

# 4th APEC Business Advisory Council Meeting for 2009

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## Infrastructure for a Seamless Asia and Role of Public-Private Partnerships

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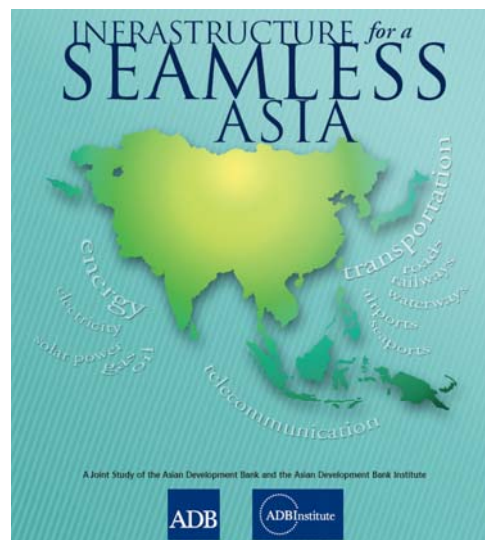
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New Book (launched on 4 May 2009, Bali)



2

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## Outline

- Need for Infrastructure
- Objectives
- Definition, Scope, Coverage, and Vision
- Infrastructure Financing Requirement:2010-2020
- Meeting Financing Needs
- Role of PPPs -Latin America, EU and Asia
- Key Messages
- Conclusion

3

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## Need for Infrastructure

- The current global crisis provides 5 reasons for increasing infrastructure investment in Asia:
- (i) Enhances competitiveness and productivity; economic recovery and help in sustaining growth in medium to long term;
- (ii) Helps to increase standard of living and reduce poverty by connecting isolated places and people with major economic centers;
- (iii) Promotes environmental sustainability;
- (iv) Forms an important part of fiscal stimulus package, especially if the crisis is prolonged;
- (v) Helps in increasing regional demand and intraregional trade and thus rebalancing Asia's growth.

4

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## Objectives

- Examines the key issues and challenges in strengthening cross-border connectivity in Asia;
- Examines benefits and costs of regional infrastructure;
- Estimates the financing requirements for developing Asia's infrastructure.
- Provides recommendations for effective programs, policies and institutions for regional infrastructure
- Presents a framework for pan-Asian infrastructure cooperation towards a Seamless Asia.

5

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## Scope and Coverage

- Issues and challenges for regional infrastructure in Asia up to 2020
- ADB's 44 DMCs, Japan, and Brunei
- Broad pan-Asian initiatives and sector-specific subregional efforts—transport, energy, telecom
- Focus on “soft” infrastructure—policy, regulatory, governance, trade facilitation and institutional frameworks—to support development and operation of the “hard” component (physical structures, equipment, facilities, and services), and to facilitate regional trade

6

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## **Definition: Regional Infrastructure Projects**

- Cross-border (or transnational) projects that involve “hard” and “soft” infrastructure spanning two or more neighboring countries;
- National projects that have a significant cross-border impact—in stimulating regional trade and income; or in connecting with the network of neighboring or third countries.

7

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## **Long-Term Vision: A Seamless Asia**

- Creation of a seamless Asia—an integrated region connected by world-class environment-friendly infrastructure networks
- In view of Asia's enormous untapped economic potential and the ongoing global financial crisis, now is the time to build efficient and seamless connections across Asia and with the rest of the world for a more competitive, prosperous, and integrated region.

