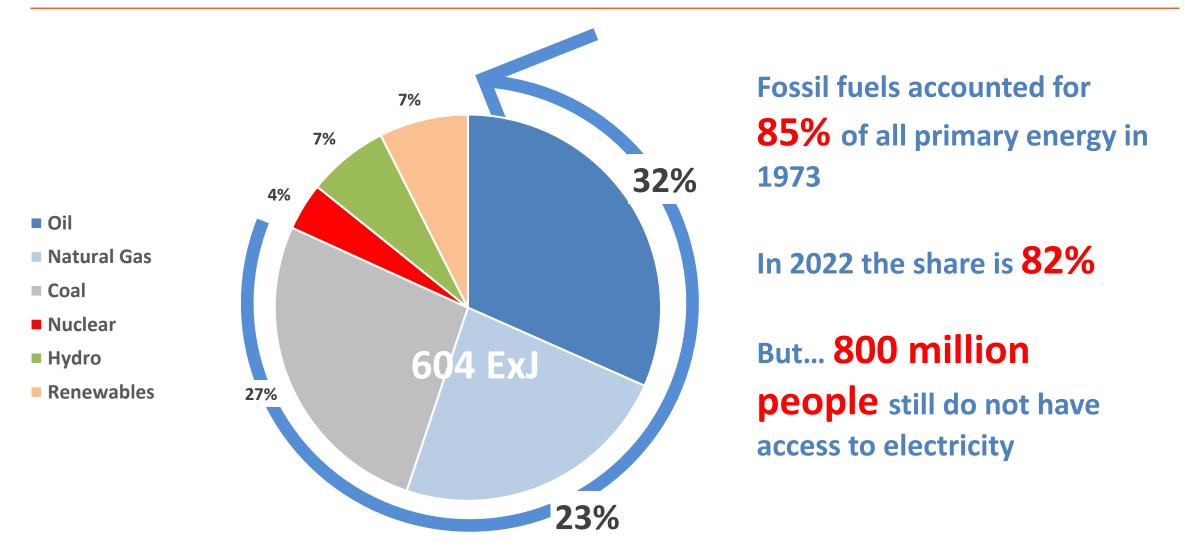


Round Table Discussion (WPC Energy WS Serbia)

The Energy Sector in 2025: Supply, Demand & Geopolitics

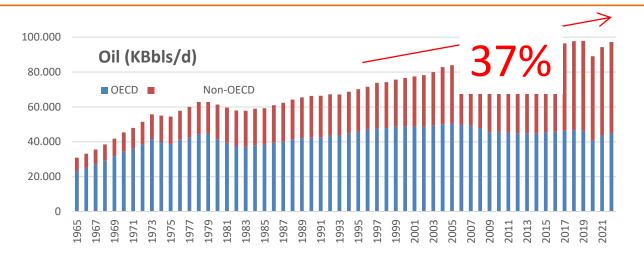
Pedro Miras (Presidente WPC Energy)

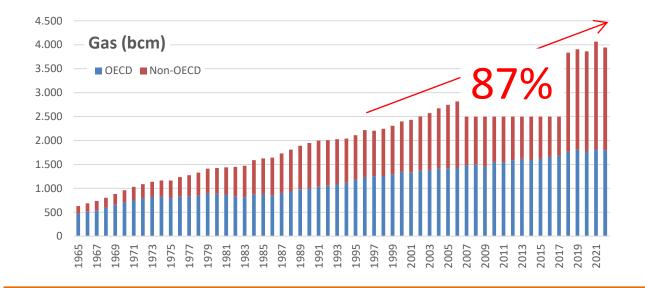
World consumes 604 Exajoules* of primary energy

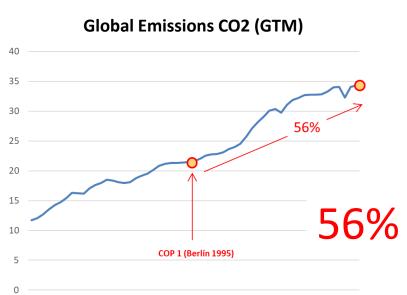




Hydrocarbons consumption growth and CO2 emissions







Global emissions are not 100% linked to oil& gas...

