







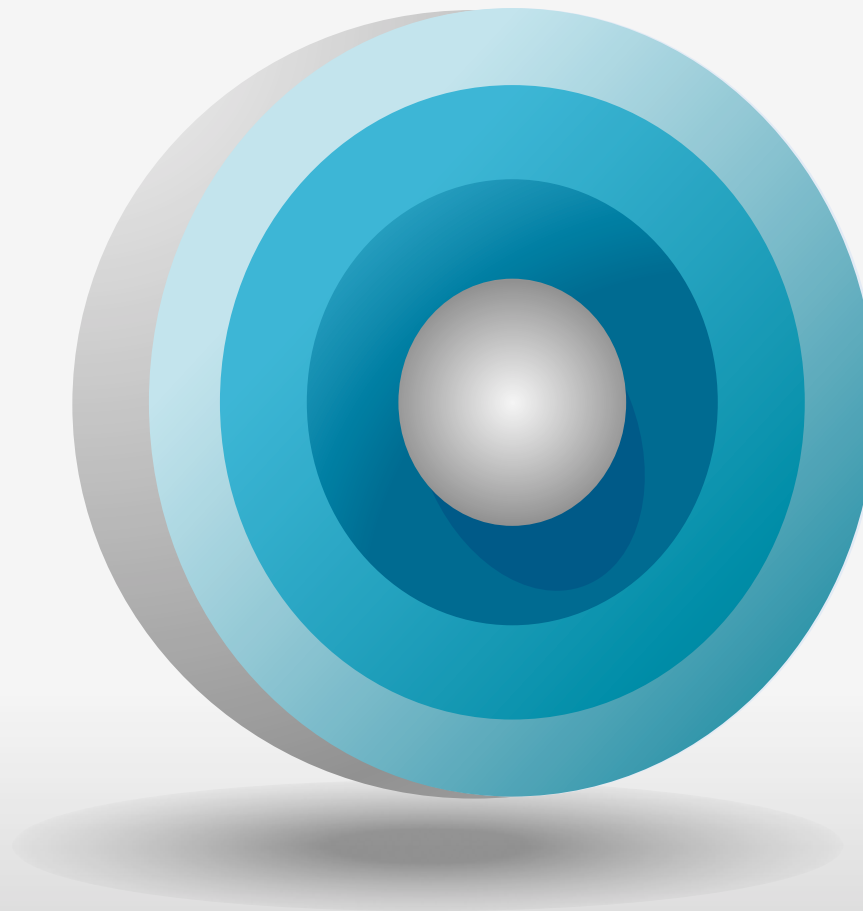
School of international and Public Affairs

Columbia University

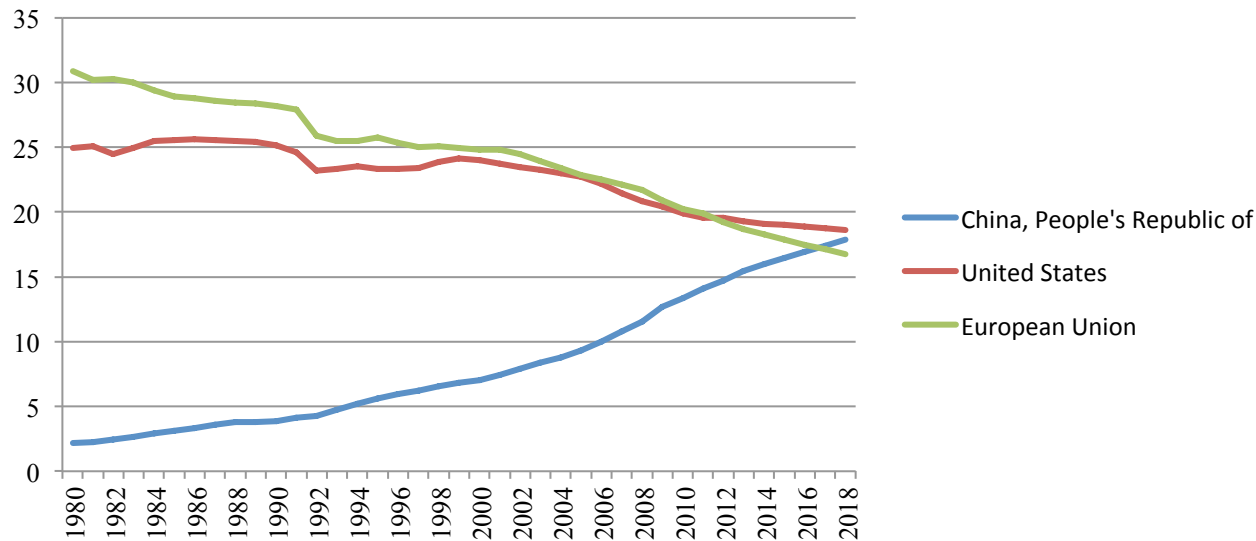
Manuel Pinho

SPHERE WITH CORE

-  What matters to China matters to the world
-  Do not give lessons to China: Europe and the US
-  The challenges:
 - Growth model
 - Rebalancing
 - Sustainability
-  The sustainability (energy, resources, CO2 emissions) challenge
 - Energy demand and intensity
 - 12th 5 Years Plan
 - External dependence
 - CO2emissions and pollution

