

ADB CMM-CBM Projects in PRC

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ADB CMM-CBM Projects in PRC

Completed

- L1715: Shanxi Environment Improvement

Ongoing

- L2112: Liaoning Environmental Improvement
- L2146: Coal Mine Methane Development

Potential

- Opportunities for new projects in Shanxi and Henan

L1715: Shanxi Environment Improvement

- \$102 million loan for 3 subprojects including construction of methane gas storage and distribution network in Yangquan (\$40 million project cost, \$23 million ADB loan)
- Recovery of about 94 million m³ of methane gas per yr from an existing coal mine for residential, commercial and industrial use
- Replacement of about 76,000 tons of coal per yr

L2112: Liaoning Environmental Improvement

- \$70 million loan for 7 subprojects in six cities including a CMM/CBM development and utilization project in Fuxin (\$32 million project cost, \$17 million ADB loan)
- Recovery of about 46 million m³ of methane gas per year for residential, commercial and industrial use
- Agreement for sale of carbon credits signed with 2 buyers (ICTJ Limited and a consortium led by Natsource)
- Replacement of about 37,000 tons of coal per yr

L2146: Coal Mine Methane Development

- \$117.4 million loan for 3 subprojects in Jincheng city, Shanxi province
- Part A – 120 MW CMM power plant; CMM drainage; CBM surface well development
- Part B – Gas Transmission and Distribution

L2146: Coal Mine Methane Development

Part A – 120 MW CMM power plant; CMM drainage; CBM surface well development

- Power plant will be the biggest in the world
- Recovery of about 182 million m³ of methane gas per year from an existing coal mine
- Agreement for sale of carbon credits signed with buyers. Potential benefits could offset major portion of project cost
- Replacement of about 291,000 tons of coal per yr

L2146: Coal Mine Methane Development

Part B – Gas Transmission and Distribution

- Transmission: 84 km pipeline (with capacity of 314 million m³ per yr); 4 gas gathering and four transmission stations; control system. CMM to be supplied by 4 existing coal mines
- Distribution: 2 gas storage tanks; 2 gas storage stations; 112 km low pressure pipelines; 517 km of in-house pipelines; control system; household meters
- Will supply gas to 90,000 households, commercial and industrial customers; replace 138,000 tons of coal
- Sale of potential carbon credits being explored. CDM benefits could be \$50-60 million

Possible New Projects in Shanxi and Hehan Provinces

- Candidate CMM/CBM project for Carbon Market Initiative (CMI)– approx 70% of the total project cost can be recovered through carbon revenues, half of it upfront
- Typically carbon revenues are- 15% for hydro, 12% for wind, 18% for biomass power - of the total project cost
- APFEE can provide low cost financing; CMI can provide up to 50% of the total carbon revenues upfront

ADB Assistance thru CMI

- CMI provides 25-50% of CER value upfront
- There is no other fund which provides this level of upfront payment. Existing funds purchase credits on “pay-on-delivery” terms, i.e. annual payments as CER’s are issued
- Only available to ADB financed projects
- ADB’s continuous project monitoring allows it to assume ‘risk’ of non-delivery

Carbon Market Initiative

An ADB Initiative to support Clean Development Mechanism

1. Asia Pacific Carbon Fund

- ❑ Innovative mechanism to give developers access to CER's during construction
- ❑ Gives developer access to CER's upfront for construction as opposed to annual payments during operation.

