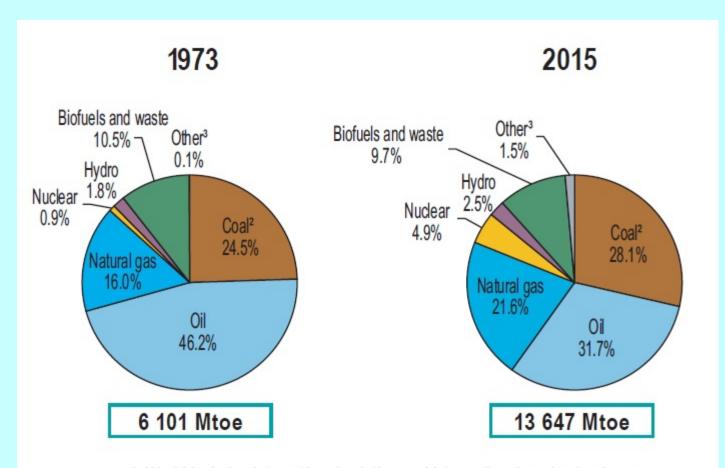
SHOWDOWN WITH IRAN: IMPLICATIONS FOR GLOBAL OIL

NPS, OCT. 22, 2019

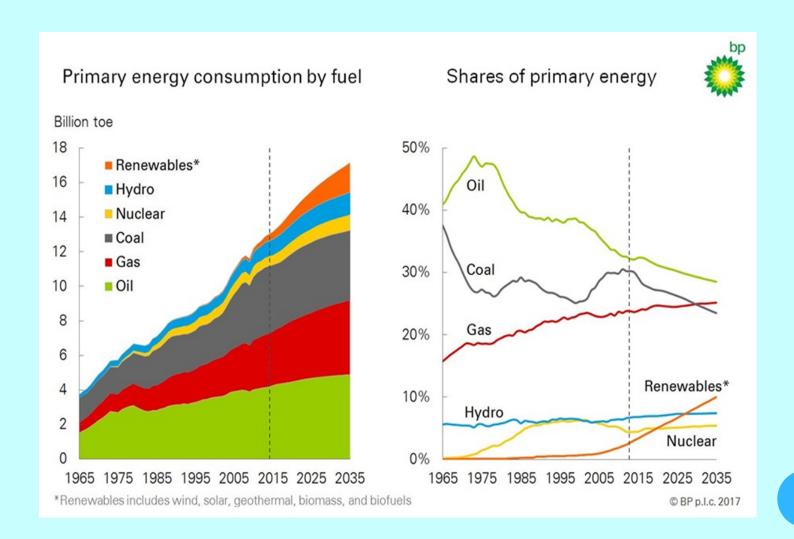
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Global Total Primary Energy Supply by Fuel

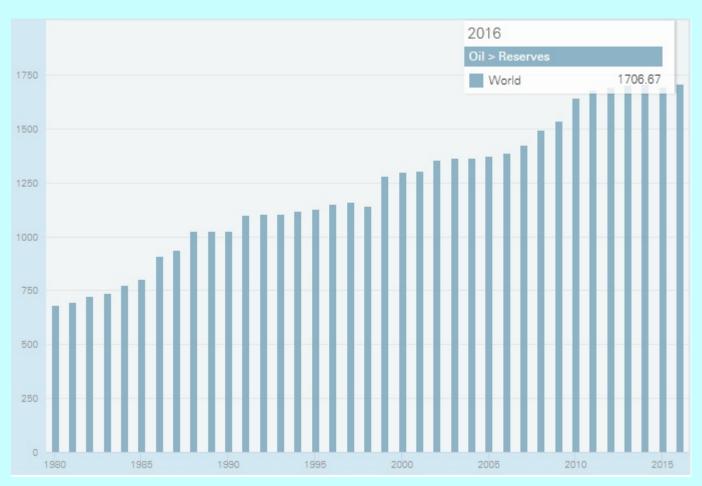


- 1. World includes international aviation and international marine bunkers.
 - 2. In these graphs, peat and oil shale are aggregated with coal.
 - 3. Includes geothermal, solar, wind, tide/wave/ocean, heat and other.

Primary Energy Consumption



Global Proved Oil Reserves (Billion Barrels)



BP Statistical Review of World Energy 2016

Policy Developments: US Energy Dominance

- World's largest producer of oil and natural gas
- Infrastructure bottlenecks; Associated gas
- Security of price
- Allies' energy security
- Global oil price; spread between Brent and WTI
- High oil prices not affect the US economy like in the past



Oil Market Trends

- Fundamentals proving to be best indicator
- Price cycles are normal.
- Tight or liquid oil market is best indicator if geopolitics matters
- OPEC versus non-OPEC; ROPEC; ROPECA

"The Oil Weapon"

- Used mostly by the consumers
- Oil exporters vulnerable to disruption of oil market: Strait of Hormuz
- Rarely successful by producers
- Market of 1970s is not the market of today and even then was not a successful embargo
- International Energy Agency, Strategic Petroleum Reserve

IRAN SANCTIONS REGIME

- Compliance with sanctions: governments no, but companies yes, especially in Europe
- Turkey compliance this time

Iran's strategy

- Iran strategy: remove sanctions or war/high oil prices
- Attack on Abqaiq complex-- part of larger strategy: airports, disrupt transit through Strait of Hormuz --ships
- Houthis: yes- proxy for Iran; need to treat it is Iran; other proxies
- Iran wants "regime change" in the USA and Saudi Arabia; high oil price before elections.

WHAT DO WE LEARN ABOUT THE OIL MARKET RESPONSE?

- Question on demand– global recession?
- More accurate? Data on inventories? Can USA data be misleading?
- Automated trades: too much weight for potential trade wars, especially with China?

US RESPONSE AND FUTURE DEVELOPMENTS

- No US or other explicit military response at this stage.
- Iran also did not get what wanted- sanctions off.
- Sanctions will be increased.
- Iran--additional attacks: on other oil production/transit (Caspian?)

Oil and gas: Power or Vulnerability?

- Oil and gas resources provide livelihood and thus contribute to a state's power
- However, they also create an obvious strategic vulnerability, an easy target
- Energy infrastructure is a producing country's "throat"
- Prize

FUTURE: DOMESTIC DEVELOPMENTS IN IRAN

Unprecedented domestic challenges in Iran

• Every border: Kurds, Baluch

Oil producing region Khuzestan

Security implications

- Protection of critical energy infrastructure: Abqaiq was the doomsday scenario in exercises, and yet nothing happened
- Was easy to attack and easy to fix
- Iran accelerating confrontation
- Any target that can increase price of oil.
- LNG trade
- LNG supplied gas vulnerabilities vs. pipeline