8

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# Financing Needs for Asia's Infrastructure

Asia's total infrastructure investment needs by sector, 2010–2020

(2008 \$ million)

| Sector/ Subsector           | New Investment   | Replacement      | Total            |
|-----------------------------|------------------|------------------|------------------|
| <b>Energy (Electricity)</b> | <b>3,176,437</b> | <b>912,202</b>   | <b>4,088,639</b> |
| <b>Telecommunications</b>   | <b>225,353</b>   | <b>730,303</b>   | <b>1,055,657</b> |
| Mobiles                     | 181,763          | 509,151          | 690,914          |
| Telephones                  | 143,590          | 221,153          | 364,743          |
| <b>Transport</b>            | <b>1,761,665</b> | <b>704,456</b>   | <b>2,466,122</b> |
| Airports                    | 6,533            | 4,728            | 11,260           |
| Ports                       | 50,275           | 25,416           | 75,691           |
| Railways                    | 2,692            | 35,947           | 38,638           |
| Roads                       | 1,702,166        | 638,366          | 2,340,532        |
| <b>Water and Sanitation</b> | <b>155,493</b>   | <b>225,797</b>   | <b>381,290</b>   |
| Sanitation                  | 107,925          | 119,573          | 227,498          |
| Water                       | 47,568           | 106,224          | 153,793          |
| <b>Total</b>                | <b>5,418,949</b> | <b>2,572,759</b> | <b>7,991,708</b> |

Source: Bhattacharyay (2008).

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# Financing Needs for Asia's Infrastructure (cont'd)

Indicative investment needs for regional identified and pipeline infrastructure projects, 2010-2020

| Region/ Subregion                                    | Transport Projects |            | Energy Projects   |           | Total             |              |
|--|--------------------|------------|-------------------|-----------|-------------------|--------------|
|  | Cost (\$ million)  | No.        | Cost (\$ million) | No.       | Cost (\$ million) | No.          |
| <b>Asia</b>  | <b>177,077</b>     | <b>931</b> | -                 | -         | <b>177,077</b>    | <b>931</b>   |
| Asian Highway  | 43,276             | 121        | -                 | -         | 43,276            | 121          |
| Trans-Asian Railway                                  | 82,801             | 45         | -                 | -         | 82,801            | 45           |
| Asian Container Ports <sup>a</sup>                   | 51,000             | 765        | -                 | -         | 51,000            | 765          |
| <b>East/Southeast-Central-South Asia<sup>b</sup></b> | -                  | -          | <b>22,975</b>     | <b>5</b>  | <b>22,975</b>     | <b>5</b>     |
| <b>Southeast Asia</b>                                | <b>5,858</b>       | <b>17</b>  | <b>41,444</b>     | <b>33</b> | <b>47,302</b>     | <b>50</b>    |
| GMS  | 5,858              | 17         | 2,604             | 14        | 8,462             | 31           |
| Trans-ASEAN Gas Pipeline                             | -                  | -          | 7,000             | 1         | 7,000             | 1            |
| BIMP-EAGA  | -                  | -          | 100               | 1         | 100               | 1            |
| Others   | -                  | -          | 31,740            | 17        | 31,740            | 17           |
| <b>Central Asia</b>                                  | <b>21,245</b>      | <b>38</b>  | <b>10,861</b>     | <b>44</b> | <b>32,106</b>     | <b>82</b>    |
| CAREC  | 21,245             | 38         | 10,591            | 43        | 31,836            | 81           |
| Others   | -                  | -          | 270               | 1         | 270               | 1            |
| <b>South Asia</b>                                    | <b>293</b>         | <b>3</b>   | <b>6,846</b>      | <b>6</b>  | <b>7,139</b>      | <b>9</b>     |
| <b>Total</b>   | <b>204,472</b>     | <b>989</b> | <b>82,125</b>     | <b>88</b> | <b>286,597</b>    | <b>1,077</b> |

10

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## Meeting the Financing Needs

- On average, Asia needs to invest about \$750 billion per year in infrastructure (both national and regional) during 2010-2020
- The region's vast domestic savings as the main source of financing for Asia's infrastructure
- Strengthen national and regional local currency bond markets—notably the Chiang Mai Initiative (CMI), the ASEAN+3 Bond Market Initiative (ABMI), and the Asian Bond Funds (ABF)
- Identify and prepare “bankable” projects to encourage private financing involving PPP