...and the whole energy sector is responsible for 87% of the total global emissions (same that in 1995)



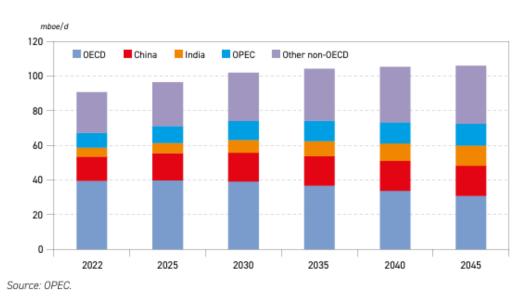
El Statistical Review World Energy 2022 & IEA

Hydrocarbons will continue driven energy supply (even in the more acid scenario)



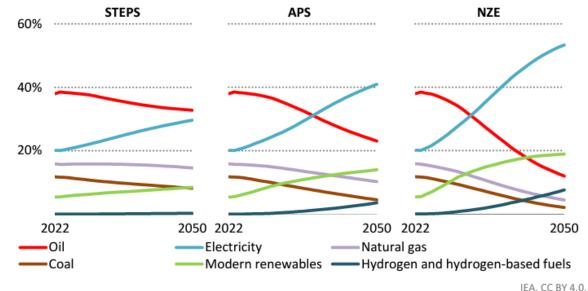
Organization of the Petroleum Exporting Countries

