

**UNFCCC Asia and Pacific Regional Workshop on
Preparing Technology Transfer Projects for Financing**

**Essentials of Clean Energy Financing and
ADB's Assistance Modalities**

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ASIAN DEVELOPMENT BANK

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Outline of Presentation

- Brief ADB introduction
- Low-carbon financing basics
- ADB's financing modalities
- Case studies
- Lessons learnt from public-private partnerships
- ADB special programs in climate financing

[Additional]

- ADB programs on technology transfer

Asian Development Bank



The Asian Development Bank (ADB):

- Multilateral development finance institution established in 1966
- Poverty reduction is overarching mandate
- Provides financial and technical assistance
- 67 members – 48 from Asia and Pacific region
- Annual approved financial assistance:
 - \$6-14 billion during 2004-2009
 - Above \$13 billion annually from 2011 onwards

ADB's Long-term Strategic Framework and Climate Change

ADB's "Strategy 2020" (2008-2020)

- Inclusive Economic Growth
- Regional Integration
- Environmentally sustainable growth
 - Environment including climate change: one of the five core areas of operations
 - Aims to scale up support for projects that address climate change

Renewable Energy Examples

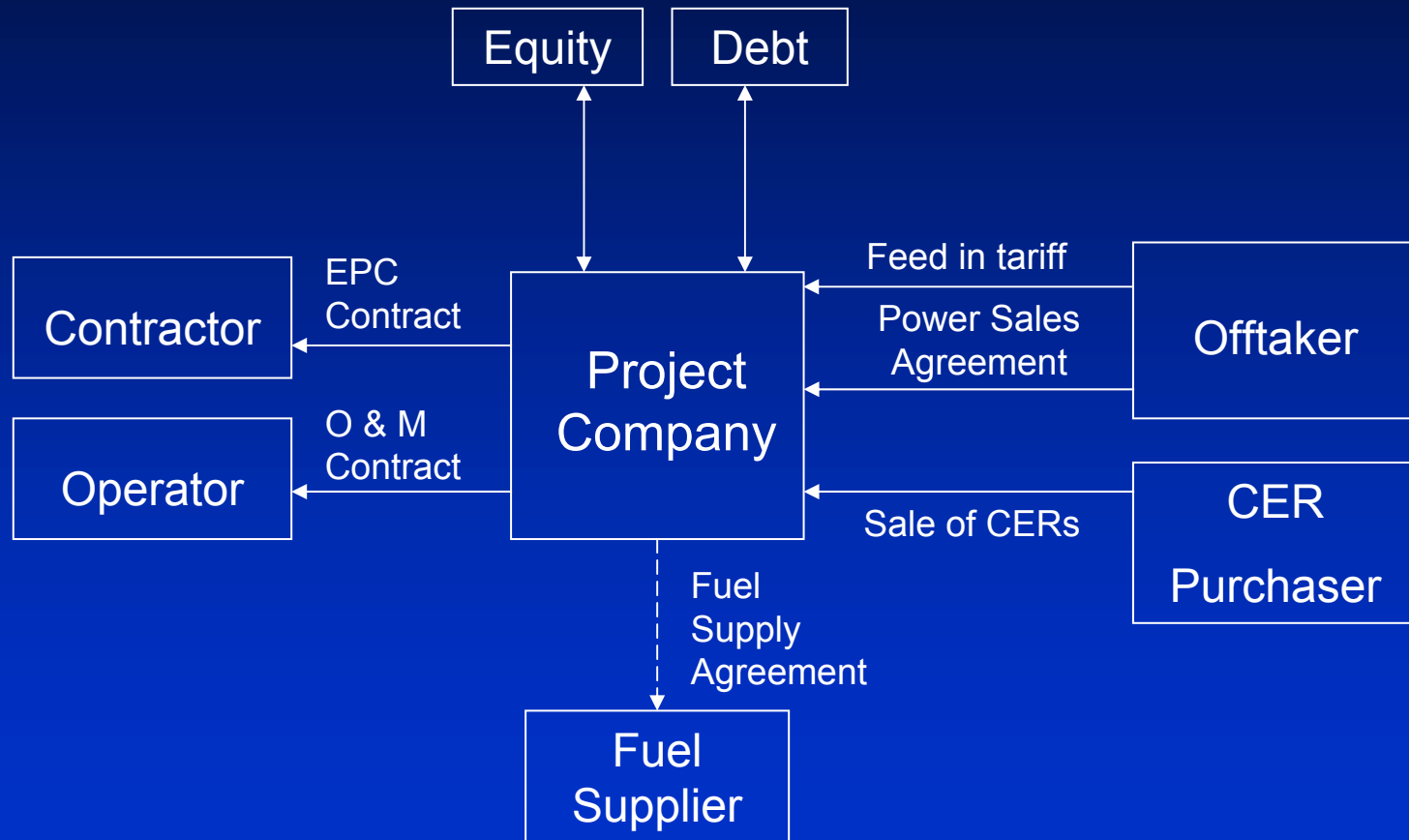
- Multi-tranche Financing Facility - National Power Grid Development Investment Program (India)
- Inner Mongolia Wind Power Project (PRC)
- Gujarat Paguthan Wind Energy Financing Facility (India)
- Public-Private Infrastructure Development Facility (solar projects) (Bangladesh)
- Uttarakhand Power Sector Investment Program (India)
- Renewable Energy for Remote Island and Mountain Communes (Viet Nam)

Energy Efficiency Project Examples

- Guangdong Energy Efficiency and Environment Improvement Program (PRC)
- Nagpur Water Supply Project, with energy efficiency improvement (India)
- Preparing Lahore Rapid Mass Transit System (Pakistan)
- Power Transmission Enhancement Project (Azerbaijan)
- Demand Side Management (DSM) for Municipal Street Lighting (Sri Lanka)
- Asian Clean Energy Private Equity Funds (Regional)

Low-carbon finance basics

TYPICAL RENEWABLE ENERGY PROJECT CASH FLOWS



Conventional Energy Project Typical Risk Allocation

- Most construction risk taken by Contractor via EPC Contract
- O & M risk shared with operator
- Technology mostly proven
- Fuel price risk passed through to Offtaker
- Some finance risks such as FX and interest passed through to Offtaker

