



Financing Energy Efficiency in Developing Countries.

Global Forum on Sustainable Energy, Vienna, 23 November 2007

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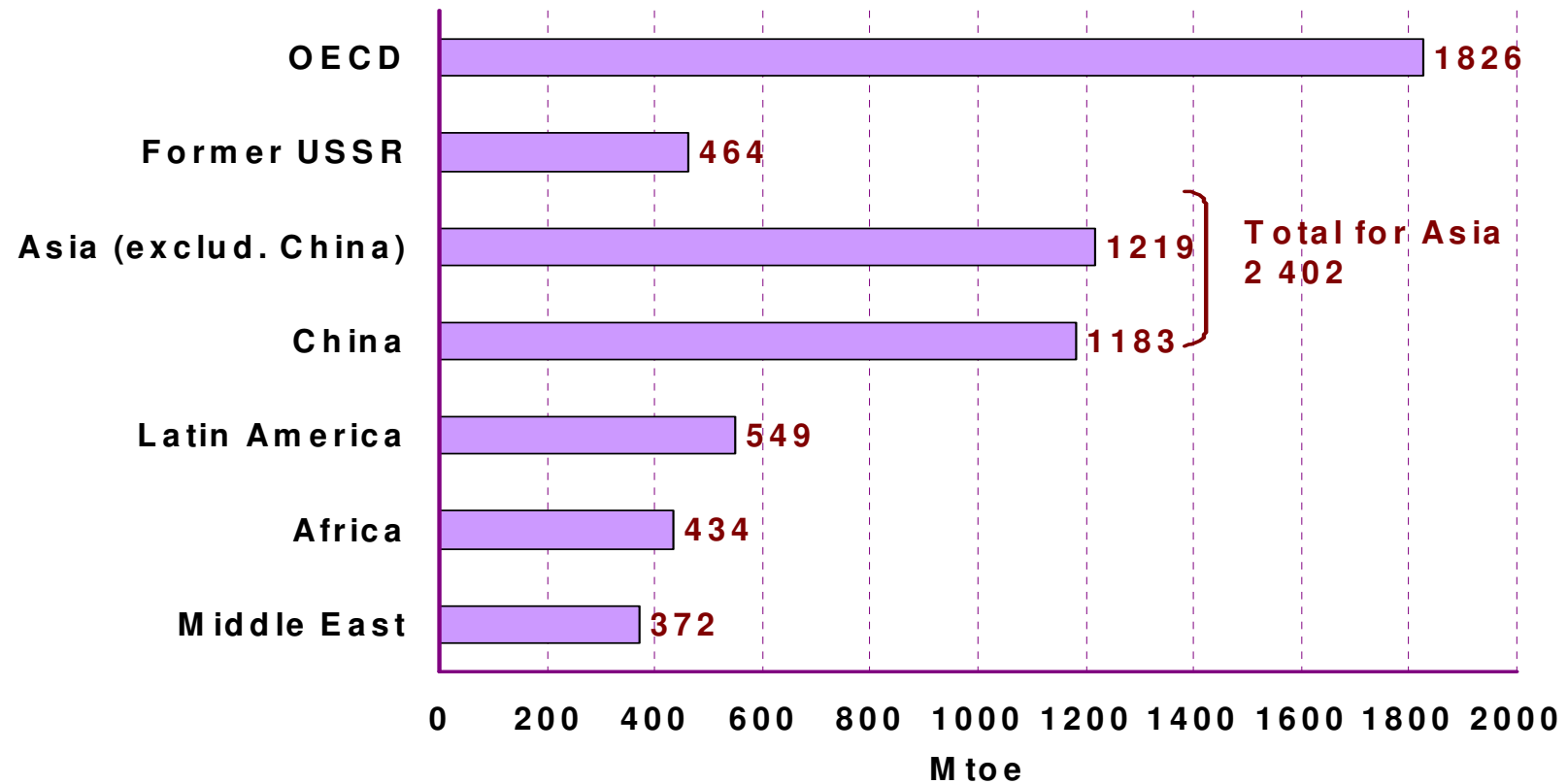
Asian Development Bank.

ADB

Energy Demand.

Growth in the Demand for Primary Energy among Regions of World (2000-2030)

Source: IEA/World Energy Outlook 2002



Common Messages

- Energy Efficiency is a BIG part of the GHG mitigation solution
- EE 80% and DSM 65% of mitigation solution to 2030 – (yet DSM 2.5% in CDM)
- Energy Efficiency “commercially logical” – (i) capex acceptable payback; & (ii) reduces O&M costs
- Normal project finance model does not work
- Balance sheet financing does work – but corporate inertia
- CDM and carbon price driver – sub optimal
- “Command & Control” & Market Based Instruments

EE financiers “highs” & “lows”?

