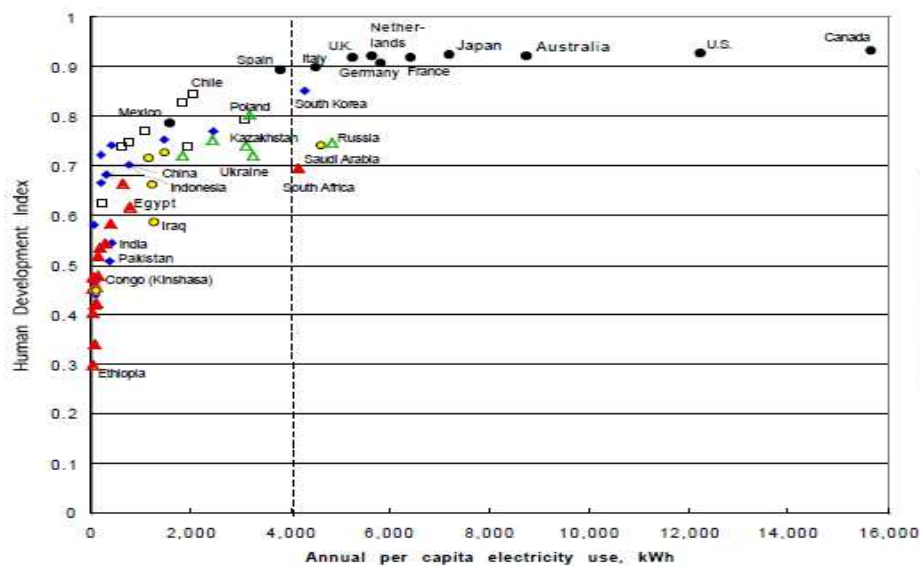


GLOBAL ENERGY CONSUMPTION, PRODUCTION AND TRADE

Consumption per capita 2009

Tonnes of equivalent



Developed countries use more energy because :-

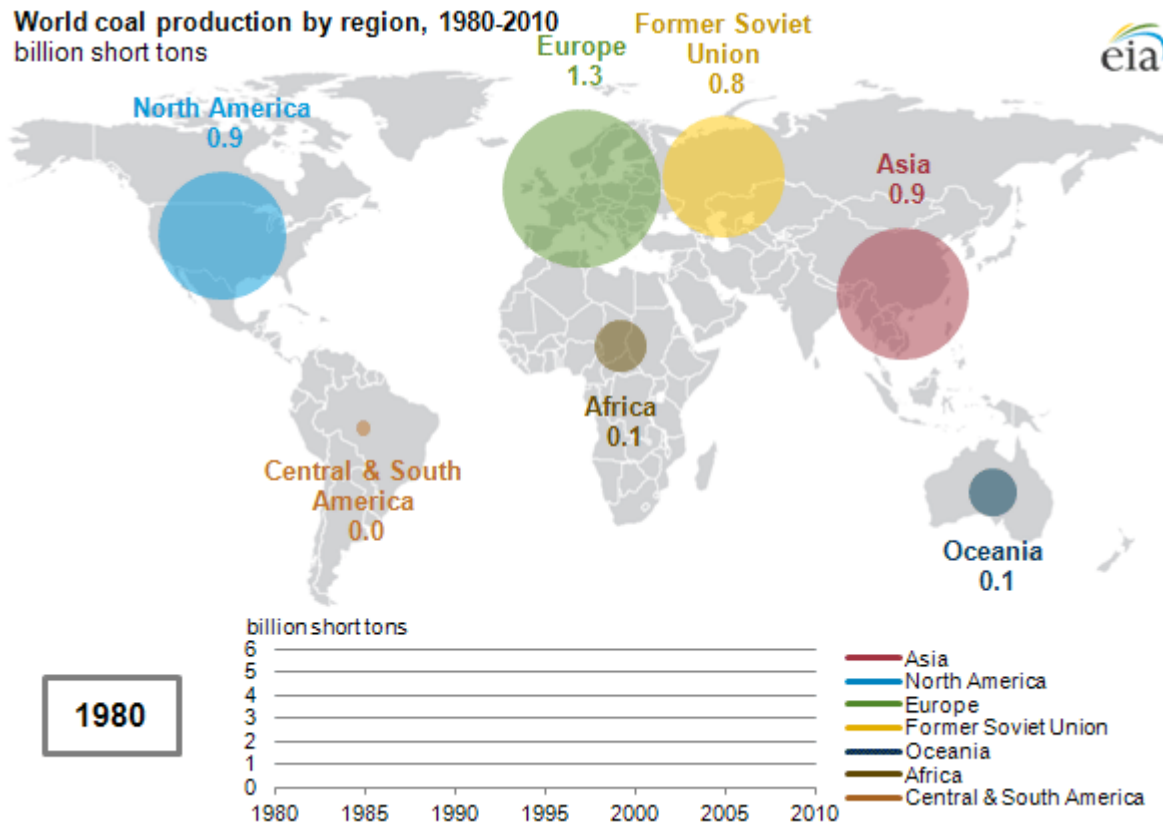
- They have a greater level of urbanisation and people living in towns and cities use more energy
- They have a greater level of industrialisation using energy in manufacturing industries
- They have a more mechanised and intensive system of agriculture
- They have a larger service sector, consuming more energy in offices, schools, hospitals etc
- They have systems of transport, road, rail, air that use a great deal more oil
- Domestically their homes have more energy using facilities and appliances, central heating, aircon. Etc