Figure 2.5 Oil demand by region, 2022-2045



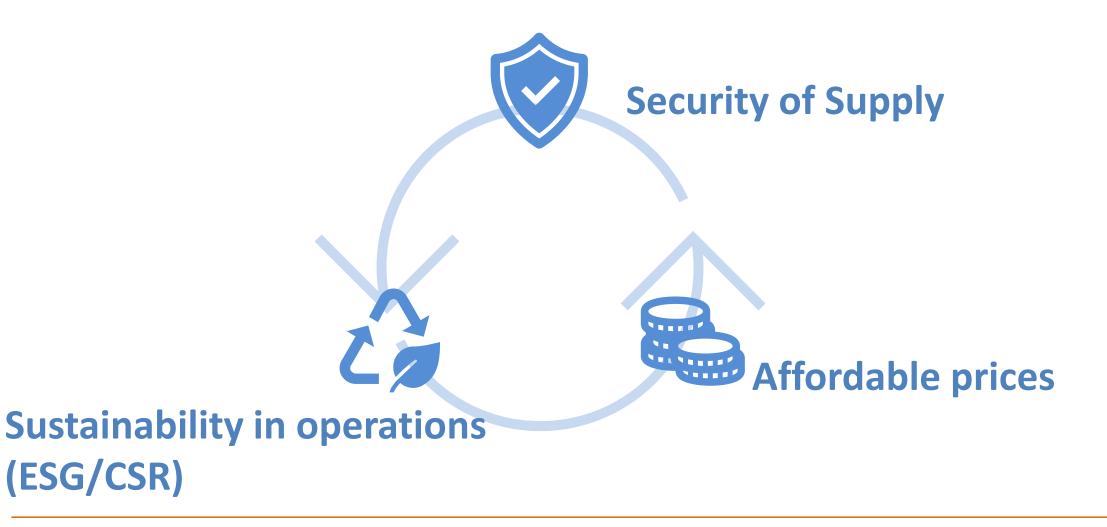
led

Share of global total final consumption by selected fuel and scenario, 2022-2050





What really matters in energy supply



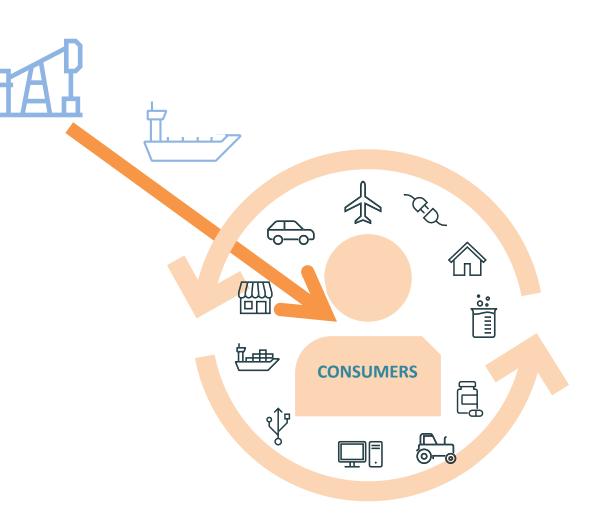


The balance supply/demand... and geopolitics

There are two key factors to supply energy (oil&gas) to the markets:

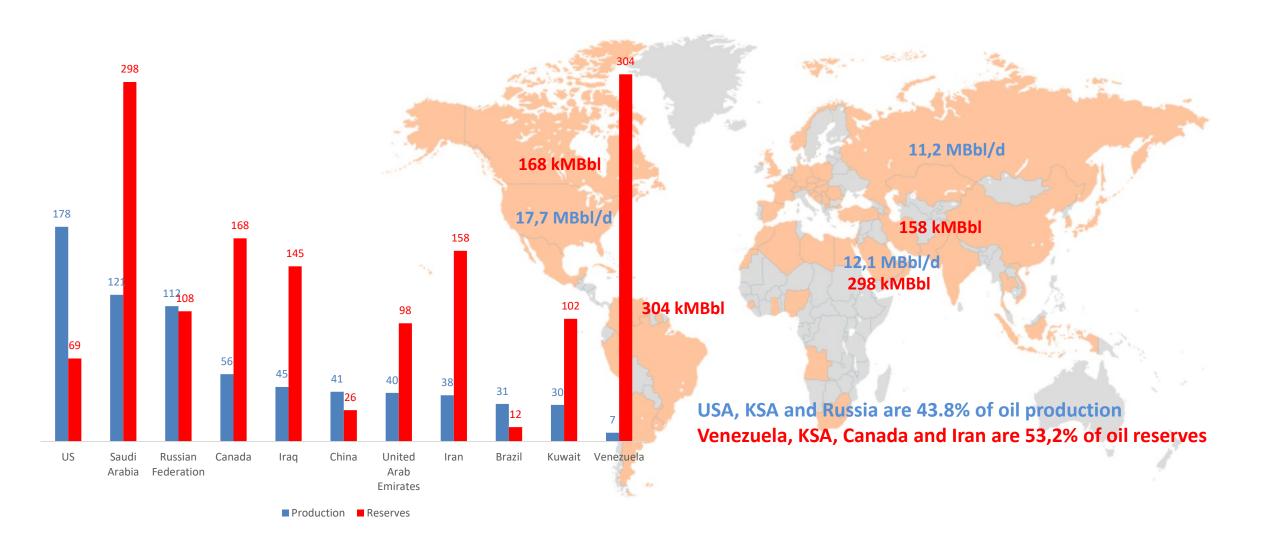
Production -> Producers countries Transits -> Chokepoints

All affected by geopolitics... and to understand geopolitics influence in Energy **we MUST look at geography**



