

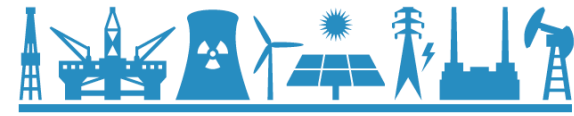
MEETING CHINA'S CLIMATE GOALS

September 21, 2015



David Sandalow

Center on Global Energy Policy
Columbia University

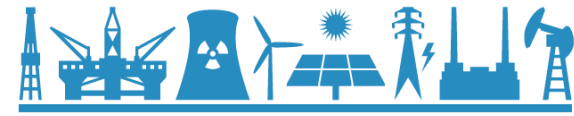


1.Chinese Emissions

2.China's Climate Policy Architecture

3.US-China Climate Cooperation





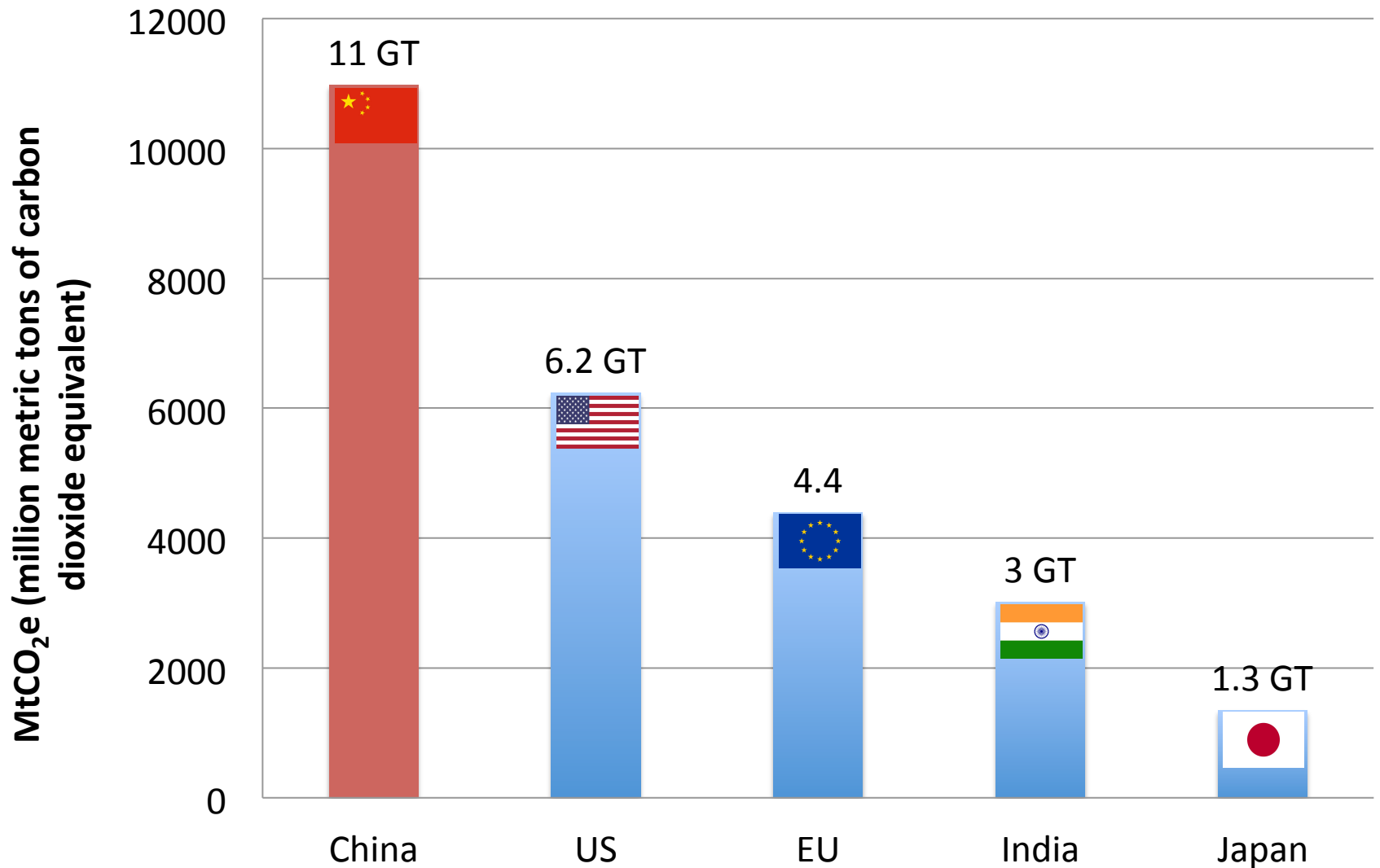
