

Nazarbayev University Kazakhstan

Energy Transitions: Exploring the nexus of Sustainability, Economy and Climate

Energy and Economics

May 15, 2024

Emeritus prof. Aviel Verbruggen

University of Antwerp, Belgium

www.avielverbruggen.be

**In every society, the control over energy is a source of money and power.
This has grown to superlative levels by the control over oil & gas resources**

Overview:

- ❖ **Peak oil supply**
- ❖ **Demand peak because of climate change**
- ❖ **Geopolitics of trillions US \$ super profits**
- ❖ **Public pricing of fossil fuels**
- ❖ **Another case of money capturing by corporations: EU climate policy**
- ❖ **The workable alternative for economic policy instruments**

Oil & gas: too little or too much resources?
1972 *Limits to Growth* depletion of resources/reserves
1973 Oil price crisis anchors *oil depletion* in talking, media, academia

Symbol of depletion was the ratio R/P (Reserves/Production)

R/P = future years with sufficient oil & gas

In 1970: R/P = 40 à 50 years

In 2020: R/2**P = 40 à 50 years**

R/P: a **deceiving indicator of scarcity,**
tells companies are ready to supply enough oil & gas next 40 à 50 years

Climate change

Deliberate reduction of use of oil & gas instead waiting for depletion

⌘

global warming

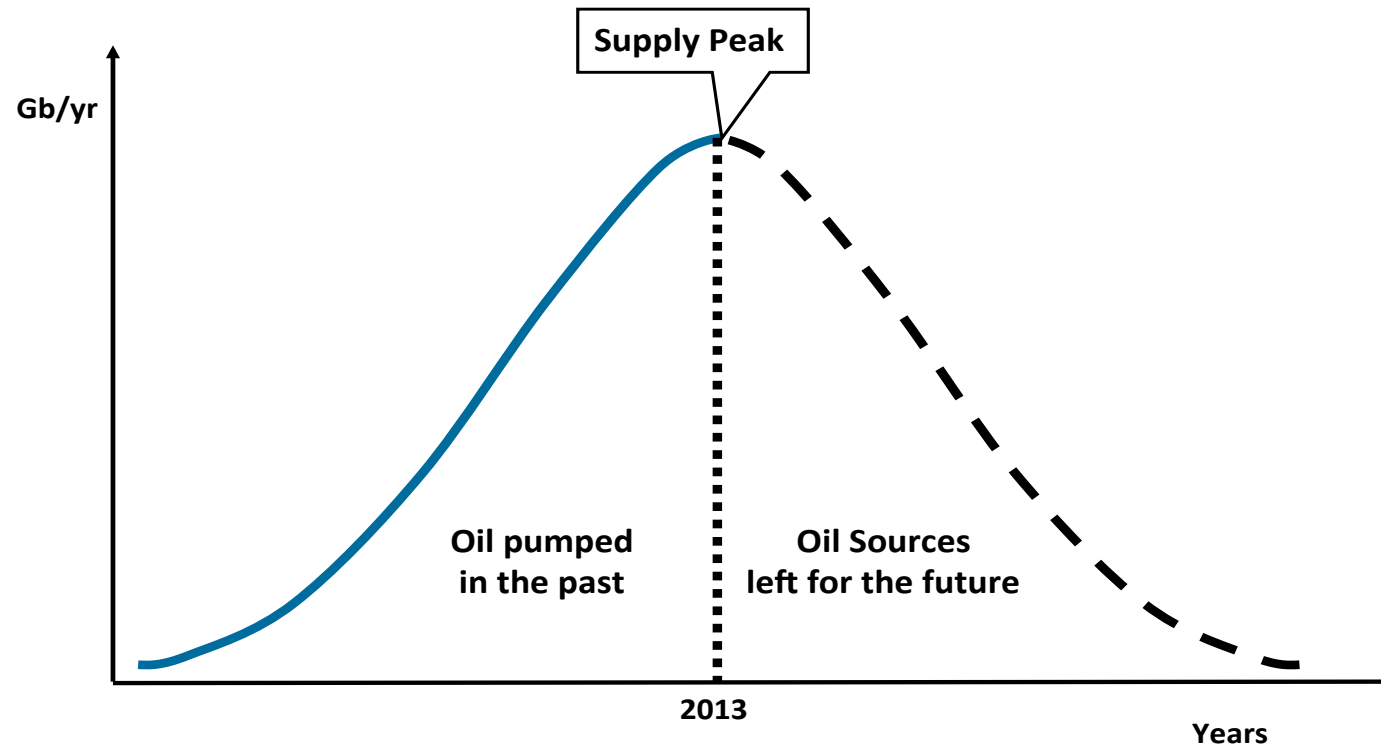
+1, +1.5, +2, +3, +4, ... °Celsius

Peak oil supplies deception

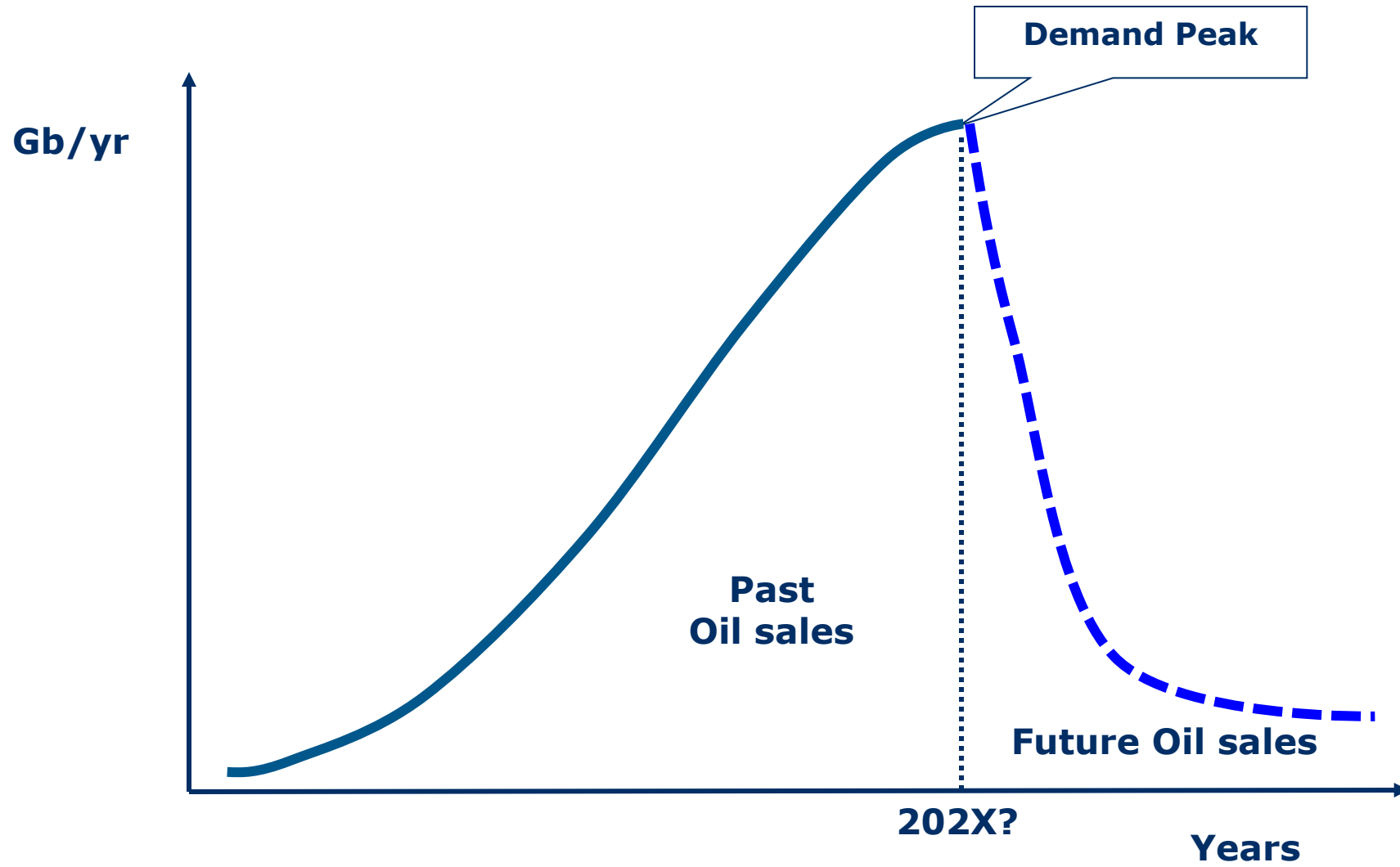
Hubbert bubble *hypothesis* of Normal distributed exploitation