- Counterparty Credit – too low
- Risks (perceived)– too high
- Returns (perceived)– too low
- Deal Size – too small (low)
- Transaction Costs – too high
- *CONCLUSION = ALL TOO HARD!*
- *Result = capital migrates to other sectors*

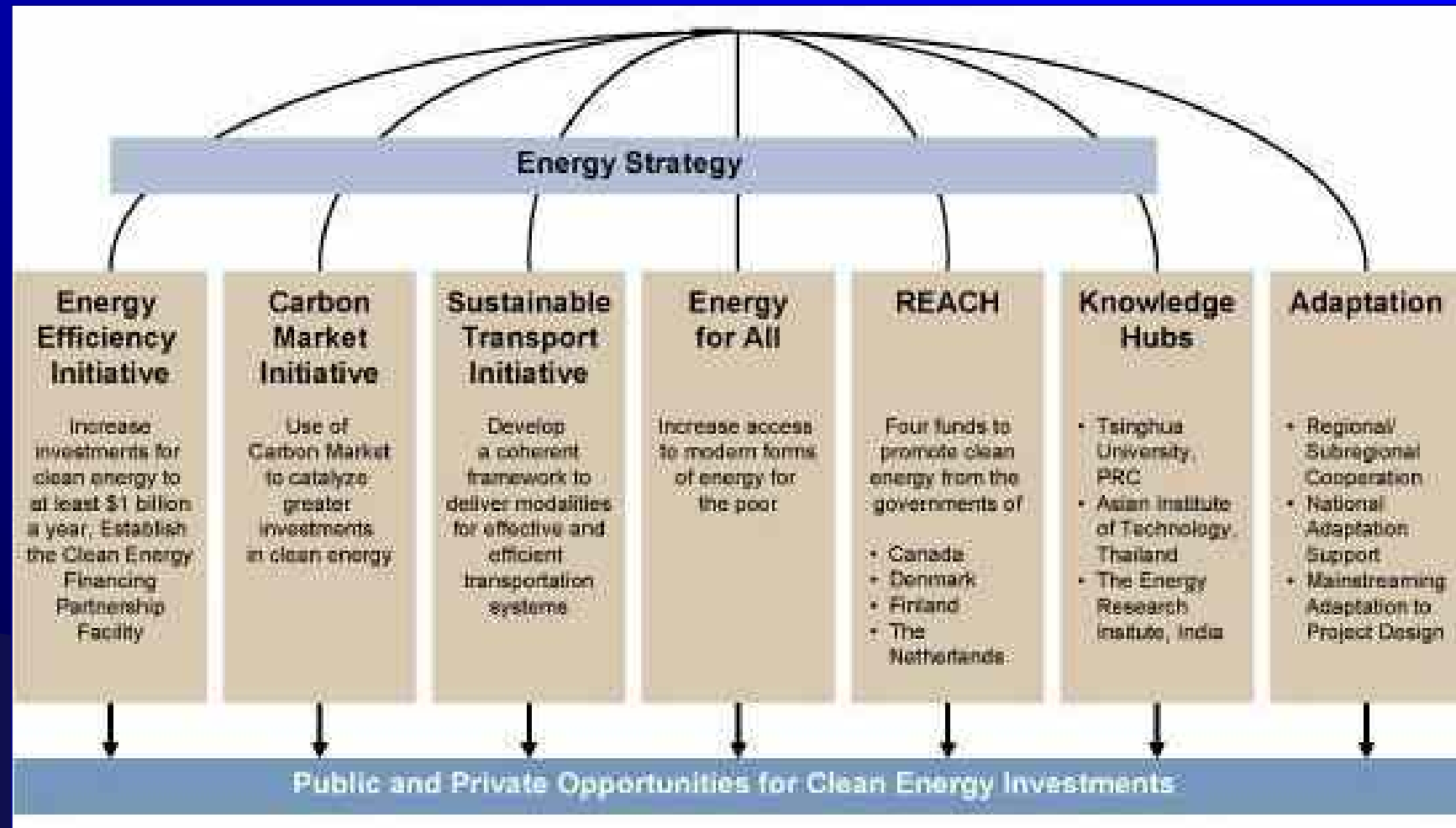
What can be done: Returns?