1.Chinese Emissions

2.China's Climate Policy Architecture

3.US-China Climate Cooperation

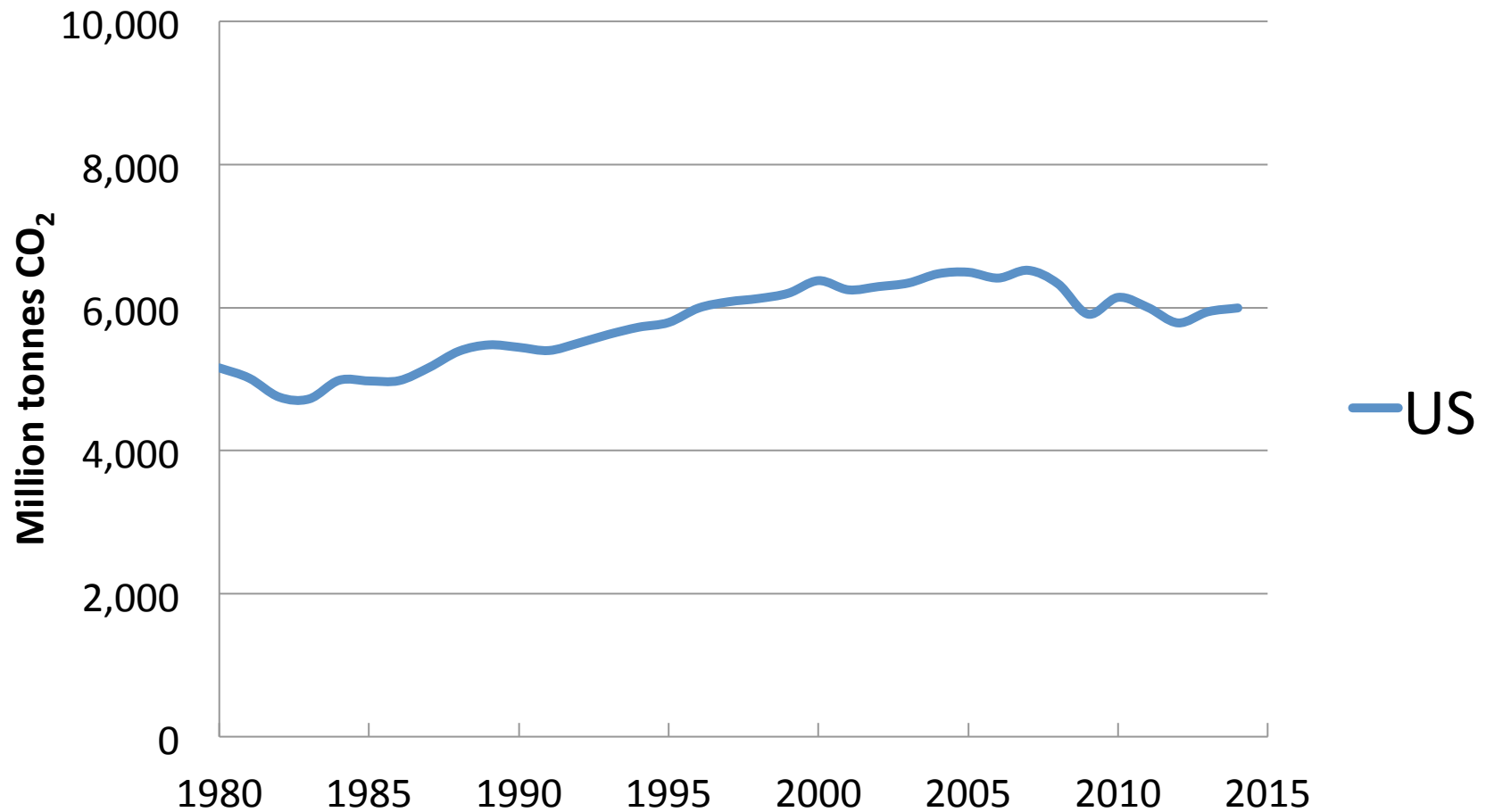


Total GHG emissions by country



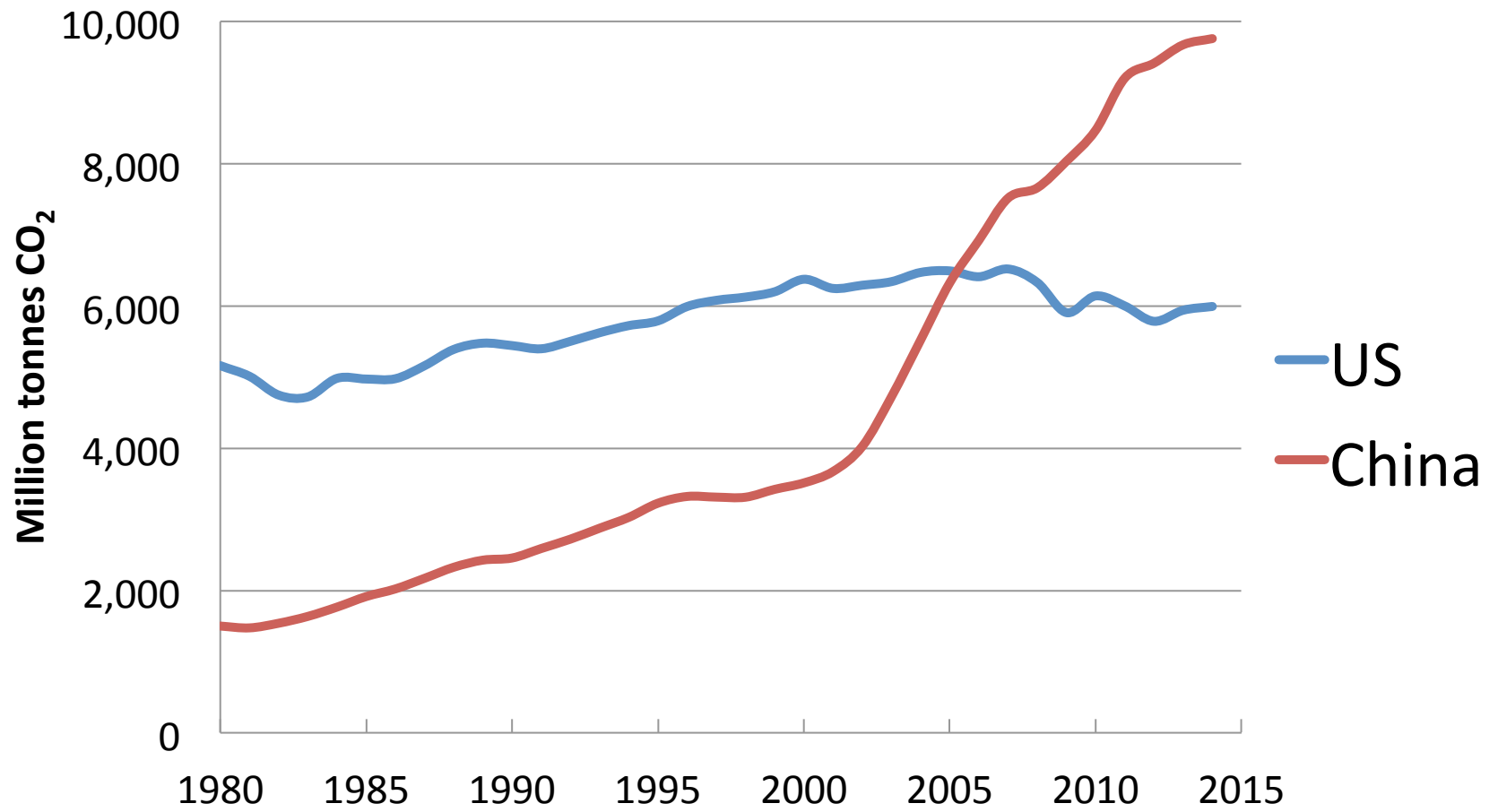
Source: World Resources Institute, CAIT Climate Data Explorer. Country GHG Emissions. 2012 data.