- Supported peak oil hype since 1970s
- Observations reject the hypothesis

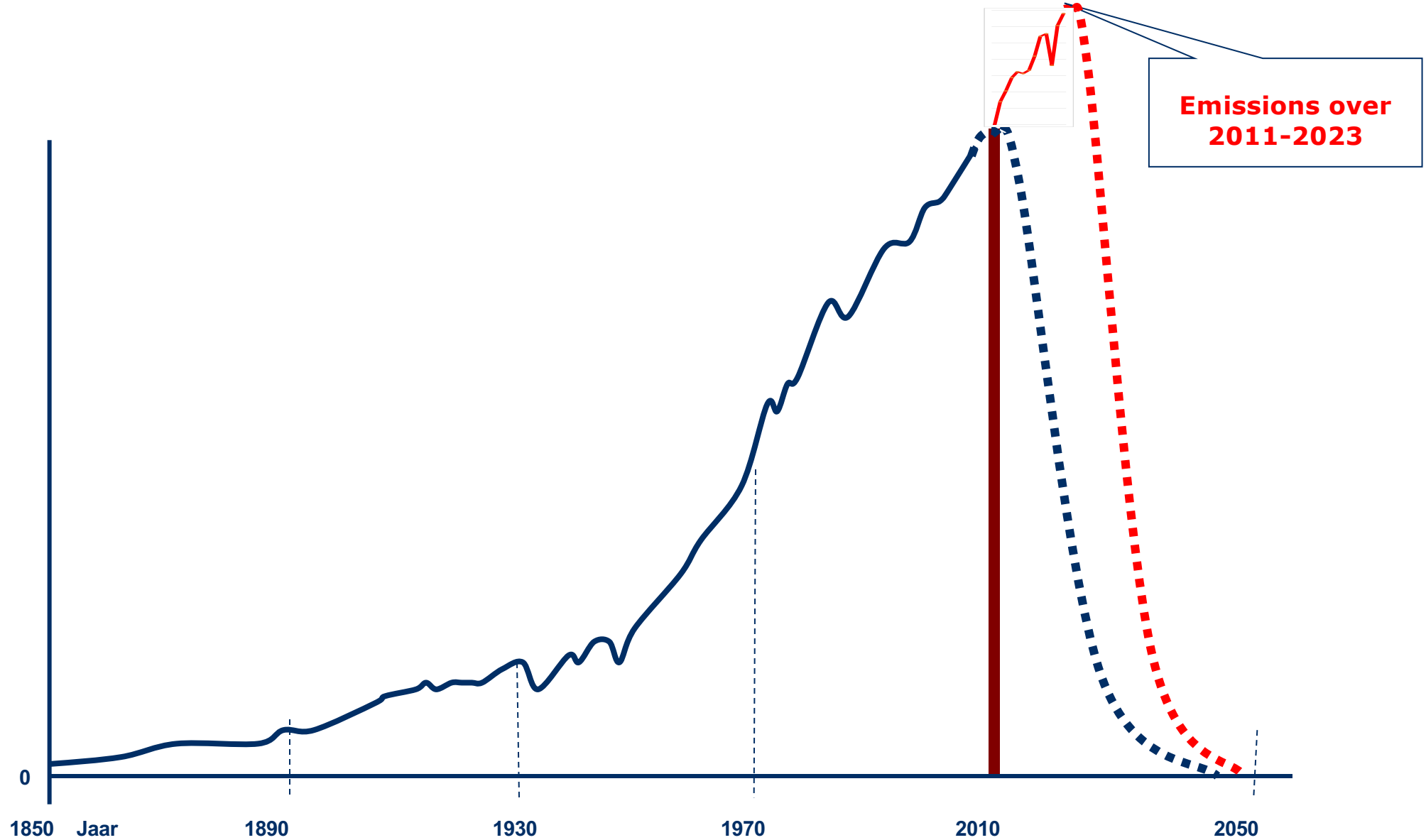
Hubbert bubble fiction



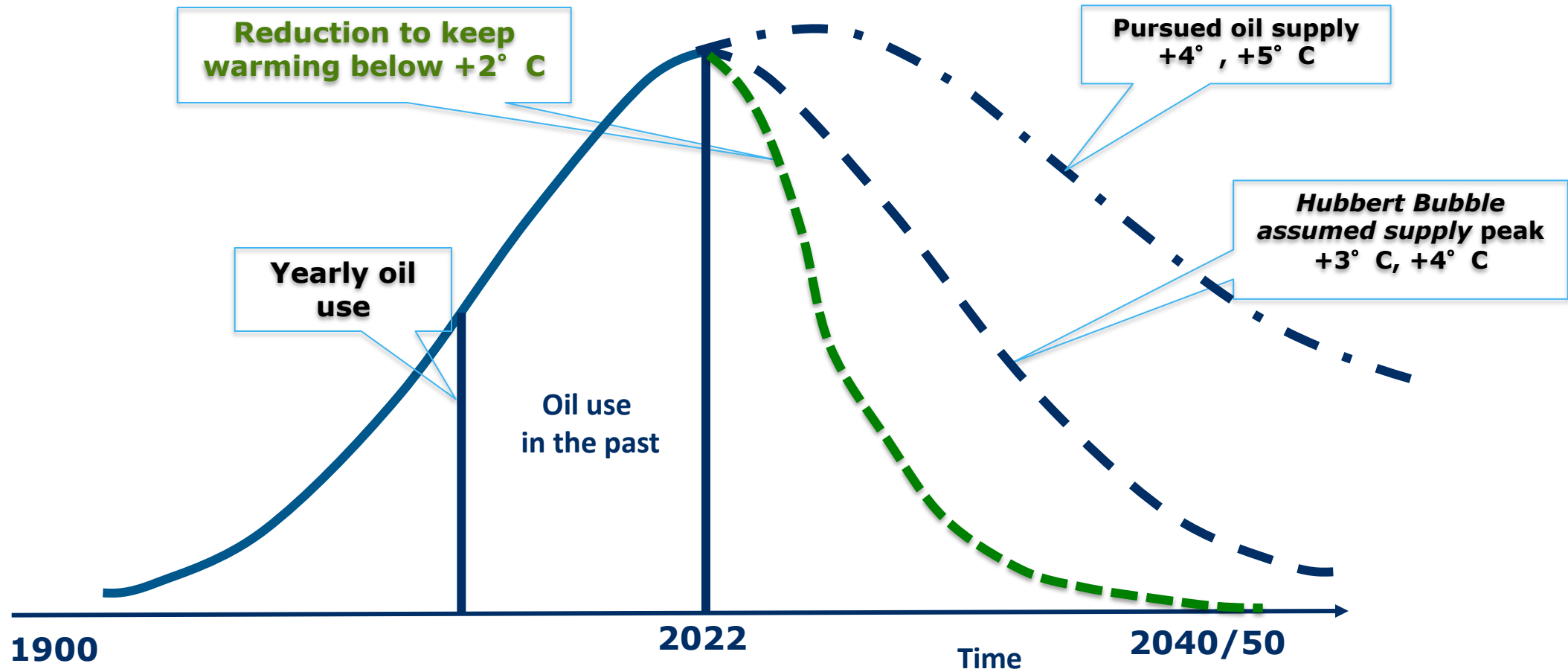
Climate Change requires Demand Peak must curtail future oil sales



“Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO₂ and other greenhouse gas emissions occur in the coming decades” (IPCC AR6 WG1, 2021)



Reduction of oil use ⇔ **Depletion of oil resources**
⌘ **global warming +2, +3, +4, +5 °Celsius**



Farewell to oil & gas

❖ Climate change & Peak oil

- ❖ **Mankind must manufacture irrevocable peak oil demand**
- ❖ **Inducing & maintaining peak oil demand requires robust and permanent pressures of high prices on end-use oil activities**
- ❖ **Who sets the high prices + cashes the billions \$ rents?
Oil majors ↔ Governments + across countries**

❖ Analysis based on world oil market functioning

- ❖ **Demand by billions of consumers**
- ❖ **Supply by oligopolistic oil majors + oil exporting countries**
- ❖ **Rent creation & skimming**
- ❖ **Foot the bill to competitors (Japan, China, EU)**

❖ Brutal oil geopolitics

- ❖ **Devastate & paralyze hostile + unreliable transients**
- ❖ **This part of the energy transition: *not a walk in the park***
- ❖ **Beware of soft transition talk**

Superpower USA classifies nations with exportable oil & gas resources as friendly | transient | hostile

Friendly = Western capital interest serving, like 'direct foreign investment is allowed and protected'

core: U.S. & NATO nations + Gulf Cooperation Council (Saudi Arabia, United Arab Emirates, Qatar, Bahrein)

