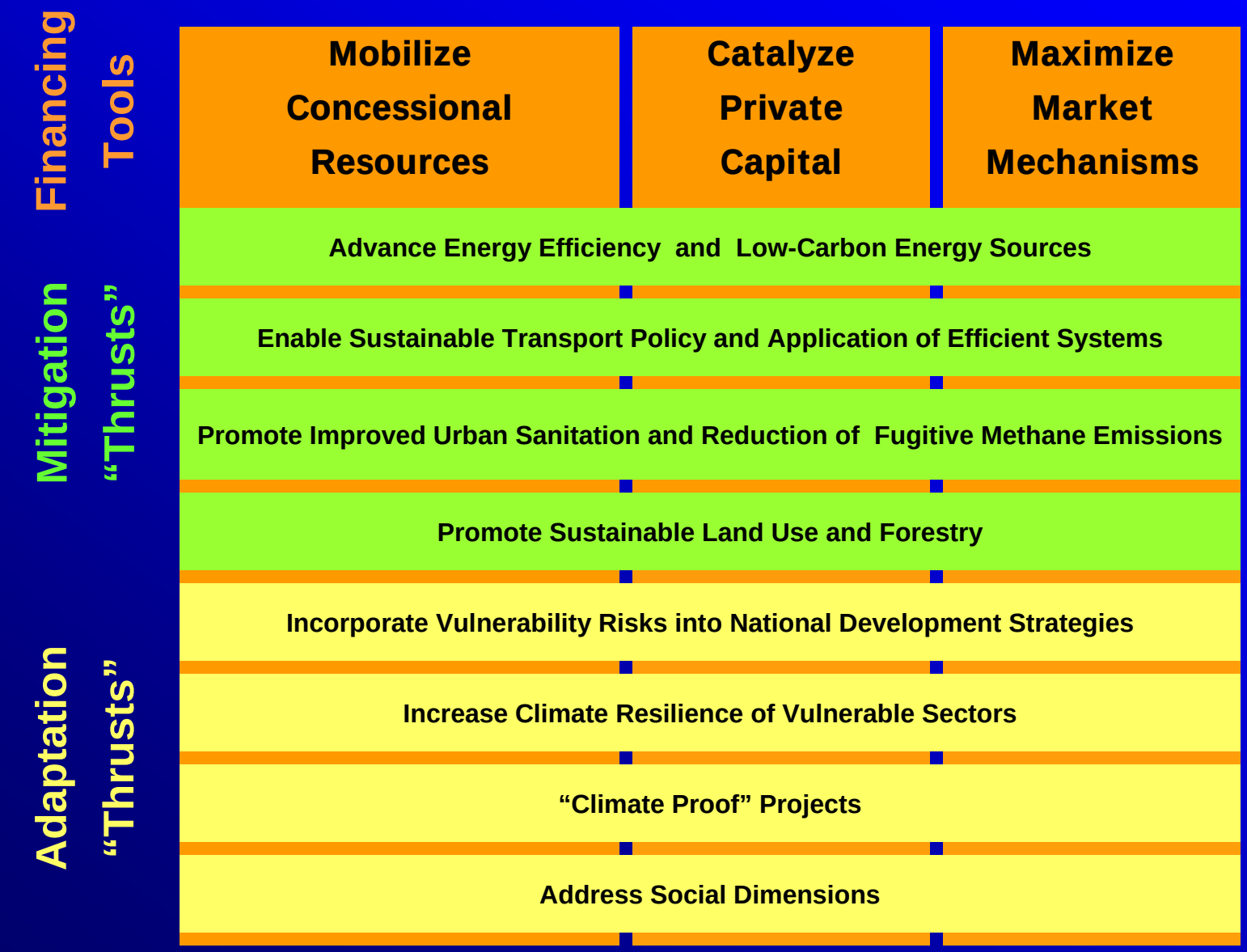
ADB's Climate Change Program



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Mitigation-Related Funds

INTERNAL at ADB

Clean Energy Financing Partnership Facility
($95 m)

Carbon Market Initiative Funds
- **Asia-Pacific Carbon Fund** ($151 m)
- **Future Carbon Fund** (target $100 m)

Climate Change Fund
($40 m)

EXTERNALLY Managed

Global Environment Facility (GEF) Climate Change Focal Area
($250 m/ year)

