

# **ADB's Clean Energy and Environment Program**

## **Presentation to DMC Officials**

***16 November 2007***

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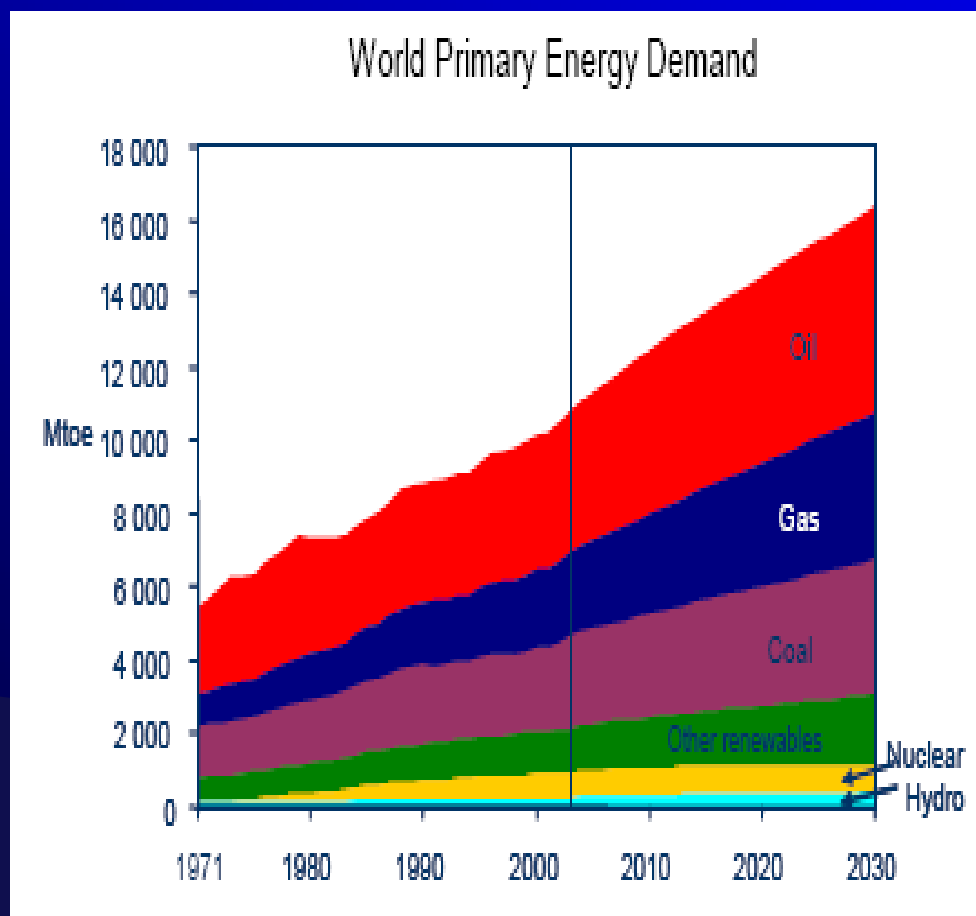
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The ADB logo consists of the letters "ADB" in a white, serif font, centered within a dark blue square background.