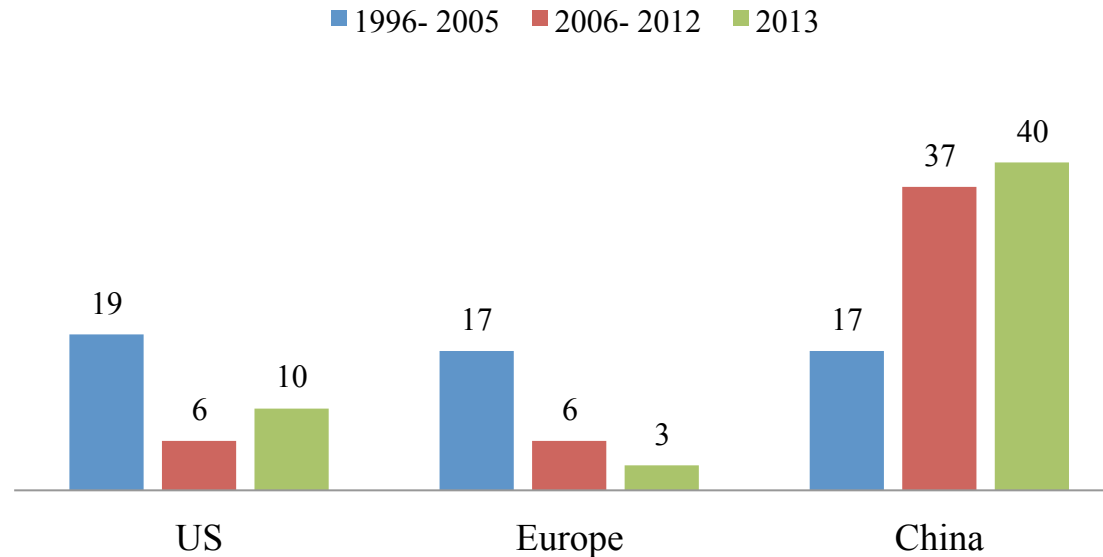


China will become the largest economy in the world before the end of the decade



- After 30 years of sustained growth, China is about to become **the largest economy in the world**.
- China's economic performance is **impressive** in terms of growth of income per capita and poverty reduction, although it is **not unprecedented**.
- What is **unique** is that this achievement is taking place in a country with a **very large population** of more than 1 billion.

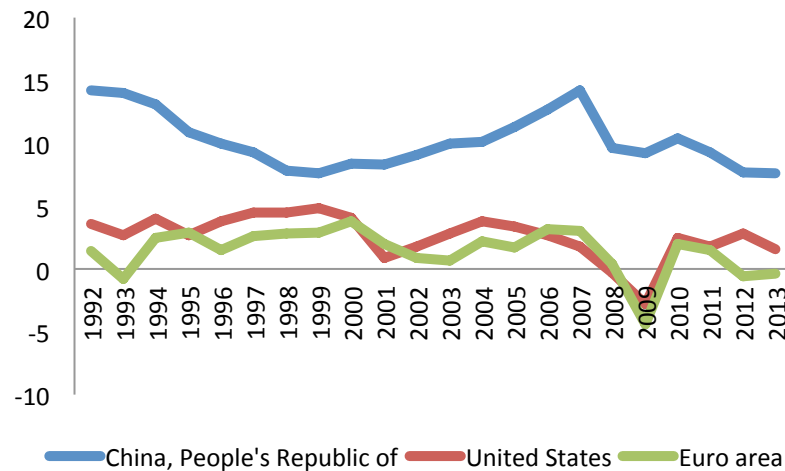
Contribution to world GDP growth



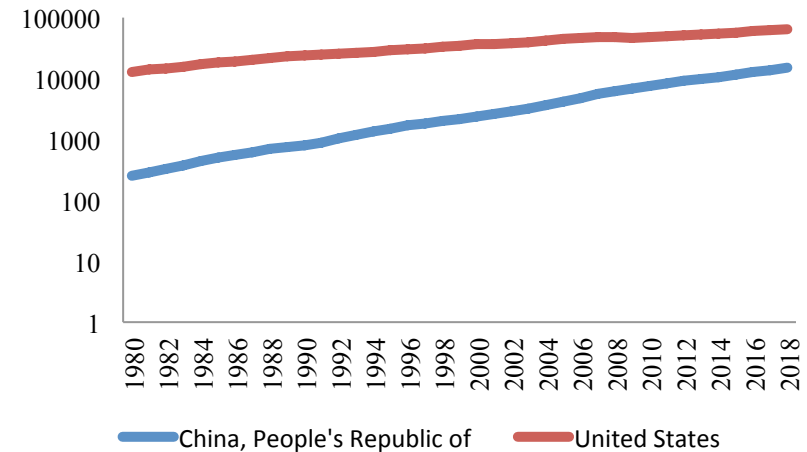
Source: Conference Board, World Bank

- We live in a **3 speed world**
 - Healthy GDP growth rates in **China and other developing** countries
 - Anaemic growth in the **US**
 - Stagnation in **Europe**
- China accounted for 40% of world GDP growth in 2013
- **What matters to China matters to the world**

GDP growth rate



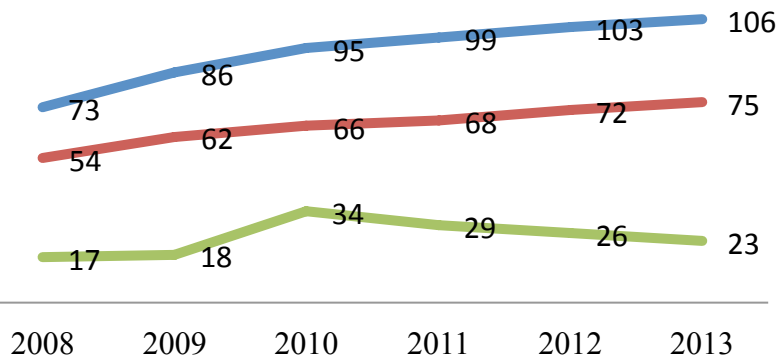
Income per capita



- **Long term: potential growth rate of China in the medium term**
 - China's GDP per capita **remains far** from that in the US and the Eurozone.
 - The country still has considerable room to grow, given its **distance from the technological frontier**.
 - **The challenge**: from extensive growth to total factor productivity growth.
- **2007- 13:**
 - In 2013, US GDP is 5.6% **higher** than in 2007
 - Euro area GDP is 1.5% **lower**
 - In China it is 58.5 % **higher**
- **2013- 2018**
 - The **IMF projects GDP growth of 7% p. year** on average until 2020.