Renewable Energy Project New Risk Characteristics

- Unproven technology needs support from Contractor
- No fuel cost (solar, hydro) but lower/intermittent availability; or
- Unfamiliar fuel supply risks/costs (risk husk, other biomass, etc.), all local currency
- Higher capex / MW than conventional fuels

Renewable Energy Project Issues

- High upfront capital costs and low capacity factor during operation
- Relatively low return and uncertainties over tariff level
- Credit risks of off-taker
- Intermittent resource (not base load) - availability and quality of data is limited
- Technical and economic criteria of equipment
- Project size tends to be small – high transaction costs
- Newly implemented and untested government supports (tariff, tax incentives)
- Long term fixed interest rate finance is rare
- Carbon finance is under-utilized

Due Diligence focused on Renewable Energy Projects

Business Due Diligence

A. Market Analyses

- ✓ Power Market: Demand, Supply Competition, Regulations
- ✓ Regulatory and Policy Framework for Wind Power Development
- ✓ Recent Development in Wind Power Market
- ✓ Forecasting Tariff Change Trends and Their Implications for the Project
- ✓ Operation Analysis on Selected Existing Wind Farms
- ✓ Analysis of the Power Grid Operator – Off-taker
- ✓ Project Economic Analysis

Business Due Diligence

B. Engineering Verification

- ✓ Resource Re-assessment (wind, solar, hydro, others)
- ✓ Equipment Procurement and Performance Evaluation
- ✓ Wind Farm Design Optimization
- ✓ Power Grid Integration
- ✓ Dispatch Arrangements
- ✓ Construction Scheduling and Supervision Arrangements
- ✓ Completion Testing and Validation Arrangements
- ✓ Maintenance Scheduling Reliability Enhancement

Business Due Diligence

C. Corporate Governance

- ✓ Corporate Development Strategy
- ✓ Operational/Organizational Structure and Capacity
- ✓ Operations of the Board and Shareholders Meetings
- ✓ Capability of the Management Team
- ✓ Technical and Operational Human Resource
- ✓ Incentive Structure
- ✓ Shareholders Support
- ✓ Relationships with Stakeholders (local government agencies, service contractors, off-taker...)
- ✓ Corporate Citizen Responsibility and Support to Hosting Communities

Business Due Diligence

D. Environmental and Social Safeguards

- ✓ Environmental Impact Analysis Review
- ✓ Land Acquisition and Resettlement Issues
- ✓ Analysis on Social Issues and Poverty Alleviation
- ✓ Other Compliance, Anti-Corruption, and Safeguard Issues
- ✓ Analysis on CER Potentials and Arrangements

Financial Due Diligence

A. Sponsor Creditworthiness Assessment

- ✓ Reviewing Sponsors' 3 Years Audited Financial Statements
- ✓ Track-records/Financial Performance of Sponsors' Existing Wind Farms
- ✓ Ability to Inject Adequate Equity
- ✓ Quality of Guarantees on Project Completion/Debt Service Gap Coverage (if applicable)

Financial Due Diligence

B. Project Financial Analysis

- ✓ Reviewing Project Construction Costs and Financing Plan
- ✓ Reviewing Projections on Project Operational Costs
- ✓ Reviewing Accounting and Auditing Policies of the Project Company
- ✓ Developing/Reviewing Project Financial Model
- ✓ Conducting Cash Flows and Financial Statement Analysis
- ✓ Break-even Analysis and Sensitivity Analysis
- ✓ Debt Service Coverage Analysis
- ✓ Mechanisms and Accounts for Debt Services and Financial Settlements

Financial Due Diligence

C. Insurance Consultation

- ✓ Reviewing Current Insurance Markets
- ✓ Identifying/quantifying Insurable Risks
- ✓ Recommendation of Suitable Insurance Plan

Legal Due Diligence

- ✓ Advice on Applicable Laws, Regulations, and Policies
- ✓ Integrity checks of Sponsors
- ✓ Reviewing the Legal Status of the Project Company (Shareholders Agreement, By-laws, registration...)
- ✓ Reviewing Project Licenses/Permits/Contracts

Project Success Factors

- Sound regulatory environment
- Strong government support
- Clarity in project formulation, preparation and documentation
- Real priority projects of the country
- Transparency in sponsor selection and contract negotiation
- Committed sponsors
- A fair deal for all parties

ADB's Financing Modalities

How ADB can Assist Financing

- Public sector loan with sovereign guarantee (through central government)
- Public sector loan without sovereign guarantee
- Private sector loan to Project Company
 - Longer tenor
 - Local currency possible
- Equity
- Partial Risk Guarantee & Partial Credit Guarantee
- Carbon finance
- Advisory service
- Grant funding

Project Eligibility Criteria

- Economic viability
- Financial viability: necessary but not sufficient
- Project must have development impacts and/or demonstration effects
- Project must fit the country strategy and sector strategy
- ADB must play a catalytic role and add value

Public Sector Ongoing projects (sample)

Country	Project Type
Indonesia	Geothermal power
India	Wind power
Lao, PDR	Small hydropower
Bangladesh	Waste composting
China, PR	Geothermal space heating
Pakistan	Hydropower
Philippines	Energy-saver bulb distribution
China, PR	Landfill gas
Mongolia	Boiler efficiency improvement
Uzbekistan	Small hydropower
China, PR	Urban transport system

Example: Run-of-River Hydro

- 98 MW run-of-river type hydro project (Xiaogushan Hydro) in Gansu Province, PRC
 - Displaces 109 MW coal-fired power generation
 - ADB Loan: \$35 million (approved in 2003)
 - Total Project Cost: \$87 million
-

- Total volume of ERs expected (10 year): 3.7 million tCO₂
- Also avoids annual emissions of 240 tons of particulate matter and 1,910 tons of SO₂
- Contracted ER volume (with World Bank): 2 million tCO₂
- Total Contract value: US\$8.50 million
- Contract price: US\$4.25/tCO₂ VER basis