Clean Technology Fund of the Climate Investment Funds
(WB as Trustee)
(target $5 b)

Strategic Climate Fund of the Climate Investment Funds
(WB Trustee)
Target:
- Pilot Program for Climate Resilience $500 m
- Forest Investment Prog. $500 m
- Greening Energy Access $500 m

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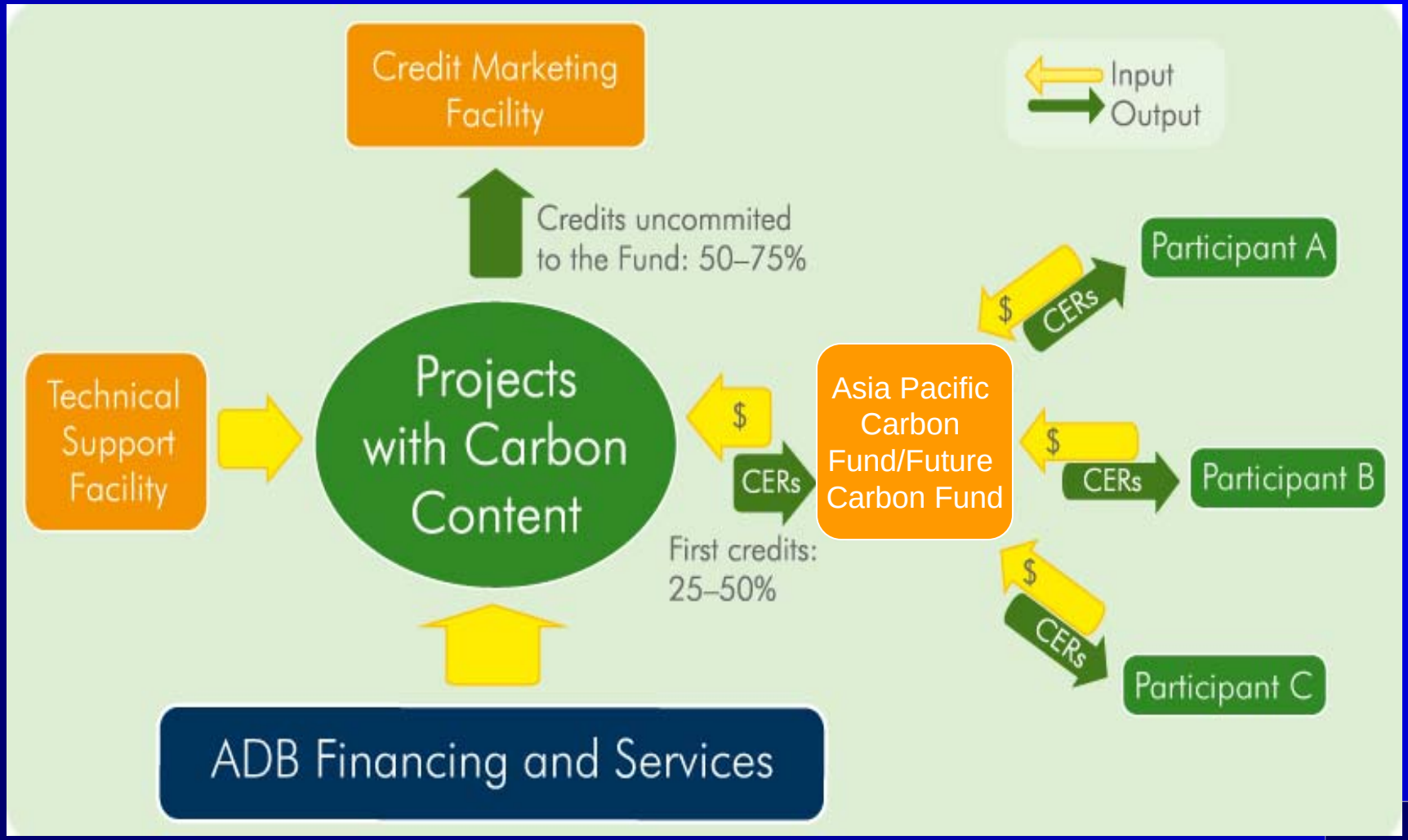
Maximizing Market Mechanisms (Carbon Market Initiative)