11

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## Private Sector Investments (PSI) in Infrastructure, 1984-2006

| Sector    | Region                       | Total<br>PSI | Cross-border<br>PSI | Share of Cross-border<br>PSI |
|-----------|------------------------------|--------------|---------------------|------------------------------|
|           |                              | (\$ billion) |                     | (%)                          |
| Energy    | East Asia and Pacific        | 98.36        | 1.25                | 1.28                         |
|           | Europe and Central Asia      | 43.76        | 1.7                 | 3.88                         |
|           | Latin America and Caribbean  | 133.39       | 5.05                | 3.79                         |
|           | Middle East and North Africa | 17.47        | 2.3                 | 13.16                        |
|           | South Asia                   | 29.34        | 0                   | 0                            |
|           | Sub-Saharan Africa           | 7.65         | 1.79                | 23.4                         |
|           | <b>Energy Total</b>          |              | <b>329.97</b>       | <b>12.09</b>                 |
| Transport | East Asia and Pacific        | 69.98        | 0                   | 0                            |
|           | Europe and Central Asia      | 14.91        | 0                   | 0                            |
|           | Latin America and Caribbean  | 76.18        | 0.03                | 0.04                         |
|           | Middle East and North Africa | 3            | 0                   | 0                            |
|           | South Asia                   | 13.82        | 0                   | 0                            |
|           | Sub-Saharan Africa           | 10.04        | 0.95                | 9.45                         |
|           | <b>Transport Total</b>       |              | <b>187.94</b>       | <b>0.98</b>                  |

12

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(cont'd)

| Sector  | Region                       | Total<br>PSI  | Cross-border<br>PSI | Share of Cross-border PSI |
|---------|------------------------------|---------------|---------------------|---------------------------|
|         |                              |               |                     | (\$ billion)              |
| Telecom | East Asia and Pacific        | 61.91         | 0                   | 0                         |
|         | Europe and Central Asia      | 142.5         | 0                   | 0                         |
|         | Latin America and Caribbean  | 218.57        | 0                   | 0                         |
|         | Middle East and North Africa | 31.03         | 0                   | 0                         |
|         | South Asia                   | 50.25         | 0                   | 0                         |
|         | Sub-Saharan Africa           | 32.04         | 0                   | 0                         |
|         | <b>Telecom Total</b>         |               | <b>536.3</b>        | <b>0</b>                  |
| Water   | East Asia and Pacific        | 19.72         | 0                   | 0                         |
|         | Europe and Central Asia      | 5.3           | 0                   | 0                         |
|         | Latin America and Caribbean  | 15.08         | 0                   | 0                         |
|         | Middle East and North Africa | 1.08          | 0                   | 0                         |
|         | South Asia                   | 0.26          | 0                   | 0                         |
|         | Sub-Saharan Africa           | 0.26          | 0                   | 0                         |
|         | <b>Water Total</b>           |               | <b>41.69</b>        | <b>0</b>                  |
|         | <b>Grand Total</b>           | <b>1095.9</b> | <b>13.08</b>        | <b>1.19</b>               |

Source: Calculated based on World Bank PPI Database

13

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## PSI during 1984-2006 in summary

- The cumulative PSI for all national and regional infrastructure projects in the world amounted to \$1.1 trillion
  - Latin America and the Caribbean (ranked first): \$443 billion, sharing 40% of the total cumulative PSI in the world
  - Asia and Pacific: \$344 billion
  - Europe and Central Asia: \$206 billion
- No. of PPPs are low in both national and regional level projects
- Governance is one of the issues-transparent rules/regulations and procurement procedures

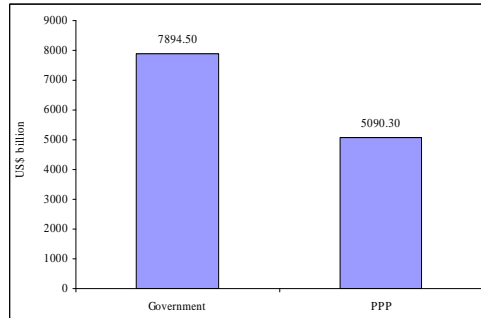
14

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# PPPs in Asia

## Asia's cross-border infrastructure investment, 1991-2007



Data sources: World Bank PPI Database; ADB GMS Development Matrix Database; ASEAN Centre for Energy Database; and Ministry of Power, Government of India.