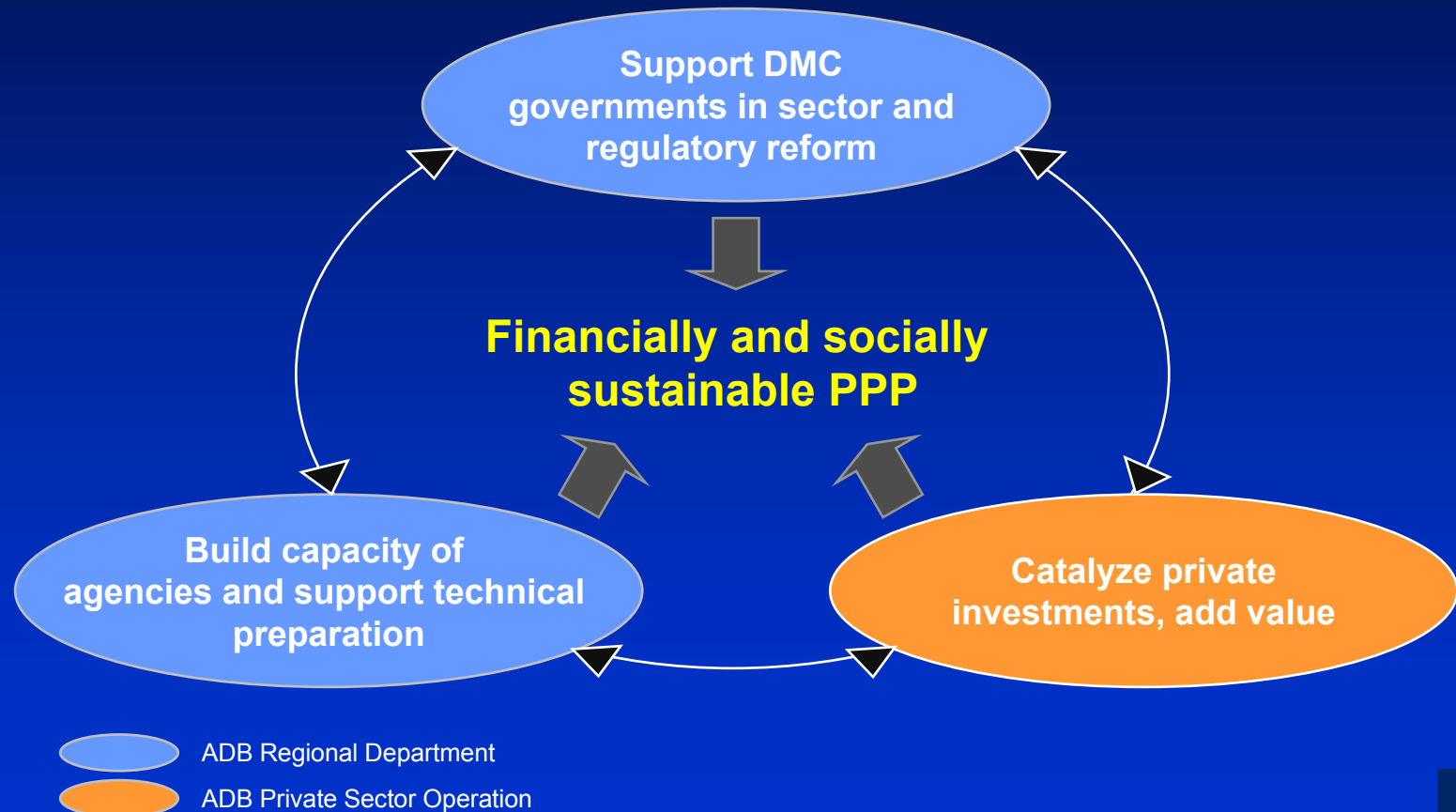
Example: Coalmine Methane

- Capture of CMM from coal mining operation in Shanxi province, PRC
 - Using CMM as a fuel in a 120 MW generation plant (combined cycle)
 - Reduces methane release & displaces coal-fired power generation (baseline)
 - ADB Loan Approved in 2004: \$125 million
 - Total project cost: \$205 million
-

- Total volume of ERs expected (10 yrs): 29 million tCO₂e
- Contract ER volume (with World Bank): 3 million tCO₂e
- Contract value: US\$12.75 million
- Contract price: US\$4.25/tCO₂e VER basis
- If all ERs sold at \$4.25/tCO₂e = US\$120 million

ADB's "One Roof" Strategy

Private Sector and Regional Departments: Complementary Roles for PPPs



Private Sector Case studies

Thailand Solar Power Project

Project Features

- 73 MWp (gross) thin film voltaic solar plant in Lopburi province, Thailand
- Sponsors CLP, Mitsubishi and EGCO
- Power Purchase Agreement with EGAT under Small Power Producers programme automatically renewable every five years
- EPC contract with Sharp and Ital Thai
- Long term performance guarantees from Sharp on photovoltaic module
- Loan documents signed June 2010
- Scheduled Commercial Operations Date 2012

Financing Features and ADB Assistance

- Project cost Bt 9 billion = \$271 m
- Funded by grant from Clean Energy Fund, sponsor equity, pre sale of some CERs to Future Carbon Fund & debt
- ADB debt Bt 1.7 billion = \$51 m with 18 year tenor at market rates
- Thai commercial bank debt Bt 3.4 billion = \$102 m with 12.5 year tenor
- Total debt Bt 5.1 billion = \$153 m (56% gearing)
- ADB and banks provided the financing on a limited recourse basis