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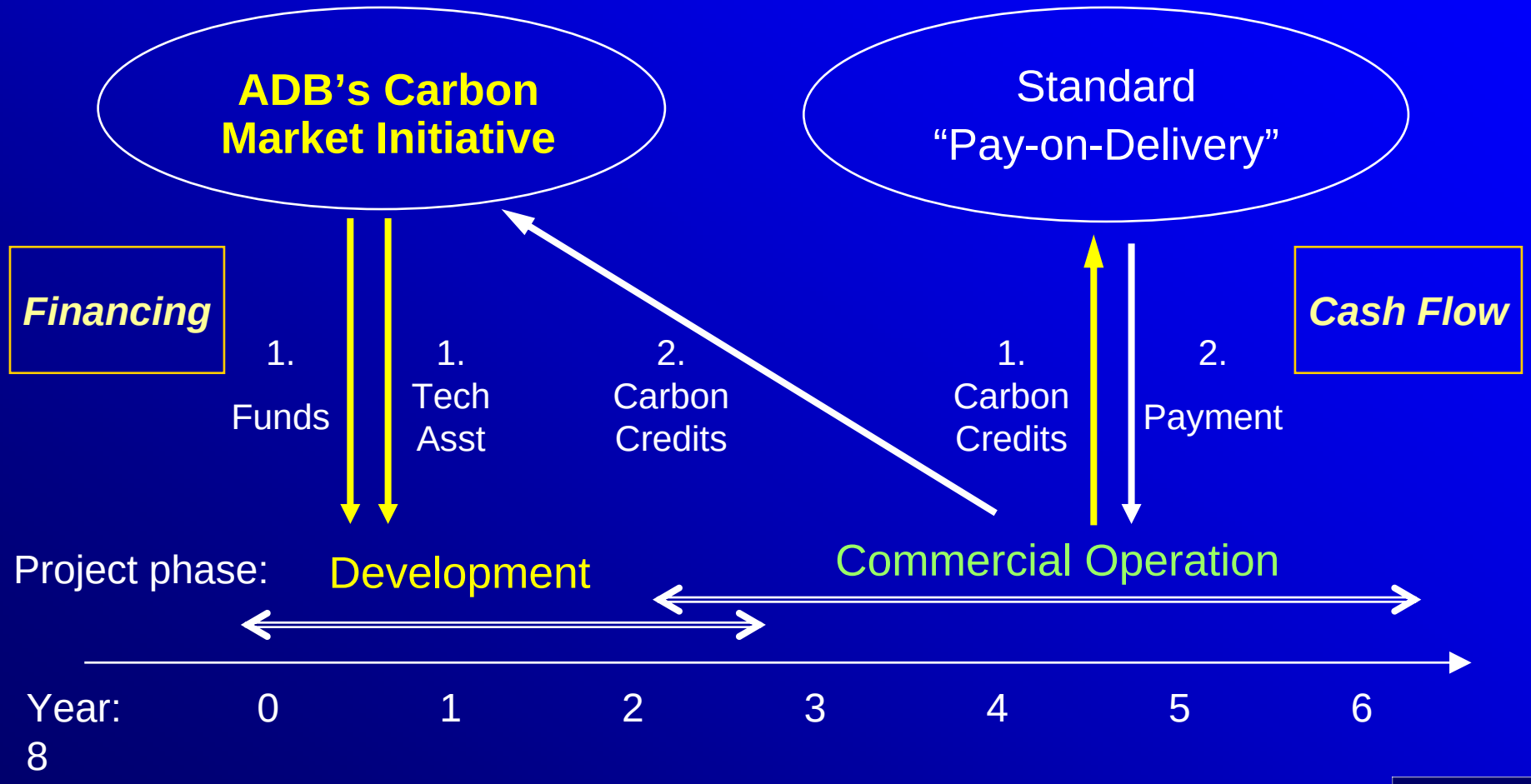
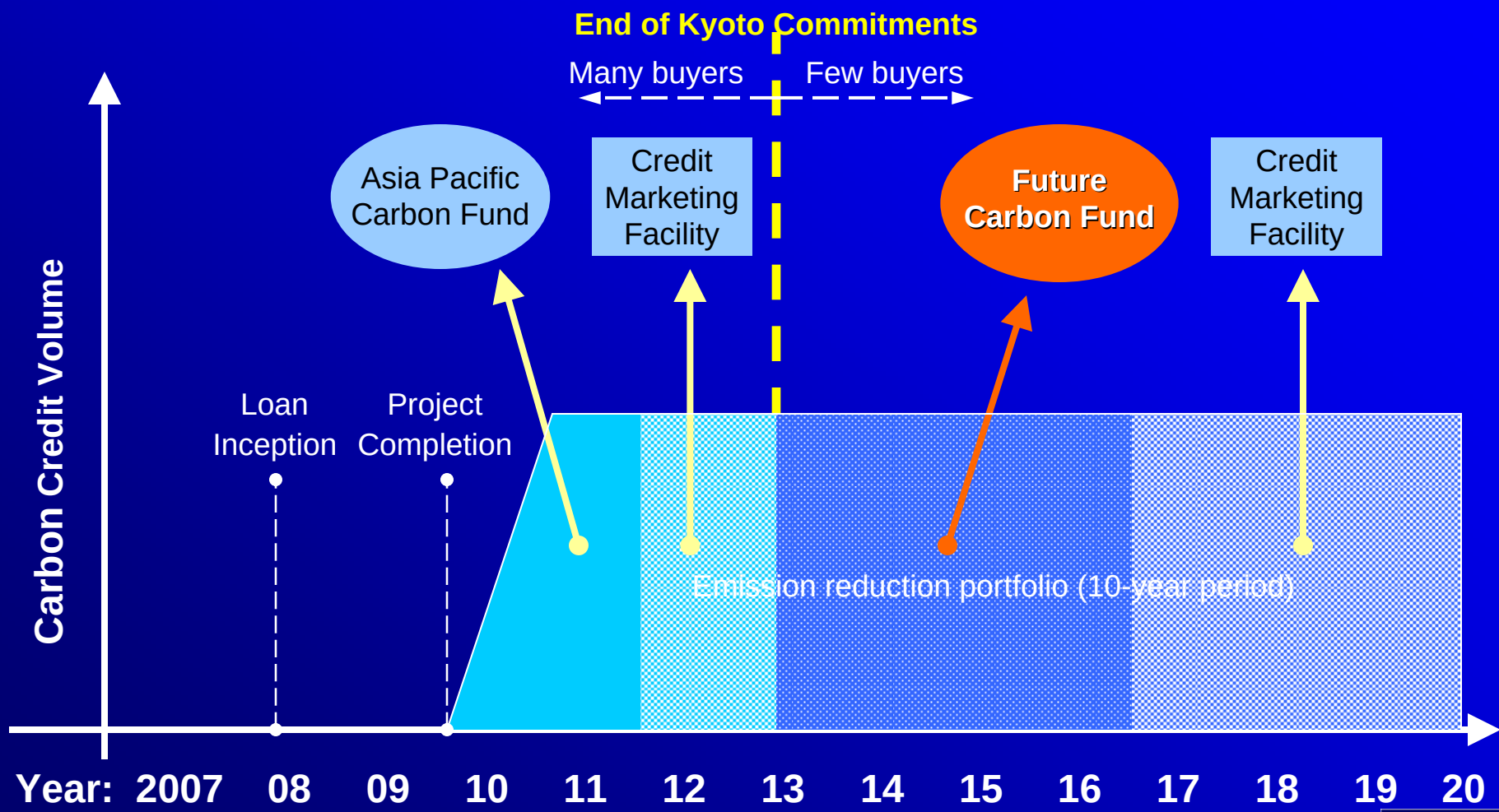
Carbon Market Initiative
Turning Cash Flow into Financing