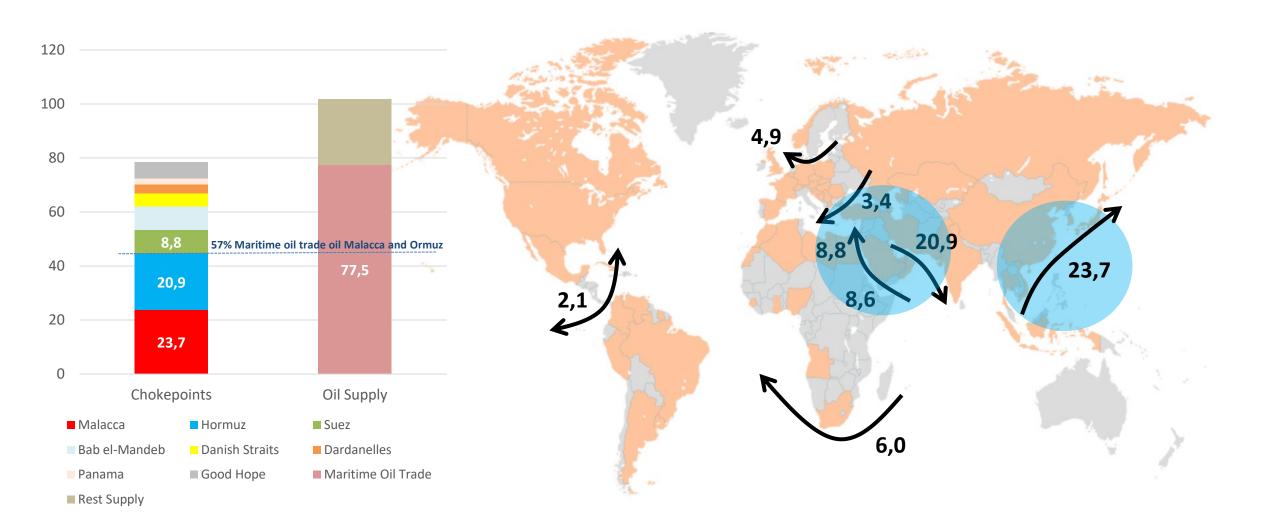


Geopolitics "spots" and oil production (MBblsd/10) & reserves* (kMBblsd)





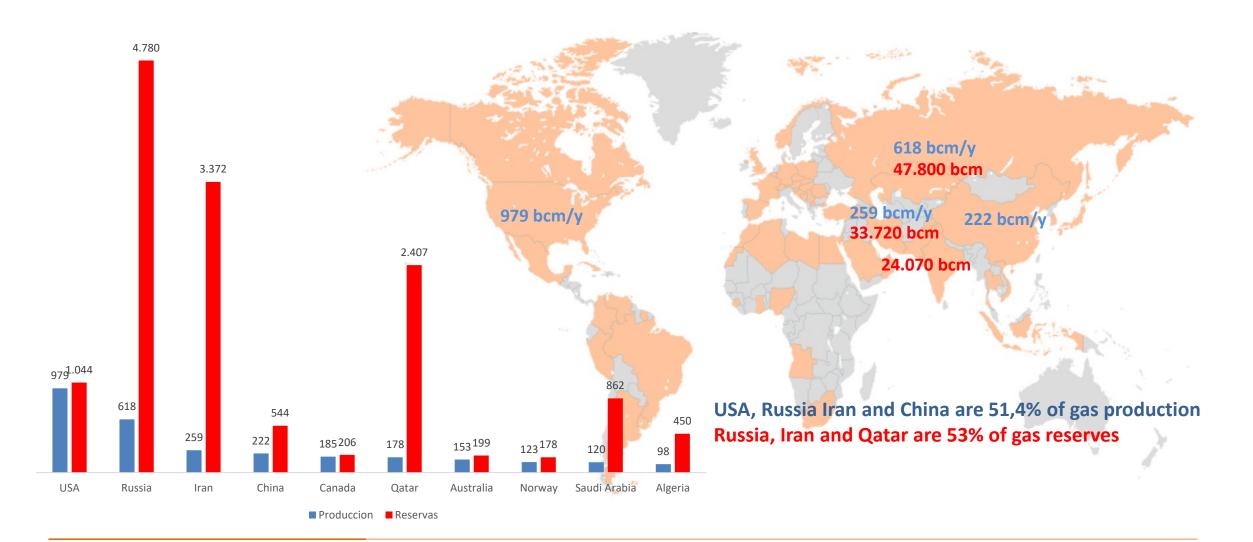
Geopolitics "spots" and oil transit (Mbl/d)