- Enhanced price signal & incentives
- Big expectations on CDM's "Program of Activities"
- Market Based Approaches:
 - Stepped tariffs
 - Local management charges
 - Dedicated public EE funds
 - Tax related incentives
 - Enhanced carbon price
- CDM for EE at greater scale
- Incentives must be enhanced at national level (negative subsidiary removal).

What can be done: Risks?

- Partial Credit Guarantees
- Performance Guarantees
- Other Risk Mitigation Products
- Risk Sharing amongst public sector, IFIs & private sector risk takers
- Increase availability of finance
- Increase terms of finance

Clean Energy and Environment Program



Clean Energy Program

ADB Clean Energy Loans: Past and Future

Year	No. of Loans	Amount (in US\$ million)
2000-2005	11	717.40 ¹
2006-2008	18	1,992.50 ²

1 Includes 4 renewable energy and 7 energy efficiency projects.

2 Includes 11 renewable energy and 7 energy efficiency projects.

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)

Clean Energy Financing Partnership Facility

TF Component

Multi Donor Trust Fund

Individual TF

Individual TF

Framework Agreement

Joint or Parallel Co financing

Framework Agreement

Knowledge Sharing

e.g. secondments etc.

Framework Agreement

Risk Sharing

e.g. credit guarantees with first loss coverage

PROJECTS

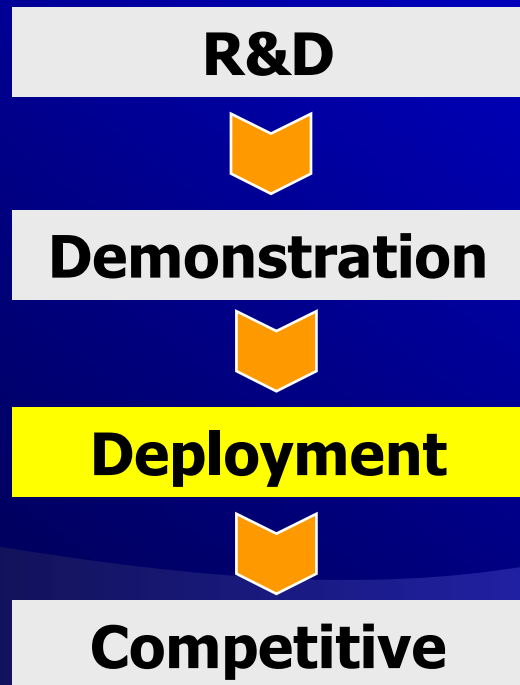
Grant Components of Investments

Technical Assistance

ADB

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*

ADB

Grant Components of Investments

- Grant based TA support for ADB financed projects.
 - **Power** – renewable energy, retrofitting power stations to improve generation efficiency, clean coal, upgrading transmission and distribution systems to reduce system losses
 - **Water Supply and Sanitation** - upgrade water pumping stations, putting in newer and more energy-efficient systems for both urban water use and irrigation.
 - **Urban and Municipal Infrastructure** – adoption of EE technologies for new and retrofitted street lighting, water pumping, waste and sewerage systems
 - **Transport** - Urban mass transit
 - **Agriculture** - agricultural waste and bio-mass energy

Exploring Innovative Financing Instruments

- Risk Sharing Mechanisms
 - Catalyze local sources of financing for smaller projects
 - Partial credit guarantee with first loss coverage on the portfolio
 - Performance Guarantees for ESCOs
- Contingent Grant/Loan
 - A subordinate facility to share the risk in the deployment of new technologies

**Risk-sharing mechanism (RSM) -
to help local financiers support
smaller energy efficiency projects**

ADB

Risk-Sharing Mechanism

Through the proposed RSM, ADB would seek out and work with a number of commercial banks and other financial institutions (FIs)

- to develop, adopt and/or expand their CE portfolios

share an agreed amount or type of risk associated with each guaranteed CE portfolio

- through a risk sharing agreement

Risk Sharing Mechanism

RSMs would support

sovereign, subsovereign, SOE, PPP and nonsovereign borrowers

a wide variety of RE, EE and related CE projects

a large number of small transactions, which ADB cannot directly help

- \$100,000 to \$3 million

Risk-Sharing Mechanism

Each FI

acts as the aggregator

leverages its balance sheet

- by sharing risk with ADB, a “AAA” credit

builds its EE “book”

- and experience with EE projects

provides loans, leases, or other forms of finance

- in local currency

Risk-Sharing Mechanism

With the benefit of the Clean Energy Financing Partnership Facility (CEFPPF) donor funds

