



# Financing Sustainable Infrastructure In Asia

Fei Yu

Deputy Representative

Asian Development Bank

North American Representative Office



# Agenda

- The Asia Scene
- The sustainable infrastructure gap
- The current financing landscape
- The potential for institutional investors
- The role of MDBs and partner organizations
- Conclusions



# The infrastructure gap



# Challenge: The Asian Infrastructure Gap



Estimated  
Investment  
Needs

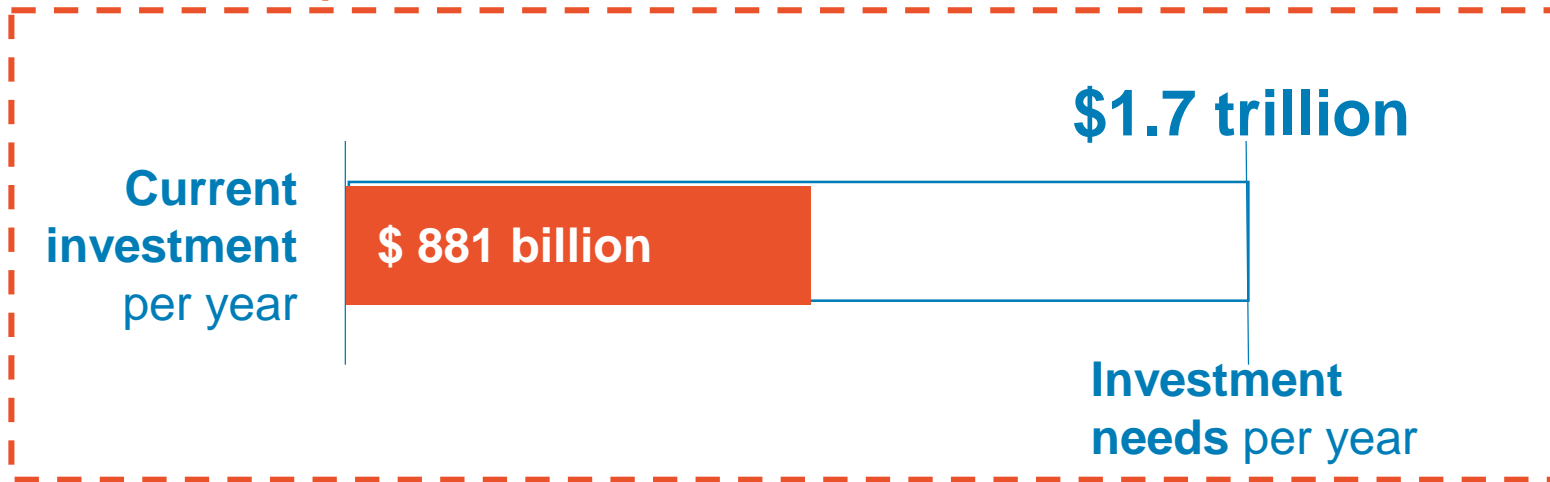
**\$26 trillion**  
(Climate-adjusted)

Sector

<b>Power</b>	\$14.7 trillion
<b>Transportation</b>	\$8.4 trillion
<b>Telecommunications</b>	\$2.3 trillion
<b>Water and sanitation</b>	\$0.8 trillion

Region

<b>Central Asia</b>	\$0.5 trillion
<b>East Asia</b>	\$6 trillion
<b>South Asia</b>	\$6 trillion
<b>Southeast Asia</b>	\$3 trillion
<b>The Pacific</b>	\$0.04 trillion



# Southeast Asia's Infrastructure Needs

**Table 1: Estimated Infrastructure Investment Needs by Region, 45 DMCs, 2016–2030**  
(\$ billion in 2015 prices)

Region/Subregion	Projected Annual GDP Growth	2030 UN Population Projection (billion)	2030 Projected GDP Per Capita (2015 \$)	Baseline Estimates			Climate-adjusted Estimates**		
				Investment Needs	Annual Average	Investment Needs as % of GDP	Investment Needs	Annual Average	Investment Needs as % of GDP
Central Asia	3.1	0.096	6,202	492	33	6.8	565	38	7.8
East Asia	5.1	1.503	18,602	13,781	919	4.5	16,062	1,071	5.2
South Asia*	6.5	2.059	3,446	5,477	365	7.6	6,347	423	8.8
Southeast Asia	5.1	0.723	7,040	2,759	184	5.0	3,147	210	5.7
The Pacific	3.1	0.014	2,889	42	2.8	8.2	46	3.1	9.1
<b>Asia and the Pacific</b>	<b>5.3</b>	<b>4.396</b>	<b>9,277</b>	<b>22,551</b>	<b>1,503</b>	<b>5.1</b>	<b>26,166</b>	<b>1,744</b>	<b>5.9</b>

Note: \* Pakistan and Afghanistan are included in South Asia. \*\* Climate change adjusted figures include climate mitigation and climate proofing costs, but do not include other adaptation costs, especially those associated with sea level rise.