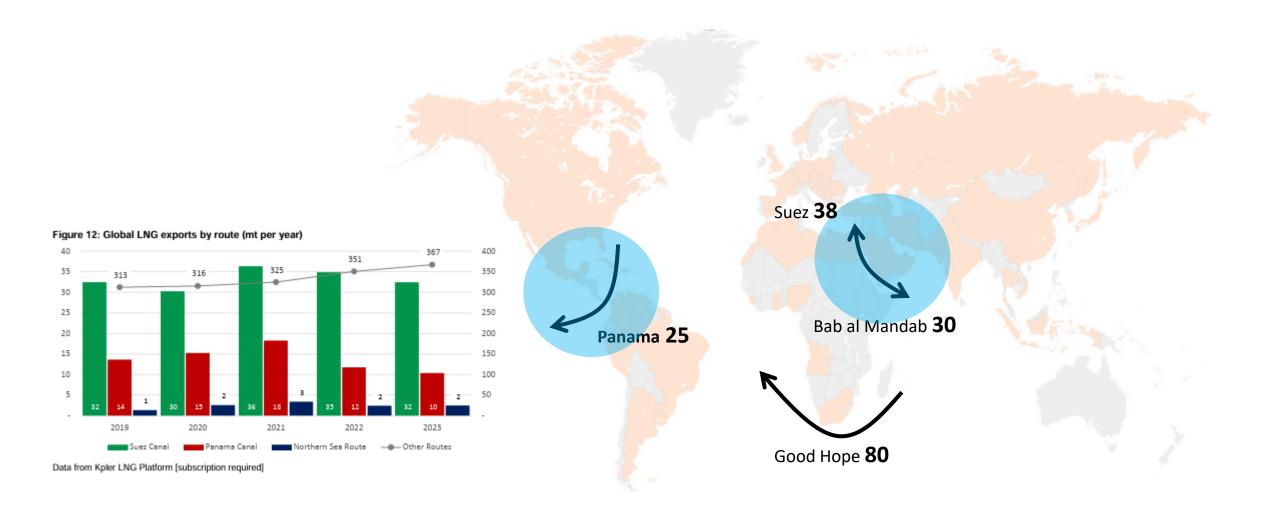
The World Forum for Energy Transformation

Geopolitics "spots" and gas production* (bcm/y) & reserves (bcm/10)





Geopolitics "spots" and gas transits (vessels/day)





"Hot spots" for energy supply

USA & Canada:

Oil: **25%** Production (14% Reserves) Gas: **29%** Production (6% Reserves)

Chokepoints (Panama): 8%/Gas Transit

Middle East Area*:

Oil: 33% Production (48% Reserves)ChokepointGas: 19% Production (40% Reserves)Chokepoints: 49% Oil Tanker Transit, 8% Gas Transit

Russia:

Oil: 12% Production (6% Reserves)

Gas: 15% Production (24,1% Reserves)

Chokepoints: **10,7%** Oil Tanker Transit

Malacca Straight:

Chokepoints: **31%** Oil Tanker Transit



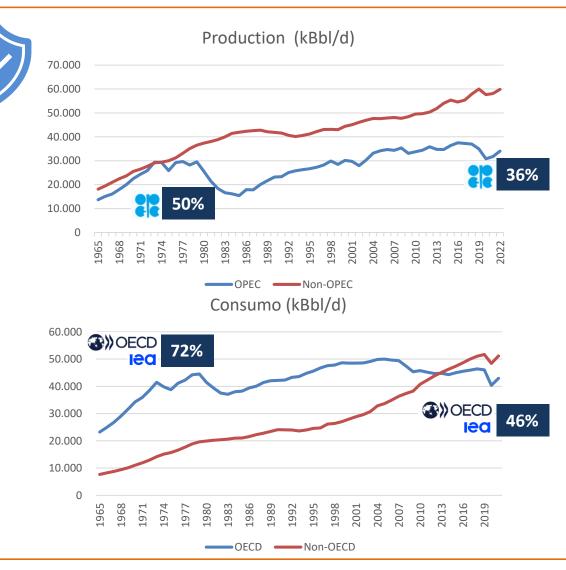
Energy supply is a key factor for developing... and **oil&gas is still more than 55% of the world energy consumption**

Geopolitics is a key factor and drove and will be driving energy markets in the future... and we can not avoid this reality (some geographical areas concentrate energy raw materials and transits)

... but we can mitigate... *how*?



