Financing Risk Mitigation Instruments in LAC

THE PROBLEM AND A POSSIBLE SOLUTION

IDB's experience in geothermal Development

- **~$500 M** invested in exploration and development (public and private)
- Technical Assistance (e.g. prefeasibility studies) and capacity building
- Access and co-financing with:
  - Concessional financing CIF, GEF, Canada, Japan, others
  - Syndication (A/B loan)

Investment in relevant countries

1. Mexico: $ 35M (CTF) + IDB. Financing of private sector geothermal projects through NAFIN (insurance + financing)
2. Chile: $ 30M (CTF) + IDB. Risk Mitigation mechanism (tbd)
3. Nicaragua: San Jacinto. $ 40 M private sector loan (36 MW)
4. Costa Rica: Miravalles I and III. $ 124 M loan (82 MW)
5. El Salvador:

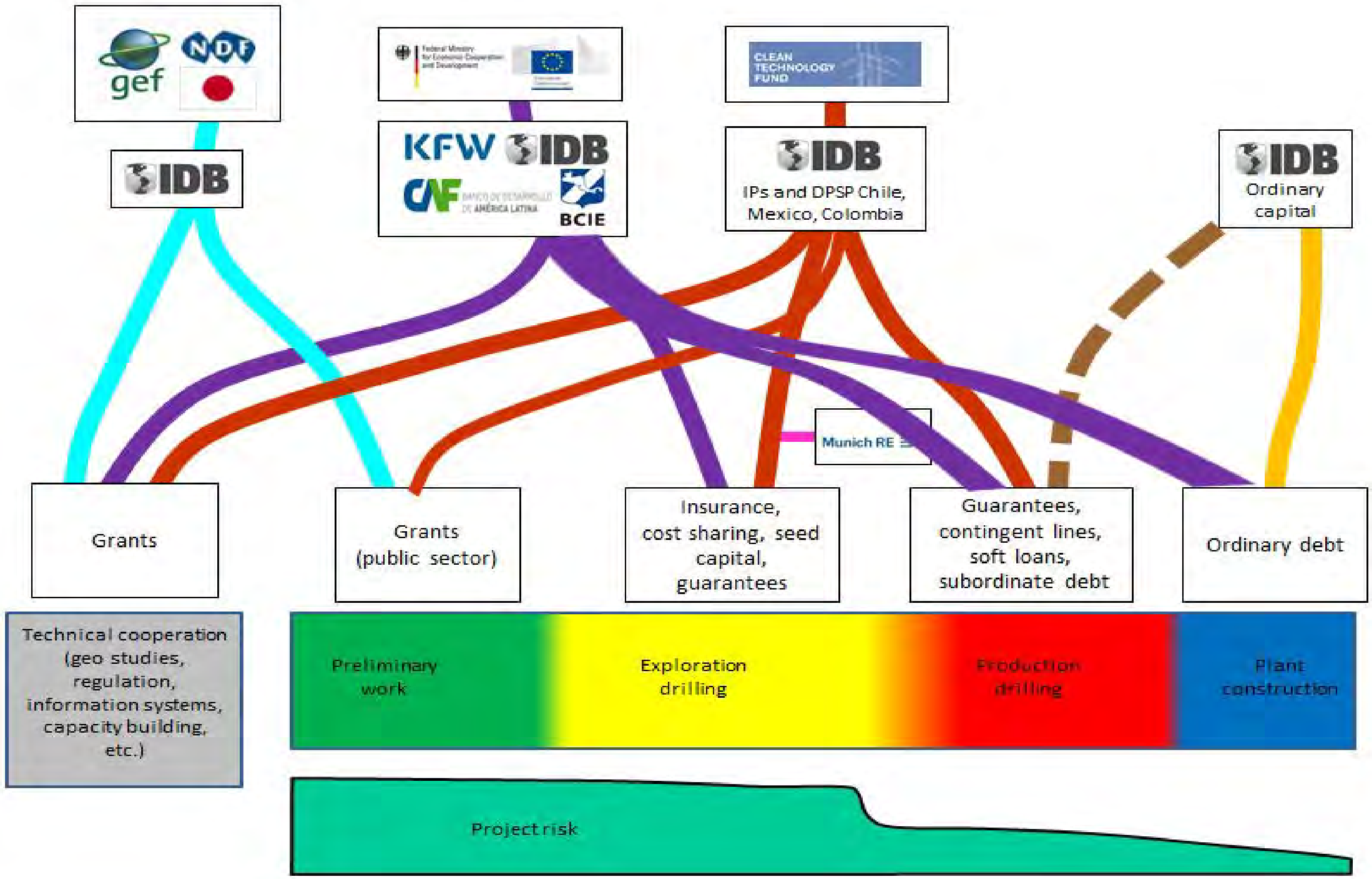
- Berlin. $ 215 M Loan (55 MW)
- Geothermal Regional Training Center, in collaboration with LaGeo, ENEL (Italy) and University of El Salvador;