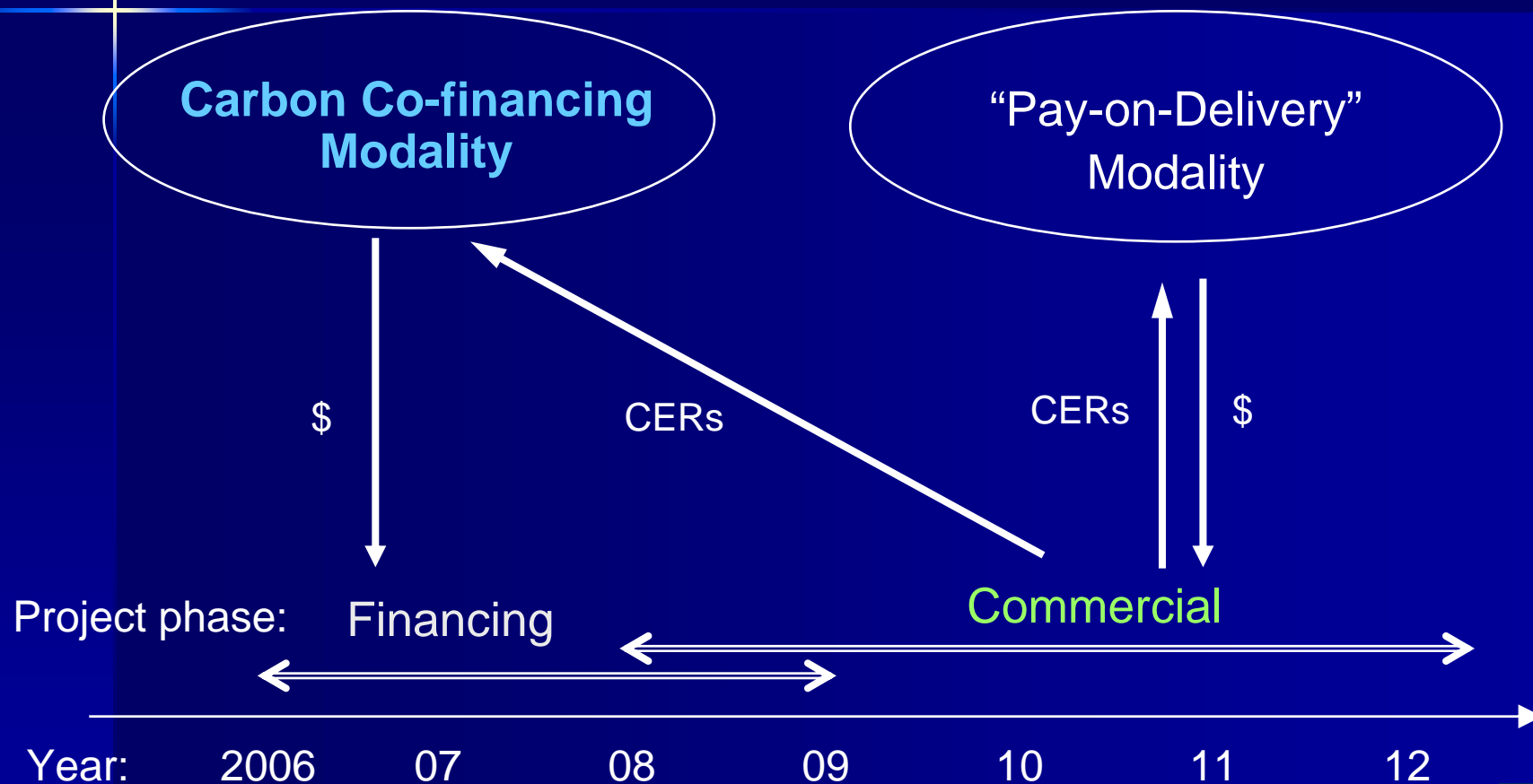
2. Carbon Credit Marketing Service

- ❑ Brokerage service for residual credits

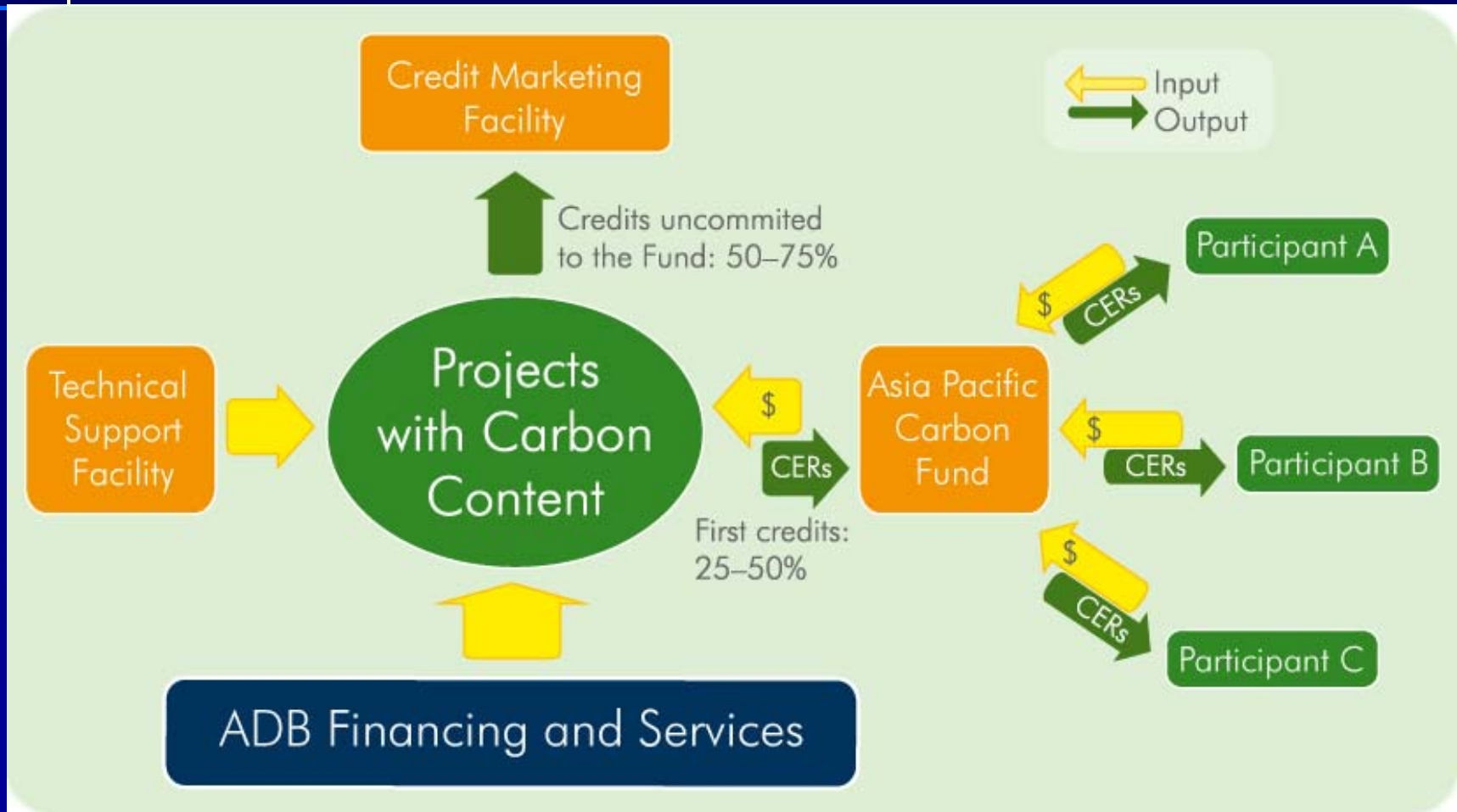
3. CDM Technical Support

- ❑ Grant facility - covers all upstream and downstream CDM development costs