CO₂ Emissions 1980–2014



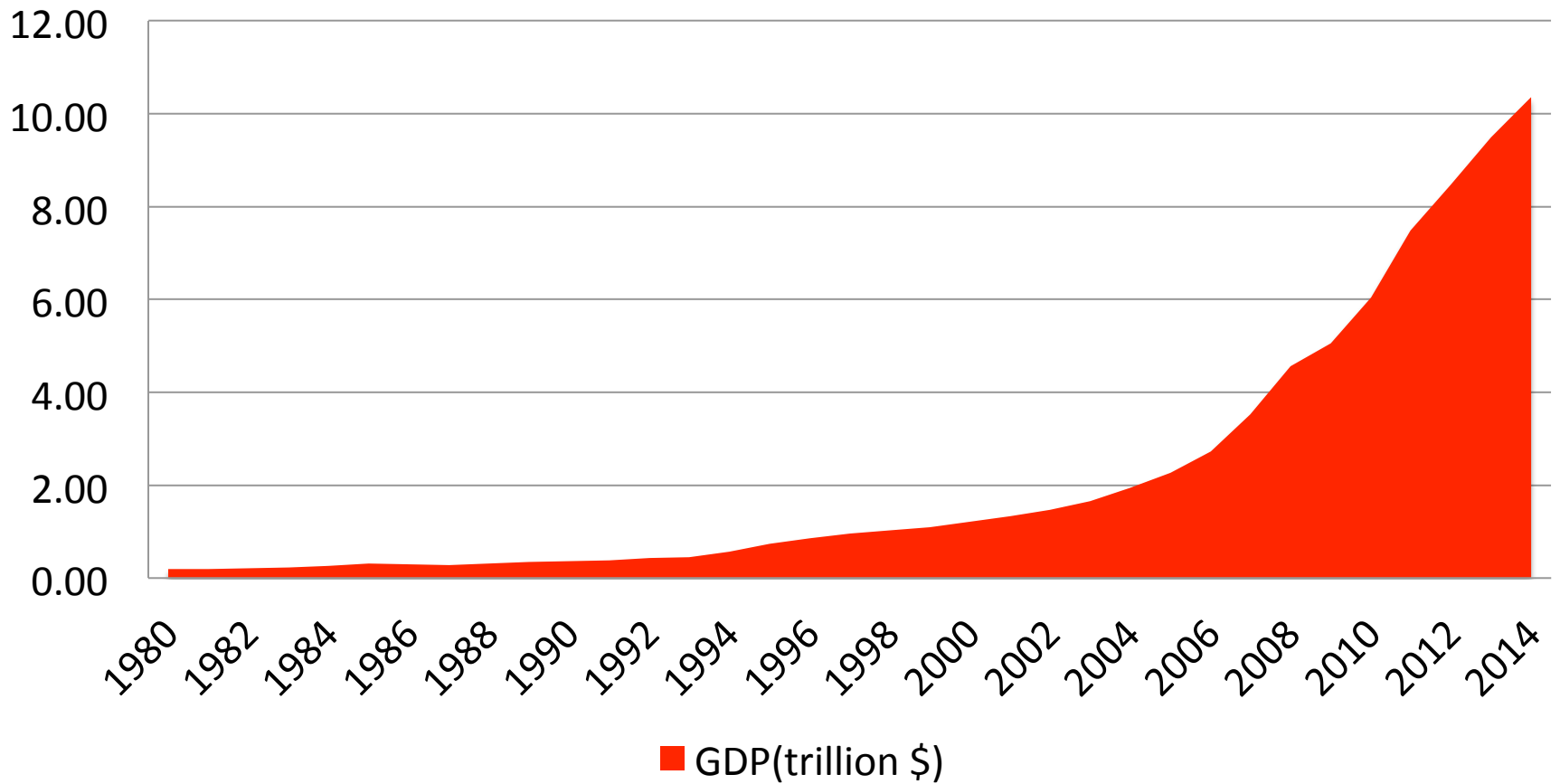
Source: BP Statistical Review of World Energy 2015

CO₂ Emissions 1980–2014



Source: BP Statistical Review of World Energy 2015

China – Annual GDP 1980-2014



Source: World Bank Group

View of Pudong, Shanghai (1983)



View of Pudong, Shanghai (2010)









