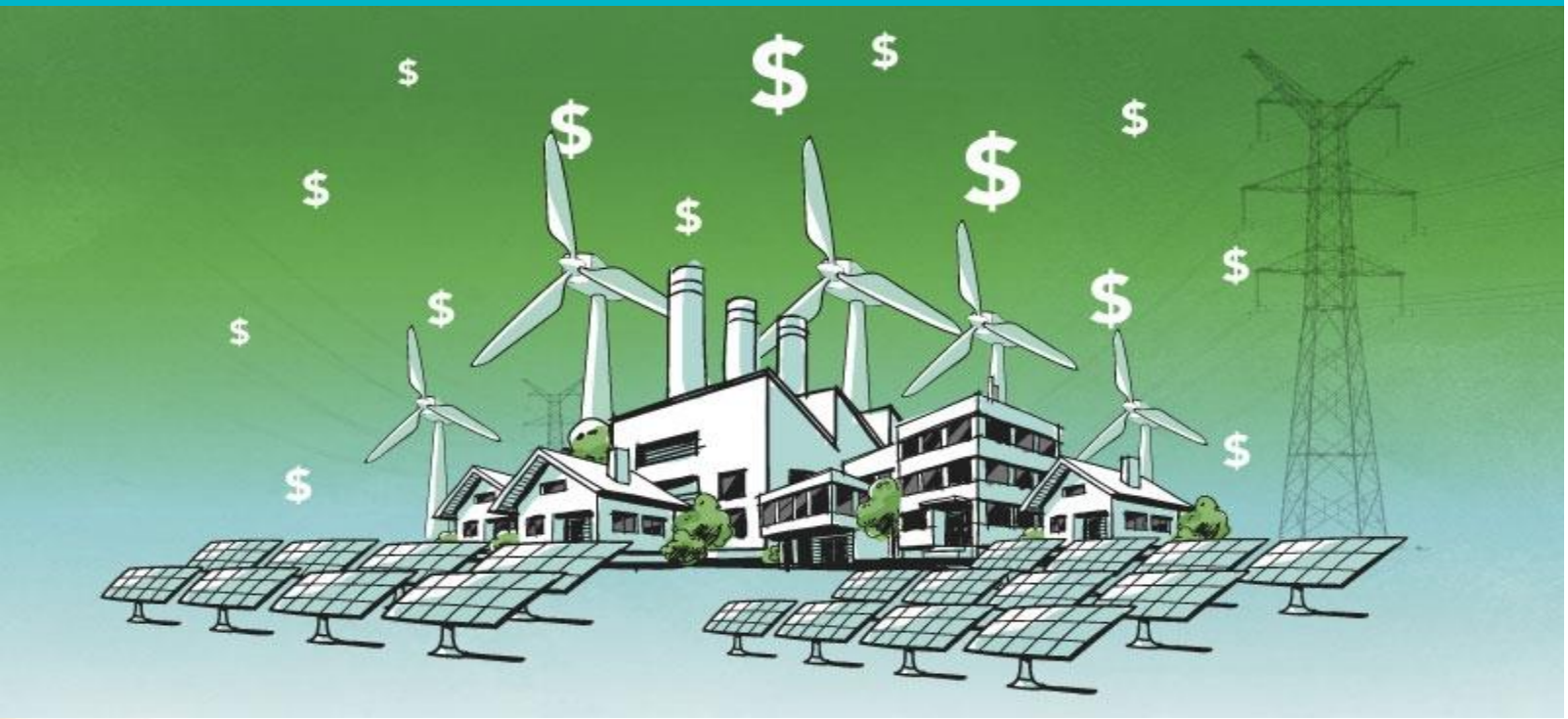
Energy Investment Outlook



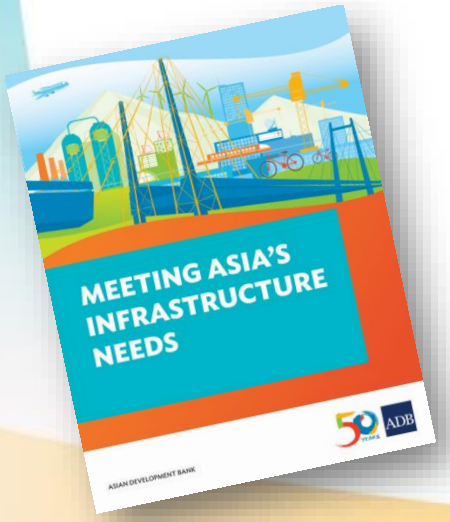
Objectives

- Energy Investment Outlook up to 2030 in Asia and the Pacific, and the CAREC Region
- World energy investment trends in 2018
- Conclusions and suggestions for unlocking private investments

Why Infrastructure Investment Matters?

- Infrastructure is essential for development; it affects economic activity and people's lives

- Type of infrastructure and technology have serious implications for economic sustainability



(ADB 2017 report covered transport, power, telecom and, water supply and sanitation)

Assessing infrastructure needs

- **Baseline estimates:** Based on relationship between each type of infrastructure and economic / demographic factors