Inner Mongolia Wind Power Project

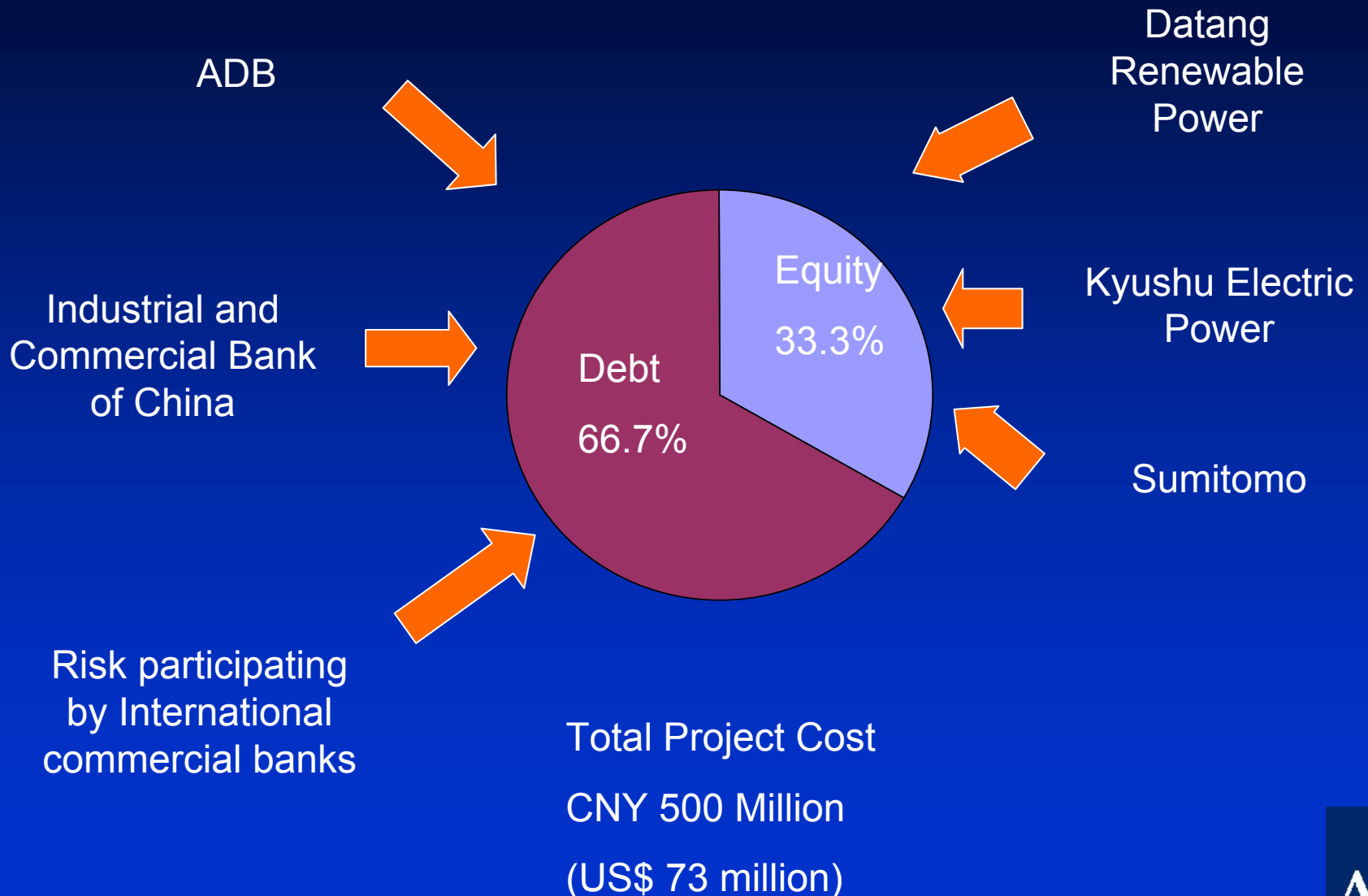
Project Location



Project Features

- 49.5 MW wind farm in Inner Mongolia (Chifeng)
- Sponsors Datang, Kyushu, Sumitomo
- Off-take by Northeast China Gird Co.
- Tariff set by the local Price Bureau according to Renewable Energy Law and Regulations
- Emission reduction of 140,000 t of Carbon dioxide per annum

Financing Structure



Features of ADB Assistance

- CNY denominated loan (\$24 million equivalent)
- Unfunded risk participation by foreign banks (\$ 5 million equivalent)
- Loan tenor of 15 years
- Debt/Equity 66.7 : 33.3