Source: 2015 Revision of World Population Prospects, United Nations; ADB estimates.

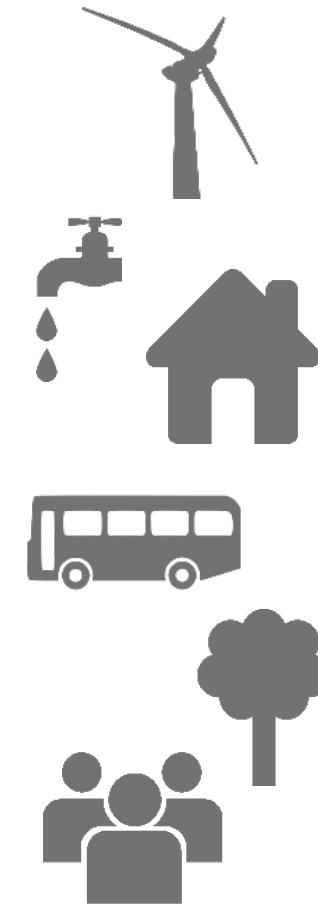
# ASEAN Infrastructure Needs and Business Opportunities are Large:

## The Situation:

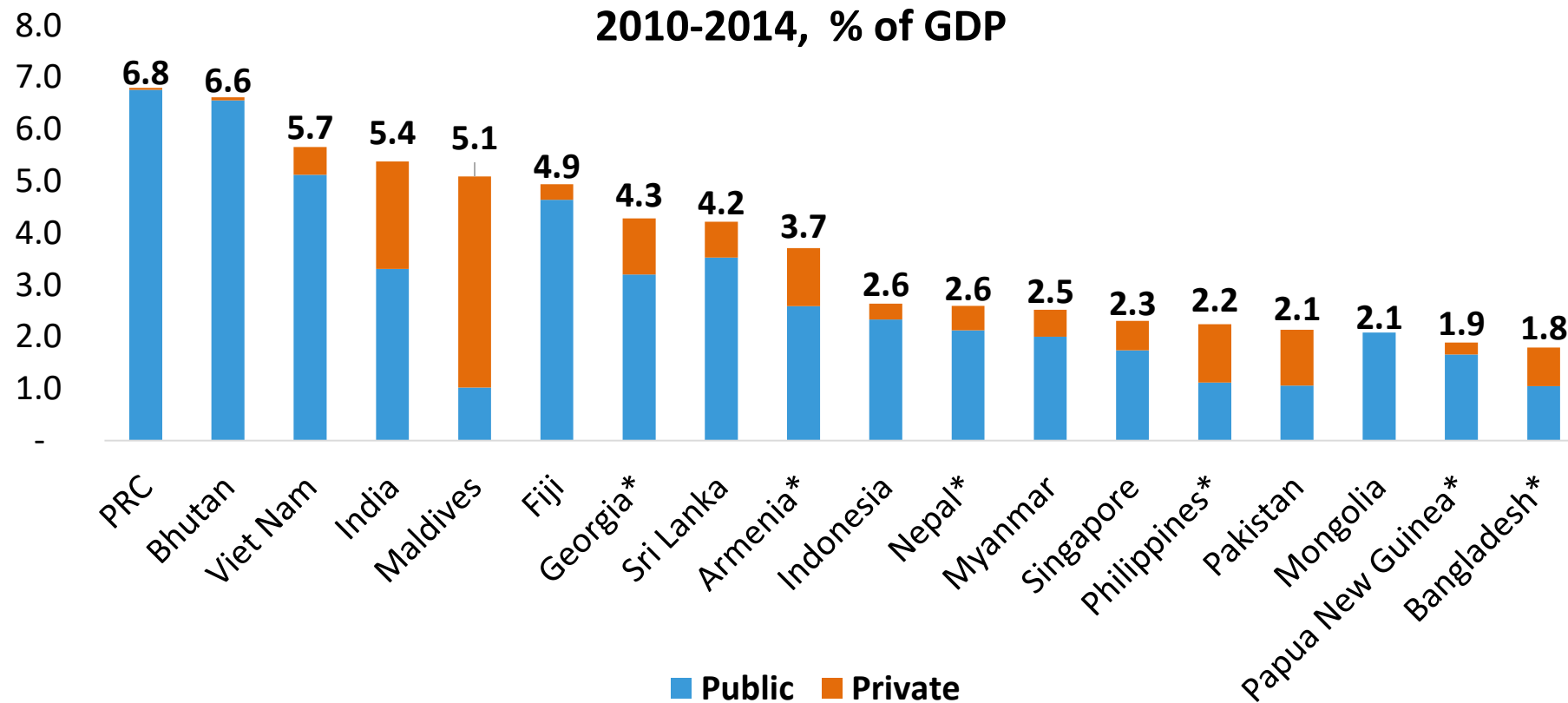
- 60 million people in the region lack access to **electricity** in 2012
- 60 million lack access to **safe drinking water** in 2015
- 174 million people lack access to **improved sanitation facilities** in 2015
- 166 million people live in **urban slums** in 2014
- In Metro Manila, severe **traffic congestion** problems cost the economy an estimated \$52 million per day in lost productivity.