Sample Project Credit Flow



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Impact on project finance: Example 1

Run-of-River Hydropower plant

Emissions and carbon financing

	Annual CERs 2008	Annual CERs Avg 2009-20	**Total CERs up to end-2012**	**Total CERs Post 2012**
Emissions reduction (tCO2e)	67,406	134,811	606,650	1,078,488
Potential revenue				
$5/ton	337,028	674,055	3,033,248	5,392,440
$10/ton	674,055	1,348,110	6,066,495	10,784,880
$15/ton	1,011,083	2,022,165	9,099,743	16,177,320
$20/ton	1,348,110	2,696,220	12,132,990	21,569,760

Indicative project financing plan (with price assumptions)

Total Investment Cost	49,090,000
Financing Sources	
ADB	22,000,000
APCF (50% of CERs at $10/ton)	3,033,248
FCF (70% of CERs at $5/ton)	3,774,708
Other sources	20,282,045
Ratio (Total/FCF)	**13.00**

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Impact on project finance: Example 2

Geothermal Energy Development and Utilization Project

Emissions and carbon financing

	Annual CERs 2009	Annual CERs 2010-20	**Total CERs up to end-2012**	**Total CERs Post 2012**
Emissions reduction (tCO2e)	58,711	117,422	410,977	939,376
Potential revenue				
$5/ton	293,555	587,110	2,054,885	4,696,880
$10/ton	587,110	1,174,220	4,109,770	9,393,760
$15/ton	880,665	1,761,330	6,164,655	14,090,640
$20/ton	1,174,220	2,348,440	8,219,540	18,787,520

Indicative project financing plan (with price assumptions)

Total Investment Cost	23,287,368
Financing Sources	
ADB	9,175,223
APCF (50% of CERs at $10/ton)	2,054,885
FCF (70% of CERs at $5/ton)	3,287,816
Other sources	8,769,444
Ratio (Total/FCF)	***7.08***

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Impact on project finance: Example 3

