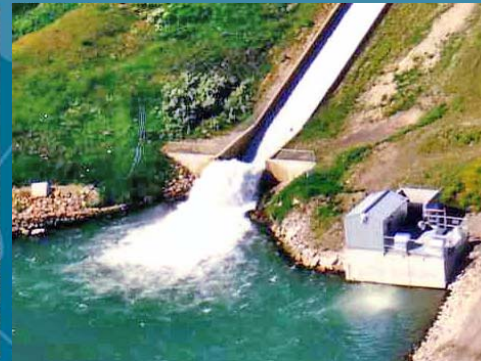




**International
Finance Corporation**
World Bank Group



Financing Renewable Energy in Developing Countries: *A Global Perspective*

Dana R. Younger

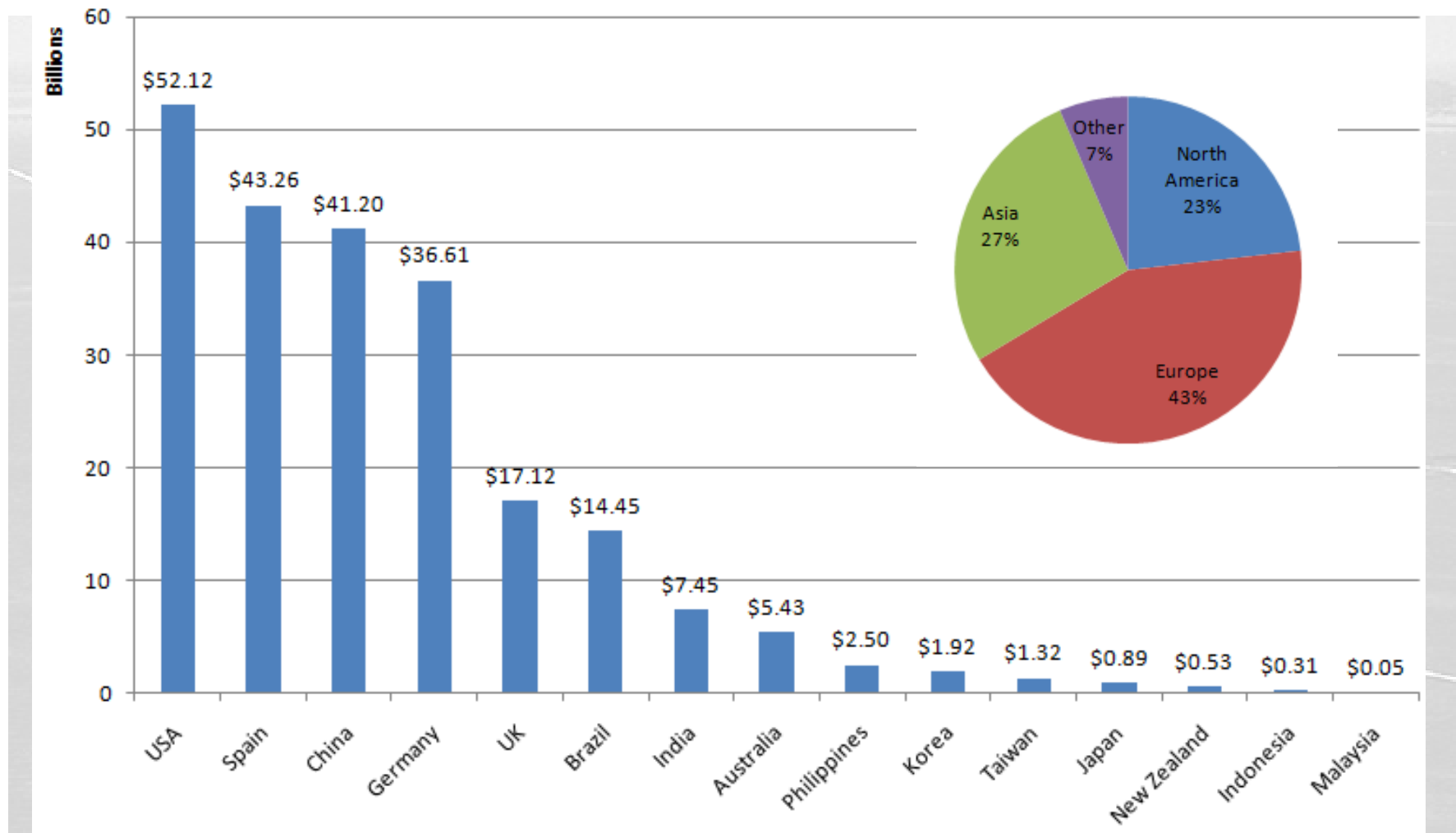
International Finance Corporation

Japan Renewable Energy Foundation

Experts Meeting on Renewable Energy

Tokyo September 13, 2011

Clean Energy Investment (private financing) in selected countries



Source: Deutsche Bank, NEF

Pros and Cons of regulatory support systems used for RE in different regions of the world

	Feed In Tariff ("FiT")	Portfolio Standards	Auctions	Tax Incentives
Description	Fixed price per kWh for all projects of a technology type	Required % of all power to be sourced from RE, often twinned with RE credit system	Competitive tendering of capacity for specified technologies	Accelerated depreciation and other tax and investment incentives
Strength	<ul style="list-style-type: none"> • TLC [Transparency, Longevity, Certainty] • "Pull" incentive 	<ul style="list-style-type: none"> • Drives competition btwn RE techs • Can achieve exact vol. target • Cost efficient 	<ul style="list-style-type: none"> • Combination of mkt efficiency and guaranteed price • Greatest regulator control 	<ul style="list-style-type: none"> • Rapidly pays down capital cost
Weakness	<ul style="list-style-type: none"> • Burden on govt. or consumer • Long-term liability • Getting it right is hard 	<ul style="list-style-type: none"> • Low TLC • Price volatility • Disadvantage some RE techs <ul style="list-style-type: none"> • Complexity • Bureaucracy 	<ul style="list-style-type: none"> • High transaction costs • Favors large players • Risk of non-delivery after aggressive bidding 	<ul style="list-style-type: none"> • Burden on govt. finances • Stop start with availability of profits to right off <ul style="list-style-type: none"> • Less operating incentive • May disadvantage some RE techs
Application	<ul style="list-style-type: none"> • Europe • China 	<ul style="list-style-type: none"> • UK • USA • Chile 	<ul style="list-style-type: none"> • Brazil • Uruguay • Argentina 	<ul style="list-style-type: none"> • USA • Central America

Why RE: Fueling Growth and Combating Climate Change

- *Developing countries have a clear need to power **economic growth** and to improve the quality of life of their citizens (e.g. access to lighting and communications)*
- *Need to **diversify generating sources** and where possible, deploy indigenous power rather than using foreign exchange to import fuel*
- ***Climate change** and environmental concerns given **diminishing resources** or reserves of coal, gas and even water*
- *Solar, wind and other forms of **renewable energy** pose great opportunities for private investors in emerging markets – if capital can be raised and risks overcome.*

*In 2010, IFC invested \$1.6 billion in renewables, which is a **60 percent increase** from the previous year. By 2013, IFC aims to increase its climate change business to at least **20%** of its total annual commitments*

IFC was established in 1956 to promote private sector development and is a member of the World Bank Group