# Current Energy Path

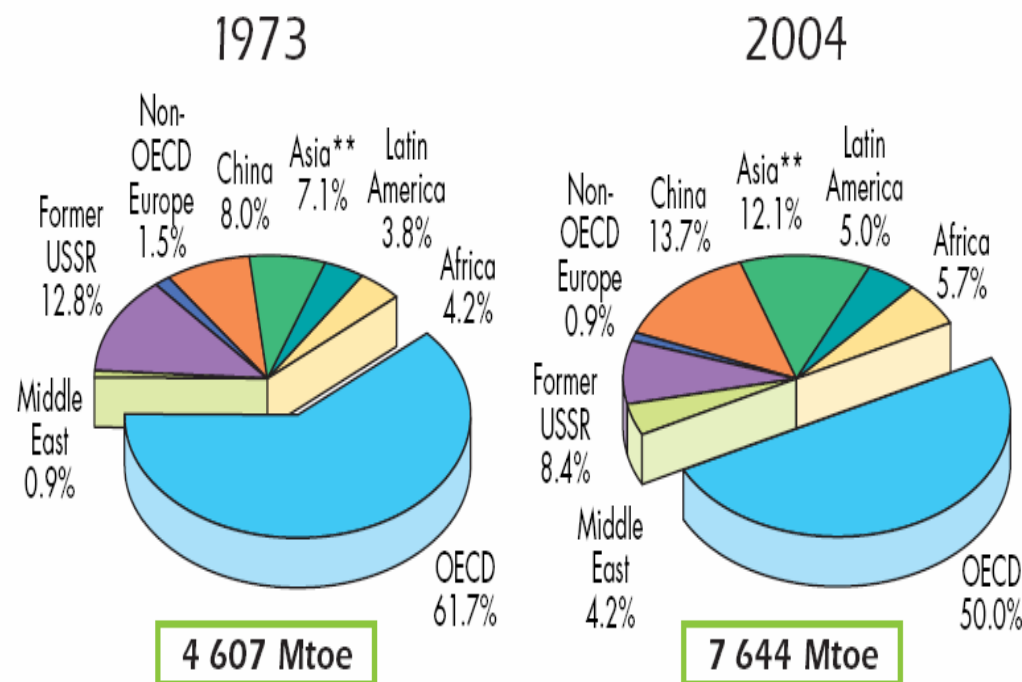


- Focuses on expanding fossil fuel supplies
- Neither environmentally nor economically sustainable

Chart: IEA World Energy Outlook 2005

# Energy Use Characteristics in Asia Pacific <sup>(1)</sup>

1973 and 2004 Regional Shares of Total Final Consumption\*

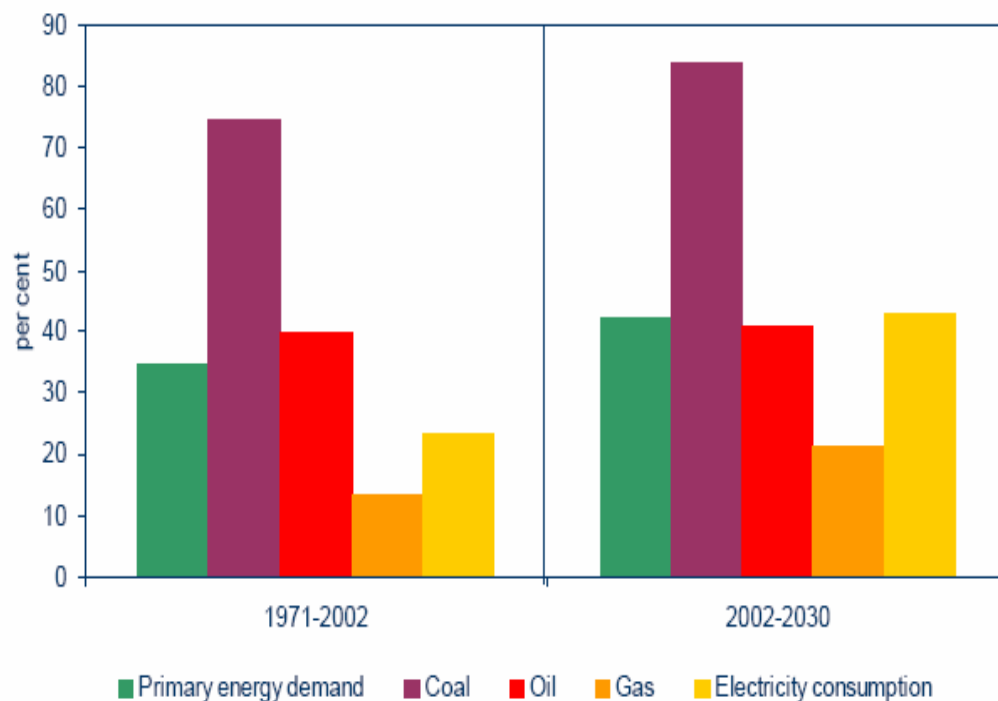


- Consumption rose 183% from 1973 to 2004 (vs 66% worldwide)
- 30% of world consumption by 2030
- Growth driven by manufacturing and rural-to-urban migration trends