Some countries don't follow this pattern because :-

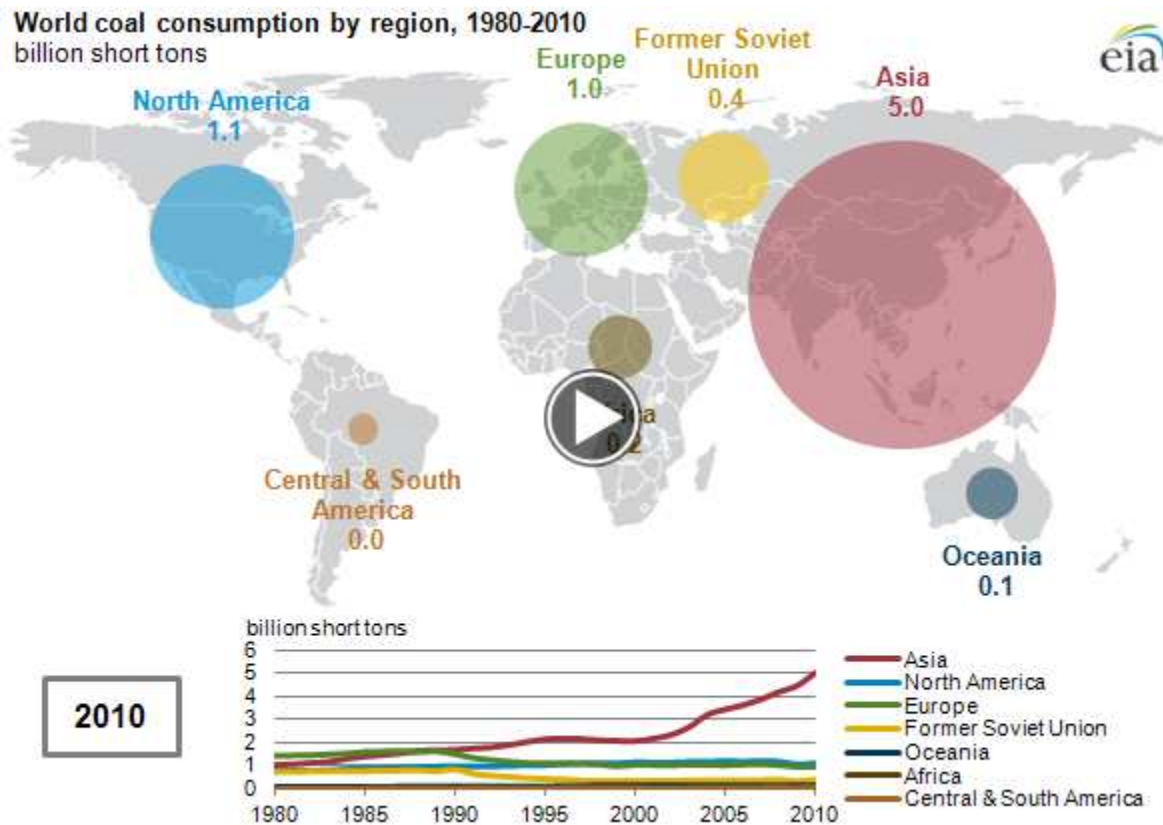
- They have large reserves of energy resources such as oil which makes it very cheap to use, see Saudi Arabia, Venezuela and UAE on the above graphs
- Some large countries like Russia and Canada use large amounts of energy on transport and have extreme climates that require large energy inputs in winter for heating