IFC

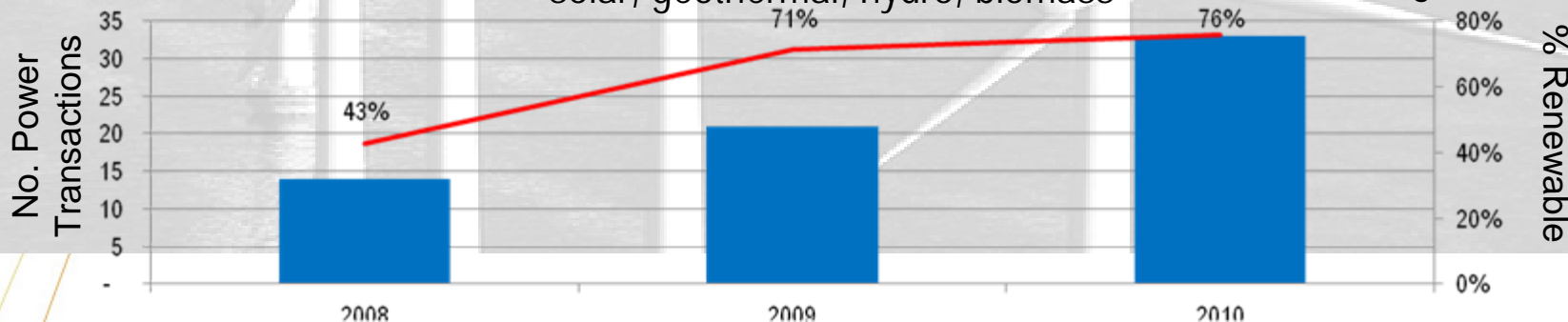
- **Provides** equity, quasi-equity, debt, risk management and advice in 179 member countries
- **FY10:** Committed US\$12.7bn, Mobilized US\$5.3bn, 528 projects in 104 Countries

Power Sector

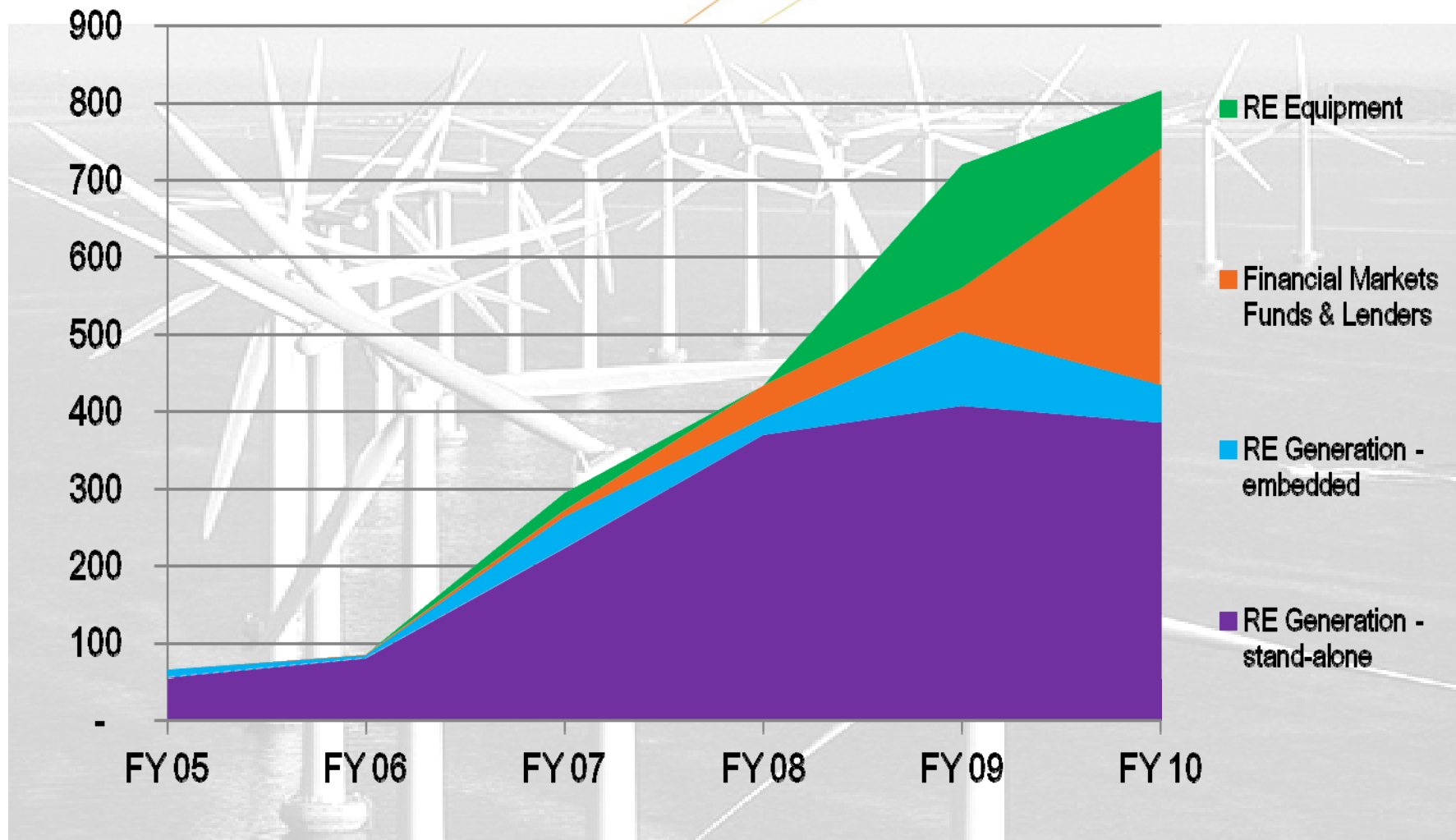
- **Committed** US\$6.8bn in 205 transactions in 53 countries
- **Invest in** generation, transmission and distribution
- **Many firsts:** largest wind farms in LAC and SE Europe, largest solar farm in SE Asia, first merchant wind farm etc
- **Huge growth in all RE:** wind, solar, geothermal, hydro, biomass