ADB might also cover a portion of the “first loss” suffered by the FI

If available, this would be a strong motivator for FIs to build CE portfolios

- in new more challenging markets

EXAMPLE RSM supporting of Energy Performance Contracts

Backs ADB for an agreed percentage and or 1st loss

CEFPF

ADB

Risk-sharing agreement

guarantees say 50% of loan and or 1st loss amount

Local Financial Institution

Loan/lease in major or local currency

Takes a share of risk on ESCO and End-user

Energy End-user
Industrial or commercial

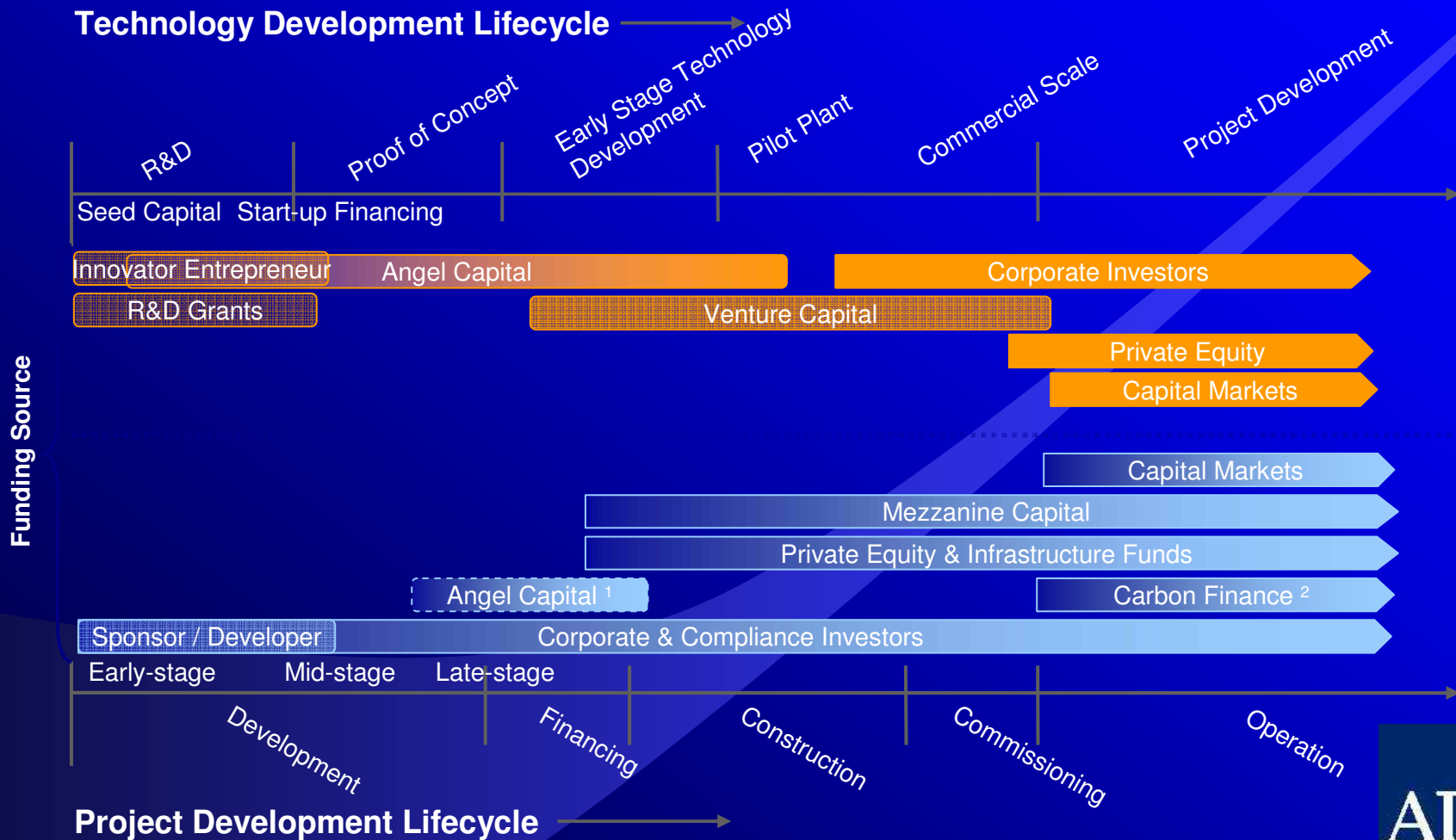
Energy Per. Contract
w/ performance guarantee