## The Challenge:

- How do we step up infrastructure investment to support **sustainable and inclusive growth** in the region?



# Infrastructure Investment Varies Across Countries



GDP = gross domestic product; PRC = People's Republic of China.

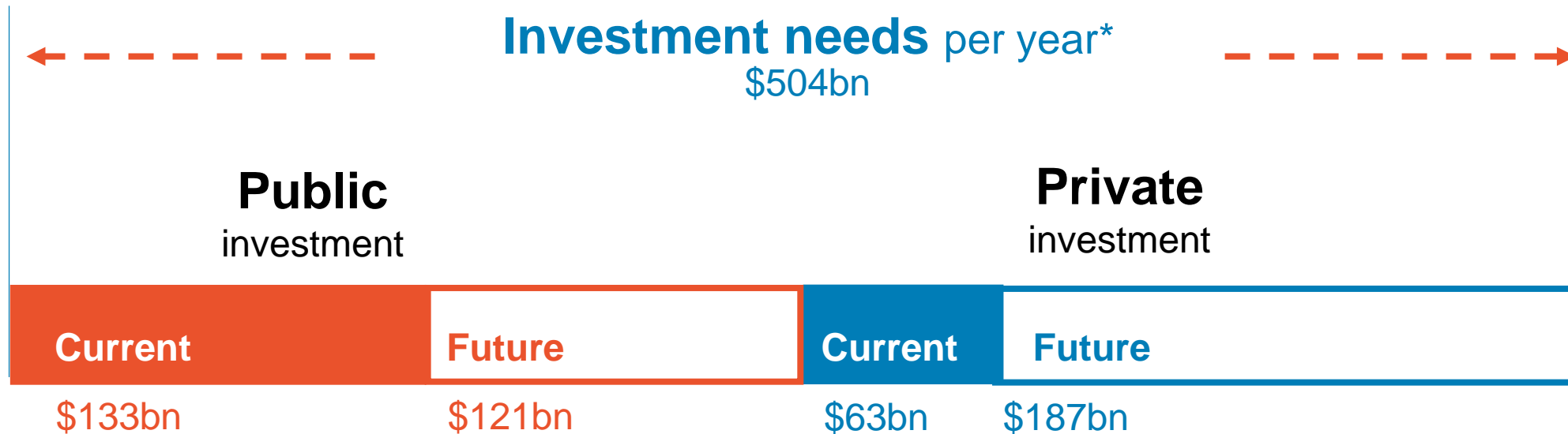
\* Public sector includes central government budget only.

Note: Based on BUDGET + PPI measure. Actual budget investments except Armenia, Bhutan, Georgia, Maldives, Myanmar, and Thailand, which are planned or estimated budget investments.

Sources: Country sources for public sector investments; Private Participation in Infrastructure Database, World Bank; World Bank (2015); World Development Indicators, World Bank; ADB estimates.