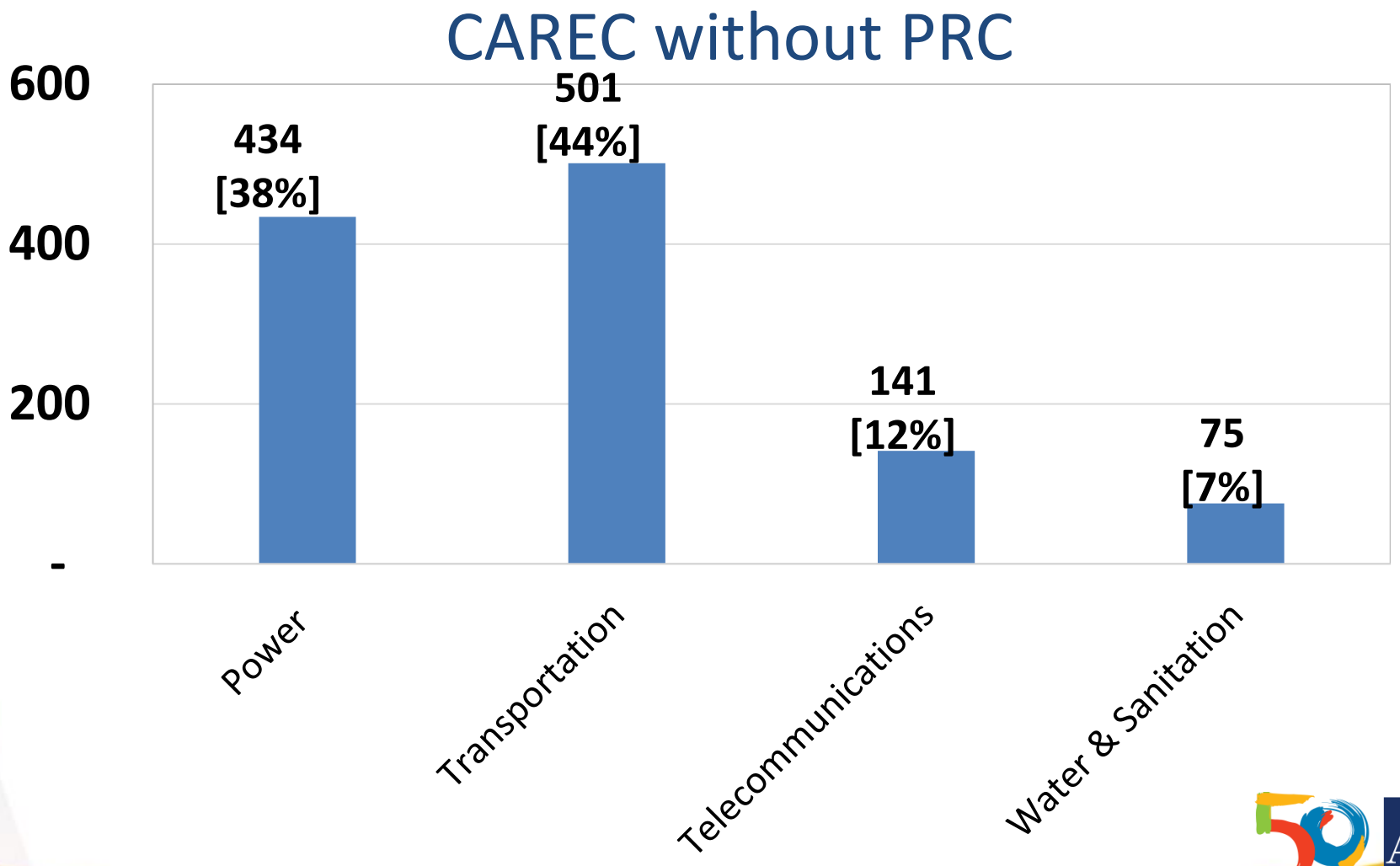
- **Climate-adjusted estimates:** Add climate mitigation and proofing costs

Infrastructure investment needs, 2016–2030 ($ billion in 2015 prices)

	Baseline		Climate adjusted	
	Total	% of GDP	Total	% of GDP
Asia and the Pacific	22,551	5.1	26,166	5.9
PRC	13,120	5.0	15,267	5.8
CAREC with PRC	14,160	5.1	16,419	5.9
CAREC without PRC	1,040	7.7	1,152	8.6
Annual Average	**69.3**		**76.8**	

Sources: 2030 population projections from UN Population Division; others are ADB estimates.

Infrastructure investment needs by sector, 2016–2030 ($ billion in 2015 prices)



Note: Figure s inside the brackets are percentage shares of total.
Source: ADB estimates.

How big are infrastructure investment gaps?

Infrastructure investments and gaps, 2016–2020 ($ billion in 2015 prices)

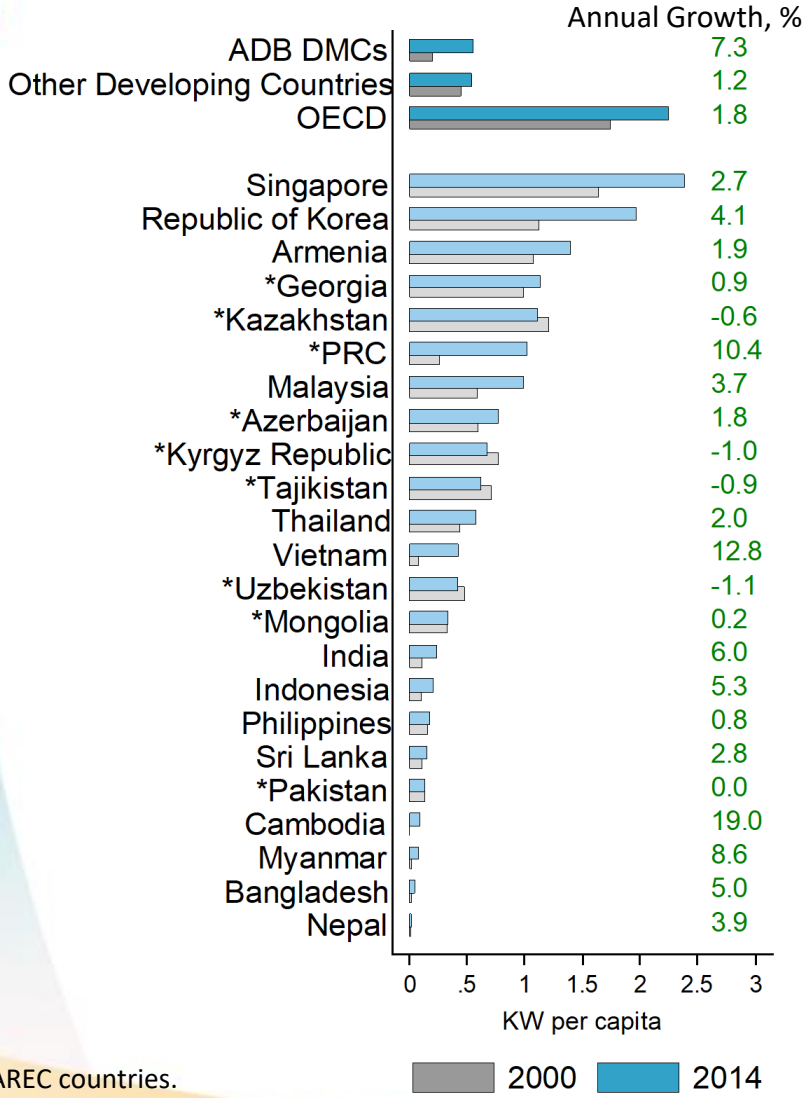
	Estimated current investment (2015)	Climate adjusted		
		Annual needs	Gap	Gap as % of GDP
25 DMCs	881	1,340	459	2.4
without PRC	195	503	308	5.0
CAREC*	698	884	186	1.4
without PRC	12	47	35	6.4
PRC	686	837	151	1.2