Chart: IEA, 2005

# Energy Use Characteristics in Asia Pacific <sup>(2)</sup>

## Share of Developing Asia in World Incremental Energy Demand

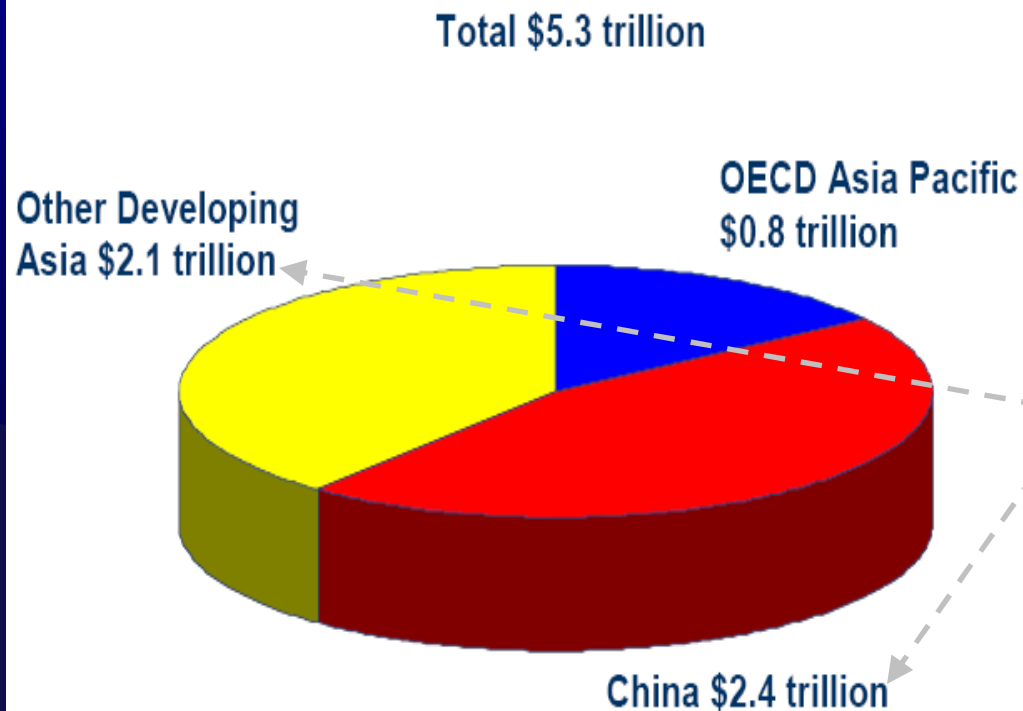


- Fossil fuel-dominated supply mix: 41% coal, 25% oil, and 7% natural gas
- GHG share: 8.7% in 1973, 24.4% in 2003 and 30.4% by 2030

Chart: IEA World Energy Outlook 2004

# Energy Use Characteristics in Asia Pacific <sup>(3)</sup>

## OECD Asia Pacific and Developing Asia Energy Investment, 2003-2030



- Relatively low end-use efficiencies
- Relatively low per capita energy consumption must increase to improve quality of life
- Limited access to energy services
- \$4.5 trillion in energy investments needed by DMCs in 2003-2030

Chart: IEA World Energy Outlook 2004

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# Drivers in Asia Pacific for Clean Energy