COAL : PRODUCTION AND TRADE

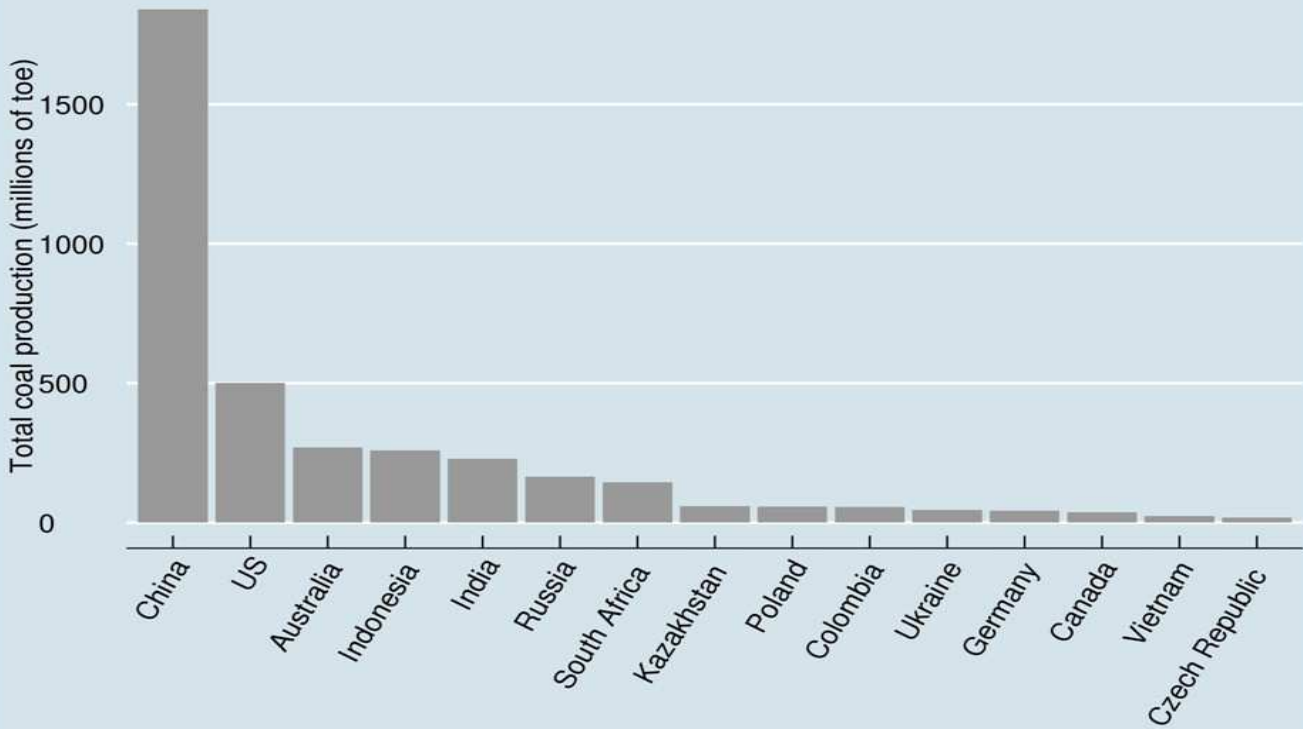
World coal production by region, 1980-2010
billion short tons