Note: Gap = Investment Needs – Current Investment

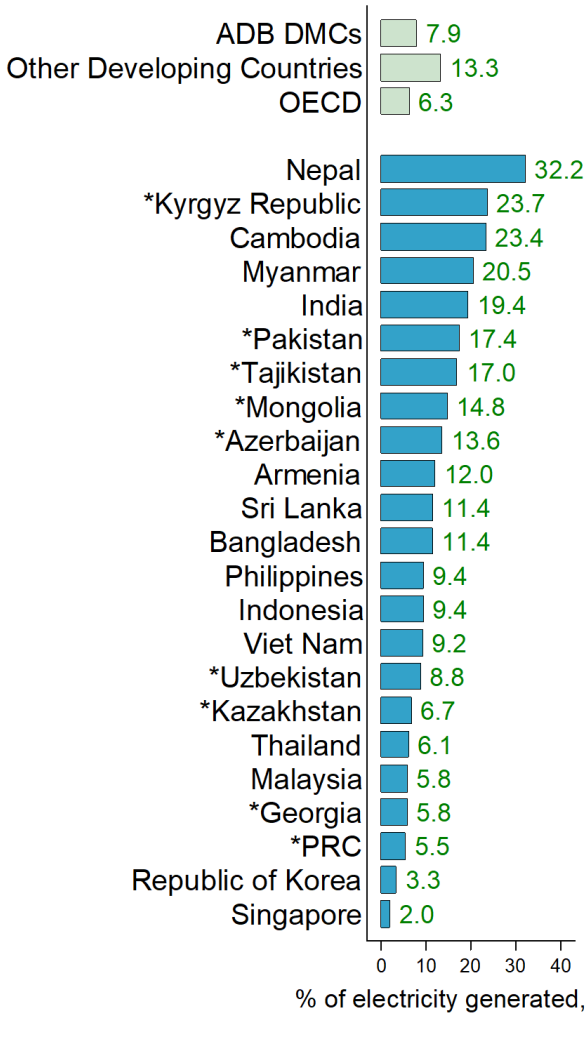
*Countries include Afghanistan, People's Republic of China, Kazakhstan, Kyrgyz Republic, Mongolia, and Pakistan.