Gujarat Paguthan Wind Energy

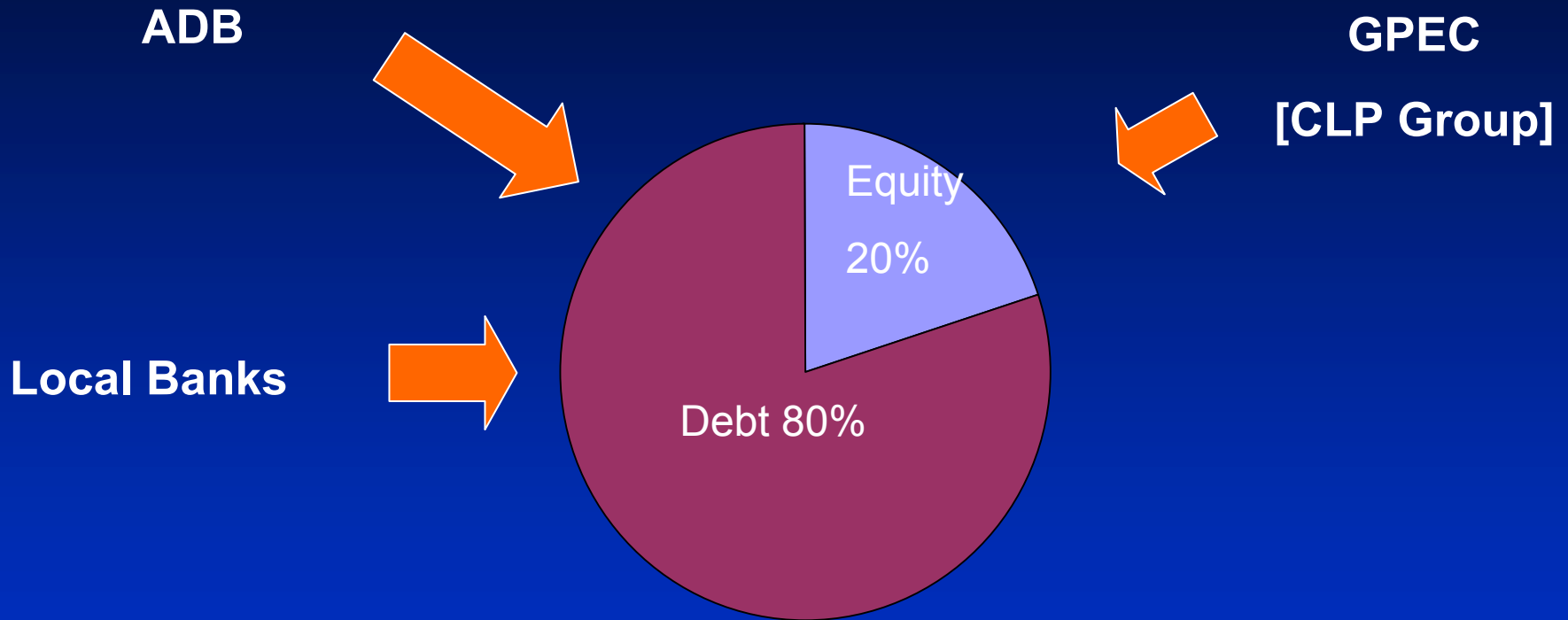
Project Location



Project Features

- 183 MW wind farm in Gujarat (126 turbines, 800 kw) and Karnataka (103 turbines, 800 kw)
- Gujarat Paguthan Energy Corp (GPEC) also owns 655 mw gas-fired combined cycle power plant
- GPEC is 100% owned by CLP Group. Largest wind project undertaken by CLP at the time
- Enercon constructs the project and provides O&M services
- Off-take by Gujarat Urja Vikas Nigam and Bangalore Electricity Supply Company with fixed tariff for 25 years and 10 years, respectively

Financing Structure



Total Project Cost
RS 9.9 billion
(\$249.5 million)

Features of ADB Assistance

- Indian Rupee denominated loan (\$117 million equivalent)
- Loan tenor 13 years
- Recourse to GPEC

Biomass Power Project in Thailand

Project Features

- 125 MW Biomass Power Plant
- The plant uses wood waste products (woodchips and wood bark) as a fuel
- Ultimate Sponsor: The Double A Alliance – leader in pulp and paper business and biomass power generation in Thailand
- Power off-take by EGAT (90 MW) and industrial users. Project benefits from renewable energy tariff under the SPP program
- Savings of about 4 million tons of CO₂ over first 10 years
- At least 500,000 tons/year of agricultural waste is sourced and income paid to small farmers

Features of ADB Assistance

- THB denominated loan and/or guarantee (\$78 million equivalent)
- Up to 50% of CER pre-financed by Asia Pacific Carbon Fund and Future Carbon Fund (under consideration)
- CDM Technical support for CDM application and preparation of documents

Lessons Learnt from Public-Private Partnerships

Future of PPPs in ADB: Strategy 2020

“ADB will promote public–private partnerships in all of its core operational areas, gaining experience first in MICs, and then expanding these efforts to all DMCs.”

“Partnerships with international development agencies, multilateral and bilateral institutions, will become central to planning, financing, and implementing ADB operations.

Key Benefits of PPPs

- Disciplined procurement approach for government
- Implementation of the project to time and budget
- Opportunity to leverage innovation and information from the Private Sector
- Clear /efficient allocation of risks throughout the life of the project
- Integrated approach to the maintenance of the asset over the whole lifecycle (government is purchasing the long term provision of public services rather than an asset)

The PPP viability scale



What went wrong?

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"Unfortunately, we won't know what's wrong with you until we do an autopsy."

Unfortunately the best lessons often come from the worst projects!

Why deals go wrong?



badly prepared



badly bid



bad risk allocation



bad market studies



bad sponsors



bad location



bad technology



bad operator



bad idea



bad politics



bad advisors



bad weather



bad timing



bad company



bad incentives

Lessons learnt (1)

- Require Strong political will
- Effective and balanced PPP models, backed up by long term and stable policies
 - Enabling environment key (sufficient resources)
- PPP Champion
 - Change of culture within government
 - Change of culture within private sector
 - Involvement/consultation with the private sector
- Gvt. → upfront project development work
 - Identifications of projects – establish priorities
 - Time and costs to complete need to be understood
 - Land acquisition (compensation and resettlement, environmentally sensitive)

Lessons learnt (2)

- Need to have a pipeline but success of first few PPPs is vital
 - Demonstration effect
- Transparent bidding
- Predictable legal and regulatory framework (standard Contracts) critical for PPP
- “Devil is always in the detail”: use experienced advisers, sponsors, lenders

Lessons learnt (3)

- Gvt. needs to understand "key issues" for both sponsors and lenders and show flexibility under changing circumstances
- Focus of government: mitigate risks that the market cannot assume at a reasonable cost
- Appropriate risk transfer
- Recognition recognition that PPPs are not:
 - A magic solution to all short term budget problems
 - A replacement for good public financial policies
- Instead, PPPs should be viewed as a tool available to serve the policies of government

Hope over experience

Outturn compared with Forecast

Capital cost	+50 to +100%
Implementation time	0 to +50%
Operating cost	0 to +200%
Ridership	- 33% to -67%

(Example of rail systems)



“So what if I underestimated costs and overestimated revenues? It all averages out in the end.”

Need to ensure interests are aligned

Economic interests must be aligned – is this in the long-term interest, not just of the developers / investors, but also the end users?



ADB's Special Programs in Climate Financing

Climate Change “Priorities for Action”

Modalities

Finance

Knowledge

Partnership

Scaling-up Clean Energy

Encouraging Sustainable Transport and Urban Development

Managing Land Use and Forests for Carbon Sequestration

Promoting Climate-resilient Development

Strengthening Policies, Governance and Capacity

Priorities

Mitigation Financing

ADB Internal

CE Financing Partnership Facility (CEFPPF)

\$95m (\$250m target)

Carbon Funds:

- Asia Pacific CF (2008-12)
\$152m
- Future CF (Post-2012)
\$115m

Climate Change Fund (CCF)

\$30m, incl. REDD \$5m

Other grant-financing, ADF,
Japan Special Fund, etc.