Natural Gas Pipeline Upgrade project

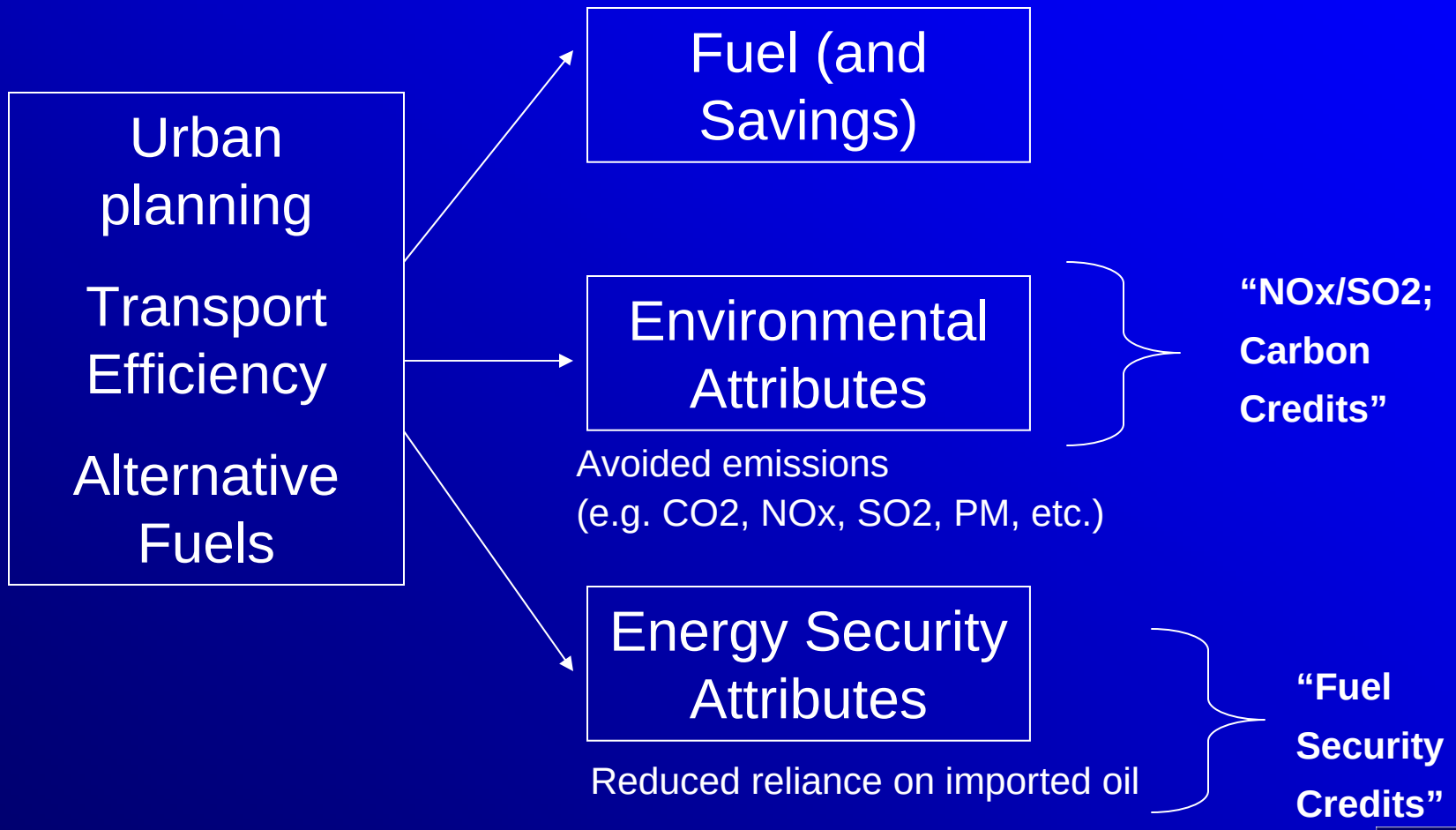
Emissions and carbon financing

	Annual CERs 2009	Annual CERs 2010-20	**Total CERs up to end-2012**	**Total CERs Post 2012**
Emissions reduction (tCO2e)	410,471	820,942	2,873,297	6,567,536
Potential revenue				
$5/ton	2,052,355	4,104,710	14,366,486	32,837,681
$10/ton	4,104,710	8,209,420	28,732,971	65,675,363
$15/ton	6,157,065	12,314,130	43,099,457	98,513,044
$20/ton	8,209,420	16,418,841	57,465,942	131,350,725