World coal consumption by region, 1980-2010
billion short tons



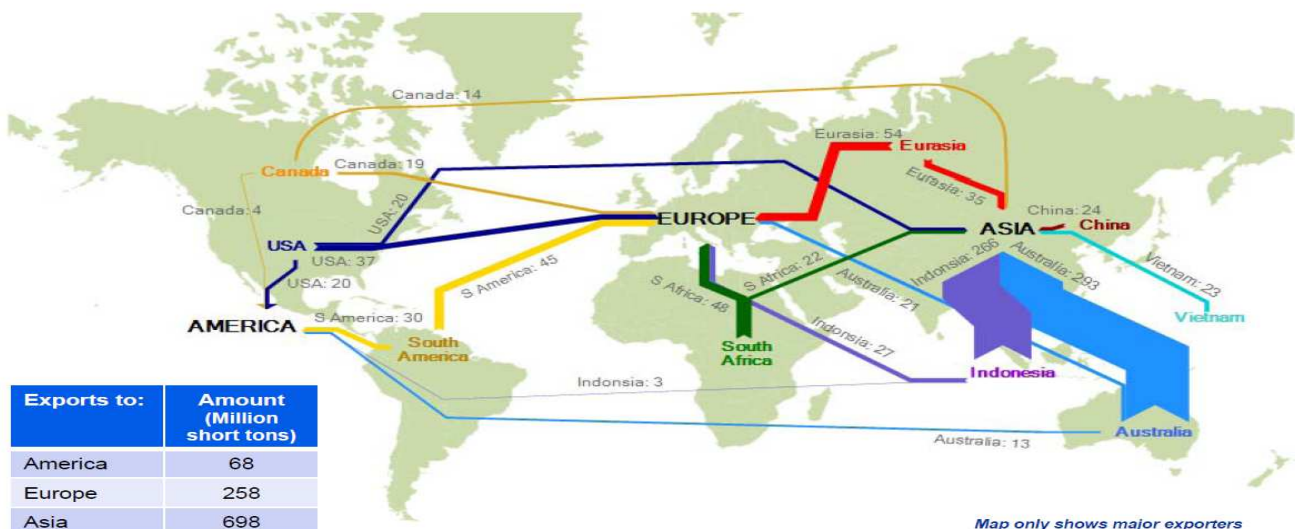
THE WORLD'S BIGGEST COAL PRODUCERS



(data sources: BP; Gapminder)