\$100m (2008)

External: MDBs/GEF

Climate Investment Funds (CIF)

- Clean Technology Fund (CTF)
 - Indonesia: \$180m
 - Philippines: \$125m
 - Viet Nam: \$170m
- Strategic Climate Fund (SCF)
 - Forest Investment Program (SCF-FIP)
\$50m per country, 1-2 countries for subregions
 - Scaling-up RE for Low-income Countries Program (SCF-SREP)

GEF – CC Focal Area

\$1 billion global GEF-4

Target \$2 billion GEF-5

Adaptation Financing

ADB Internal

Climate Change Fund (CCF)
\$10m for adaptation

**Other grant-financing, ADF,
Japan Special Fund, etc.**
Approx. \$5m (2008) T2

**Small Grants for Promoting
Climate Change Adaptation**
\$1.2m T3

External: MDBs/GEF

**Climate Investment Funds
(CIF)**

▪ **Strategic Climate Fund
(SCF)**

- **Pilot Program for Climate
Resilience (SCF-PPCR)**
\$614 m pledged,
loan/grant

External: FCCC/Other

**Special CC Fund (SCCF)
(Thru GEF)**
\$123m global GEF-4
Target \$500m GEF-5

**Least Developed Countries
Fund (LDCF) (Thru GEF)**
\$181m global GEF-4
Target \$500m GEF-5

**Adaptation Fund
(Thru GEF)**
Up to \$600m global by 2012

Clean Energy Program

- Formerly “Energy Efficiency Initiative,” launched in July 2005
- Expand ADB operations in energy efficiency to over **\$2 billion/year**
- Promote investments in addition to advocacy
- Focuses on both demand and supply side (such as renewable energy)
 - **Supply side:** New technologies for power generation, renewable energy (including hydropower and cogeneration based on agro products)
 - **Demand side:** loss reduction on the consumer side of meters, cleaner production technologies in energy intensive industries, high-efficiency commonly used equipment and appliances – industrial motors, lighting, insulation, cooling etc.

CEP Priorities

- Provide analyses regarding costs/impacts of EE in Asia-Pacific
- Technology identification, accelerated deployment of leading choices
- Establish suitable financing models that help blend private and public funds to implement projects – the Clean Energy Financing Partnership Facility
 - Increase in grants and concessional loans to support project preparation, risk mitigation, and technology transfer

Clean Energy **Financing Partnership Facility** (CEFPF)

- Objective: ADB aims to
 - develop clean energy projects for financing
 - commercialize and replicate new clean energy finance instruments
- Supports include:
 - prepare projects for investment
 - share costs in implementing clean energy investment programs
 - support cooperation for science and technology to facilitate transfer of technology, knowledge and experience
 - build the capacity in the context of implementing clean energy investments and programs.

What CEFPF Supports

- General Criteria:
 - be consistent with the country partnership strategy
 - be catalytic and be high demonstration value in the sector
 - have good potential for replication and scalability
- Sectors of Interest:
 - New facilities using energy efficient- or renewable energy technologies
 - Existing facilities with fuel switching or retrofitting for energy efficiency by at least 30%
 - New fuel facilities to produce, store and convey clean fuels

**Carbon Market Program:
Make the carbon market work for
development finance**

CDM Concept

Industrialized Country
(Annex B)

Developing Country
(non-Annex B)

② Carbon Credits

Entity A

✓GHG Emissions

Entity B

✓Project Activity

✓Emission Reduction

① Finance

Technology

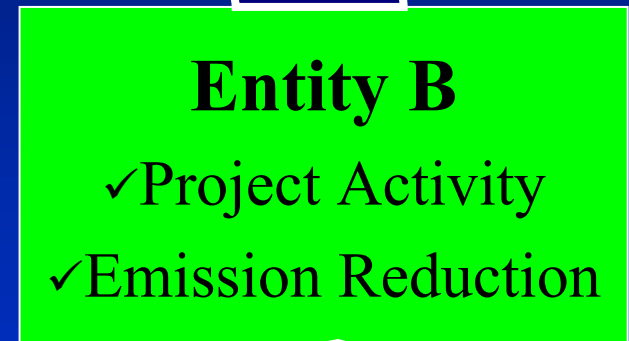
(Capacity Building)

CDM Reality

Industrialized Country
(Annex B)

Developing Country
(non-Annex B)