# The Asian Infrastructure Gap

## Estimated Funding Sources



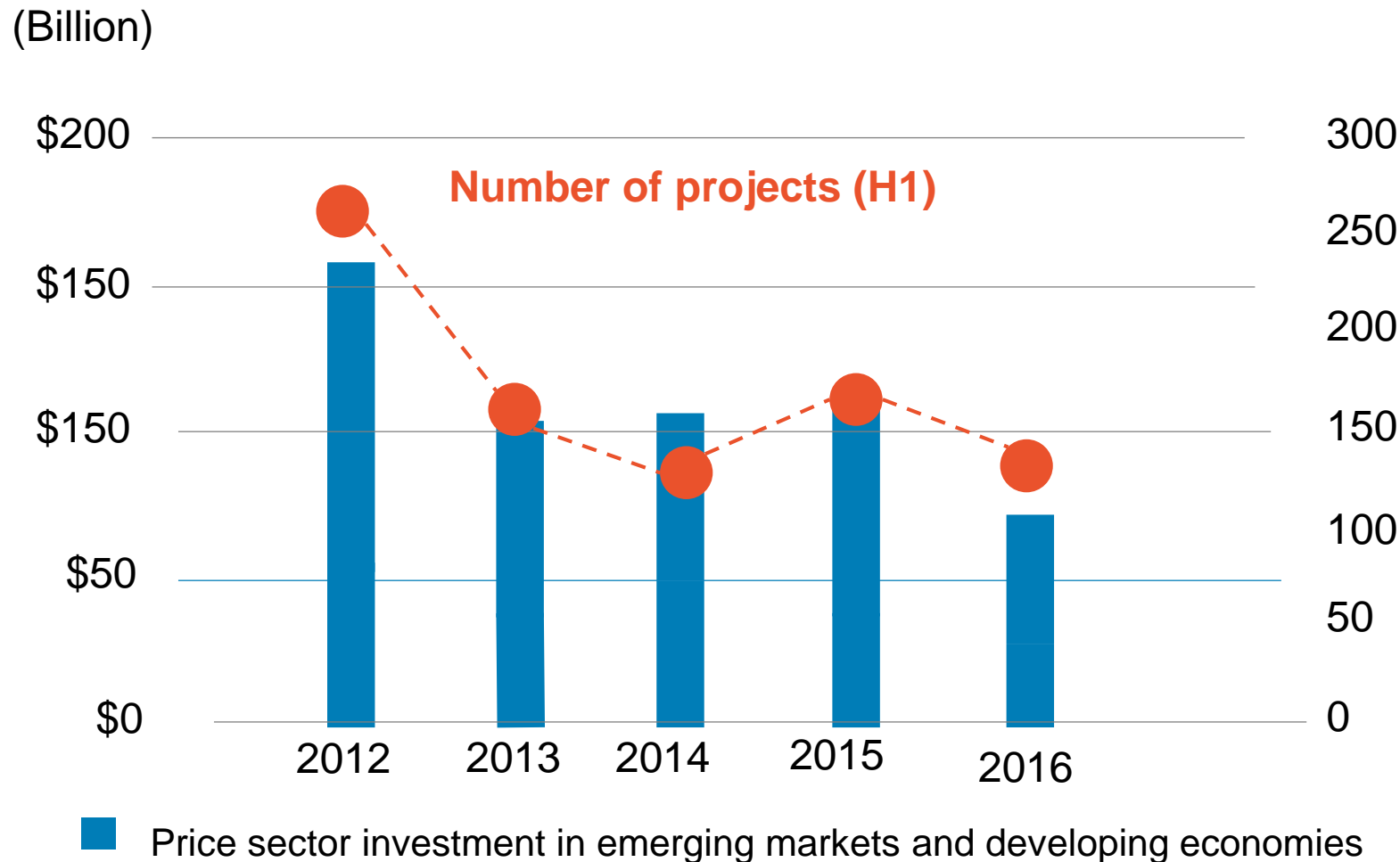
Private funding will need to be  
**300%** of current levels

\*excluding People's Republic of China, in 2015 prices



# Private Sector Engagement in Asian Infrastructure:

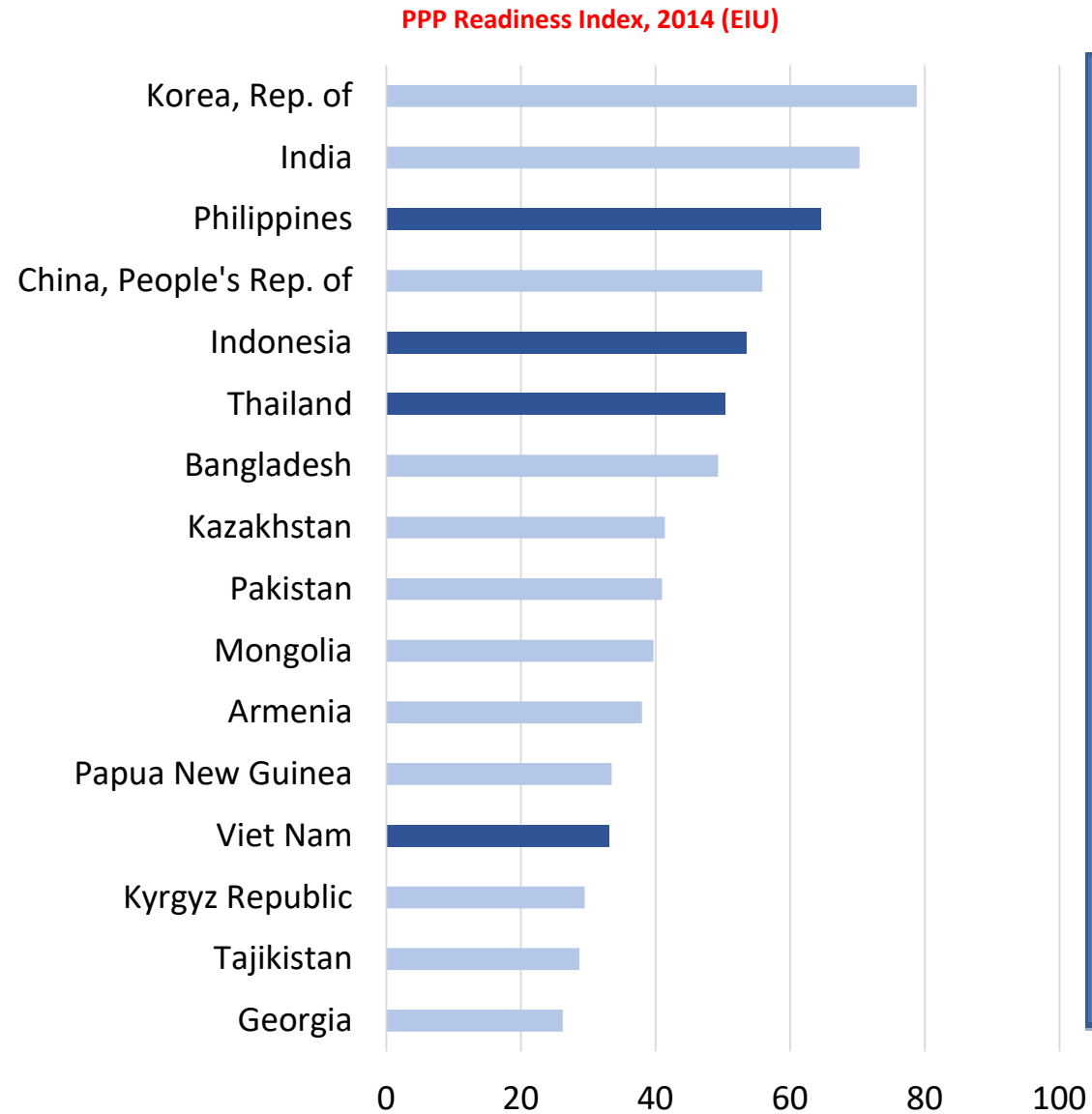
Private sector investment and project number 2012 – 2016