General government gross public debt, % GDP

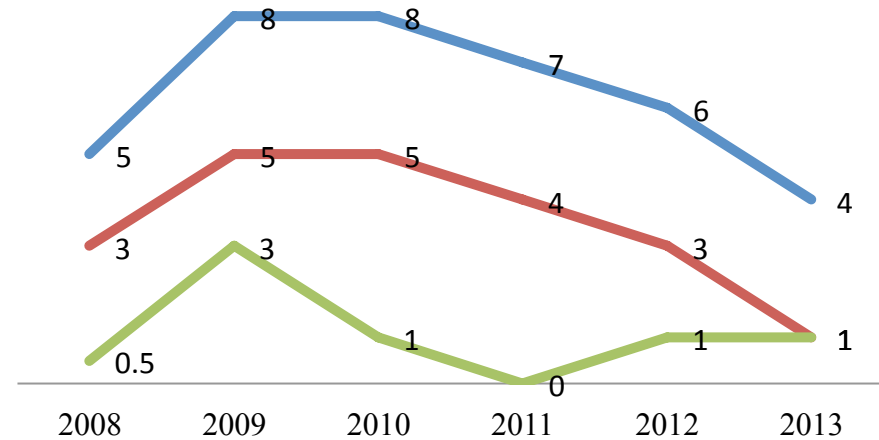
— US — Eurozone — China



IMF
WEO database

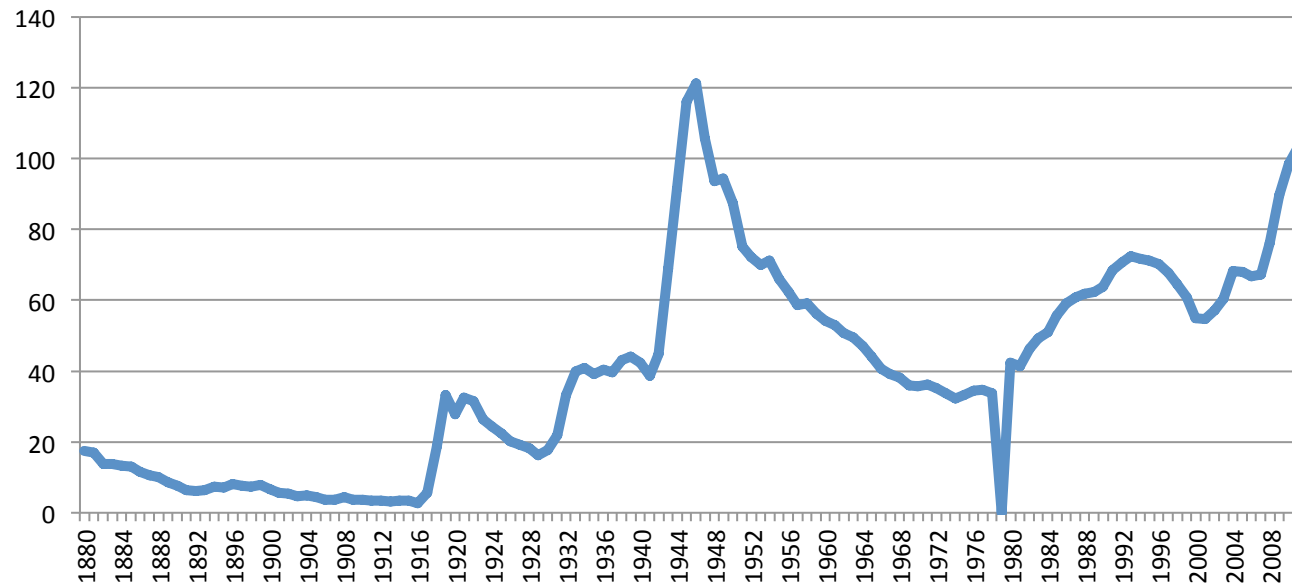
Cyclically adjusted fiscal deficit, % GDP

— US — Eurozone — China

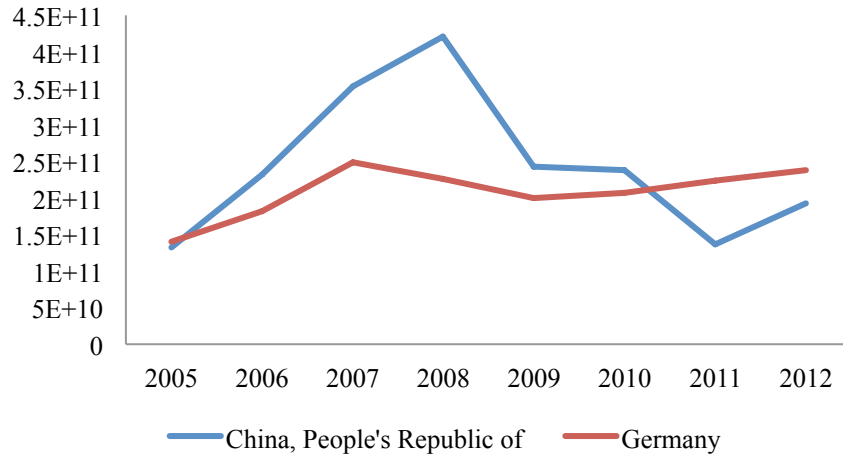


- The **US and the Eurozone** entered the crisis in a relatively weak position
- The crisis deteriorated further the **public finances** as a result of **cyclical factors** (initial increase in public expenditure), **revenue loss**, need to **support the financial sector**, etc.