More and better infrastructure is needed

Electricity Generation Capacity



Transmission and Distribution Loss

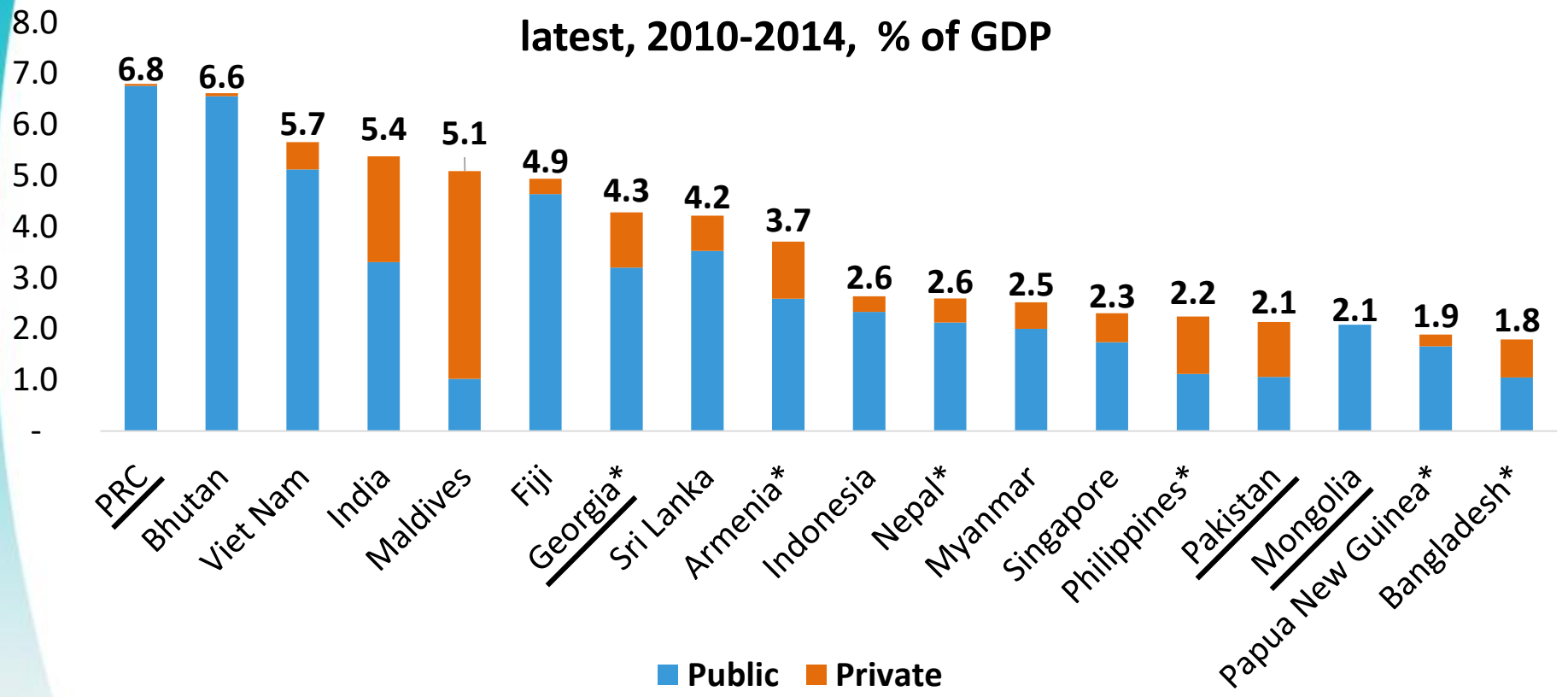


*CAREC countries.

Note: Regional averages are calculated with population as weights.

Source: International Energy Statistics, US Energy Information Administration; World Development Indicators, World Bank.

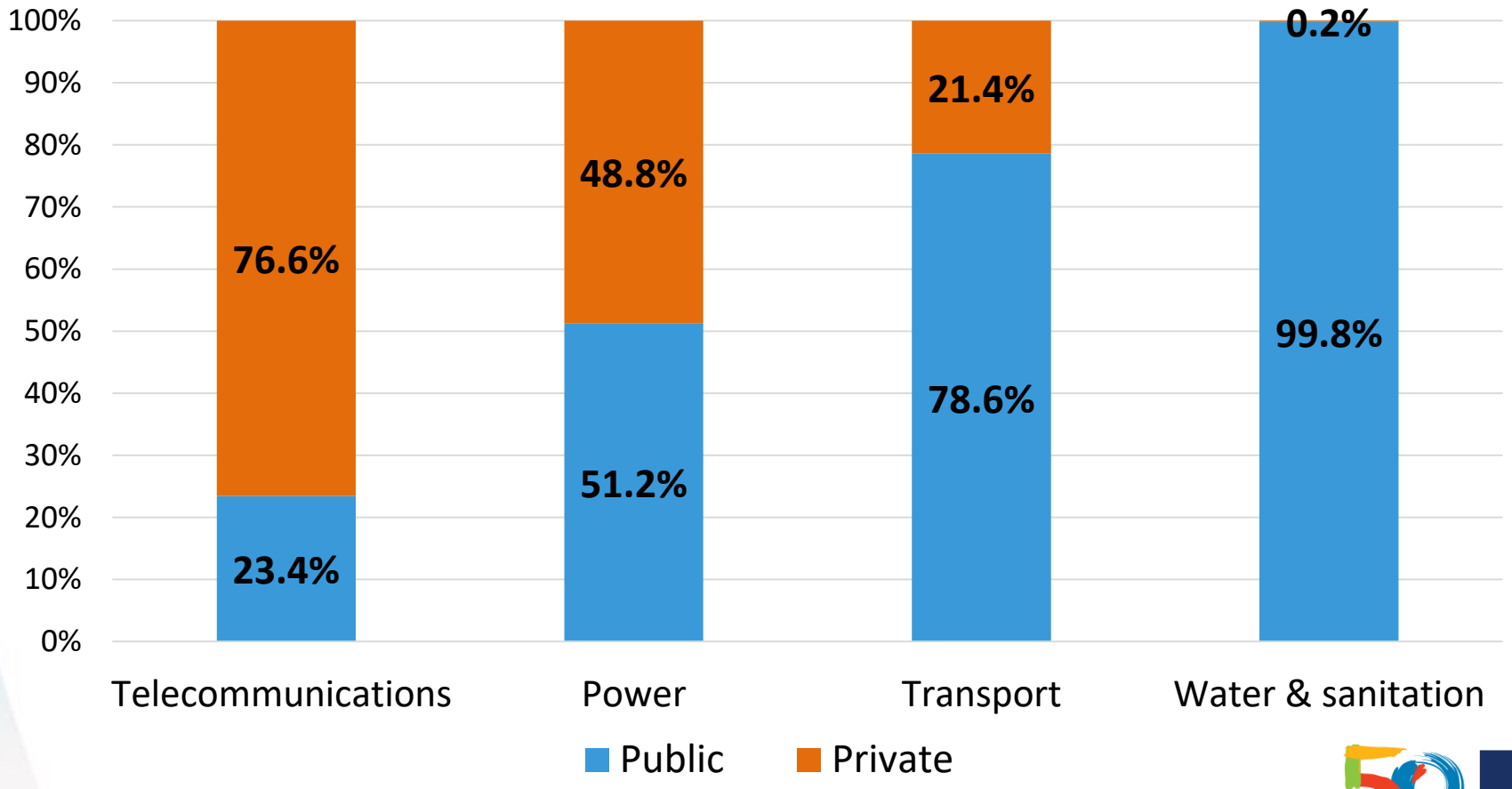
Infrastructure investment varies across countries



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.