RE Power

- **Committed** >4GW in hydros; >2 GW of wind; >1 GW of biomass; >500MW of geothermal; >100MW of solar PV
- **Strong pipeline** in many countries esp. India, China, Philippines, Brazil, Mexico
- **Technical expertise** and sector knowledge/network



IFC has grown and diversified its RE commercial finance portfolio



Recent RE Capacity Investments

Wind Mexico



acciona

Eurus

\$75,000,000
Sub Debt and Debt
Lead Lender of
US\$375m financing
May 2010

Wind Bulgaria

AES Geo Energy

AES Kavarna

\$52,000,000
Loan Project Financing
Lender
December 2008

Hydro China



Zhongda Hydro

US\$23,200,000
Loan Project Financing
Lender
October 2009

Small Hydro Colombia
CENTURY ENERGY LTD.

Century Caruqia

\$13,500,000
Subordinated Debt
and Debt
Lender
May 2008

Solar Senegal



**Office National
d'Electricite**

\$750,000
Equity

June 2009

Solar Thailand



Solar Power Company

US\$1,700,000
Equity

May 2010

Wind Chile

SN POWER

Norvind

\$30,750,000
Loan Project Financing
Lead Lender of
US\$60.75m financing
February 2009

Biomass India



Auro Mira

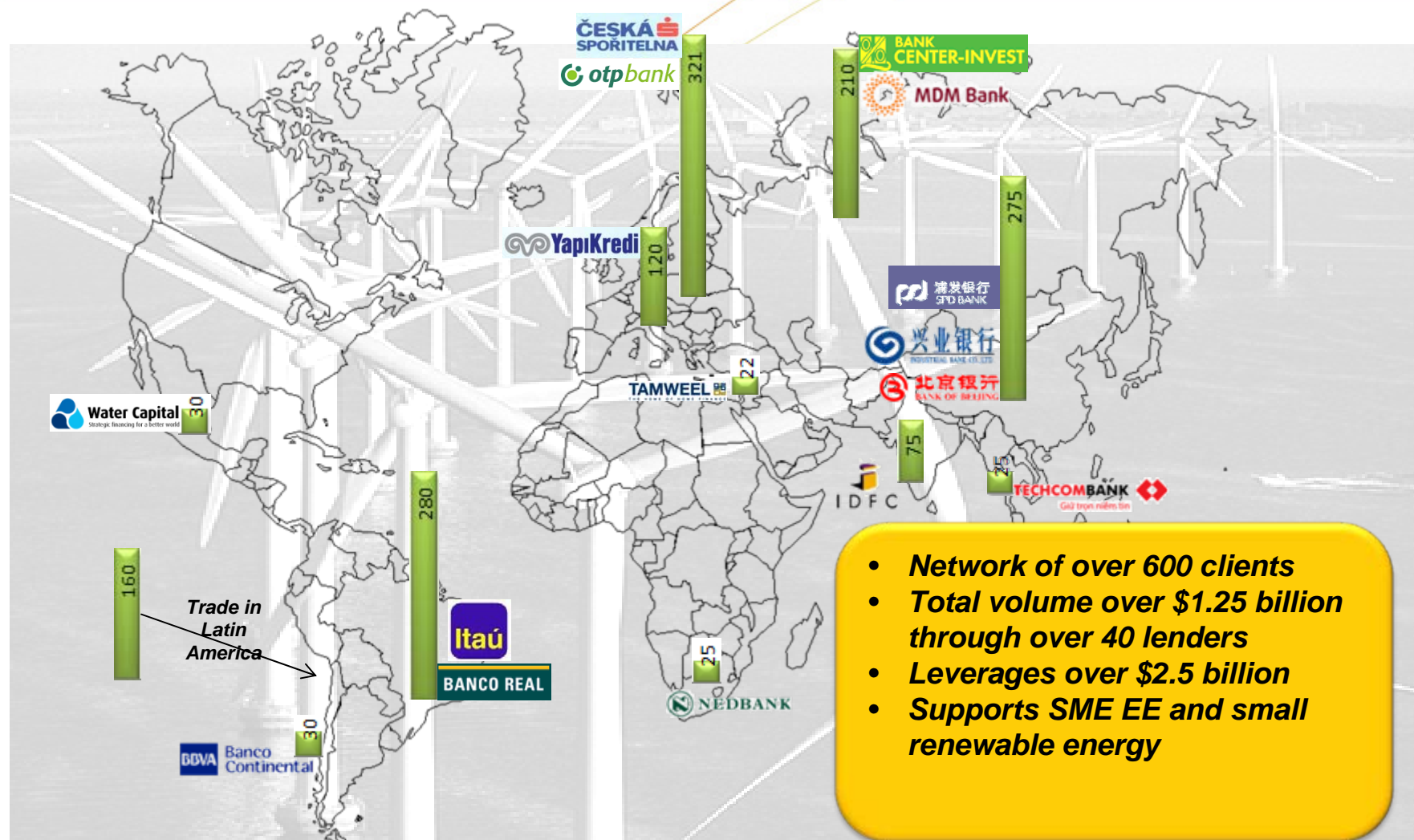
\$3,100,000
Loan Project Financing
Lender
December 2009