**WHY** private sector investment is declining?

1. Inequitable deal structures by governments.
2. Lack of a supportive legal and regulatory framework.
3. The lack of consistency and prioritization of private sector projects.
4. The uncertainty and lack of transparency associated with bid processes.

# Measures to Attract Private Participation

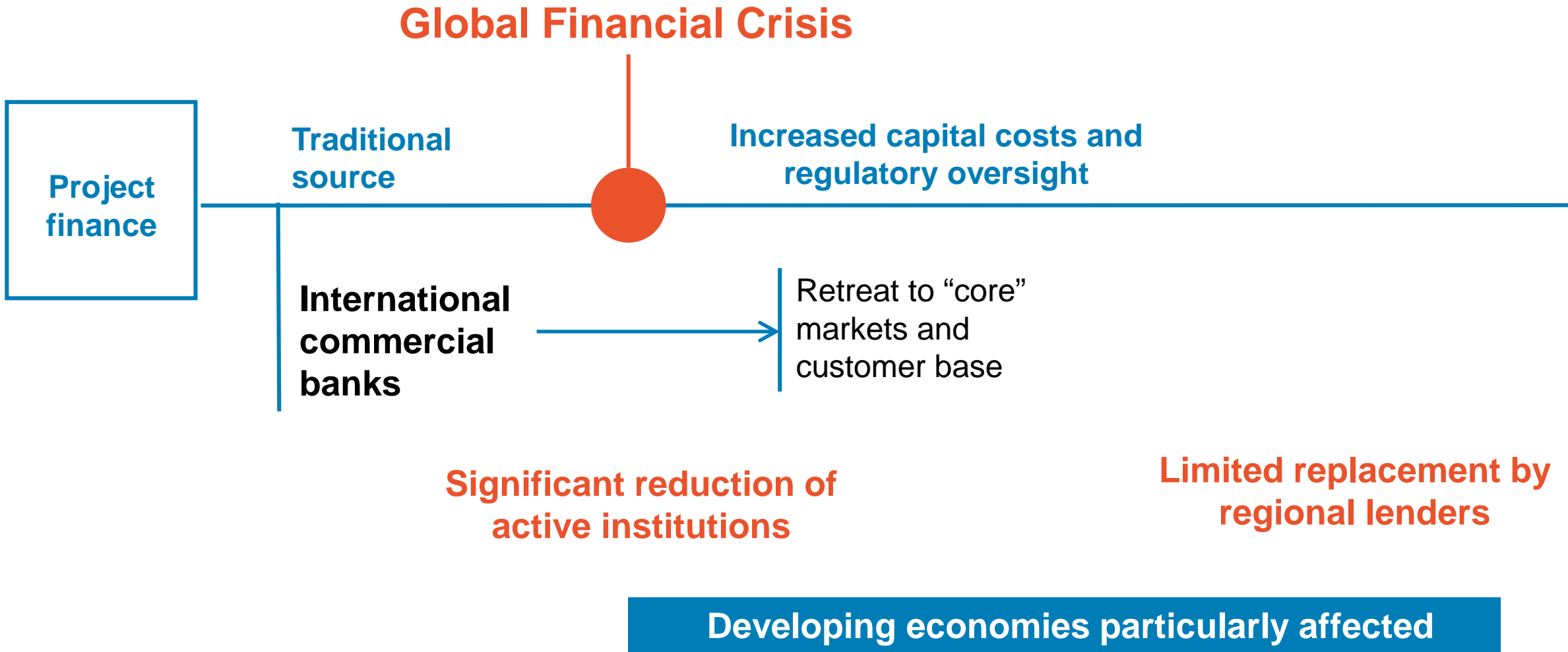


- Identified pipeline of well-prepared projects
- Fair return for risk taken
- Parties able to manage construction and O&M risks
- Investment grade contractual agreements
- Enforceable dispute resolution
- Regulator that ensures competition and rational user charges
- Deepen capital markets
- Attract FDI