6. Other: Bolivia: ($ 70 M)

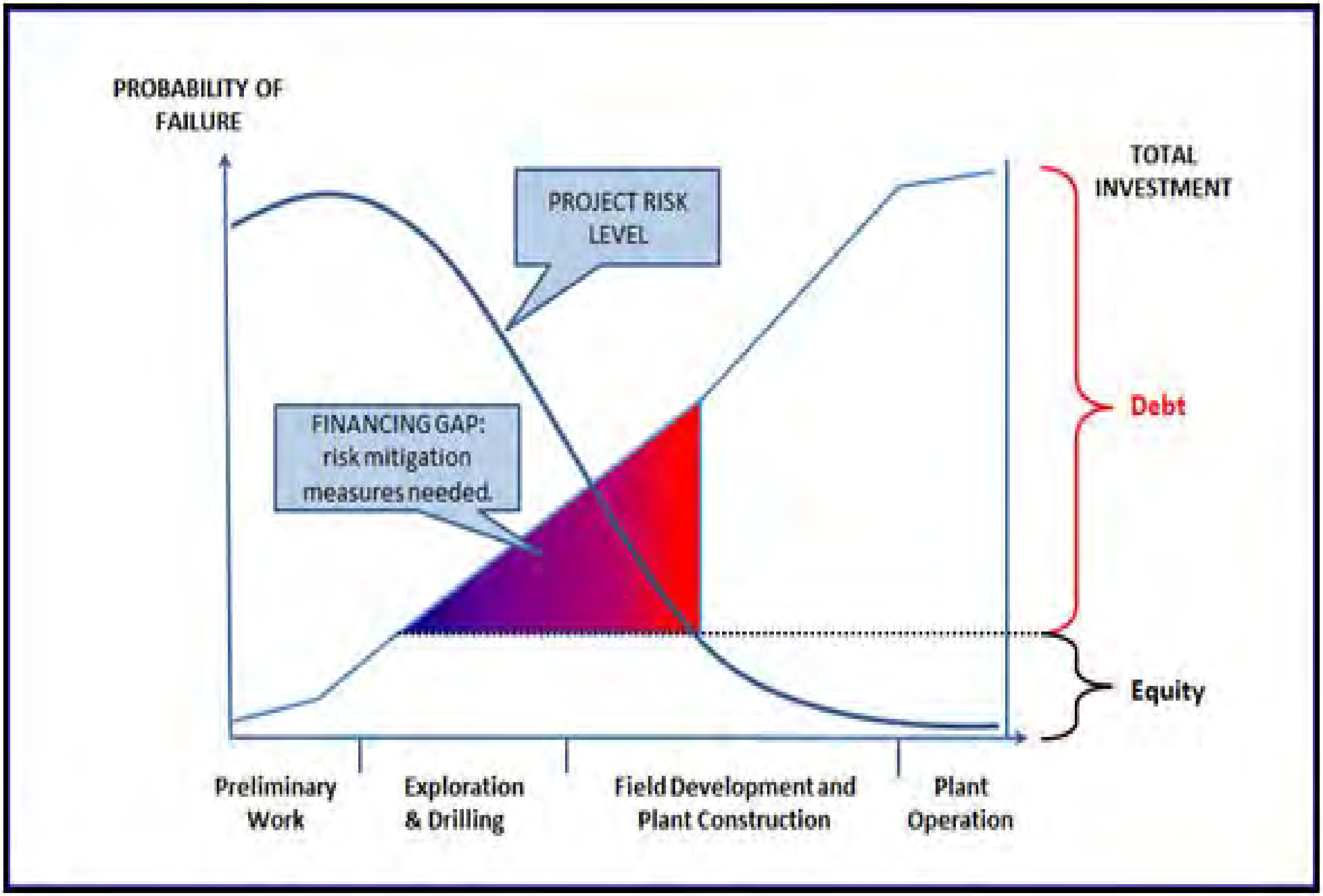
Recent technical cooperation activities

Year	Country	Name	Amount (USD)	Descripction
2000	Colombia	Pre-Feasibility Study for *El Azufral*	1.5M	Geoscientific and environmental evaluation for exploration
2010	México	Geothermal Potential Study	0.58M	Geothermal Potential Evaluation
2011	Colombia	Catalyzing support for Geothermal Energy	3.6M	4 Pre-Investment Studies