... improving Security of Supply (i)



- ✓ Supply security "as a global concept" dates back to 1974 (creation of IEA)
- ✓ The basis of the system has been stock maintenance -> Global Observed Inventories 7.6 bn Bbls (US\$ 535 billion)
- ✓ IEA (OECD) and OPEC have lost influence since then



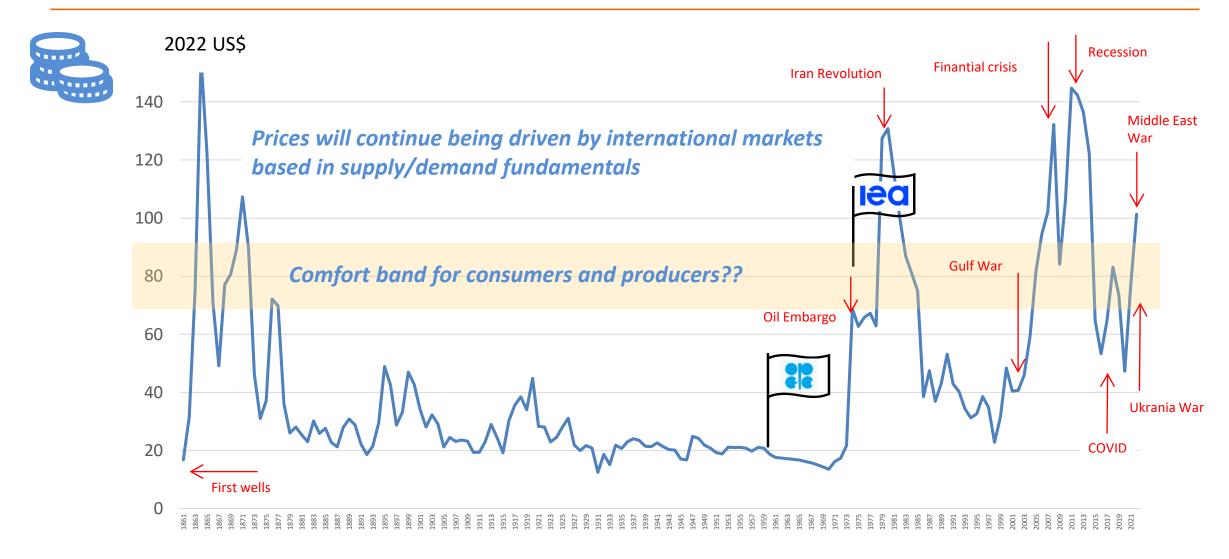
The concept of security of supply must be modernised...

- *improving easy and not ideologized regulation* (stable, predictable, open and transparent and not a "regulatory maze" that discourages investments -there are not "good" or "bad" energies-)
- \checkmark including other raw materials and minerals
- ✓ **by using technology** (data sharing and artificial intelligence.. not only stocks)
- ✓ enhancing international cooperation (IEA, OPEC, IEF, IGU, WPC...)
- ✓ promoting interconnections (to ease chokepoints)

ICO has a central role that must be strengthened and oriented again into this goal



...understanding what means "affordable prices"





Energy is a necessity for the development of societies, and we have the obligation to provide it to everyone, wherever they are.

Oil & gas is an essential part of the energy mix and will continue to be for many years.

Geopolitics is a fundamental driver for energy markets that affects supply security. There are options to reduce the risks arising from this reality, and we must remain vigilant to minimize potential impacts.





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