Tiananmen Square, Beijing

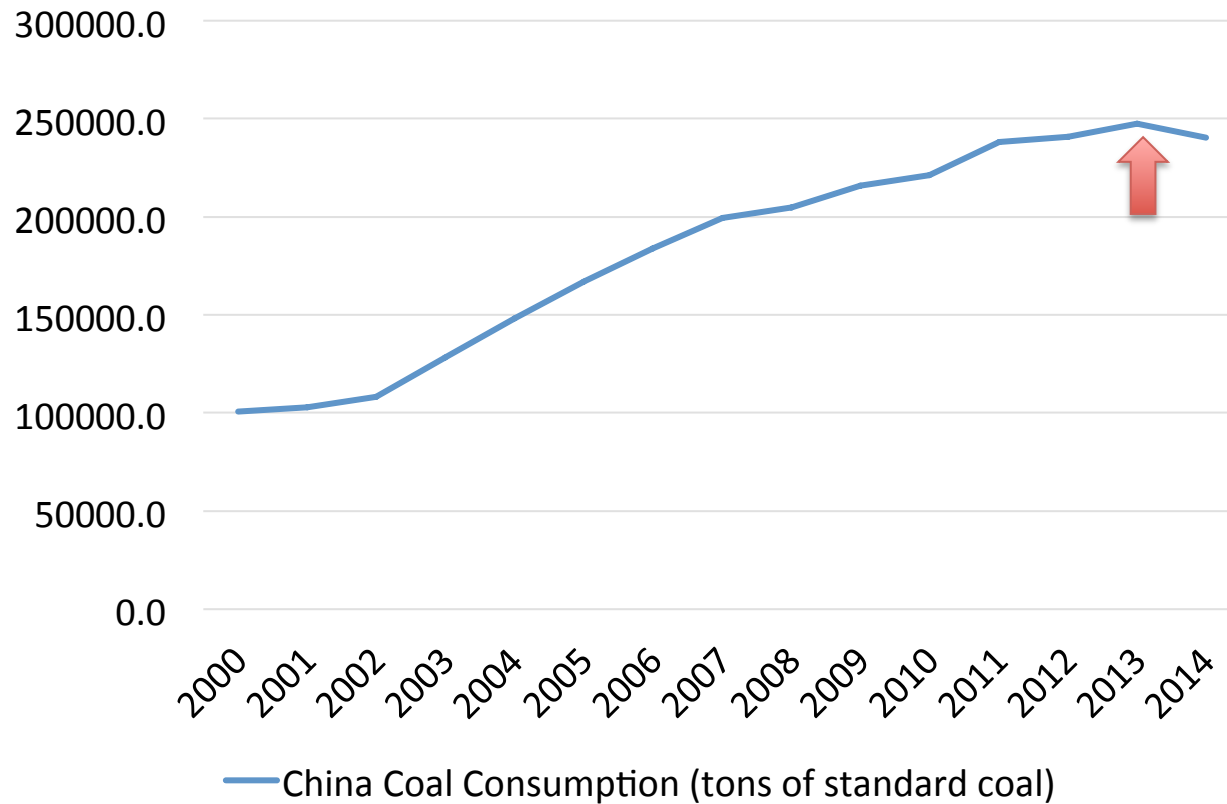


Beijing Marathon October 2014



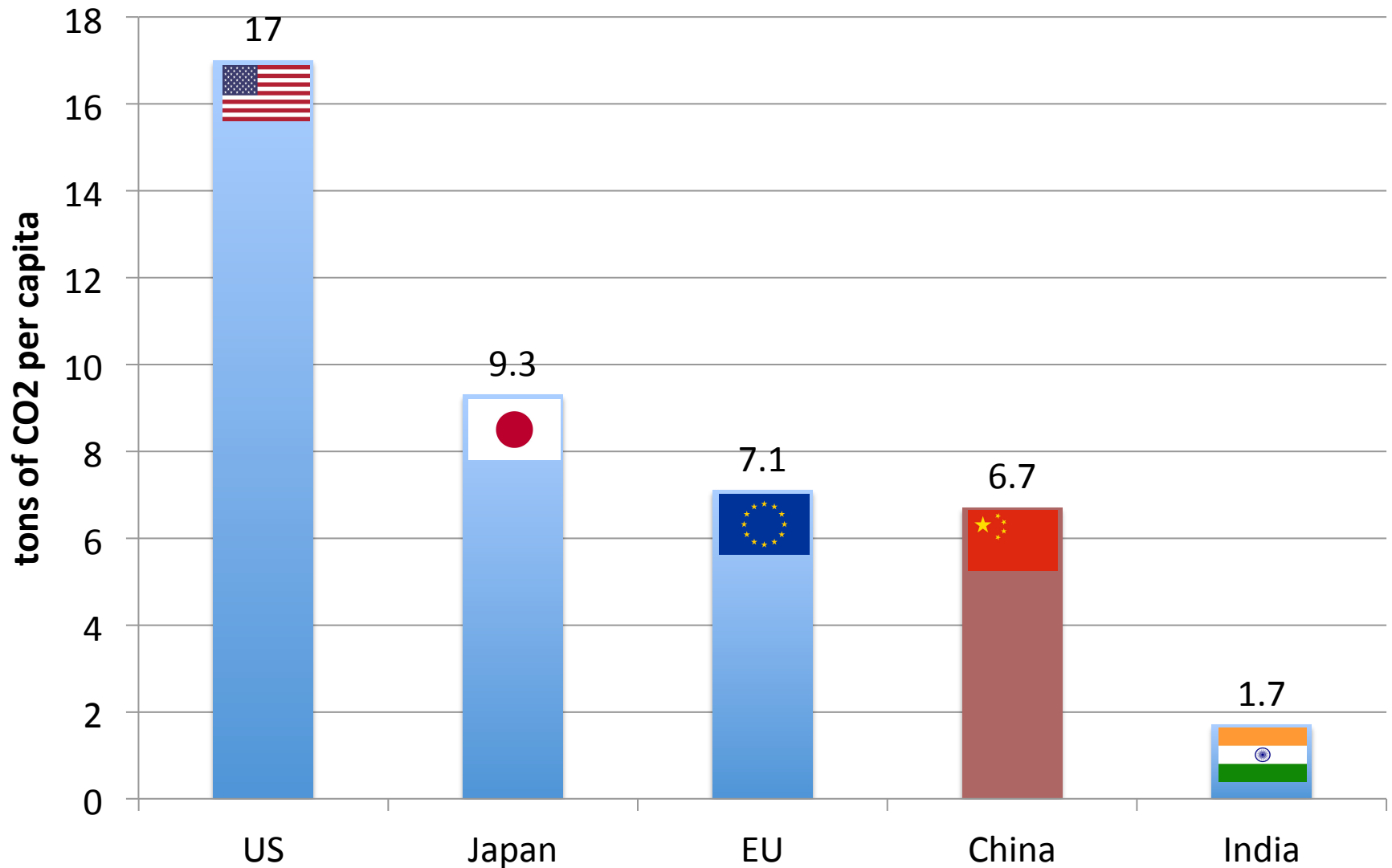


Coal Consumption China 2000-2014



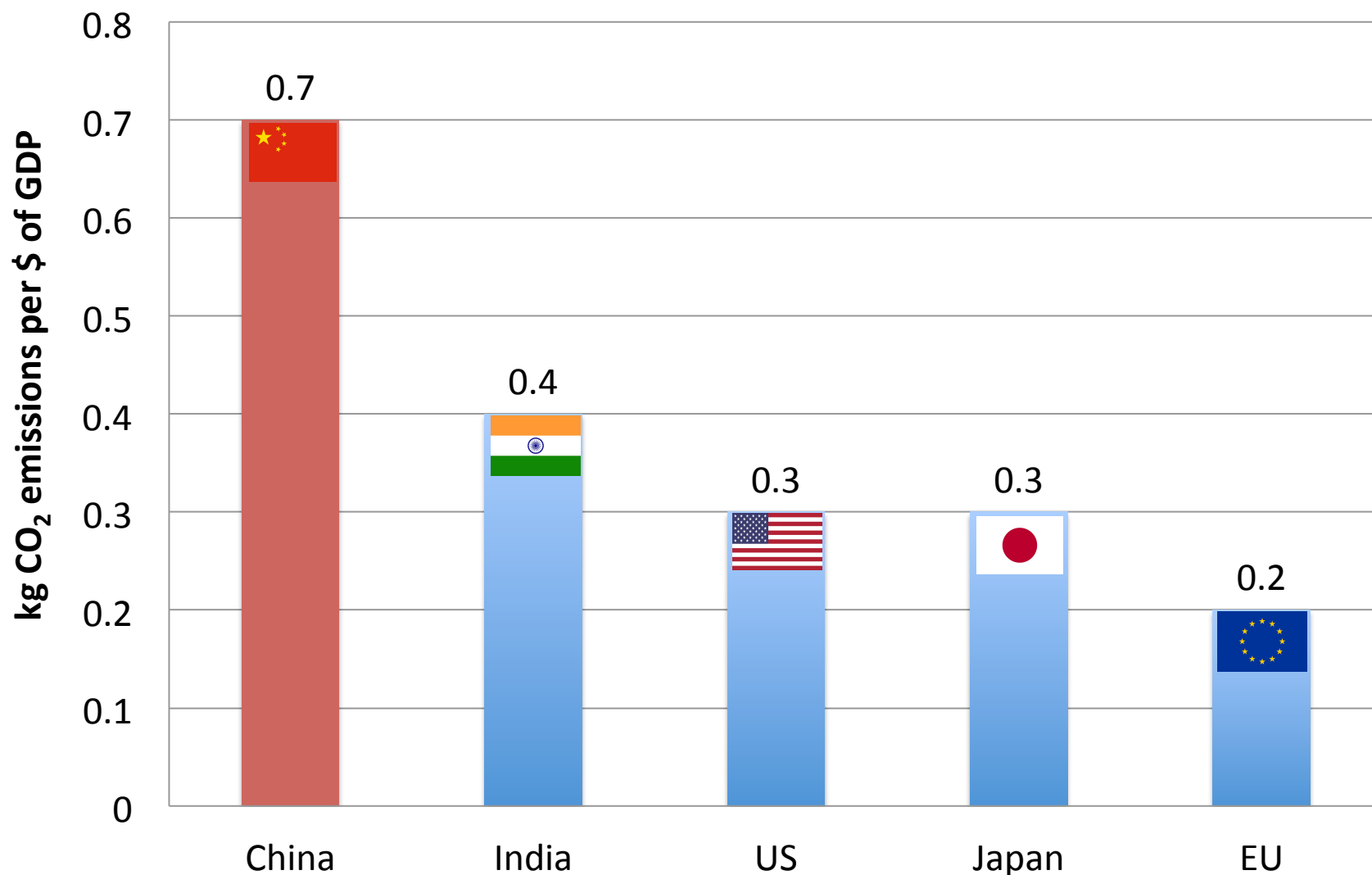
Source: National Bureau of Statistics of PRC

Per capita CO₂ emissions by country

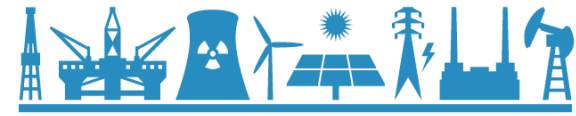


Source: World Bank, CO₂ emissions (metric tons per capita). 2011 data.

CO₂ emissions intensity (e/\$GDP) by country



Source: World Bank, CO₂ emissions (kg per PPP \$ of GDP). 2011 data.

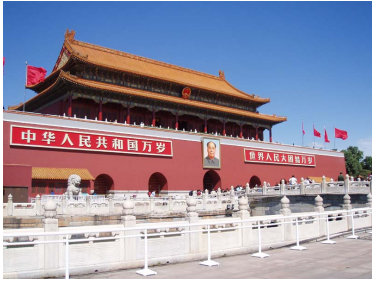


1. Chinese Emissions