2013	Mexico	Regulatory Study and Proposal for Geothermal Regulations	0.1 M	Regulatory studies and proposed modifications of hydro geothermal resource regulation, new proposed geothermal regulation
2013	Chile	Design of Risk Mitigation Instruments	0.1 M	Evaluation of alternatives for risk mitigation schemes

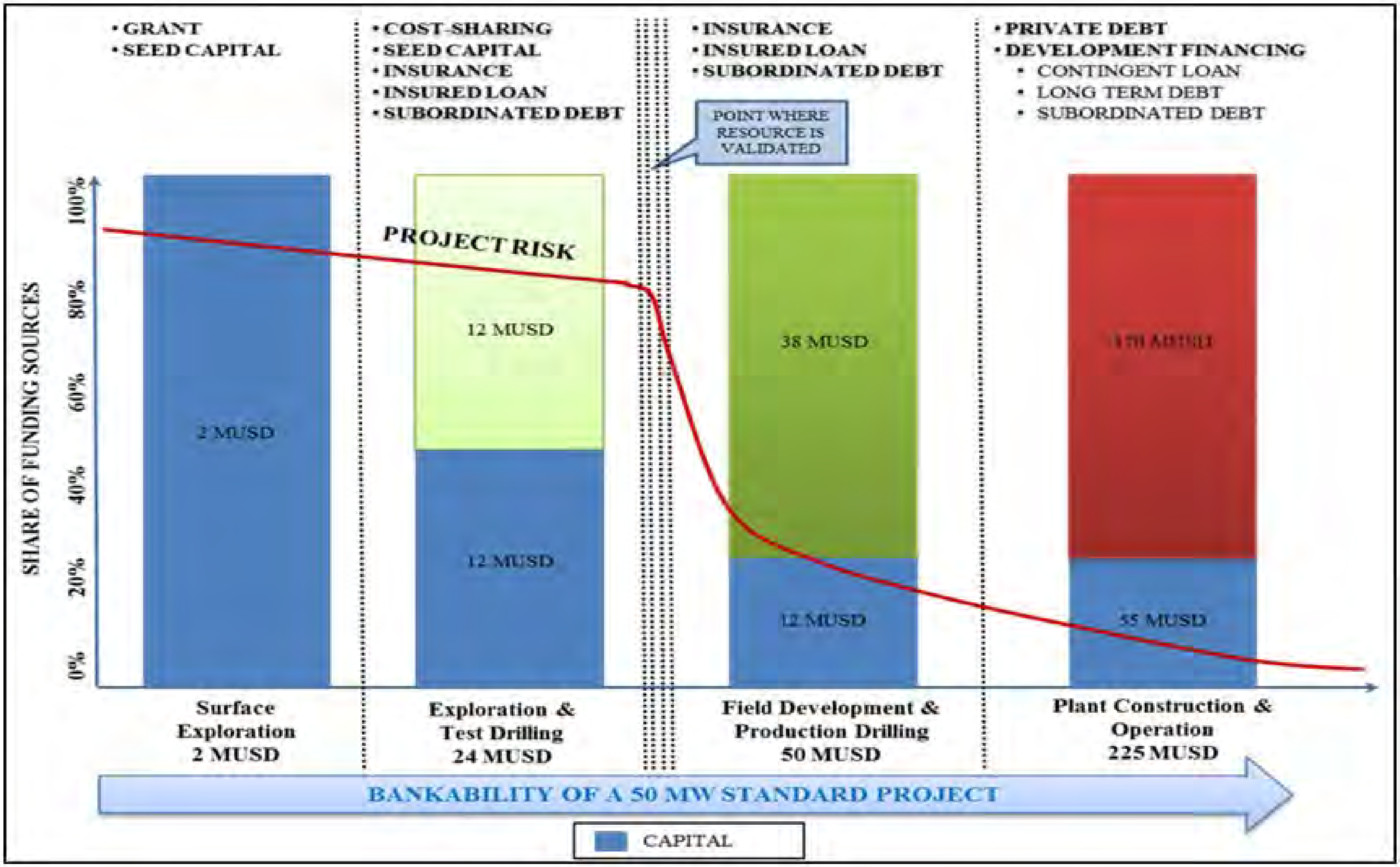
IDB's experience and plans in geothermal development