ESCO Borrower
ADB

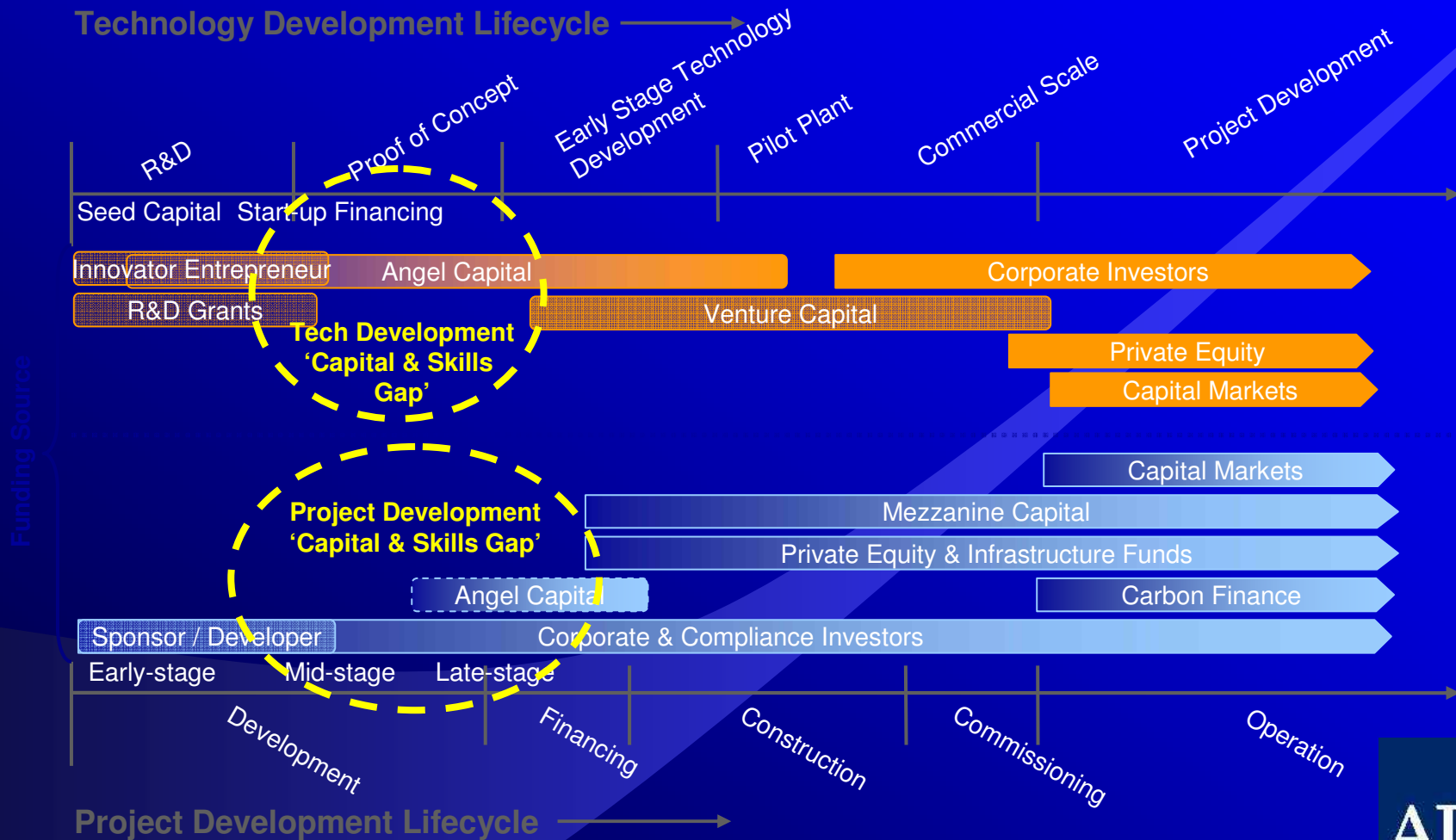
EE financiers "highs" & "lows"?

- Counterparty Credit – OK
- Risks (perceived)– OK
- Returns (perceived)– OK
- Deal Size – Aggregated & OK
- Transaction Costs – OK
- *CONCLUSION = "Lets Do it!"*
- *Result = capital migrates to EE*

Investment Development Lifecycle



Investment Development Lifecycle



ADB

Investing in
Clean Energy
and **Low Carbon**
Alternatives
in Asia

Josh Carmody and
Duncan Ritchie

Asian Development Bank

ADB

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