2. China's Climate Policy Architecture

3. US-China Climate Cooperation



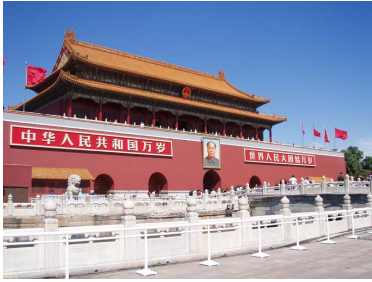


CHINA'S CLIMATE POLICY ARCHITECTURE



ECONOMY-WIDE GOALS

- ***Peak emissions by around 2030***
 - EU peak – 1992 (GDP \$30k per capita)
 - US peak - 2007 (GDP \$50k per capita)
 - China peak – 2030 (GDP projected \$15k per capita)
- Increase non-fossil fuels to 20% of primary energy

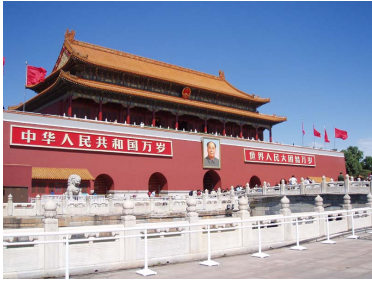


CHINA'S CLIMATE POLICY ARCHITECTURE



EMISSIONS TRADING PROGRAMS

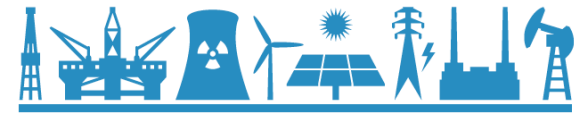
- Seven pilots underway
- National program to launch soon



