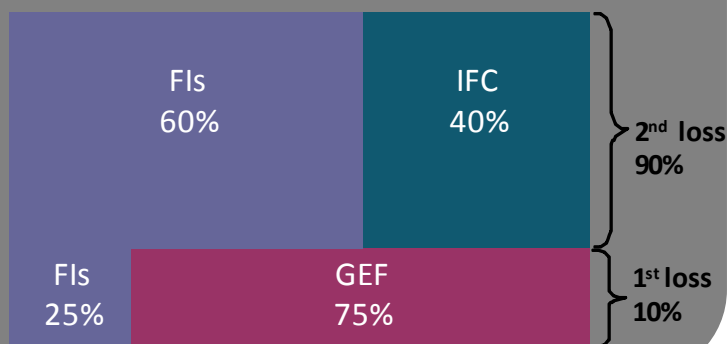
- To overcome the cost disadvantage of low-carbon technology with the potential to be competitive at scale
- To address structural barriers such as network effects, high transaction costs, agency issues
- To fill technical capacity gaps: lack of awareness, inability to price risk, lack of know-how
- Ultimately: to absorb the gap in risk-return expectations of the market

But to be sustainable, concessional finance needs to be part of a longer term vision for a competitive market product or service!

THE CHUEE PROGRAM: IMPROVING ACCESS TO CREDIT

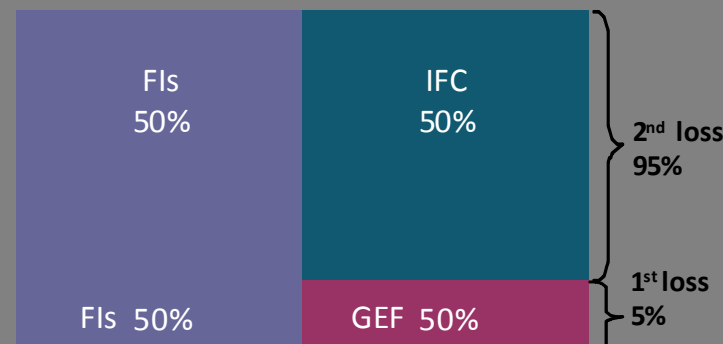
CHUEE I

Fls	IB (2006) BoB (2007)
Facility Size	RMB 760M (~US\$106M) -IB: RMB 460M -BoB: RMB 300M
Donor Commitment	GEF: US\$ 7.3 M
Donor Leverage	14x
First Loss	10%
Donor % of First Loss	75%
Risk Sharing Fee	1.0% / 1.2% p.a.
Fee share with donors?	No



CHUEE II

Fls	IB (2008) SPDB (2008)
Facility Size	RMB 2,500M (~US\$350M) -IB: RMB 1,500M -SPDB: RMB 1,000M
Donor Commitment	GEF: US\$ 8.4 M
Donor Leverage	42x
First Loss	5%
Donor % of First Loss	50%
Risk Sharing Fee	1.2% / 1.3% p.a.
Fee share with donors?	No



MEXICO: ADDRESSING POLICY CONSTRAINTS & DEMONSTRATION

SUBORDINATED DEBT FOR DEVELOPMENT OF WIND POWER



Eléctrica del Valle de México

LA MATA-LA VENTOSA
Mexico

CTF - \$15,000,000
IFC - \$24,000,000

Sub Debt
2010
Wind/ RE Generation

Market Barriers

- Financiers' high perceived risks
- High upfront costs for early entrant/first mover
- Signal to other developers: securing attractive financing and earning appropriate return is feasible
- Demonstrate to other financiers: wind projects in Oaxaca, Mexico can sustain more debt and risk than currently believed, encouraging larger debt flows in future
- This project, together with the CTF-funded Eurus wind farm, helped catalyzed the wind sector in Oaxaca, where installed wind capacity is now ~1 GW; and ~1GW is under construction & development

Blended Structure

- Approx. \$200M+ project cost
- IFC \$24M senior loan
- \$103M senior loan by other lenders
- CTF \$15M subordinated loan
 - - Concessional pricing to offset some early entrant costs
- AS/knowledge sharing - benchmark lessons learned from this deal and support enhancement of regulation

January 2012: news of CRE's latest bid process generating 20GW of submissions, including in Oaxaca region.

ALL COMMERCIAL

FACILITIES & FINANCIAL AGGREGATION PRODUCTS

- **Green Bonds**

- First issued April 2010 - proceeds of the four-year \$200 million fixed bond were earmarked for investing exclusively in climate-friendly projects in developing countries.
- Proceeds have so far supported 21 climate-related investments across 4 continents.
- IFC total Green Bonds issuance is US \$1.05 billion.
- Offer both development impact and a good return for investors.

- **Catalyst Fund**

- New private equity fund investment platform with target size of \$500m
- To invest in Real Sector & Funds providing growth capital for companies delivering resource efficiency and low-emission products and services in emerging markets
- Global with Asia Focus

FINANCING MARKET TRANSFORMATION AND INNOVATION

- **Middle East & North Africa Concentrated Solar Power Scale Up Program - Plant in Ouarzazate, Morocco**
 - \$750m grant by Clean Technology Facility
 - Funding comes from an array of international sources, including the World Bank, the African Development Bank and a consortium of German companies promoting solar energy across North Africa called Dii
 - International development funds have been earmarked for similar projects in Algeria, Tunisia, Egypt and Jordan
- **Cleantech Innovation Facility (CTIF) launched in FY12 supports innovation through early stage investments**
 - Committed \$54 million in 7 cleantech transactions in FY12.
 - Included first-in-kind projects, such as Renewgen, the first waste-to-energy project in Sri Lanka; and Kalkitech, IFC's first smart grid investment.

LIGHTING AFRICA - CATALYZING MARKETS FOR MODERN OFF-GRID LIGHTING

- Catalyzes and accelerates development of sustainable markets for affordable, modern off-grid lighting solutions for low-income households and micro-enterprises through:
 - Mobilizing and supporting the commercial sector to supply high quality, affordable, and clean lighting to 2.5 million people by 2012.
 - Eliminating market barriers so that the private sector can supply high quality, modern, off-grid lighting products to the 250 million people in Africa without electricity by 2030.
- Approach is focused on:
 - Demonstration of viability;
 - Providing market intelligence;
 - Improving enabling environment;
 - Quality assurance;
 - Providing business development services; AND
 - Facilitating access to finance

CONCLUDING THOUGHTS

- Conducive investment environments and policy frameworks are required for private sector investment
- The private sector needs returns commensurate with risks
- Existing mechanisms can mitigate many of these risks
- But risk mitigants may not be available or too expensive for some low-carbon activities
- Carbon pricing and markets are critical for large scale impact
- Public (concessional) finance can catalyze low-carbon investment
- Project developers need ex-ante indications of how such finance will be deployed to create a robust deal pipeline