# The current financing landscape

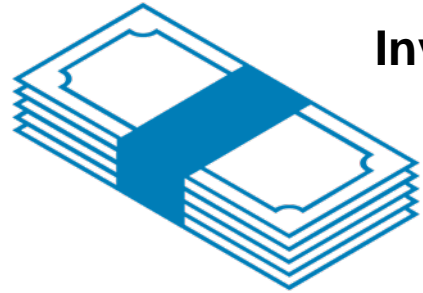
# The Financing Landscape Has Changed





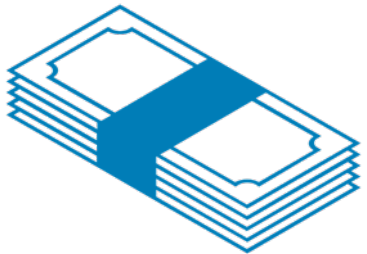
# The potential for institutional investors

# Institutional Investors



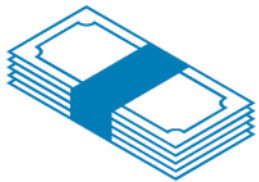
**Investment Companies**

**\$29 trillion**



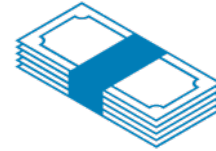
**Insurance Companies  
and Private Pensions**

**\$26 trillion**



**Public Pensions and  
Superannuation Plans**

**\$11 trillion**



**Sovereign Wealth Funds**

**\$6 trillion**



**Infrastructure and  
Private Equity Funds**

**\$3 trillion**



**Endowments and  
Foundations**

**\$1 trillion**

**Pension  
Funds**

**\$7.8 trillion**  
under management

**1%**

invested in  
infrastructure

A wide-angle photograph of a solar farm. The foreground and middle ground are filled with rows of dark blue photovoltaic solar panels, mounted on metal frames. The panels are arranged in a grid pattern that recedes into the distance. In the background, there is a line of green trees and a clear, bright blue sky. The overall scene is well-lit, suggesting a sunny day.

# The role of MDBs and partner organizations

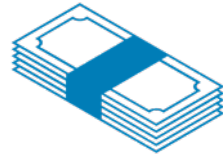


# Role of MDBs and partner organizations



## Assist

- Legal and regulatory frameworks
- Project identification and due diligence
- Development of local currency capital markets



## Finance

- Individual projects or portfolio development
- Credit enhancement
- Help to crowd in global funds



## Pioneer

- Alternative financing techniques
- For example green bonds and credit enhancement
- Creating the right ecosystem, such as sustainability metrics and rating systems



## Convene

- Bring the private and public sectors together.
- Crowd in other partners to support