Do not lecture China (1): US public debts

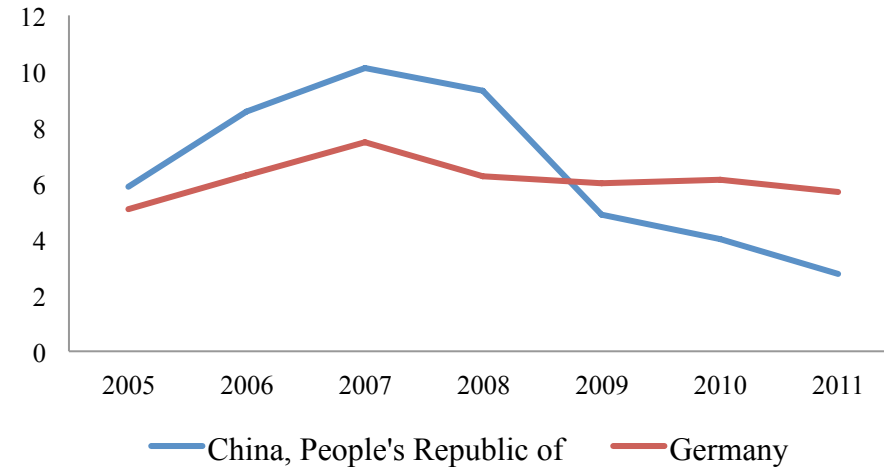


Current account US



IMF
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Current account US

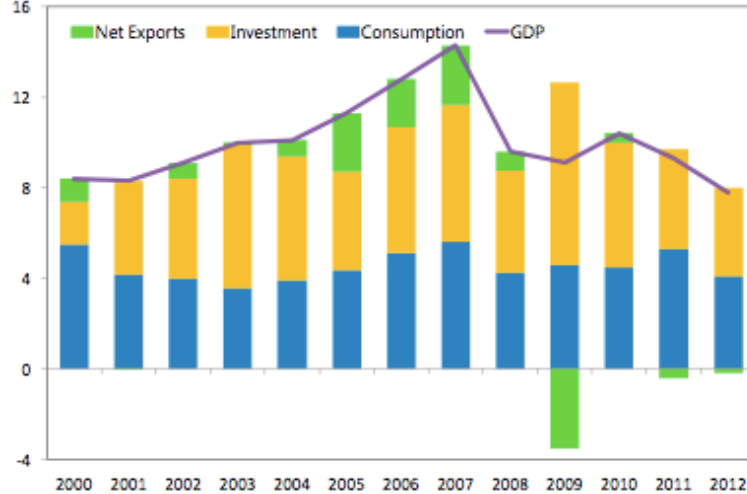


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Is investment excessive?

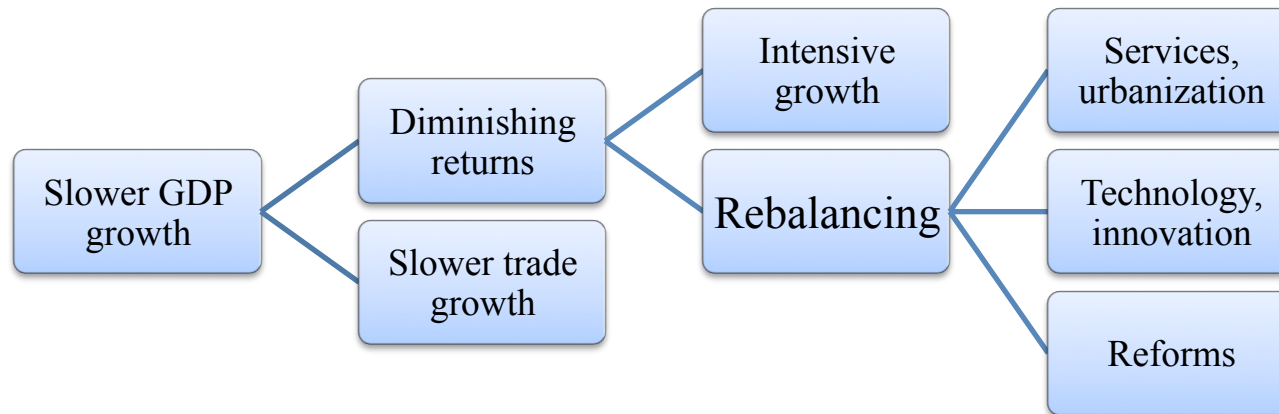
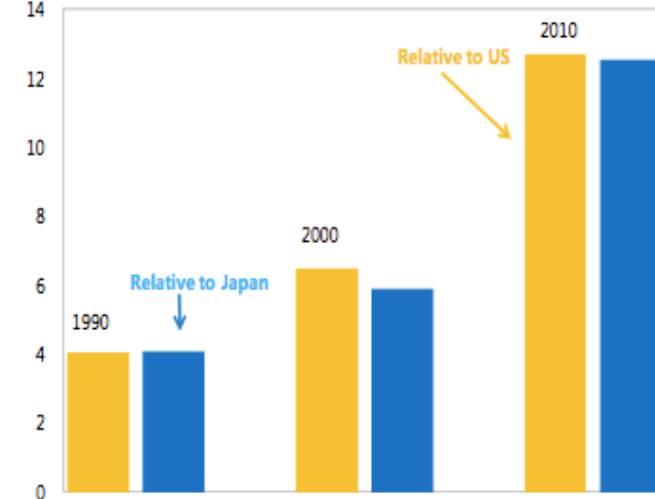
China GDP: Contributions to Growth