- Government investments in cross-border infrastructure is much higher than PPP investments

15

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# PPPs in South America

## Financing sources of Initiative for the Integration of Regional Infrastructure in South America (IIRSA) projects 2003-2006

| Investment Proposed | Sources of Financing (US\$ million) |            |                |                                    |
|---------------------|-------------------------------------|------------|----------------|------------------------------------|
|                     | Total commitment                    | Government | Private sector | Multilateral financial institution |
| 21,195              | 20,996                              | 13,203     | 4,407          | 3,386                              |
| Share (%)           | 100%                                | 63%        | 21%            | 16%                                |

Source: IIRSA (2007)

- The majority of the infrastructure investments were governments of South America
- The experience of Latin America as well as in the EU: attracting PPP in regional projects is particularly difficult because of major risks and uncertainty involved

16

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## PPPs in the EU

- Though the EU has dedicated special windows for PPPs, but scarcely used because:
  - PPP in cross-border infrastructure is complex;
  - The EU does not have a stated preference for PPPs, and it is in the hands of Member States how to finance and run public projects
  - Co-financing of main infrastructures (transport) covered up to 75% of public costs, thus discouraging the use of private funding
  - Different procurement systems used for different sections of a project
  - Cross-border infrastructure is treated differently on both sides of the border, etc.
- Few regional projects involving PPPs successfully obtained private financing from capital markets rather than submitting to EU rules and procurement procedures

17

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## How to encourage PPP

- Asia's regional projects can involve PPPs if attractive, sound, and "bankable" projects are created
- To attract large/medium sized private investors, Asia must establish effective institutional mechanisms, both nationally and regionally
- "Asian Infrastructure Fund (PIAF)" should be created to help mobilize Asian and international funds, and help prepare and finance bankable regional projects;
- 21 high-priority regional projects have been identified- these can be implemented during 2010-2015 at a total cost of \$15 billion:
  - 10 projects in GMS (transport: 5; energy: 5),
  - 6 projects in Central Asia (transport: 4; energy: 2), and
  - 5 projects in South Asia (transport: 3; energy: 2)

18

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## Key Messages

- (1) The required investment in infrastructure for pan-Asian connectivity would produce large real income gains of around \$13 trillion for developing Asia during 2010-2020 and beyond;
- (2) A “Pan-Asian Infrastructure Forum (PAIF)” should be established to help coordinate and integrate existing subregional infrastructure initiatives toward a seamless Asia; to encourage private sector participation involving PPPs

19

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## Key Messages (cont'd)

- (3) During 2010–2020, Asia needs to invest about \$8 trillion in national infrastructure and \$290 billion in specific regional infrastructure projects—an overall average infrastructure investment of about \$750 billion per year; and
- (4) An Asian Infrastructure Fund (AIF)” is needed to mobilize international funds (public and private) and help prioritize, prepare, and finance “bankable” regional infrastructure projects.

20

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## Conclusion

### A Framework for Pan-Asian Infrastructure Cooperation requires:

- A common vision, strong leadership and a shared commitment by Asian leaders;
- Strong institutional capacities at the national level;
- Coherent infrastructure development at the national, subregional, and regional levels;
- Pan-Asian infrastructure strategies to prioritize investments and coordinate policies;

21

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## Conclusion (cont'd)

- Effective planning and implementation of projects to ensure “win-win” outcomes among participating countries by
  - addressing the issue of asymmetric distribution of projects’ costs and benefits
  - managing negative socioeconomic impacts
- Effective financing framework to help mobilize the region’s vast savings, and encourage public-private partnerships
- ADB is ready to help

22

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