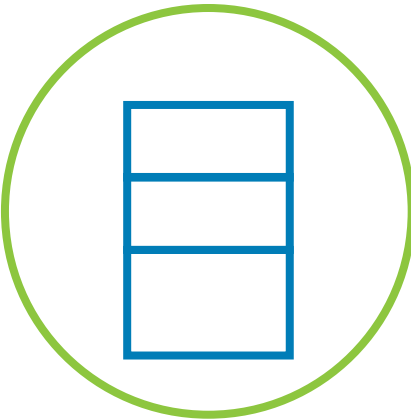
# Key financing modalities



# Key Financing Modalities



**Green Bonds**



**Blended Finance**



**Catalyzing  
Green  
Finance**



**Credit Guarantees**



# Green Bonds



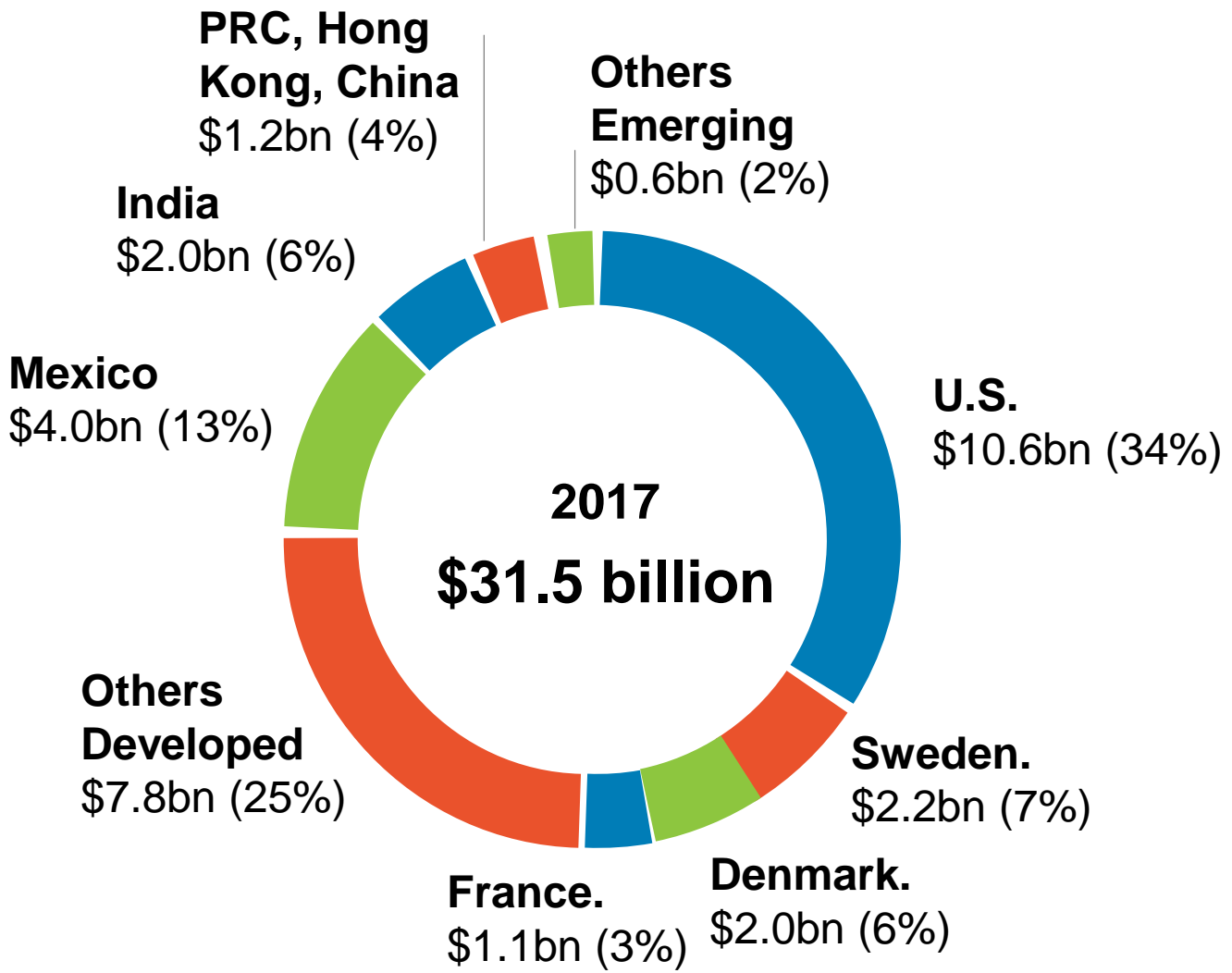
Initial issue

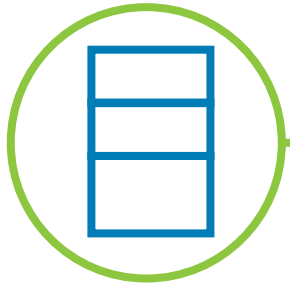
2017

Amounting to **\$155.5 billion**

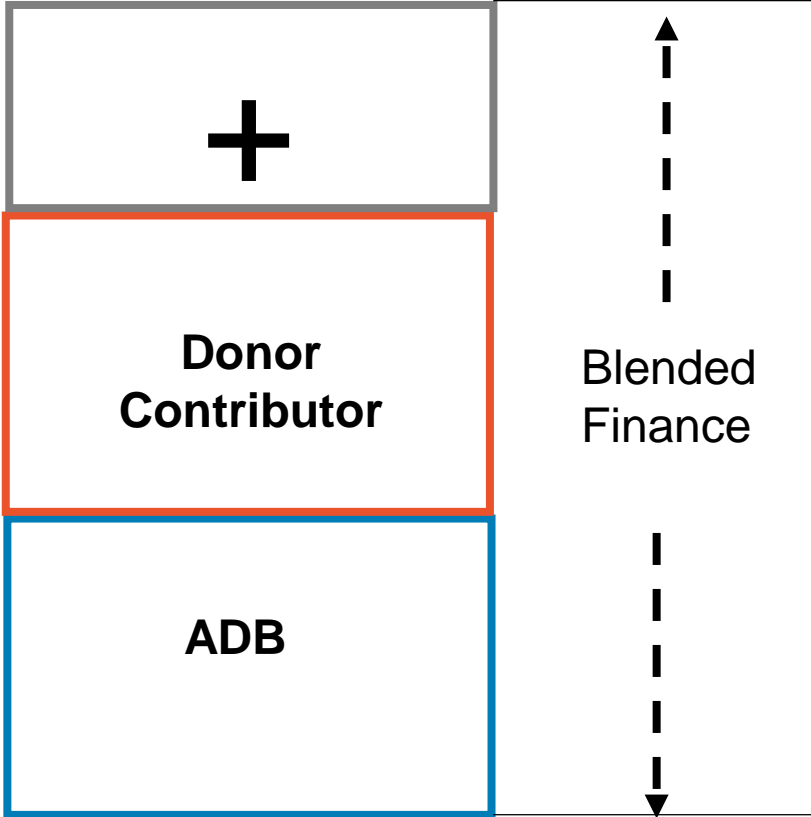
2020

Expected to issue amounting to **\$1 trillion**





# Blended Finance



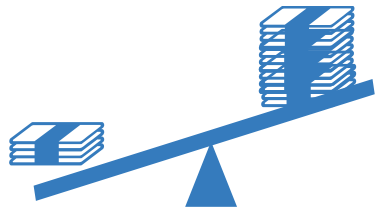
- Combining concessional finance alongside DFI's normal financing activities and/or commercial finance.
- Blended finance targets the provision of important benefits to society beyond those which are captured by the private sector.
- Blended Finance can confer "bankability".



# Catalyzing Green Finance



**Innovative financing**



**Resource leveraging**



**Knowledge collaboration**



**Green Finance Catalyzing Facility (GFCF)**



# Credit Guarantees



**ADB**



**Political Risk  
Guarantee**



**Commercial bank**



Loan



**Project borrower**



**Host government**



Support



**Government Agency/  
State owned enterprise**



Tariff/availability  
payment

The background features a light blue and white color scheme. On the right side, there is a vertical strip containing several interlocking gears of various sizes. Some of the gears have symbols inside them, including the ASEAN logo (a stylized eagle) and the ADB logo (a stylized 'A' with a horizontal bar). In the background, behind the gears, a faint city skyline with several skyscrapers is visible. The overall aesthetic is clean and professional, suggesting a focus on infrastructure, economics, and regional development.

# **PPPs IN ASEAN AND ADB'S ROLE**

# ADB's Public-Private Partnership Operational Plan 2012-2020



In Asia and the Pacific, ADB provides an integrated and holistic approach to PPPs

- Regional departments' support for PPP framework and institutions
- Provision of transaction advisory services, and
- Sovereign and nonsovereign financing of projects

## What is New with ADB Office of PPP

### **Public-Private Partnership Monitor**

A new ADB survey designed to monitor progress of PPP business environment in selected developing member countries with respect to legal and institutional framework.

### **Infrastructure Referee Program**

Supports provision of an independent third party opinion to help public and private parties resolve disagreements that may arrive over the life of a PPP project