Indicative project financing plan (with price assumptions)

Total Investment Cost	80,000,000
Financing Sources	
ADB	27,000,000
APCF (50% of CERs at $10/ton)	14,366,486
FCF (70% of CERs at $5/ton)	22,986,377
Other sources	15,647,138
Ratio (Total/FCF)	***3.48***

New "**Fuel Security Credit**" concept proposed by ADB



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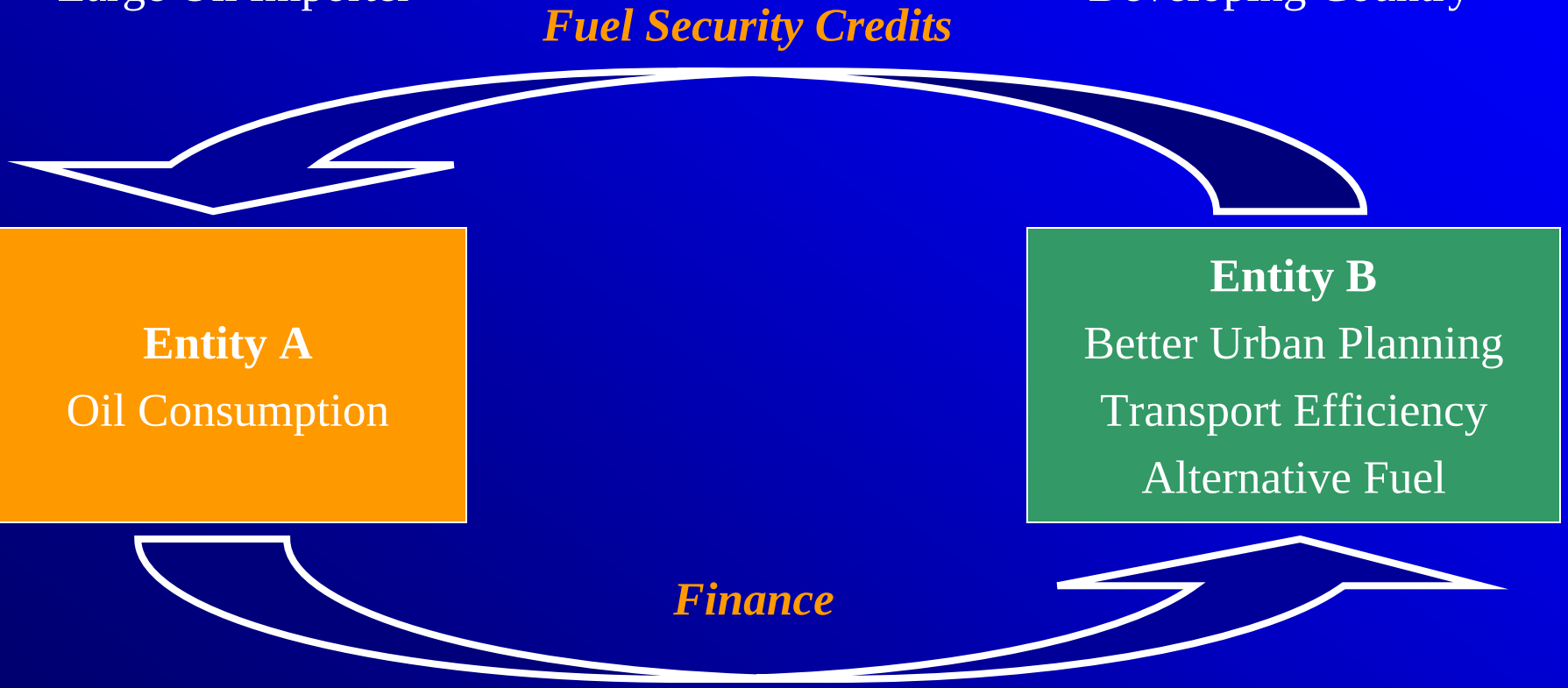
Trading is similar to CDM