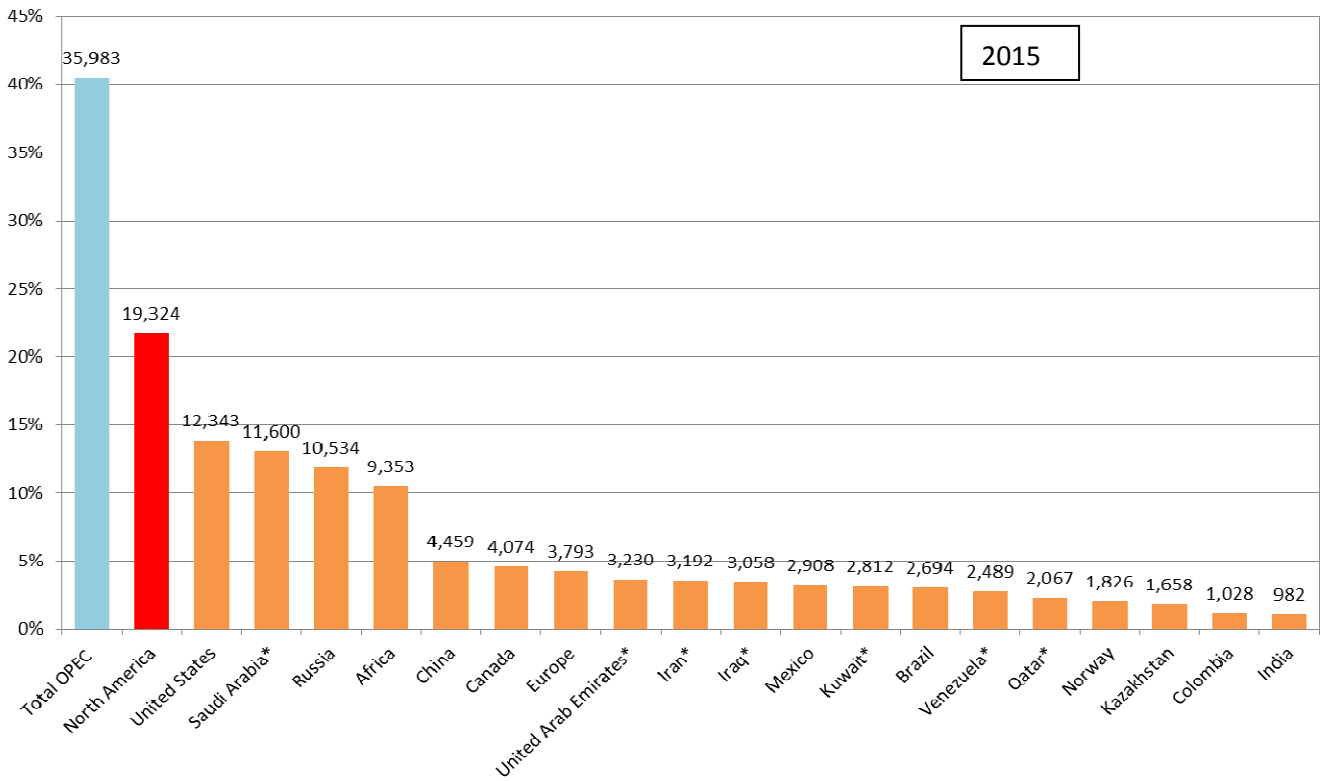
- Massive growth in the production of coal in Asia, especially China and India
- China's coal production doubled from 1980 to 2000
- China burns half of the world's coal but it is declining as the country tries to hit carbon reduction targets
- Coal production and use is still increasing in India as it rushes to develop
- Europe coal production and use is declining as the countries move towards cleaner, renewable and more sustainable sources of energy such as nuclear and especially renewable such as wind
- Top exporters of coal are now Indonesia and Australia
- Top importers are China, India, Japan and South Korea (the last two are developed countries with very few of their own energy sources)
- The EU is the next highest importer but it is declining as countries move away from coal fired power stations to nuclear and wind.

Top Coal Exports to America, Asia, and Europe Year 2010 in Millions of Short Tons