# PPPs in the Philippines

- In the Philippines, the Government has established a robust PPP program with 55 PPP projects – (awarded and under implementation) – covering highways, airports, light rail, mass transit, railways, classrooms, a prison facility, tourism, transport terminals, natural gas pipeline and ports.
- Fifteen projects with total project costs of \$6.2 billion have been awarded since 2011.
- Many of these projects promote better connectivity with ASEAN such as the Cebu-Mactan International airport upgrade.



ADB President Takehiko Nakao acknowledged support from City of Yokohama Mayor Fumiko Hayashi for a project improving solid waste management

## ADB's PPP Support for Cebu City, Philippines

- Through the Asia-Pacific Project Preparation Facility (AP3F) provides technical assistance to help improve and modernize solid waste management in Cebu City under PPP modality.
- Funds a pre-feasibility study which helps city authorities prepare strong project concept, with the private sector expected to design, build, finance, operate and maintain infrastructure delivery and quality of life for residents.
- AP3F was announced in May 2015 with approximately \$73 million in initial funding including \$40 million from the government of Japan, CA\$20 million from Canada, and A\$10 million from Australia with ADB's \$10 million contribution.

# Conclusions

A large array of solar panels is installed on a roof, extending towards a horizon of trees and hills under a blue sky with light clouds. The panels are arranged in a grid pattern and reflect the sky. The word "Conclusions" is overlaid in large white text on the left side of the image.



## Conclusions

- The sustainable infrastructure gap requires mobilization of new funding sources.
- The private sector is an increasingly important source.
- Unlocking institutional investment is a high priority.
- There is a growing variety of other financing modalities that can complement traditional funding.
- MDBs and partners can help governments create the right environment and bring the right projects.



## Conclusions cont.

- Multilateral Development Banks Can Be Critical Factor In Addressing The Financing Of The Global Infrastructure Gap.
- The Key Issue Remains. Host Governments Should Create The Environment For Viable, Scalable Infrastructure Projects Which Will Attract Widespread Private Sector Investment And Foster Financial Innovation.



/AsianDevBank



@ADB\_HQ



/AsianDevelopmentBank



/AsianDevelopmentBank

**Fei Yu**  
**Deputy Representative**  
**North American Representative Office**  
**Asian Development Bank**  
**feiyu@adb.org**  
**[www.adb.org/naro](http://www.adb.org/naro)**