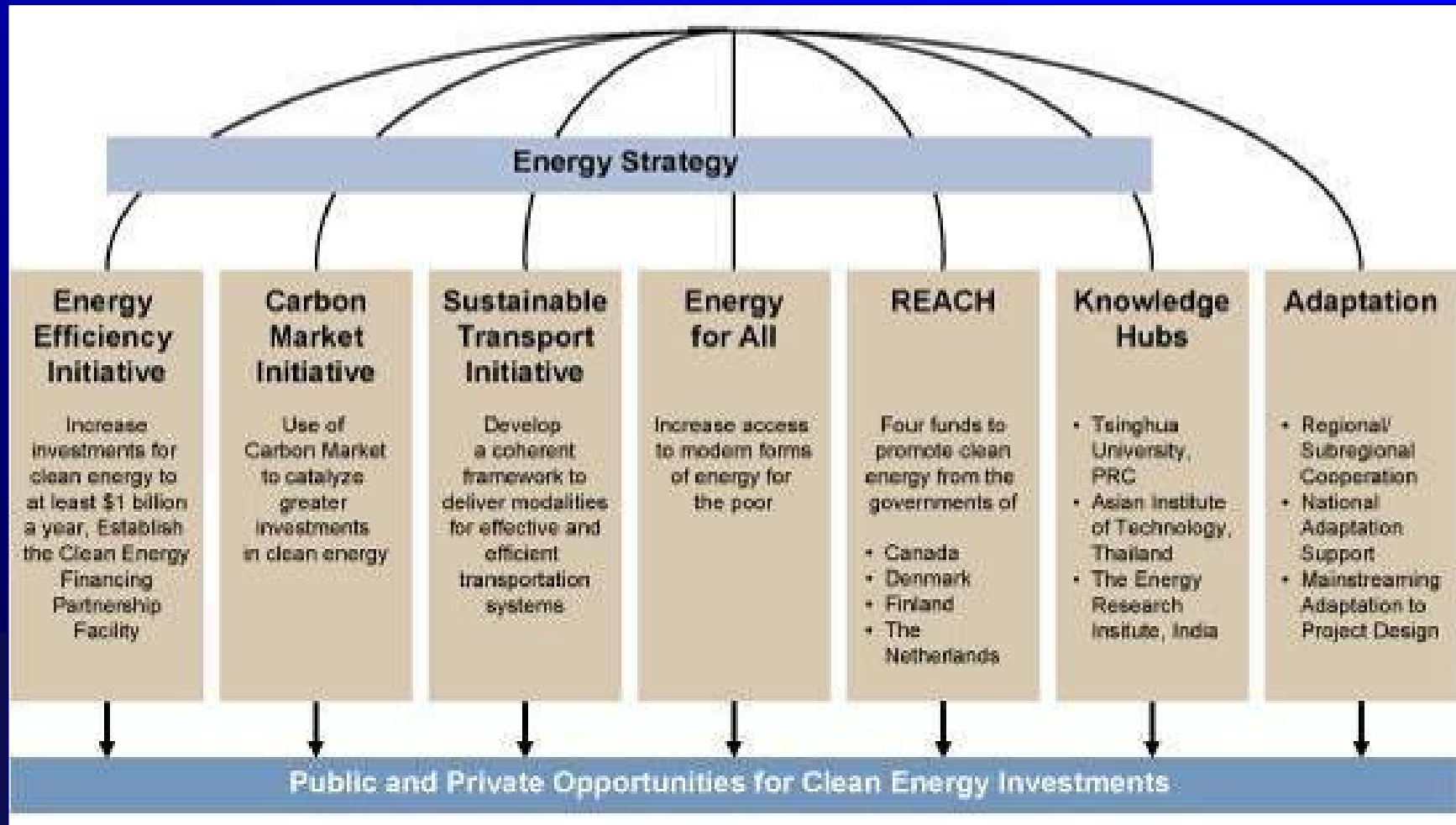
- Energy Security
- Climate Change
- Air Quality