CHINA'S CLIMATE POLICY ARCHITECTURE



- COAL POLICIES
- RENEWABLES POLICIES
- NUCLEAR POLICIES
- NATURAL GAS
- ENERGY EFFICIENCY
- SMART CITIES
- HFCS



1.Chinese Emissions

2.China's Climate Policy Architecture

3.US-China Climate Cooperation



OBAMA-XI SUMMITS

2013 Sunnylands

-- HFC Announcement

Beijing 2014

-- Climate Agreement



US-China Clean Energy Agreements 2009



- Clean Energy Research Center
- Electric Vehicles
- Renewables
- Clean Coal
- Shale Gas Initiative

US-CHINA CLEAN ENERGY RESEARCH CENTER



ORIGINAL

- Advanced Coal Technology
- Clean Vehicles
- Building Energy Efficiency
- *Intellectual Property*

NEW

- Energy & Water

CERC Protocol



Signed January 2011



Los Angeles City Hall (October 7, 1968)

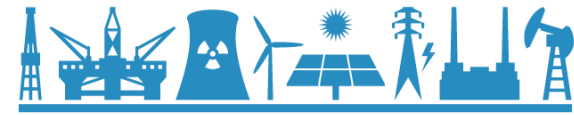


Los Angeles City Hall (April 30, 2014)