① Carbon Credits



② Payment

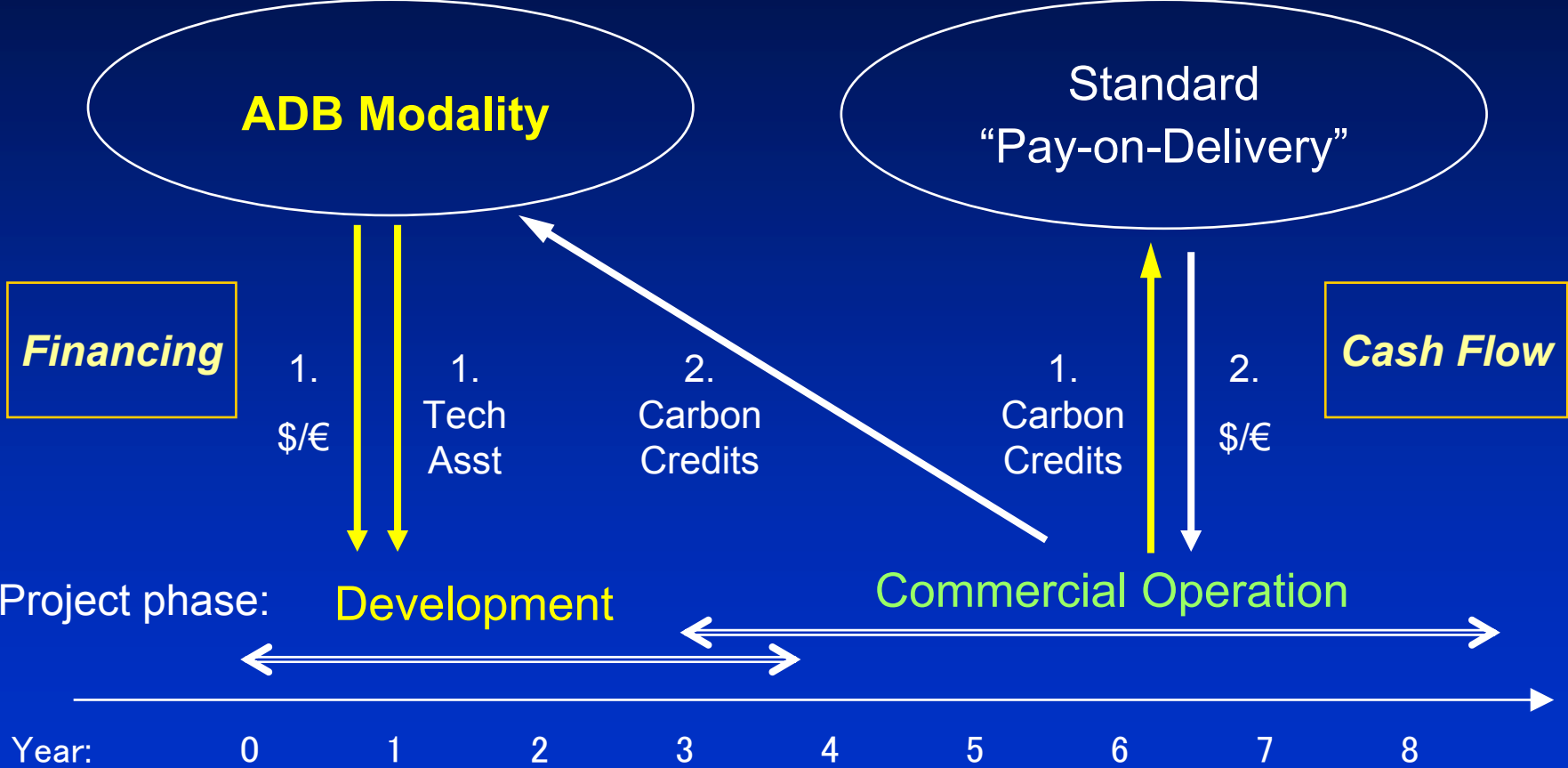
ADB's Value-added

- ❑ Make the market function better to provide additional financing to development programs – the CDM is a “tool” to advance sustainable development
- ❑ Contribute to provide a long-term price signal for low-carbon technologies and policies
- ❑ Develop and demonstrate a model that can be replicated by financial institutions

ADB's Future Carbon Fund

- ❑ Purchase **post-2012 carbon credits** from projects proposed today
- ❑ Pay upfront, to **help developing countries reduce the upfront capital constraint** of installing clean energy systems
- ❑ Provided to project developers/sponsors who receive **ADB financial support and CDM-specific technical assistance**
- ❑ Associated costs and risks are largely reduced due to “piggy back” design and strategy
 - ❑ General technical, financial and legal due diligence carried out by ADB main operations to process/approve financing

ADB's Attempt: Turning Cash Flow into Financing



Impact on project finance: Example 1

Run-of-River Hydropower plant

Emission reductions and carbon credit value

	Annual CERs 2010-20	Total CERs up to end-2012	Total CERs Post 2012
Emissions reduction (tCO ₂ e)	134,811	404,433	943,677
Potential revenue			
\$5/ton	\$ 674,055	\$ 2,022,165	\$ 4,718,385
\$10/ton	\$ 1,348,110	\$ 4,044,330	\$ 9,436,770
\$15/ton	\$ 2,022,165	\$ 6,066,495	\$ 14,155,155

Indicative project financing plan (with volume and pricing examples)

	\$5-10/ton	\$10-15/ton
Total Investment Cost	\$ 49,090,000	\$ 49,090,000
Financing Sources		
Government & Other	\$ 21,529,046	\$ 16,979,175
ADB	\$ 22,000,000	\$ 22,000,000
APCF (50% of CERs)	\$ 2,022,165	3,033,248
FCF (75% of CERs)	\$ 3,538,789	7,077,578
Ratio (APCF&FCF/Total)	11.3%	20.6%

Impact on project finance: Example 2

Wind Power project

Emission reductions and carbon credit value

	Annual CERs 2010-20	Total CERs up to end-2012	Total CERs Post 2012
Emissions reduction (tCO ₂ e)	63,794	191,382	446,558
Potential revenue			
\$5/ton	\$ 318,970	\$ 956,910	\$ 2,232,790
\$10/ton	\$ 637,940	\$ 1,913,820	\$ 4,465,580
\$15/ton	\$ 956,910	\$ 2,870,730	\$ 6,698,370

Indicative project financing plan (with volume and pricing examples)

	\$5-10/ton	\$10-15/ton
Total Investment Cost	\$ 55,422,222	\$ 55,422,222
Financing Sources		
Equity	\$ 13,995,164	\$ 11,842,117
ADB loan	\$ 38,795,556	\$ 38,795,556
<u>APCF (50% of CERs)</u>	\$ 956,910	1,435,365
<u>FCF (75% of CERs)</u>	\$ 1,674,593	3,349,185
Ratio (APCF&FCF/Total)	4.7%	8.6%

Impact on project finance: Example 3

Small Waste-to-Energy projects

Emission reductions and carbon credit value

	Annual CERs 2010-20	Total CERs up to end-2012	Total CERs Post 2012
Emissions reduction (tCO ₂ e)	43,840	131,520	306,880
Potential revenue			
\$5/ton	\$ 219,200	\$ 657,600	\$ 1,534,400
\$10/ton	\$ 438,400	\$ 1,315,200	\$ 3,068,800
\$15/ton	\$ 657,600	\$ 1,972,800	\$ 4,603,200

Indicative project financing plan (with volume and pricing examples)

	\$5-10/ton	\$10-15/ton
Total Investment Cost	\$ 30,851,000	\$ 30,851,000
Financing Sources		
Government & Other	\$ 13,647,951	\$ 12,168,351
ADB	\$ 15,394,649	\$ 15,394,649
APCF (50% of CERs)	\$ 657,600	986,400
FCF (75% of CERs)	\$ 1,150,800	2,301,600
Ratio (APCF&FCF/Total)	5.9%	10.7%

Impact on project finance: Example 4

Biomass (rice husk) Power project

Emission reductions and carbon credit value

	Annual CERs 2010-20	Total CERs up to end-2012	Total CERs Post 2012
Emissions reduction (tCO ₂ e)	420,000	1,260,000	2,940,000
Potential revenue			
\$5/ton	\$ 2,100,000	\$ 6,300,000	\$ 14,700,000
\$10/ton	\$ 4,200,000	\$ 12,600,000	\$ 29,400,000
\$15/ton	\$ 6,300,000	\$ 18,900,000	\$ 44,100,000

Indicative project financing plan (with volume and pricing examples)

	\$5-10/ton	\$10-15/ton
Total Investment Cost	\$ 172,000,000	\$ 172,000,000
Financing Sources		
Equity	\$ 39,675,000	\$ 25,500,000
ADB loan	\$ 115,000,000	\$ 115,000,000
APCF (50% of CERs)	\$ 6,300,000	9,450,000
FCF (75% of CERs)	\$ 11,025,000	22,050,000
Ratio (APCF&FCF/Total)	10.1%	18.3%

CMI Summary: Main Advantages for Project Developers/Sponsors

- **Certain funds today**, for commodity with uncertain value in the future
- **Reduced budget commitments** to close the financing plan of projects
- Comprehensive **technical and implementation support**
- Extra credits from successful project implementation can be **marketed with ADB support** for further financial upside

Thank you!