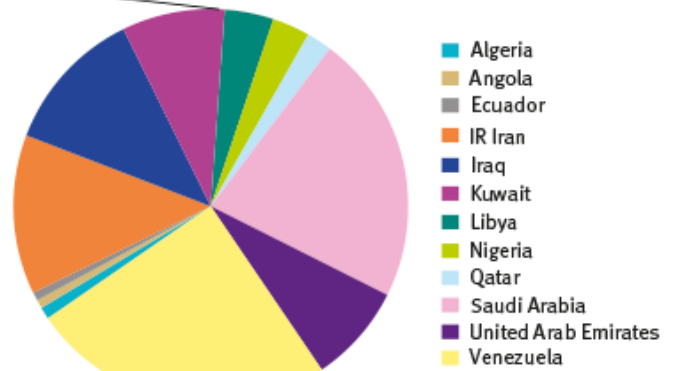
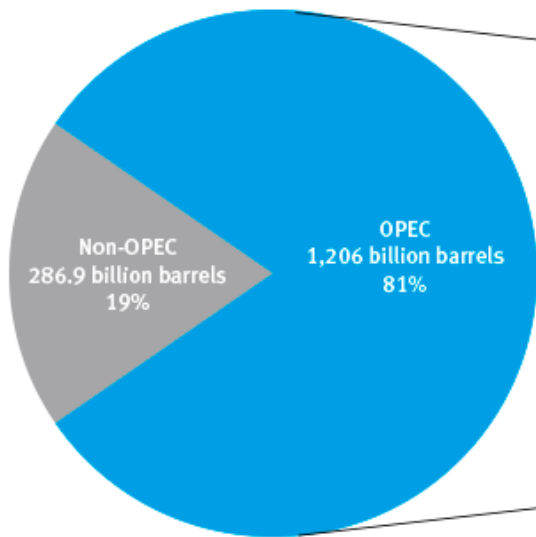
CRUDE OIL : PRODUCTION AND TRADE

2015



OPEC share of world crude oil reserves, 2014

OPEC (ORGANISATION OF PETROLEUM EXPORTING COUNTRIES) DOMINATES WORLD TRADE

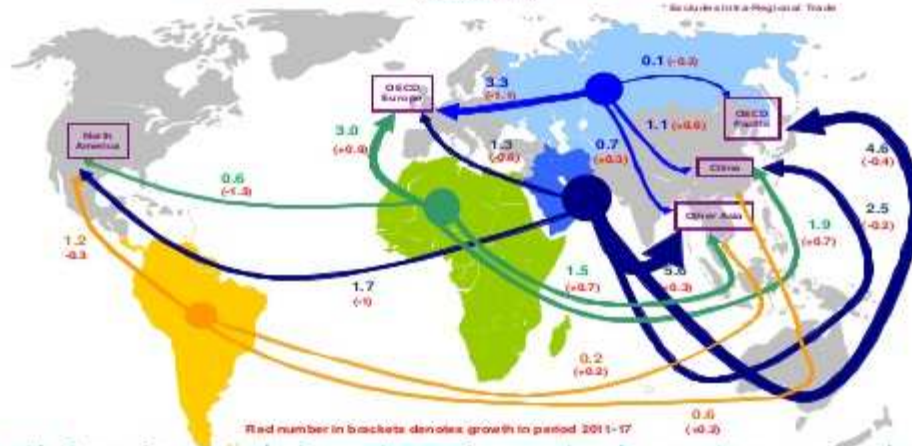


OPEC proven crude oil reserves, at end of 2014 (billion barrels, OPEC share)



A new global crude trade map

Crude Exports in 2017 and Growth in 2011-17 for Key Trade Routes*
(Oil in barrels per day)



-North American crude import requirements plummet as regional supply rises
 -Rising Middle East demand curtails export availability
 -'East of Suez' accounts for an ever growing share of global crude trade

- USA is declining as an importer of oil as local supplies increase
- OPEC countries, especially those in the Middle East and Saudi Arabia in particular still dominate exports and are able to control oil prices which are very low at the moment
- Asia, the Pacific rim and China in particular are importing more oil as the country continues to develop and industrialise
- Japan continues to be a substantial importer having few of its own sources
- Russia is a growing exporter of oil particularly to the rest of Eastern Europe and to Western Europe
- Venezuela is still a big exporter of oil to both North America and the far east
- Africa, particularly Nigeria is a growing exporter of oil