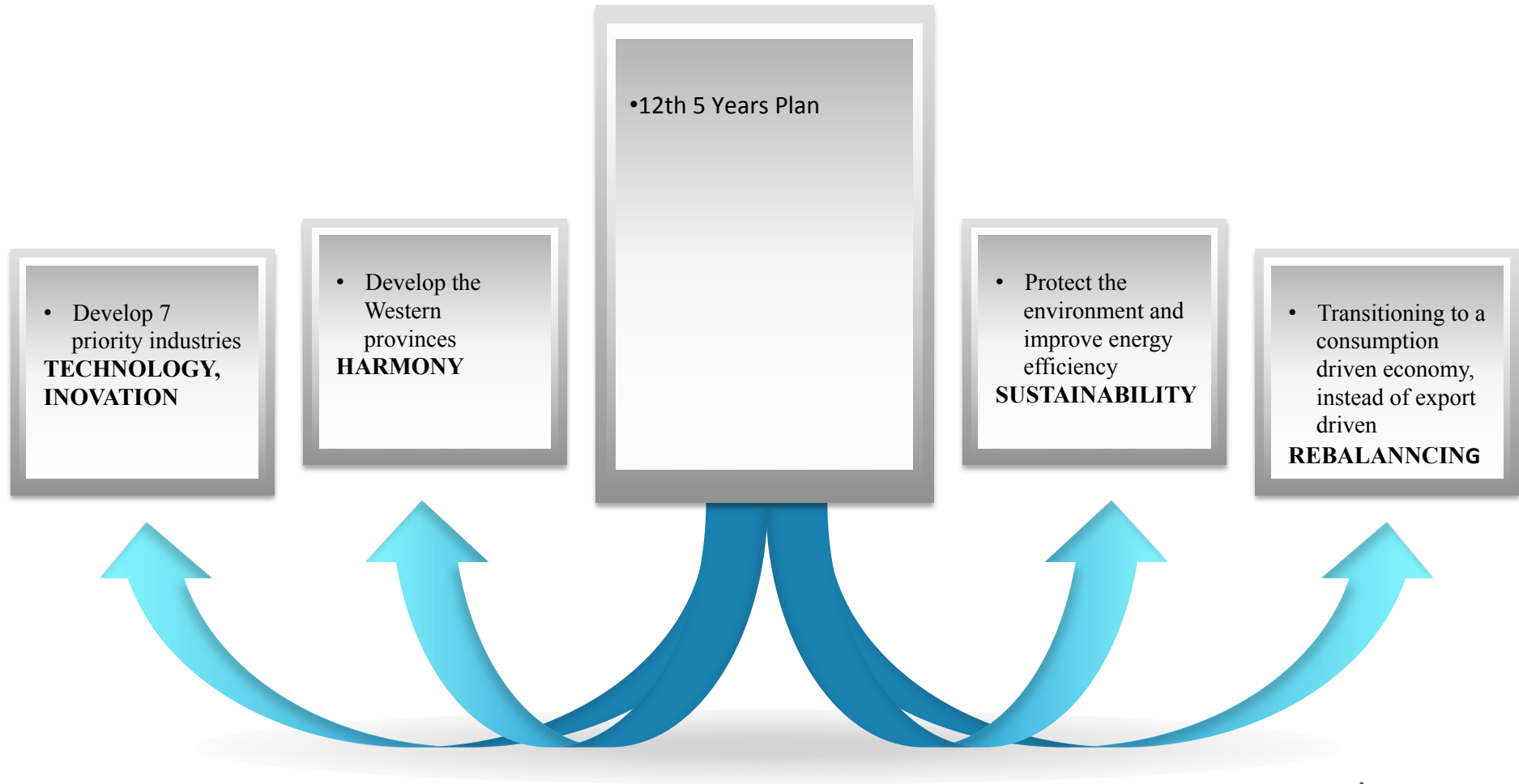
(in percentage points)