Telecom and power more attractive to private finance

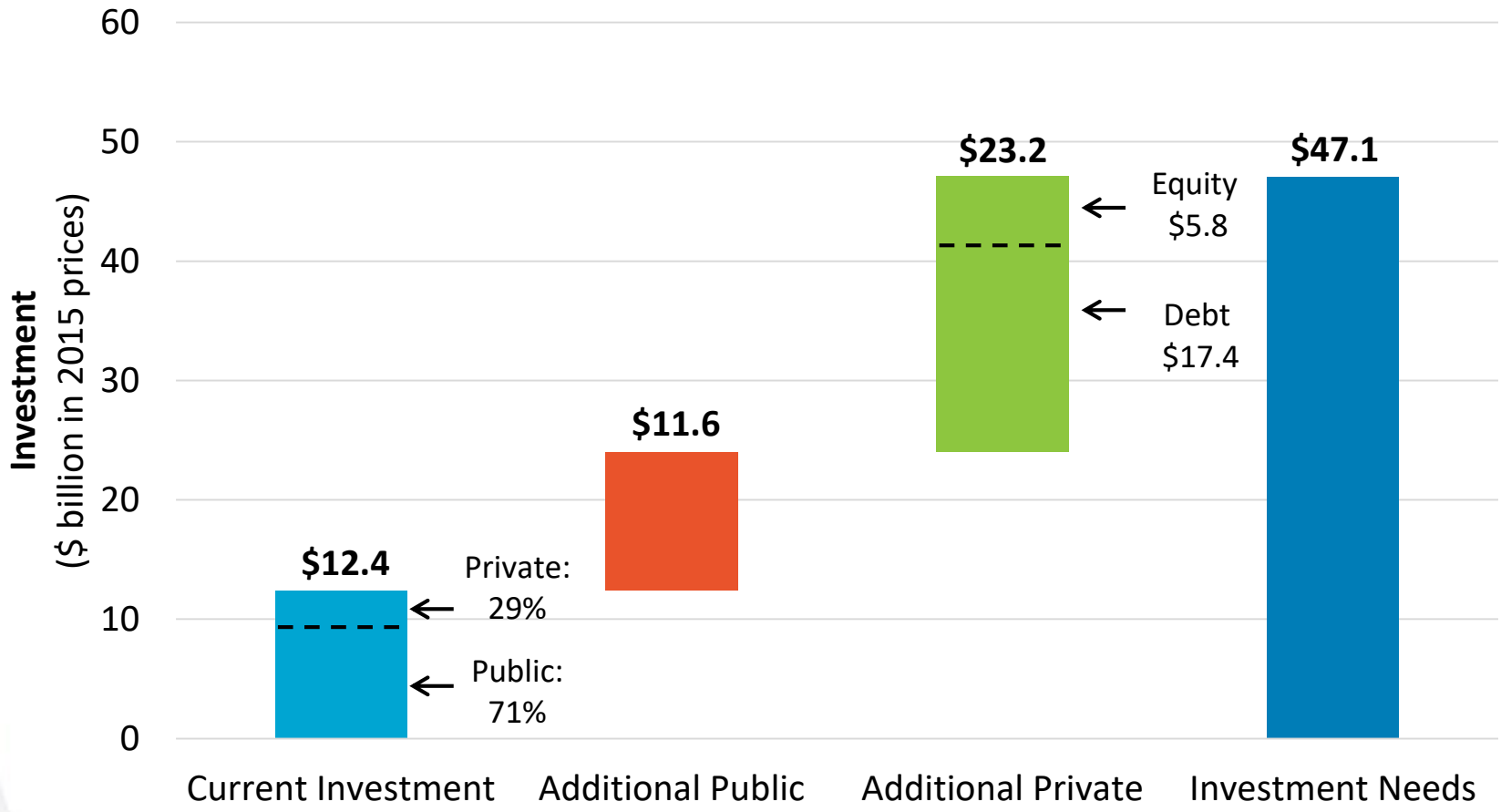
Public/Private share of infrastructure investment, 2011



Source: ADB estimates based on country sources and Private Participation in Infrastructure Database, World Bank; World Development Indicators, World Bank.

Bridging the gap: Selected CAREC countries

Infrastructure investment by financing source, ***excluding PRC***,* **2016–2020,**
(annual average, $ billion in 2015 prices)

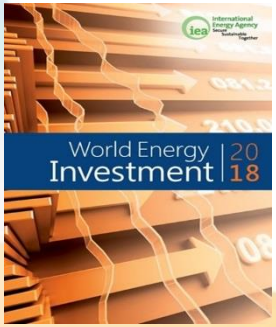


* Countries include Afghanistan, Kazakhstan, Kyrgyz Republic, Mongolia, and Pakistan
Note: Numbers may not add up due to rounding.
Source: ADB estimates based on data from country budget documents, NAS data from national statistic offices, IMF Investment and Capital Stock Dataset, Asian Development Bank Key Indicators 2016, World Bank World Development Indicators, World Bank Private Participation in Infrastructure Database.

GLOBAL ENERGY INVESTMENTS AND KEY TRENDS 2018

2018 Global Investments in Power Sector

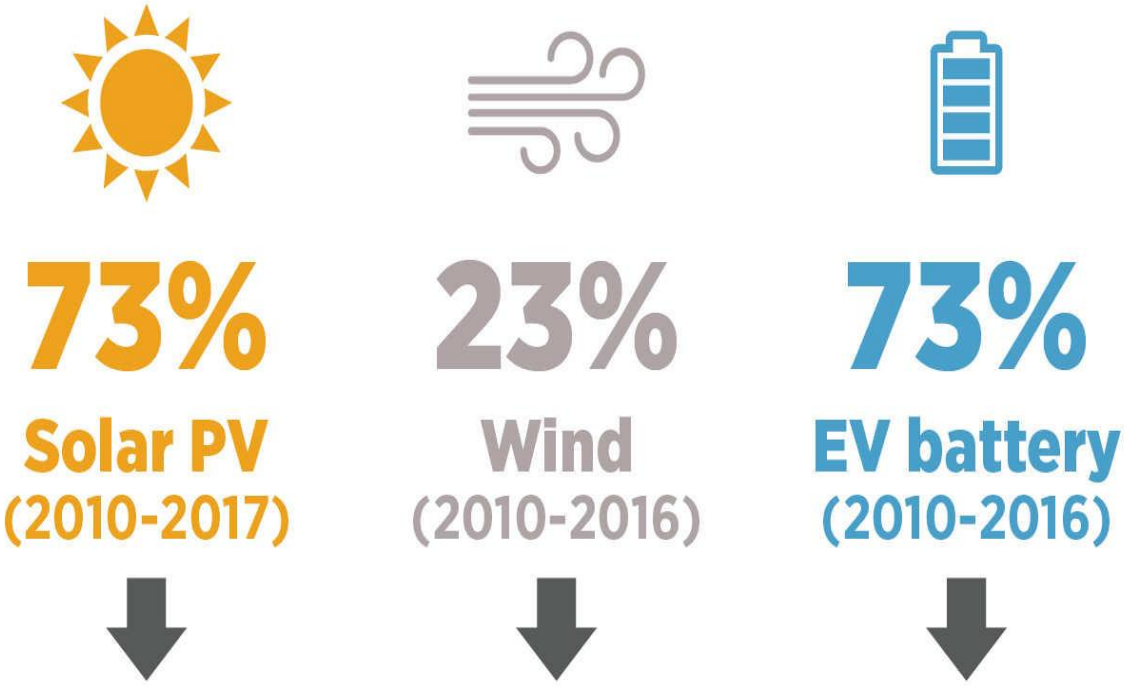
- $1.8 trillion global energy investment; of which $750 billion (b) in power sector
- $450 b in generation; two-third or $300 b investment in renewable. Sharp decline in gas, coal and nuclear
- Network investments nearly $300 b; smart meters+ advanced distribution+ EV charging = 10% of total