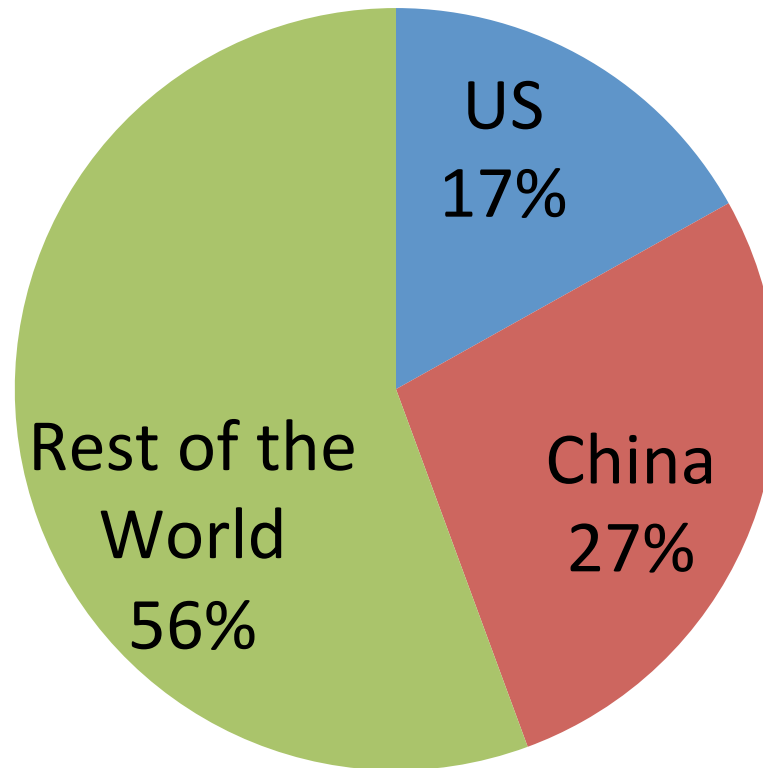






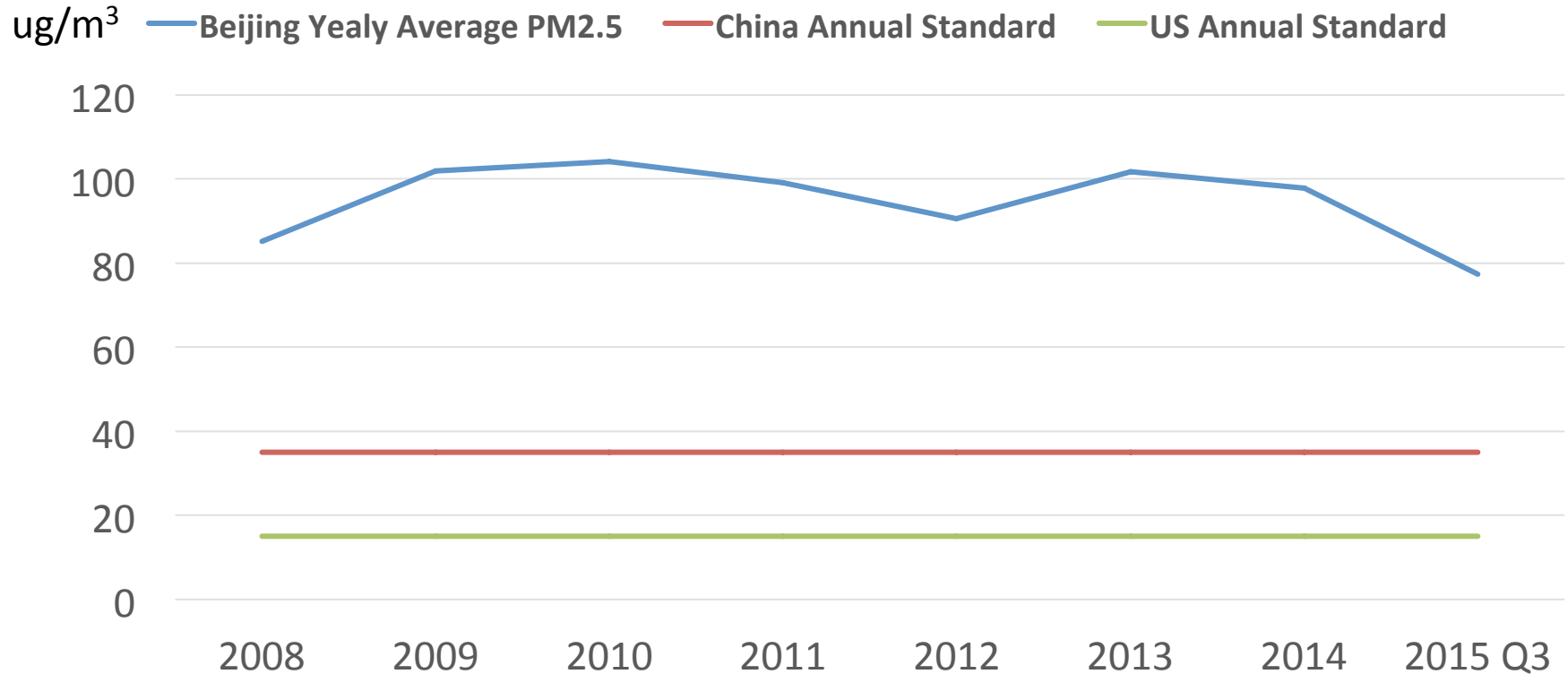


CO₂ Emissions from Fuel Combustion 2014



Sources: BP Statistical Review of World Energy 2015, Global Carbon Project

Beijing Yearly Average PM2.5 2008 - 2015 Q3

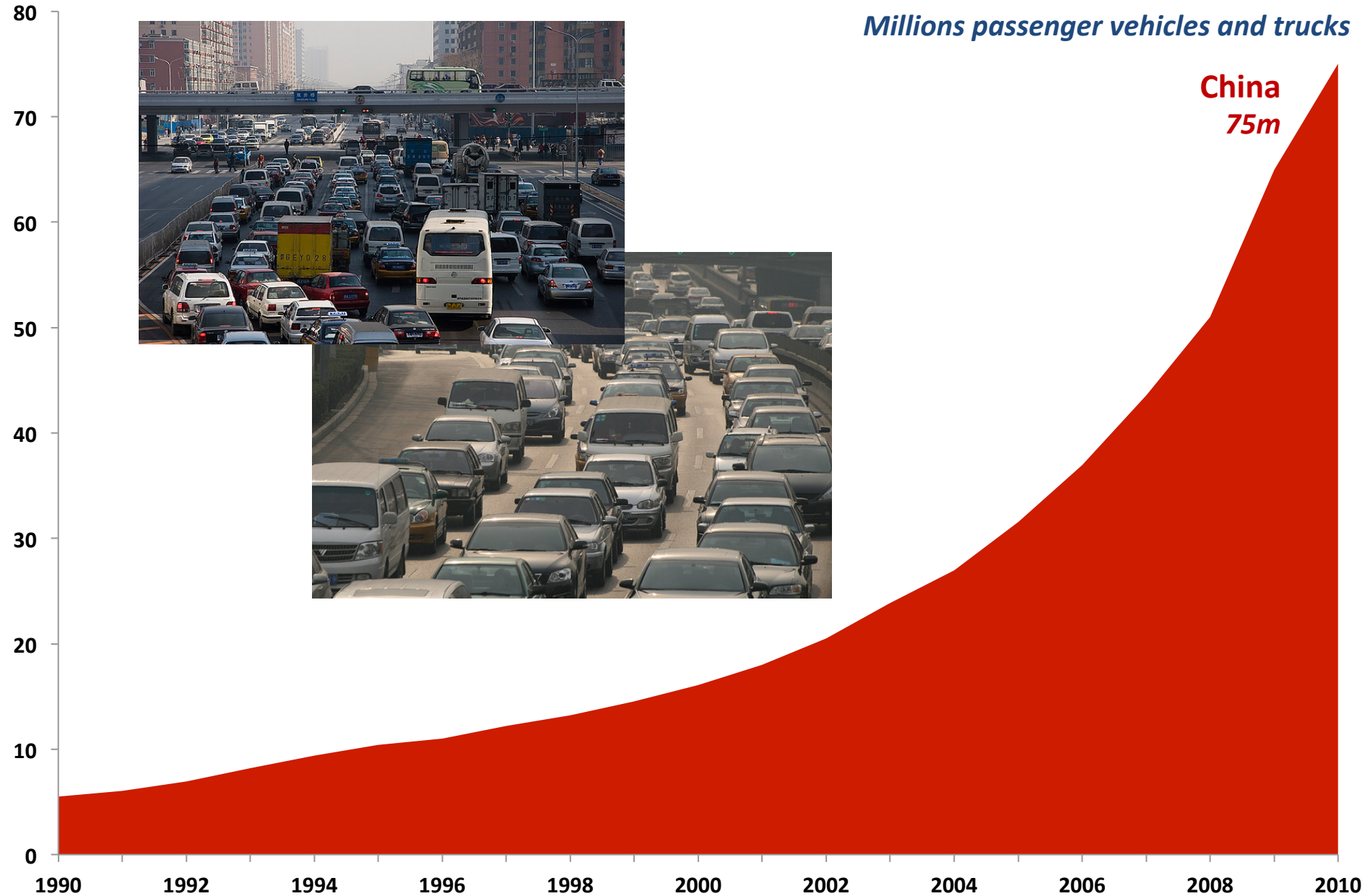


Source: U.S. Embassy Beijing Air Quality Monitor