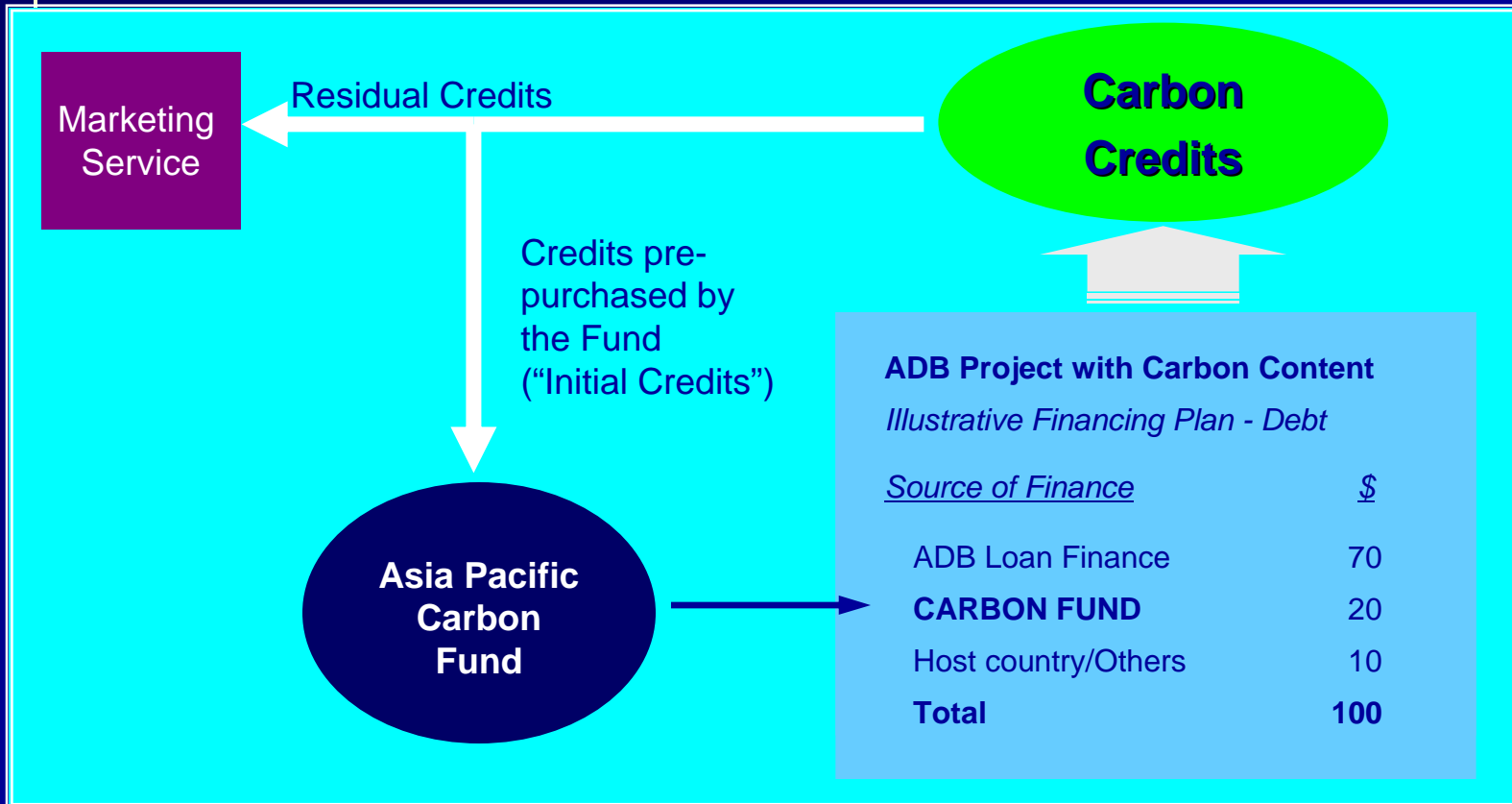
Bridging the Gap: Necessary Timing of Funds



Carbon Market Initiative: 3 Components



Sample Project Financing Plan



Carbon Market Initiative

Based on actual ADB projects in PRC, CMI can provide the following upfront down-payment for project financing.

Hydropower	8-11% project cost
Biomass	7-10% project cost
CMM/CBM	47-66% project cost

Note: 2008 project, \$10-14 tCO₂e

- ✓ CMI approved by the ADB Board
- ✓ Participation agreement signed.
- ✓ 1st project in 2007 in PRC

Thank you

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