(Source - International Energy Agency : World Energy Investment

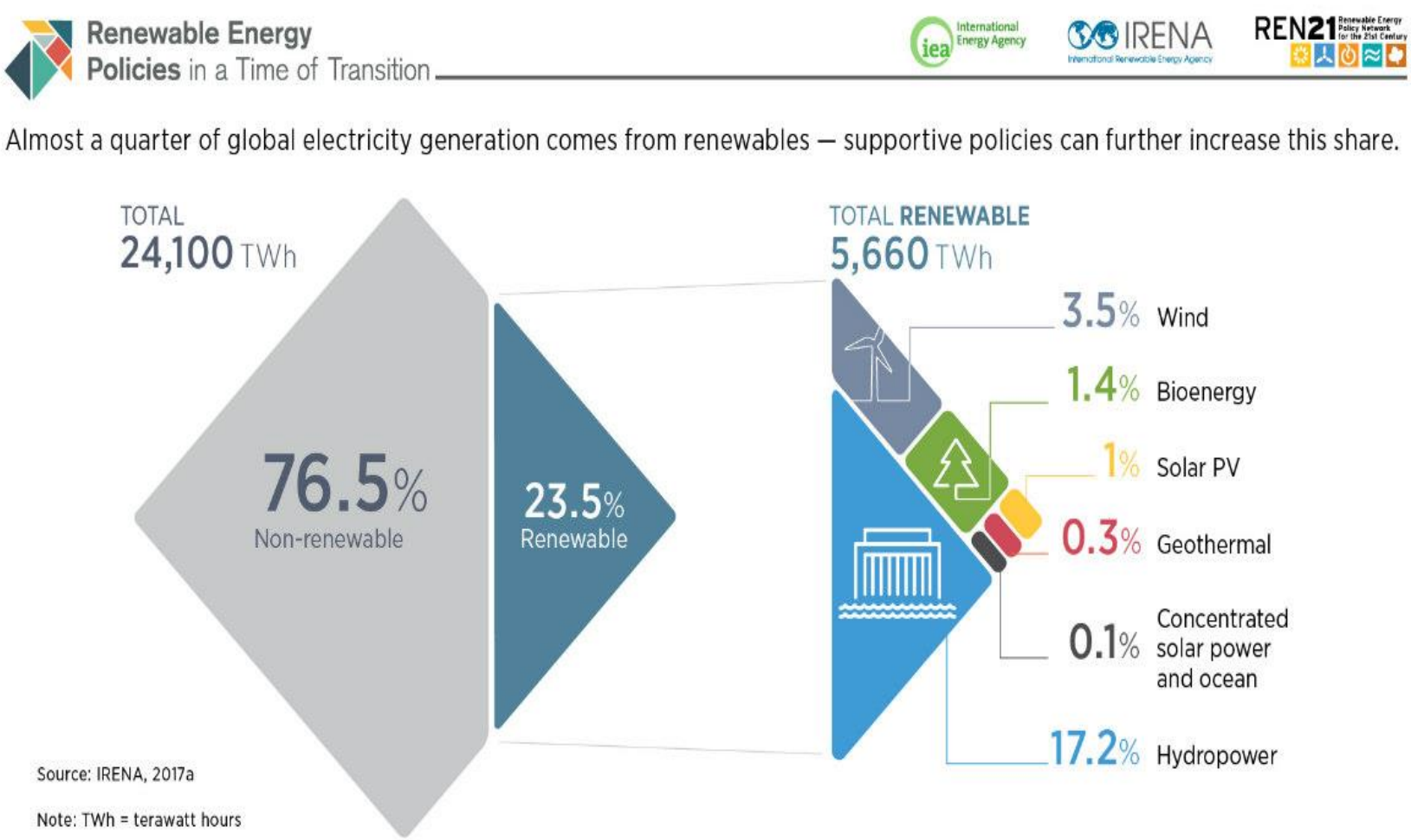
Key trends

Renewable energy has become dramatically cheaper to produce and store

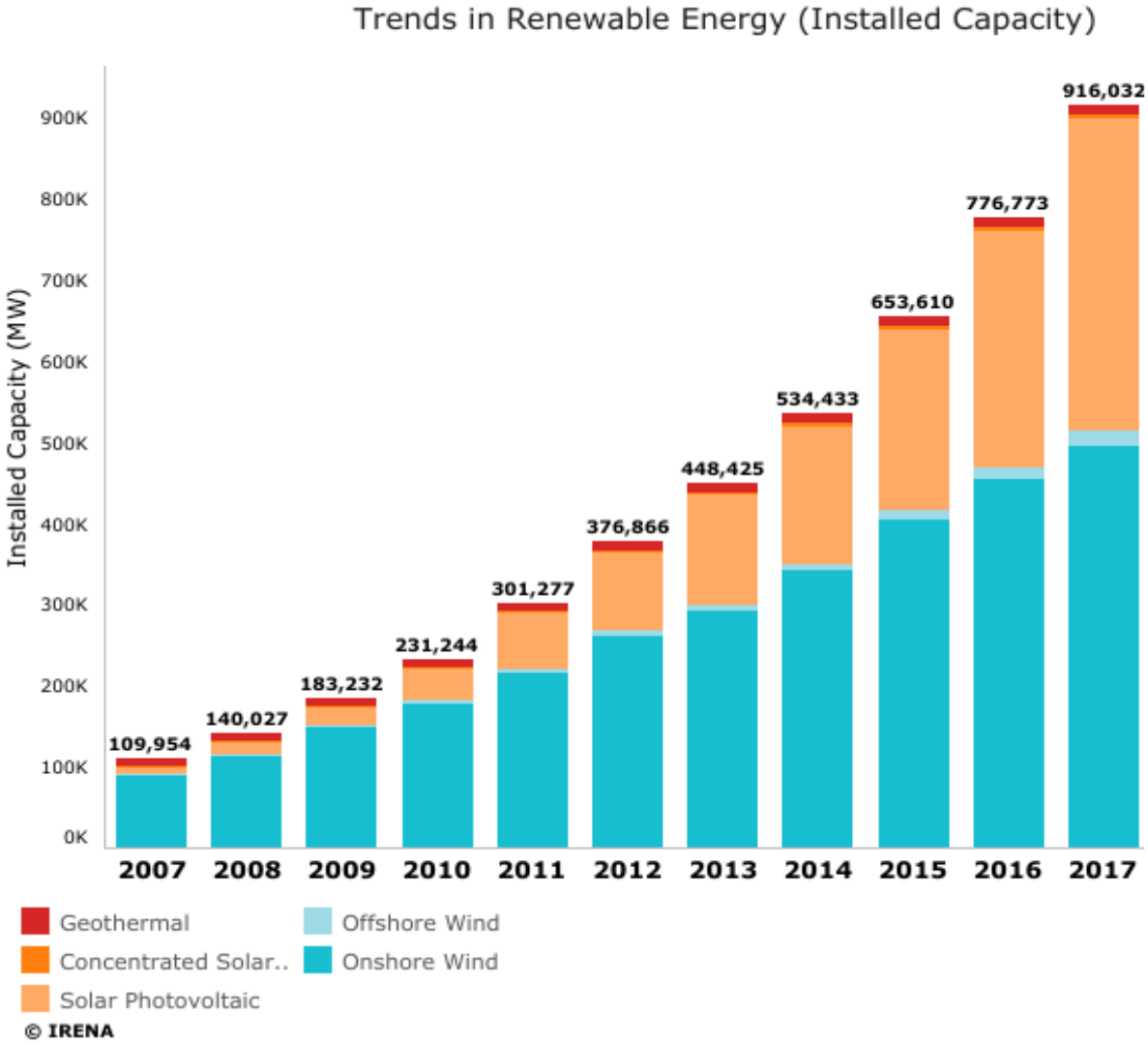


Source: International Renewable Energy Agency (IRENA)

Key Trend .....(contd)