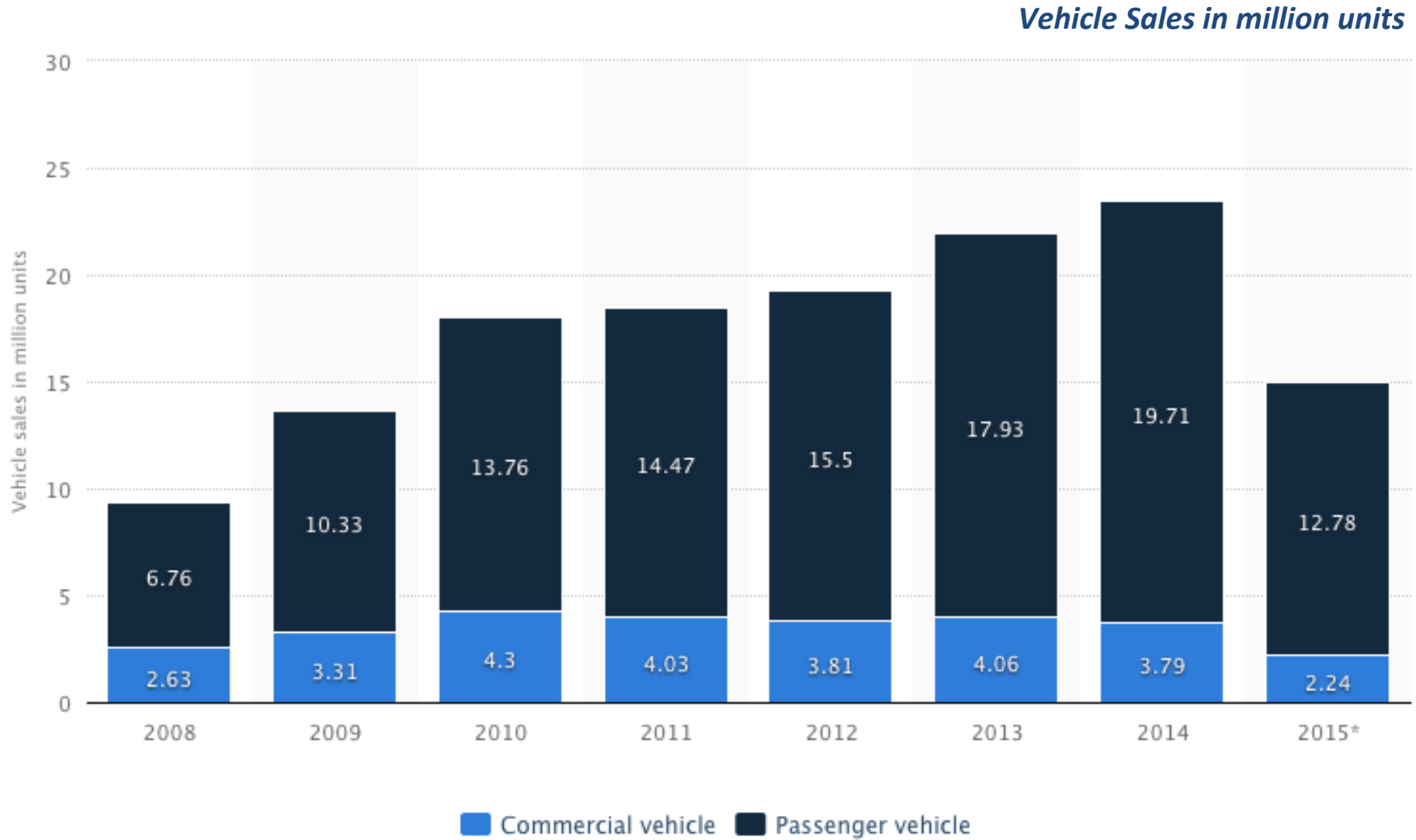
New Vehicle Sales – China (1990-2013)

Millions passenger vehicles and trucks

China
75m

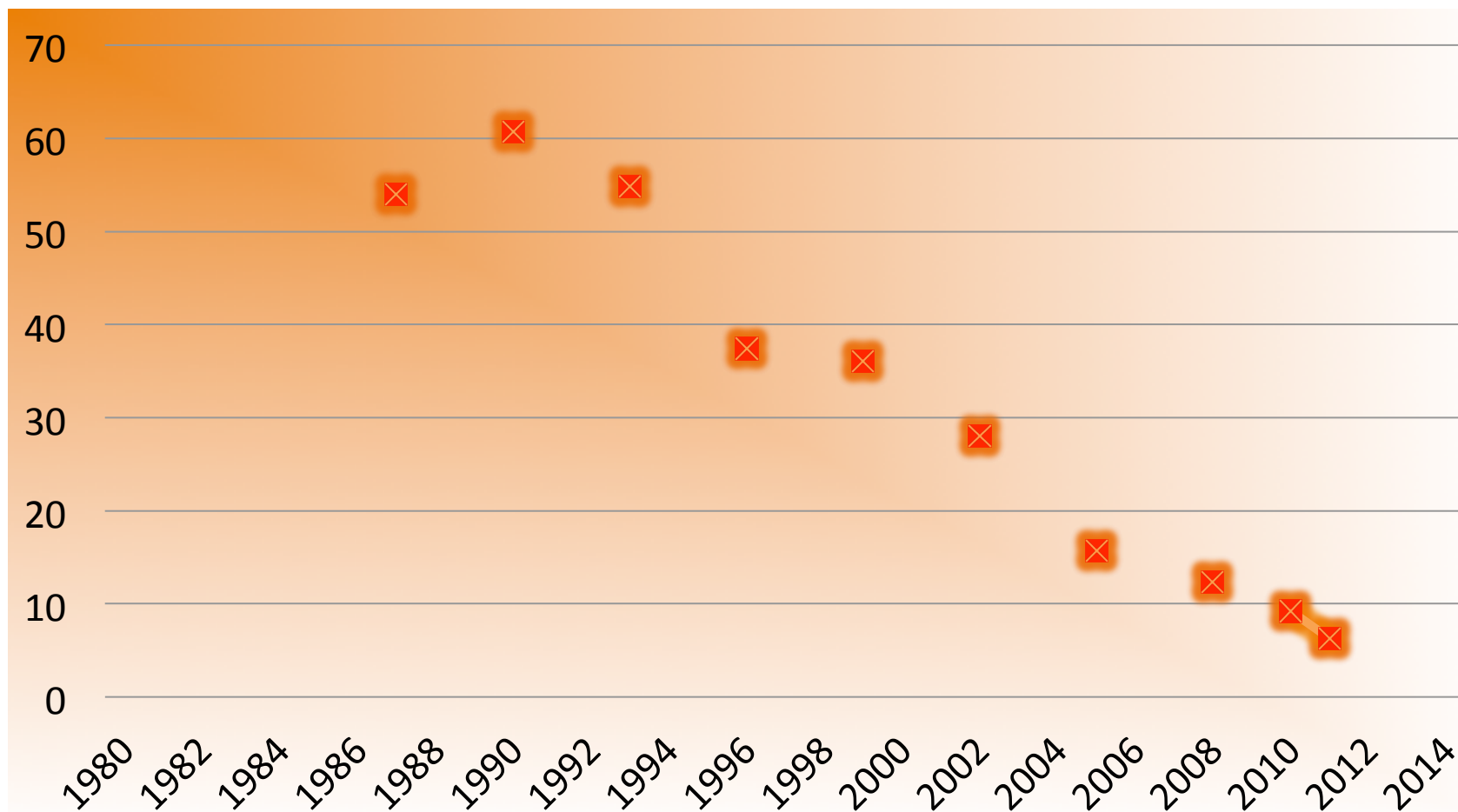


New Vehicle Sales – China (2008-2015)



Source: Statista.com

China – Percent of Population Living on Less Than \$1.25 Per Day 1980-2014



Source: World Bank Group