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ADB's Programs in Technology Transfer

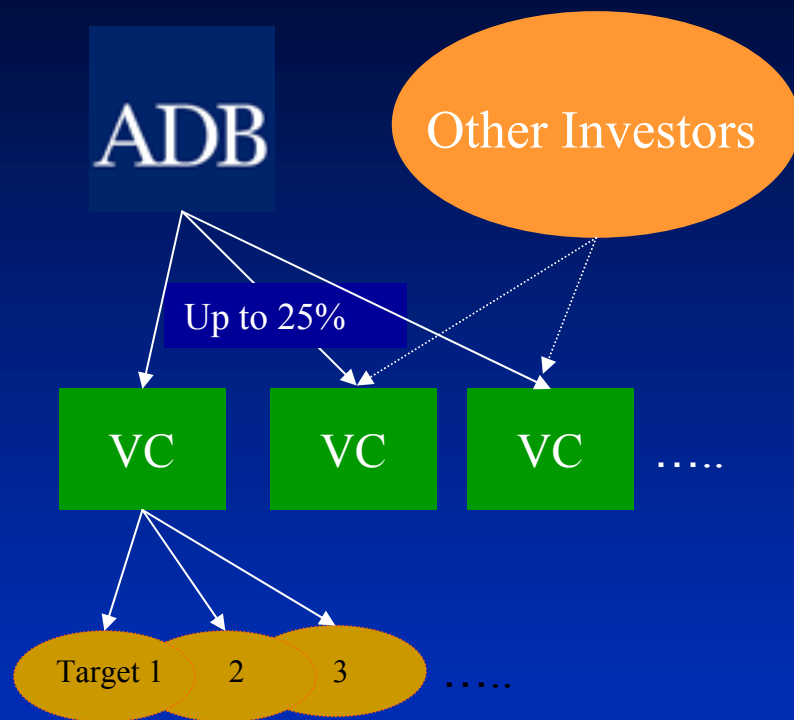
Technology – Innovation, Transfer, Diffusion

Innovation: Asia Climate Change and Clean Energy (AC³E) **Venture Capital Initiative** will provide (i) equity (USD 100 million), and (ii) advisory, to 5-7 venture capital funds that will invest in nascent companies with climate mitigation and adaptation technology products.

Transfer: Asia Clean **Technology Exchange** will establish a marketplace that will bring together commercial buyers and sellers of low carbon technologies and assist them with executing transactions. **Tech-transfer CDM** will use carbon credits to lower the cost of energy-efficient and/or renewable energy technology products and make them affordable in developing countries.

Diffusion: Climate **Public-Private Partnership Fund** will mobilize private equity investment at scale, in the order of \$ billions, in partnership with the world's largest pension funds and sovereign wealth funds for low-carbon and resource-efficient infrastructure in Asia.

VC Initiative: Equity Investment

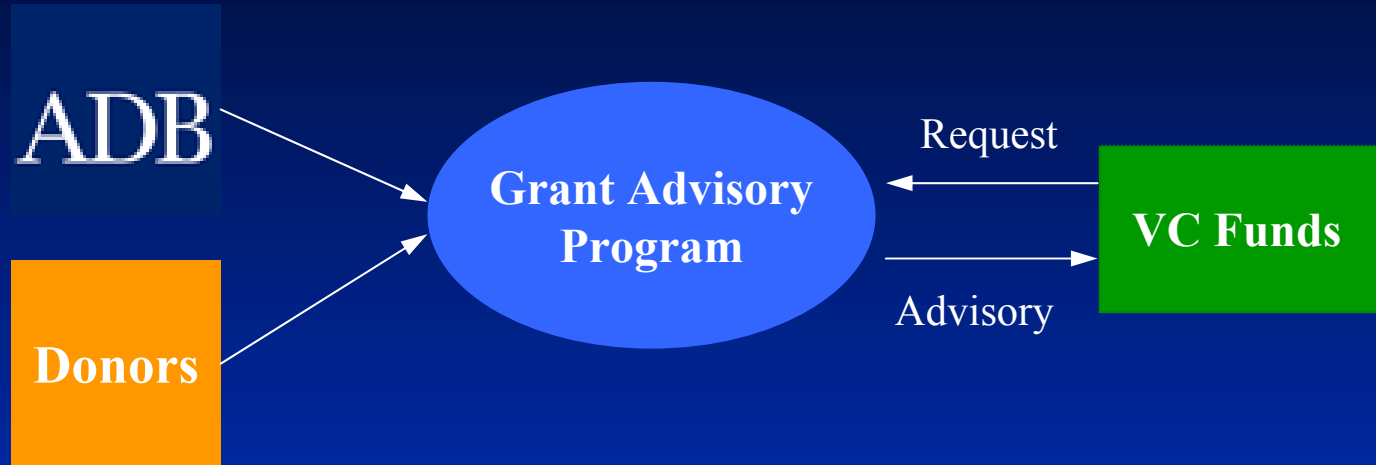


Possible schedule subject to management approval	
Call for Proposal Issuance	Mid 2010
Proposal Submission	Early Q3 2010
Short-listing/Due Diligence	Q3-Q4 2010
ADB's Investment Approval	Q1-Q2 2011

ADB's role (1):

- Dedicate circa \$100 million to multiple VC funds
- Leverage its network to invite commercial investors and government agencies to co-invest in VC funds

VC Initiative: Technical Support



ADB's role (2):

- Secure funds (own and donors) to provide a pool of technology experts and consultancy firms for VC funds
- This allows VC funds to expand their focus sectors, allocate more resources to early stage opportunities, reduce transaction costs, and give a better chance to boost return profile

Tech-Transfer CDM