# ADB's Response

# ADB's Energy Policy

- ADB's Energy Policy identifies four operational priorities:
  - Poverty reduction
  - Promoting private sector involvement
  - Addressing regional and global environmental impacts
  - Promoting regional cooperation
- Currently Reviewing Energy Policy:
  - Greater focus to address energy security and climate change through improved energy efficiency and greater use of indigenous forms of renewable energy

# Clean Energy and Environment Program



# ADB's Clean Energy Loans: Past and Future

Year	Total Approved Loans (\$ million)	Clean Energy Investment (\$ million)	% Increase CE Investment (yr to yr)	CE as % of overall ADB Loan
2003	6,120	206	0	3.37
2004	5,203	381	84.95	7.32
2005	5,957	638	67.45	10.71
2006	7,657	833	30.56	10.88
2007*		911	9.36	-
2008*		1,234	35.46	-
2009*		1,124	-8.91	-

\* Pipeline Loans

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# ADB's Clean Energy Loans: Across Energy & Non-energy Sectors

Year	Energy		Agriculture		Water & Sanitation		Transport		Multisector		Total	
	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)	No. of Loans with CE Comp	Clean Energy Comp of Loans (\$ million)
2003	6	140.2	1	6.0	2	9.8	1	50.0	0	0.0	10	206.0
2004	6	274.5	1	1.1	1	8.0	1	18.0	4	79.9	13	381.5
2005	5	589.1	0	0.0	2	8.5	1	40.0	0	0.0	8	637.6
2006	11	801.0	1	1.8	1	0.3	1	30.0	0	0.0	14	833.1
2007*	26	897.5	1	4.5	0	0.0	2	8.5	0	0.0	29	910.5
2008*	15	1,151.7	0	0.0	0	0.0	5	32.0	1	50.0	21	1,233.7
2009*	21	1,082.0	2	5.0	0	0.0	3	37.5	0	0.0	26	1,124.5
<b>Total</b>	<b>90</b>	<b>4,936.0</b>	<b>6</b>	<b>18.4</b>	<b>6</b>	<b>26.6</b>	<b>14</b>	<b>216.0</b>	<b>5</b>	<b>129.9</b>	<b>121</b>	<b>5,326.9</b>

\* Pipeline Loans



# Energy Efficiency Initiative

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# ADB's Energy Efficiency Initiative (EEI)



- ADB launched EEI in July 2005
- Expand EE operations to \$1 billion/yr
- Focus on both supply-side and demand-side EE (including RE)

# Mainstreaming EE in ADB Operations

## Phase I Initiation

(Jul 2005 – Jun 2006)

- Establish rationale for expanded ADB action in EE
- Provide priorities and framework for next steps



## Phase II Formulation

(Jun 2005 – Dec 2007)

- Prepare country-level investment/action plans and project pipeline
- Design and establish the Clean Energy Financing Partnership Facility (CEFPF)
- Develop institutional capacity to scale up EE investments and perform EE monitoring & evaluation
- Pursue immediate EE investment opportunities



## Phase III Implementation

(2007 – 2010)

- Execute investment and action plan
- Process projects in pipeline
- Commit CEFPF fund

# Clean Energy Financing Partnership Facility (CEFPF)

## Stages of Technology Development



- Objective is to “buy down” the higher costs of the new technologies to facilitate their deployment.
- Targets small number of high-impact large interventions that will deploy new EE technologies
- IEA identifies the crucial need for large deployment programs to bridge between EE and RE technology R&D and commercialization

Source: IEA Energy Technology Perspectives 2006

# Clean Energy Financing Partnership Facility

## TF Component

**Multi Donor Trust Fund**

**Individual TF**

**Individual TF**

**Framework Agreement**

**Joint or Parallel Cofinancing**

**Framework Agreement**

**Knowledge Sharing**

e.g. secondments etc.