Fixed infrastructure
High incremental cost

Large Oil Importer

New infrastructure
Low incremental cost

Developing Country



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Initial study commissioned in 2006

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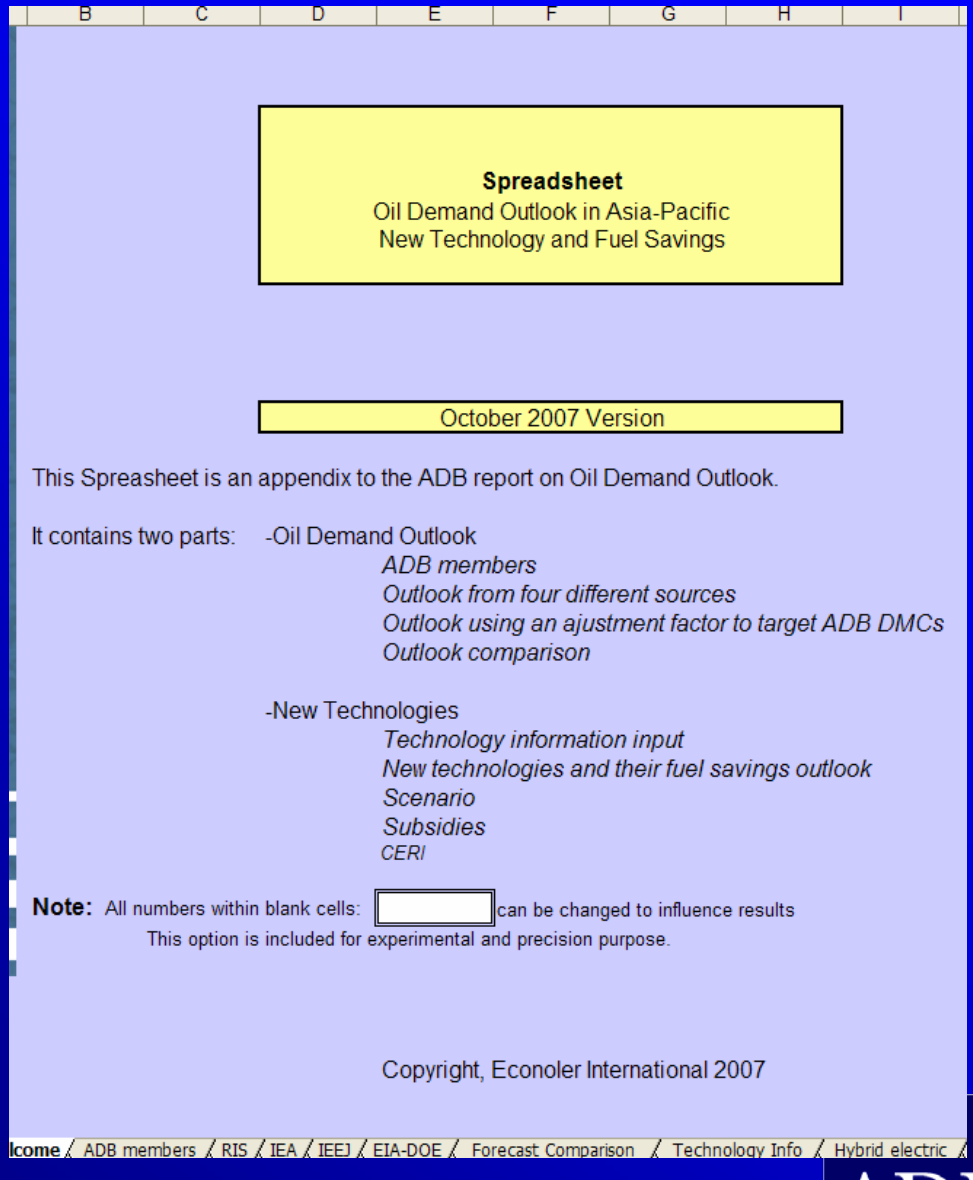
Asian Development Bank