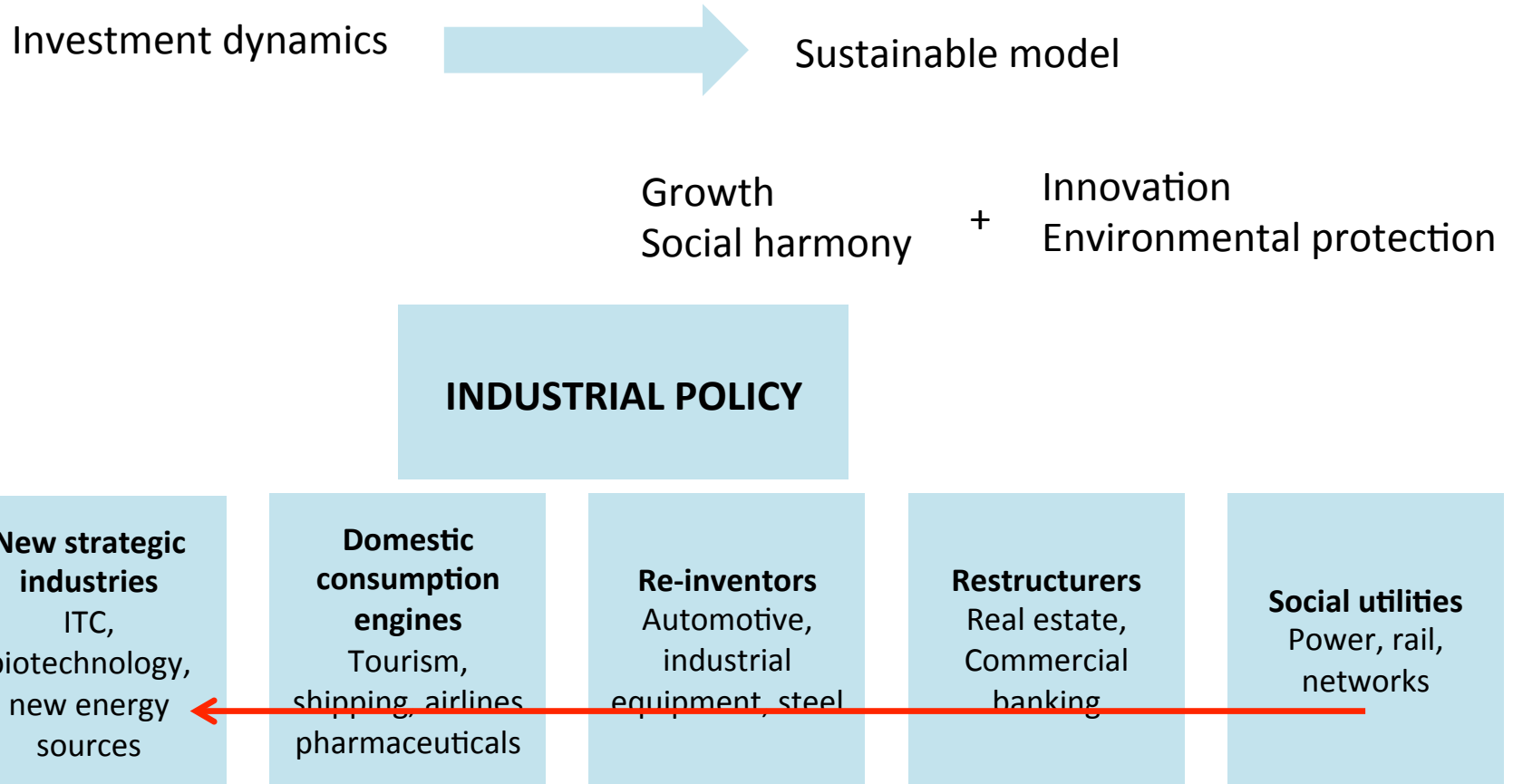


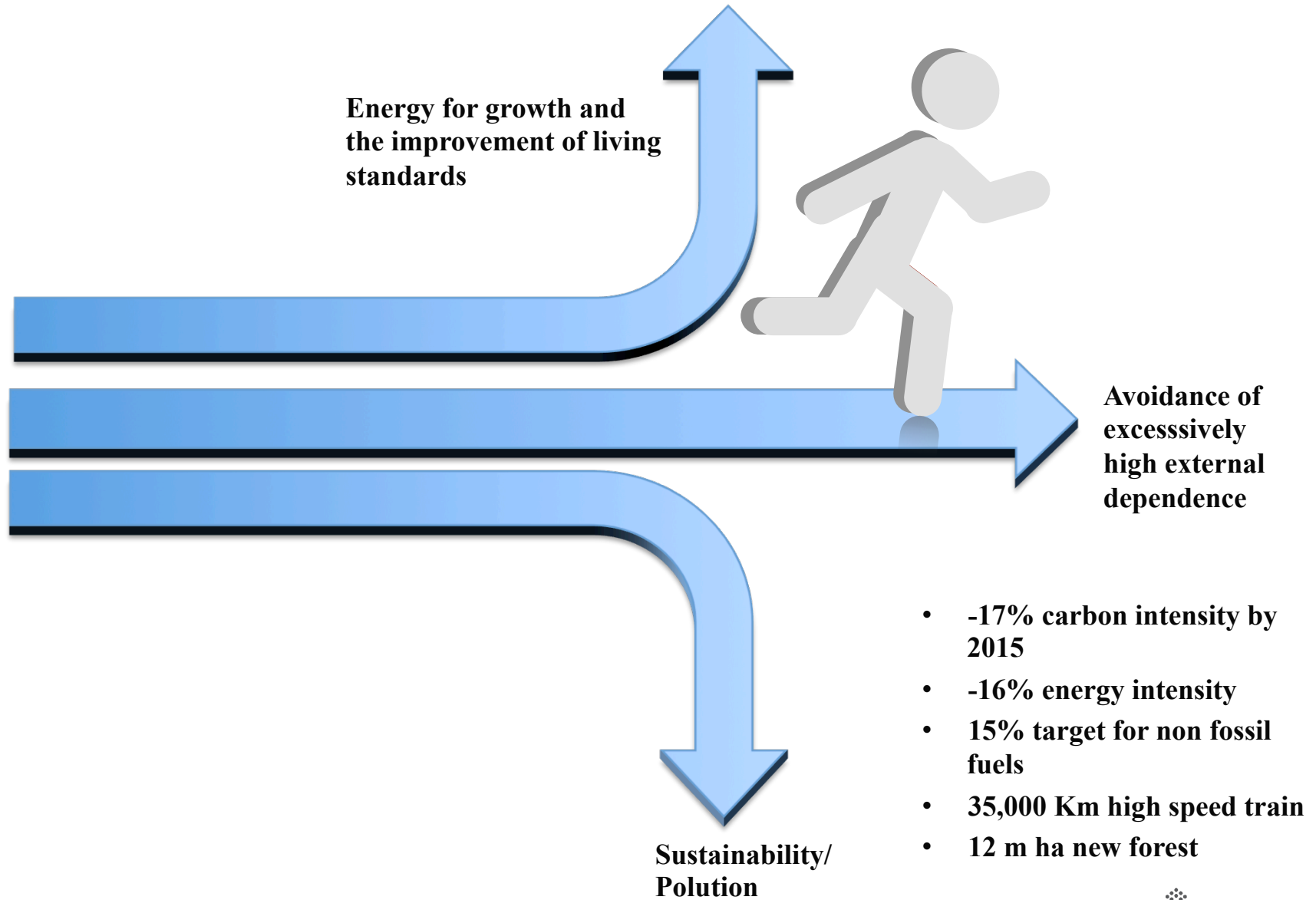
China: Capital Stock per capita, relative to US and Japan