**Framework Agreement**

**Risk Sharing**

e.g. credit guarantees with first loss coverage

**PROJECTS**

**Grant Components of Investments**

**Technical Assistance**

**ADB**

# Energy for All

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# Background

- There are some 2.4 billion people still dependent on traditional biomass fuel for cooking and heating
- 1.5 million deaths/yr: mostly women and children due to indoor smoke
- There will still be 2.6 billion using traditional fuel in 2030

# Background

- There are 1.6 billion people without access to electricity
- 4 out of 5 live in rural areas
- Also an urban issue - 275 million live in urban areas
- Around 1 billion are in Asia
- With current efforts 1.4 billion people will still have no access to electricity by 2030

# Energy for All

- ADB is starting new initiative – To increase access to modern energy services for the poor
  - Two years (2007 – 2008)
  - 2 – 3 Developing Member Countries
  - Starting with \$2.5 million from the Dutch Government
  - Looking to establish a multi-donor trust fund to broaden efforts
- Currently, these types of projects are in many sectors i.e. micro finance, rural development, agriculture, energy, etc.
- ADB looking to have a more strategic approach to this issues

# International Best Practice Examples

- Grameen Shakti in Bangladesh:
  - More than 70,000 SHS installed in rural areas through micro-finance. Plans to install 1 million by 2015
- DGIS/SNV - Asia Biogas Program :
  - Replicating the successful Nepal Biogas Program where more than 150,000 household level biogas digesters have been installed to Cambodia, Lao PDR, Viet Nam mobilizing the private sector
- GTZ - Household Energy Program:
  - Used integrated approach - More than 60,000 households have installed improved cooking stoves
- World Bank:
  - Sri Lanka – Credit program as 1 component and supported 31 MW mini-hydro (15 projects), 21,000 SHS, 350 kW village hydro. IDA – \$19.3 million loan and GEF – 3.8 million grant
  - Nepal – Plans to install 3 MW (30,000 new consumers) through community managed micro-hydro by 2009 through UNDP started Rural Energy Development Program

# Energy for All

- Identify approaches that are scalable and replicable to a sufficient size so that they can become components for ADB loans
- Focused on:
  - Private sector participation
  - Use of local financing institutions as multipliers
  - Use of community based models
- Pilot and Demonstrate them
- Initial RETA to Board for consideration in a few weeks.