The information problem: risk-cost-reward relation

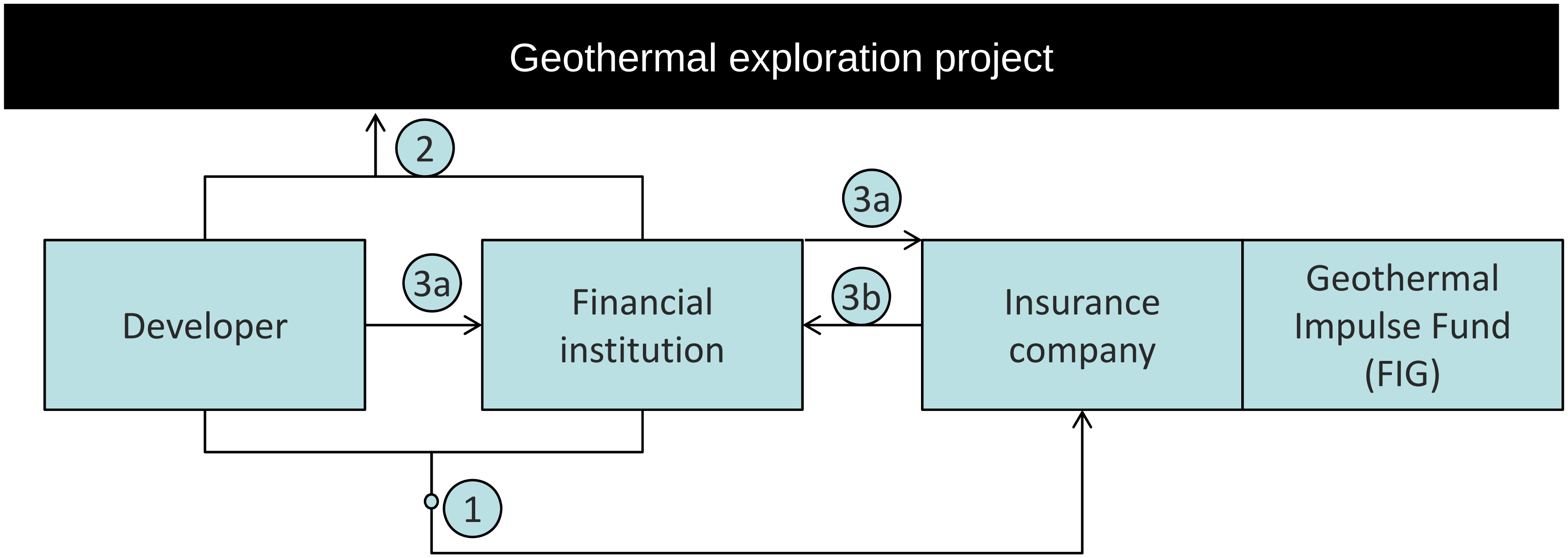


Financing structure under a phased approach (based on average costs for the development of a 50MW project)



Insured financing is structured to reduce risk for financial institutions during the exploration stage

Preferred option in Mexico



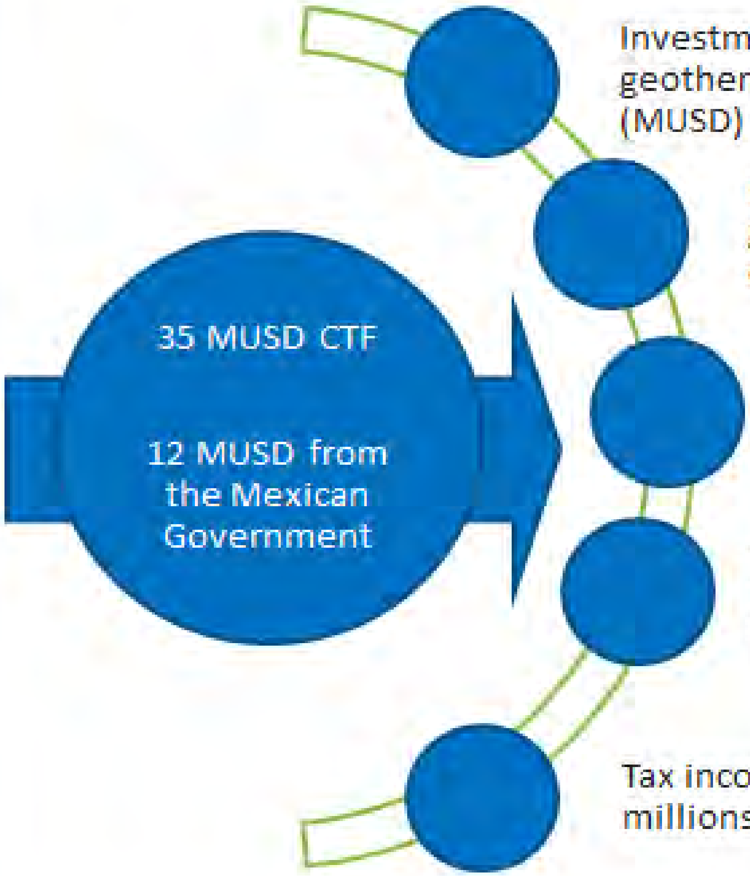
1 – Developer, leveraged by a financial institution, pays an insurance premium that covers financing during the exploration stage

2 – Developer, leveraged by a financial institution, invests in geothermal exploration

3a – In case of a successful exploration, developer re-finances, pays principal and interests and a success fee to FIG

3b – In case of failure, the insurance company and FIG cover the loan

Expected impact for the Fund – Funding partners.



	Simulation results	
	Base case	Conservative scenario
Investment in geothermal projects (MUSD)	1,138	607
Efficient energy generation (MW capacity)	300	160
Employment creation (thousands)*	5.5	2.9
Greenhouse effects reduction (MtCO2 in 2020) *	1.3	0.7
Tax income (annual millions of pesos)*	1,200	640

* Estimated with data from *"Iniciativa para el desarrollo de las energías renovables en México"*, from SENER (Ministry of Energy)

Thank you.

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