(in percent)



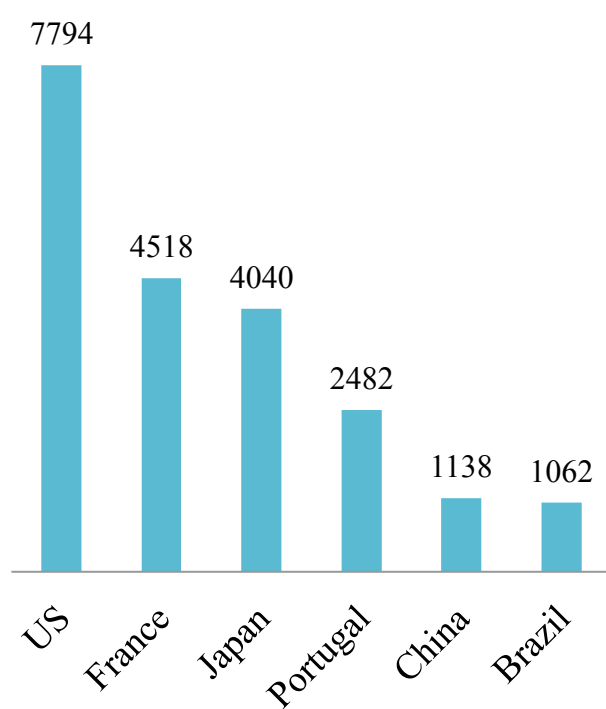






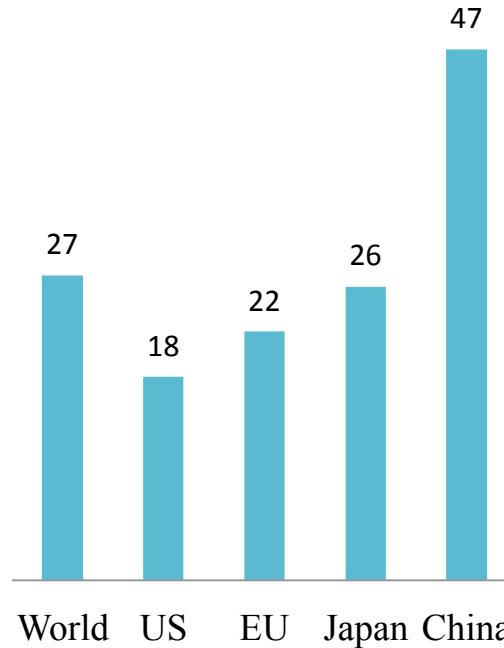
China energy system in 3+1 figures

Energy consumption per capita, koe



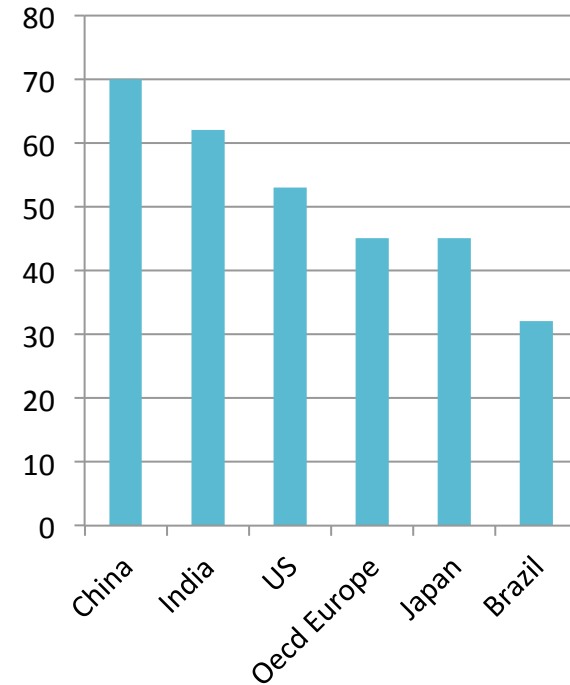
Energy consumption per capita is 1/7 of that in the US