Asian Clean Fuel Research Study

Final Report
October 2007

ECONOLER
INTERNATIONAL



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Spreadsheet
Oil Demand Outlook in Asia-Pacific
New Technology and Fuel Savings

October 2007 Version

This Spreasheet is an appendix to the ADB report on Oil Demand Outlook.

It contains two parts: -Oil Demand Outlook

ADB members
Outlook from four different sources
Outlook using an ajustment factor to target ADB DMCs
Outlook comparison

-New Technologies

Technology information input
New technologies and their fuel savings outlook
Scenario
Subsidies
CERI

Note: All numbers within blank cells: [ ] can be changed to influence results
This option is included for experimental and precision purpose.

lcome / ADB members / RIS / IEA / IEEJ / EIA-DOE / Forecast Comparison / Technology Info / Hybrid electric /

ADB

Projected Oil Balance in 2030 (for AP6 members and Asia)

Country	Import/Export	% (net oil imports/total demand)	million bbl/day	$Billion/yr @$60/bbl	$Billion/yr @$140/bbl
United States	Import	69	19	416	971
Australia	Import	58	1	15	35
China	Import	75*	11*	245	571
India	Import	92**	6**	131	306
Korea	Import	100	3	58	136
Japan	Import	100	5	107	249
Asia	Import	81	30	662	1545

Sources: Asia Pacific Energy Research Center. *APEC Energy Demand and Supply Outlook 2006*; International Energy Agency. *World Energy Outlook 2007*

Notes: APERC projections are used for all countries/regions except for India and PRC
** Mid point of APERC and IEA*
*** IEA data*

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Preliminary Results (1)

Annual (2030) DMC demand savings and price impact

Baseline oil price of $60/bbl

Baseline global consumption at 5,900 MTOE

Description	Oil Savings (MTOE)	Average Crude Oil Price Reduction ($/bbl in 2030)
Centered on BRT and flexible-fuel vehicles	369	4.40
Centered on flexible-fuel vehicles	285	3.41
Centered on BRT and hybrid vehicles	211	2.53
Centered on CNG-LNG vehicles and BRT	208	2.50
Centered on advanced diesel and biofuels	186	2.23
Centered on electric and fuel-cell vehicles	185	2.21
Centered on biofuels	174	2.09

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Preliminary Results (2)
Annual (2030) Government Budget Savings

Country Providing Oil Subsidies	Savings from Scenarios (USD million for 2030)	
	From	To
People's Republic of China	3 914	8 292
Indonesia	2 222	4 706
Malaysia	788	1 669
Thailand	516	1 094
Pakistan	593	1 257

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Preliminary Results (3)
Annual (2030) Economy-Wide Savings

Major Oil Importers	Savings from Scenarios (USD million for 2030)	
	From	To
DMC		
India	4 404	9 284
People's Republic of China	11 172	23 554
Philippines	609	1 284
Republic of Korea	1 982	4 179
Singapore	1 048	2 209
Non-DMC		
Australia	921	1 943
France	1 579	3 330
Germany	2 052	4 325
Italy	1 336	2 817
Japan	3 342	7 045
United States	16 284	34 331

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Indicative Timeline

Discussion with IEA team	22-24 Sep
Discussion with Transport institutes	Oct-Nov?
Discussion with CDI for Asia	Oct-Nov
Funding approval	early Nov
Hiring of consultants	Dec-Jan
Inception workshop	Q1 2009
Interim results	Q3 2009

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