IFC

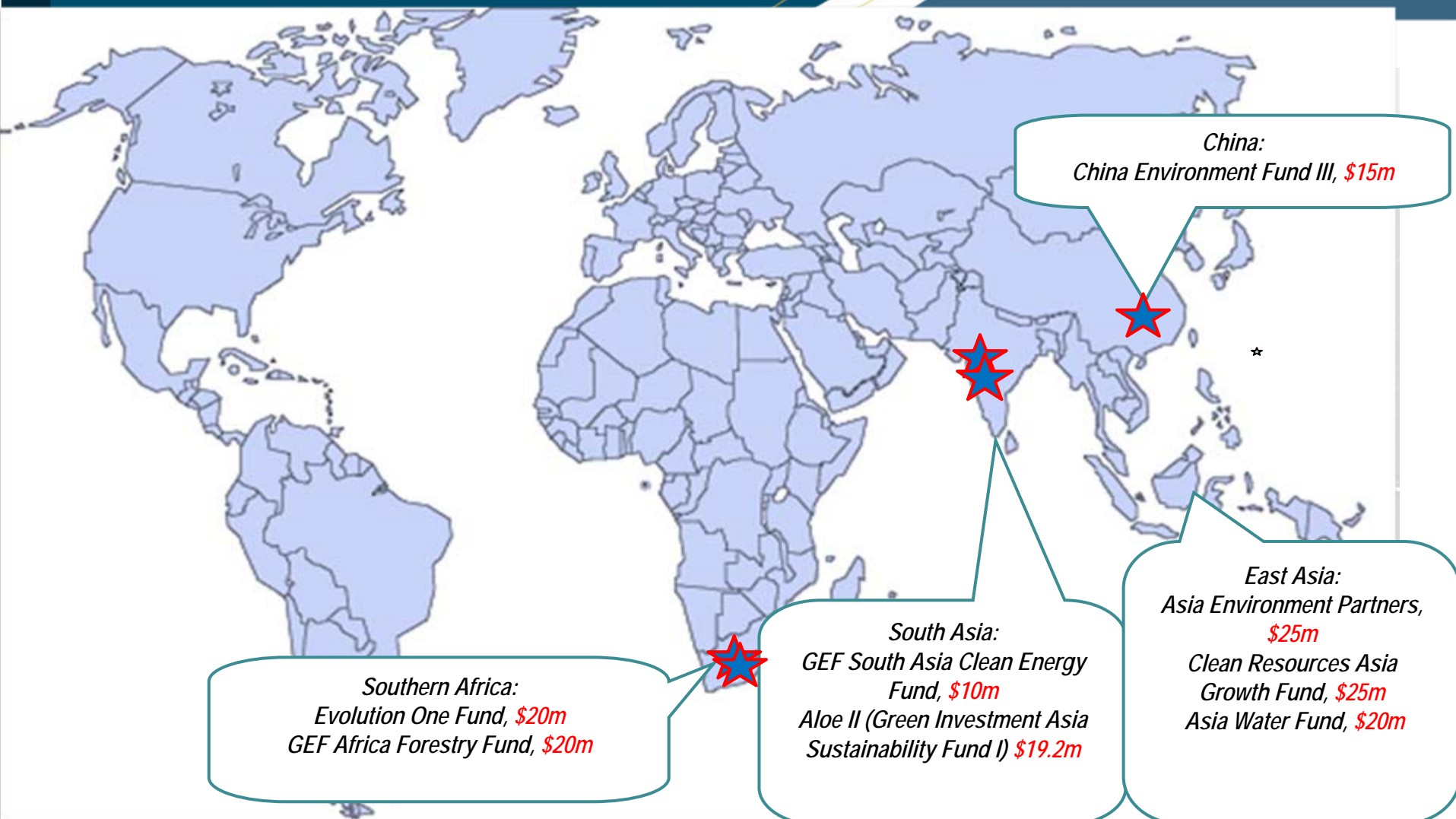
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Climate Change and Sustainability Investments through Lenders



- **Network of over 600 clients**
- **Total volume over \$1.25 billion through over 40 lenders**
- **Leverages over \$2.5 billion**
- **Supports SME EE and small renewable energy**

IFC has invested >\$200 million in 10 Climate Change PE Funds



Significant experience in carbon markets*



AgCert International Plc
Mexico/Brazil
€7.7 million equity
2005
Animal waste management



ING Bank
Ukraine
550,000 ERUs
2007
Coal mine methane



RAIN CII CARBON LLC
Rain CII Carbon
(India) Ltd.
India
850,000 CERs
2007
Waste heat recovery
Carbon Delivery Guarantee



Enercon
India
€6,600,000
2006
Wind farms



Estre Ambiental S.A.
Brazil
\$20 million senior loan
\$4.5 million sub debt
2009
Solid waste management



IHDC
India Hydropower
Development Company
IHDC
India
€4,800,000
2006
Run-of-river hydros



Phascon
China
€16,000,000
2008
Landfill gas to power



Deqingyuan
China
€3,500,000
2008
Biogas to power



Brascan Energetica
Brazil
€8,500,000
2005
Run-of-river hydros



Ecopower
Sri Lanka
€3,600,000
2005
Run-of-river hydros



Omnia Fertilizer
South Africa
900,000 CERs
2008
N₂O destruction
Carbon Delivery Guarantee

**IFC recently launched the €150M
Post-2012 Carbon Facility to extend
carbon markets and increase
access for projects that reduce
emissions.**

* Selected credit purchase, delivery guarantee,
and carbon-linked financing transactions shown.

For more information:
www.ifc.org



Thank You!

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