Share of industry in total final consumption



Industry accounts for almost 50% of energy consumption

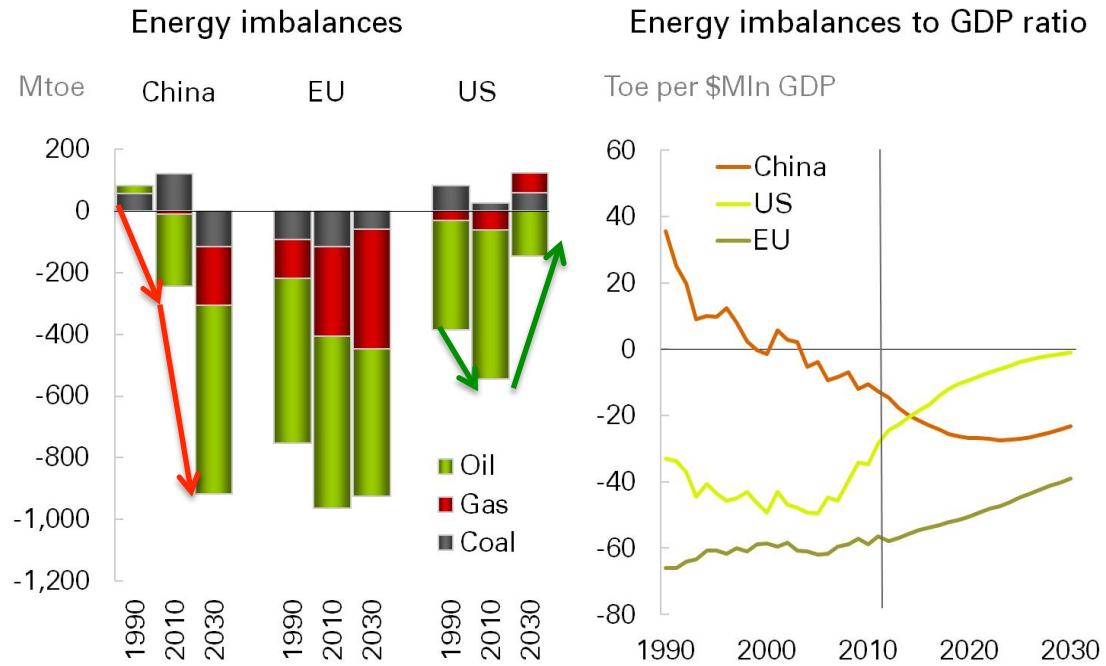
Carbon intensity of energy supply (Metric t. of CO2 per billion Btu)



80% of power generation is coal based

China's external dependence is rising very fast

Energy imbalances: significant changes in import profiles...



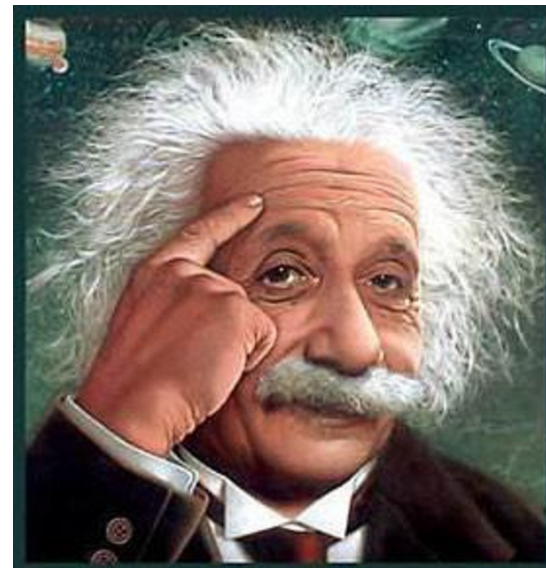
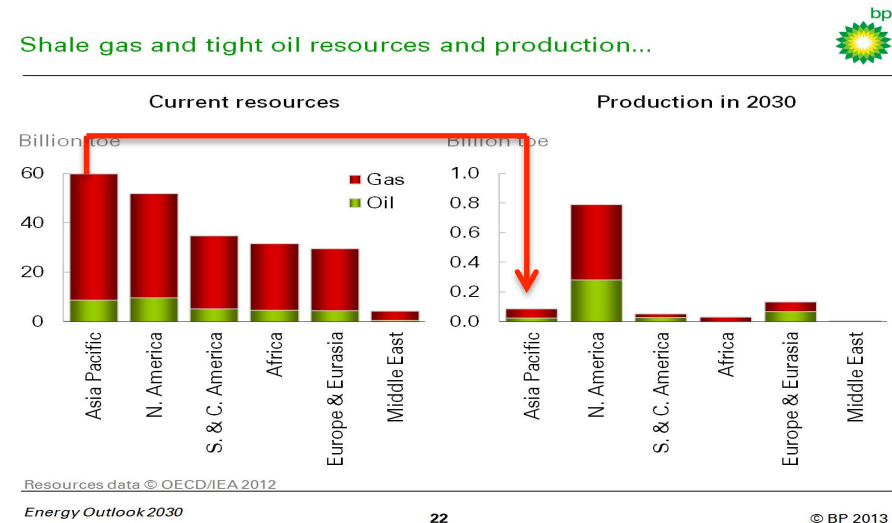
Top 10 countries with technically recoverable shale oil resources

Rank	Country	Shale oil (billion barrels)
1	Russia	75
2	U.S. ¹	58 (48)
3	China	32
4	Argentina	27
5	Libya	26
6	Australia	18
7	Venezuela	13
8	Mexico	13
9	Pakistan	9
10	Canada	9
World Total		345 (335)

¹ EIA estimates used for ranking order. ARI estimates in parentheses

Top 10 countries with technically recoverable shale gas resources

Rank	Country	Shale gas (trillion cubic feet)
1	China	1,115
2	Argentina	802
3	Algeria	707
4	U.S. ¹	665 (1,161)
5	Canada	573
6	Mexico	545
7	Australia	437
8	South Africa	390
9	Russia	285
10	Brazil	245
World Total		7,299 (7,795)





Would you tell me please, which way I ought to go from here?

That depends a good deal on where you want to go, said the cat