# Carbon Market Initiative

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# Carbon Market Status

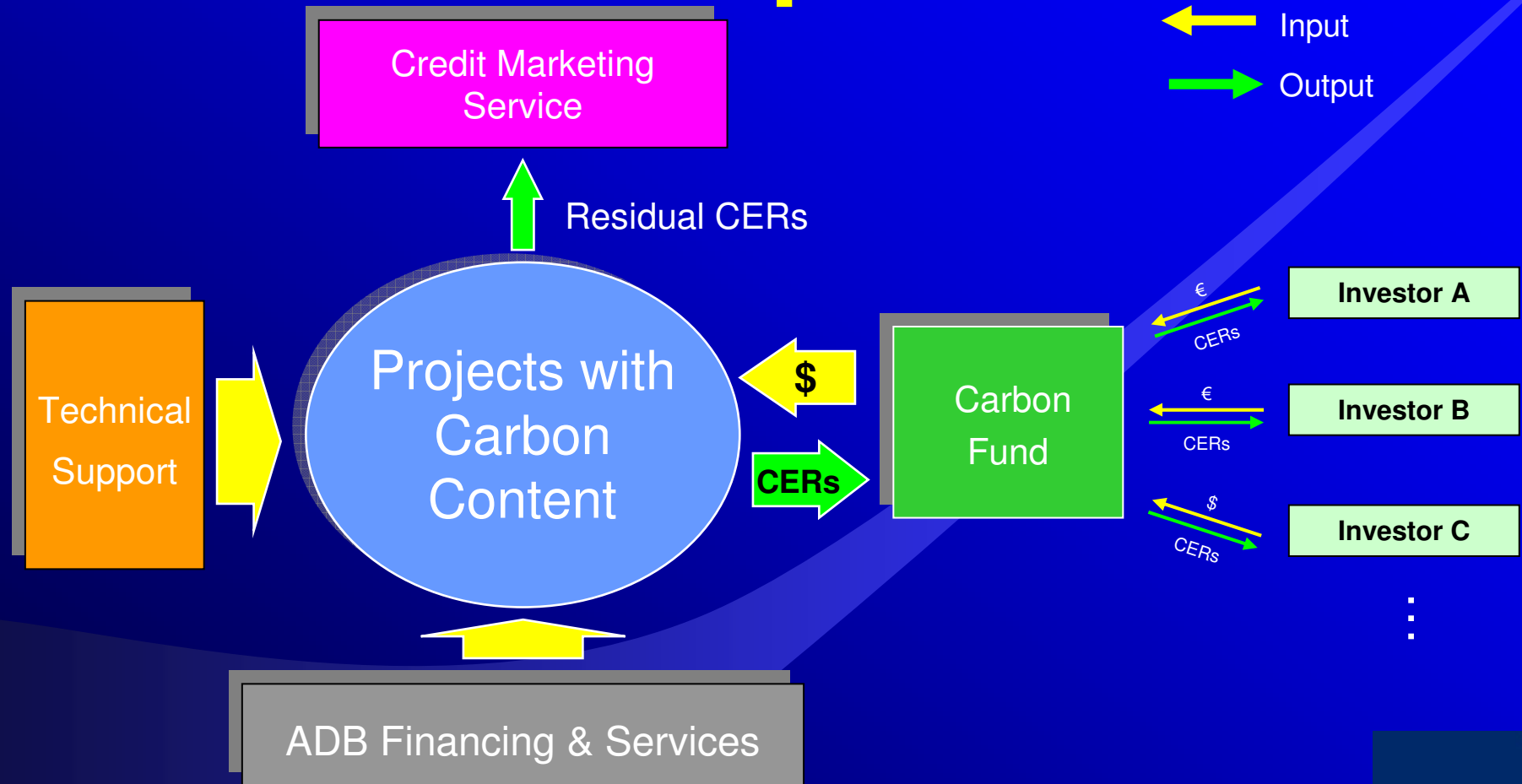
## Severe Supply Constraint

- Number of Kyoto Protocol signatories well behind in terms of their GHG reduction commitment targets
- Shortage of good projects with carbon credits content

## Financing Gap

- Projects with carbon credits require upfront finance
- Procurement funds are main carbon credit players – but only offer “pay-on-delivery” contracts
- Such funds do not share project risks – latter remain entirely with project sponsors
- Projects heavily skewed towards countries/sectors favorable to foreign direct investment

# Carbon Market Initiative: 3 Components



\* CERs = Certified Emission Reductions

# Component 1: Asia Pacific Carbon Fund

- Co-finances projects alongside ADB
- Can secure 25-50% of future carbon credits
- Credits secured at discount prices
- Access to ADB's project pipeline
- Fills a critical project "financing gap"

# Component 2: Credit Marketing Service

- Assists with sale of credits *not* purchased by Fund
- Provides financial incentives for project completion
- Buyers will bid for credits offered
- Competitive process to achieve best prices & terms
- Fund investors can also participate as buyers

# Component 3: CDM Technical Support

Upstream support in project preparation phase

- Due diligence: technical, financial, legal, safeguards, governance
- Capacity development and policy reform
- Carbon credit valuation
- Documentation preparation for credits (PIN, PDD, methodology)
- Obtaining Host Country approvals
- Facilitating project Validation (DOE) & Registration (CDM EB)

# For More Information

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Web site: [www.adb.org/clean-energy](http://www.adb.org/clean-energy)

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