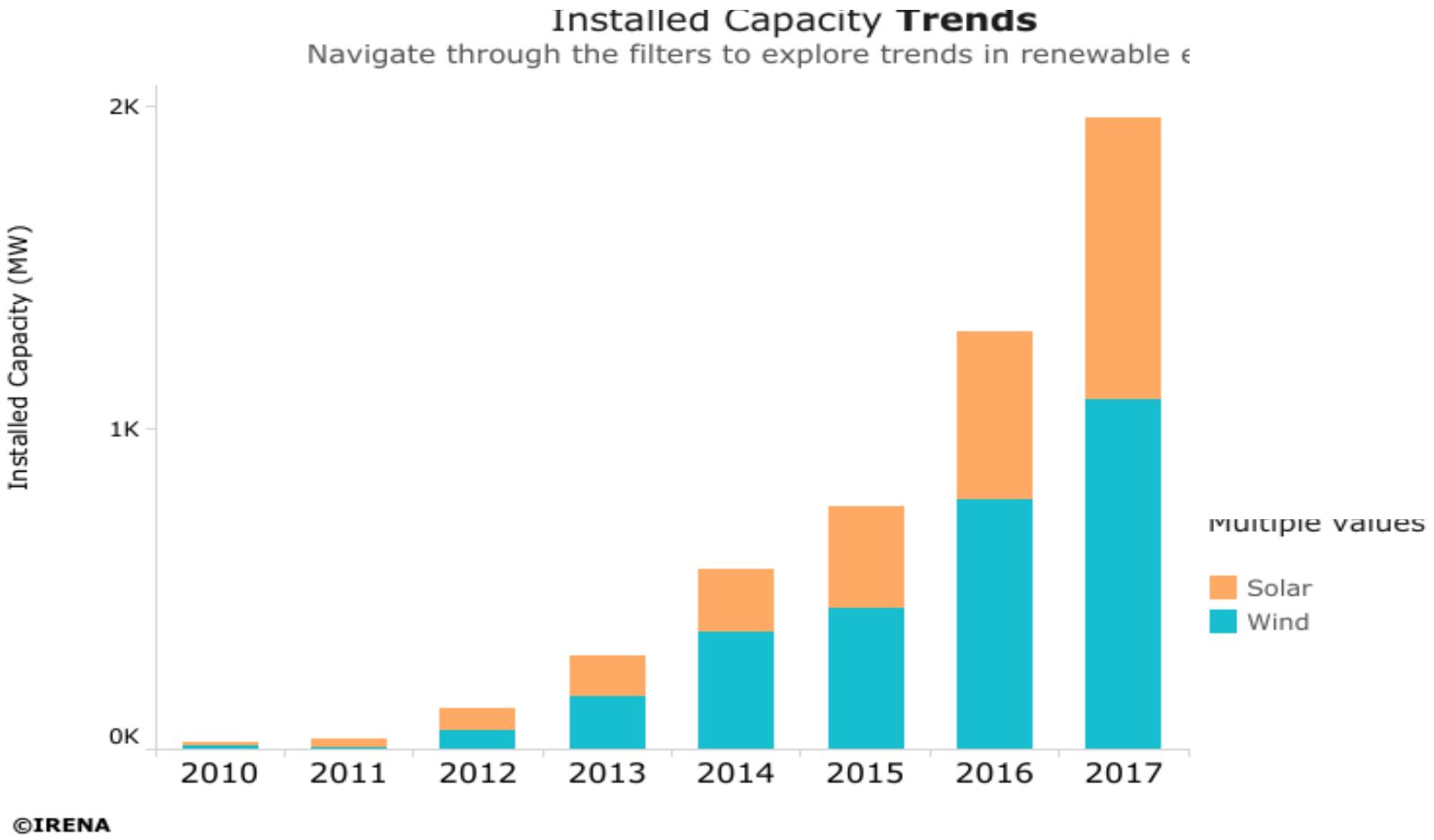


Global Renewable Energy Capacity



CAREC - Renewable Energy Capacity

(without PRC and TKM data)



Some other key energy investments

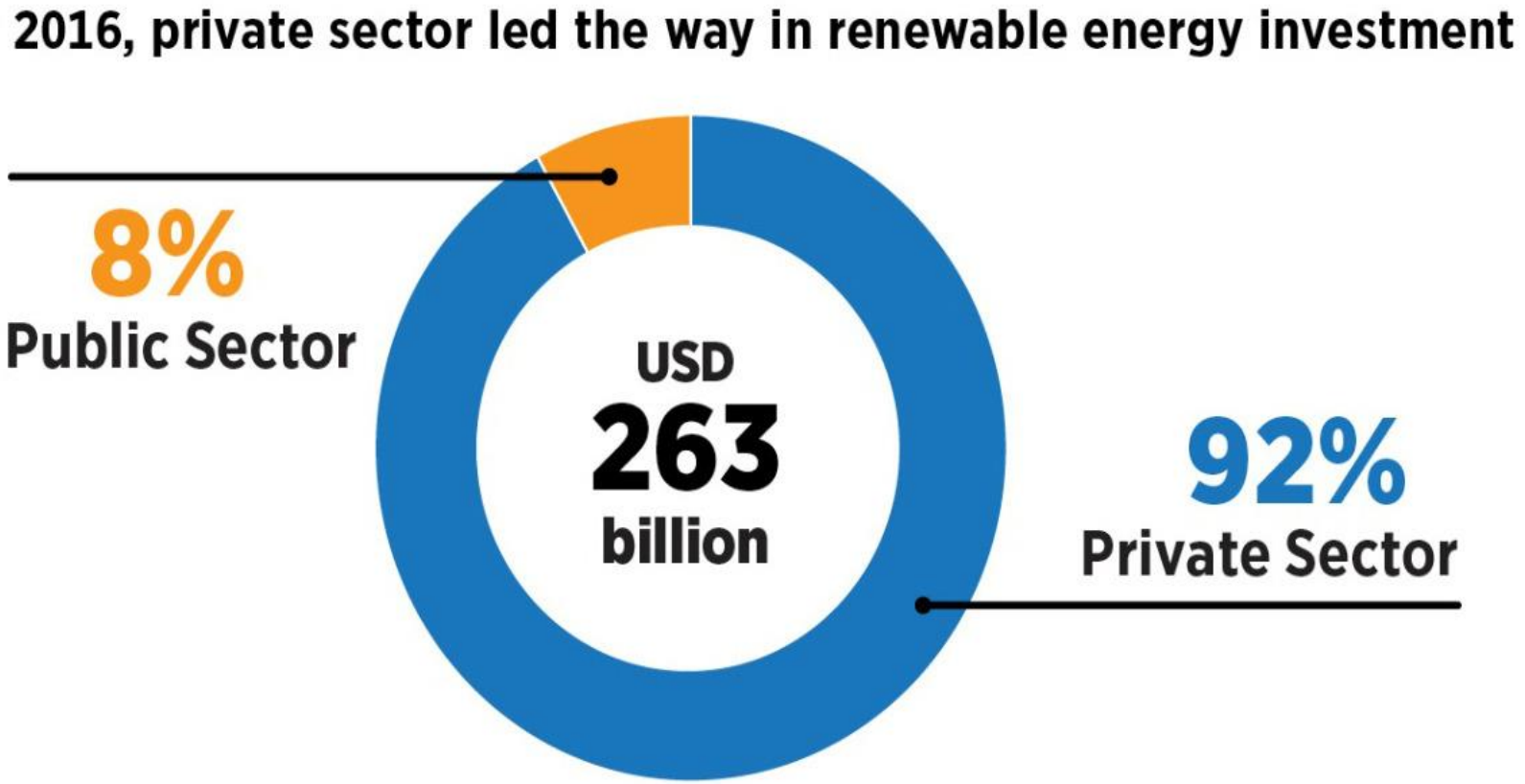
- $236 billion investments in energy efficiency across building, transport and industry
- EV Market grew to $43 billion
- $8 billion investment in EV Batteries; $2 billion investment in stationary batteries

CONCLUSIONS AND SUGGESTIONS

Key messages

- Energy transition is well underway
- Urgent need to scale-up investments - both public and private; reforms are key
- Technologies are available and becoming more affordable

Private Sector led investment in Renewable Energy ?



Policies to close the gap

Fiscal reforms

Tax reforms

Spending reorientation

Prudent borrowing

Nontax revenues

Promoting private participation

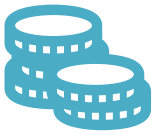
Create conducive investment climate

Make greater use of pubic-private partnerships (PPPs)

Deepen capital markets

Better planning, design and execution

Role for MDBs



MDB infrastructure financing in Asia is 2.5% of current investment

MDB finance for infrastructure will rise.

Blending finance with expertise and knowledge, support policy reform, promoting regional cooperation

Thank you!

For further info: abhargava@adb.org