Hostile = nationalistic focus; foreign capital obstructed, fenced

core: Iran, Venezuela, Ecuador, Sudan, Russia, Nordstream 2: 51% share GAZPROM

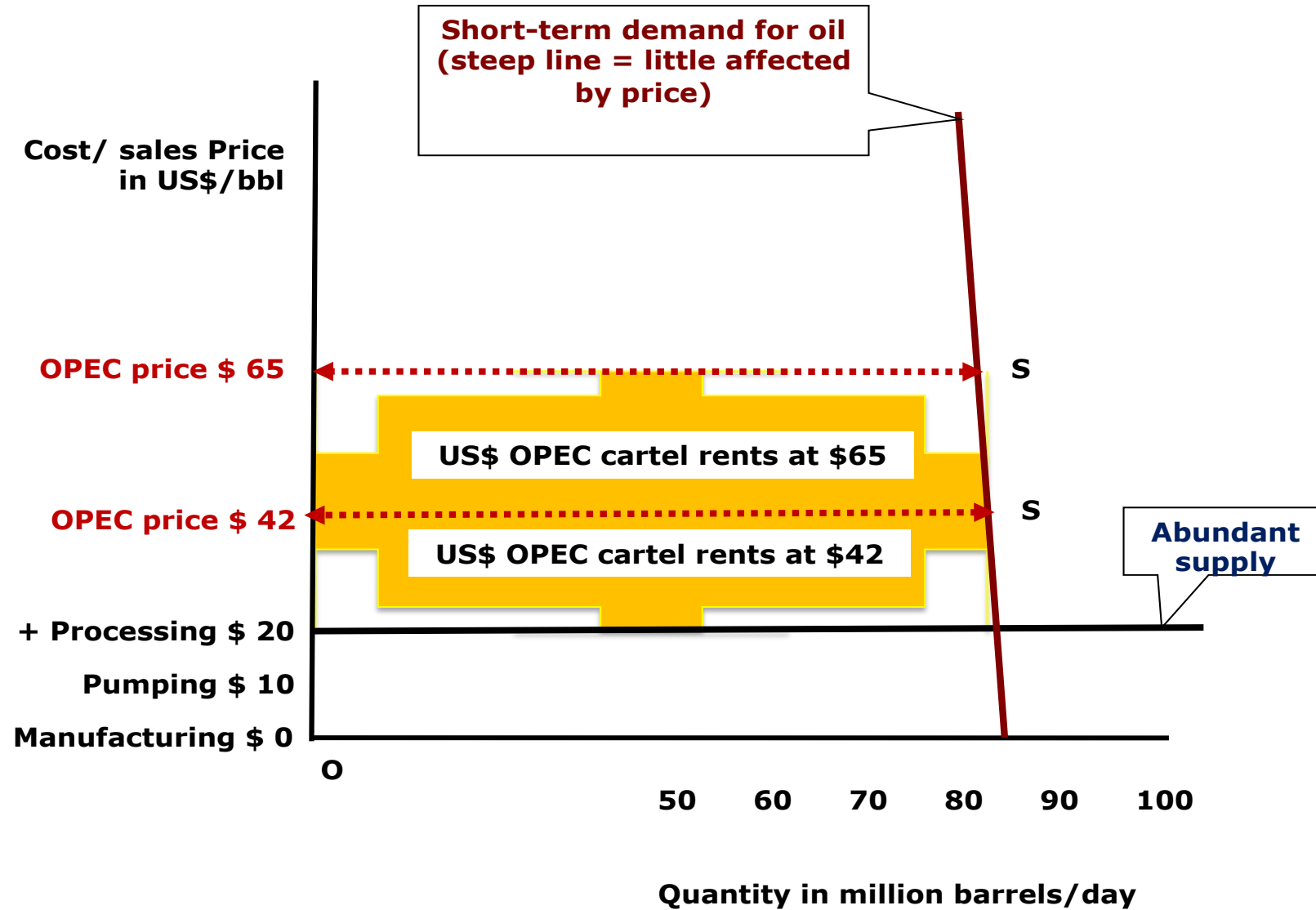
Transient = drifting between friendly and hostile sides, voluntary or by (geo)political-military interference, e.g. Algeria, Angola, Iraq, Lybia, Nigeria, ... Kazakhstan?

Oil & gas geopolitics based on facts

Depletion story telling ⇔ conflict & war to obtain scarce oil & gas resources

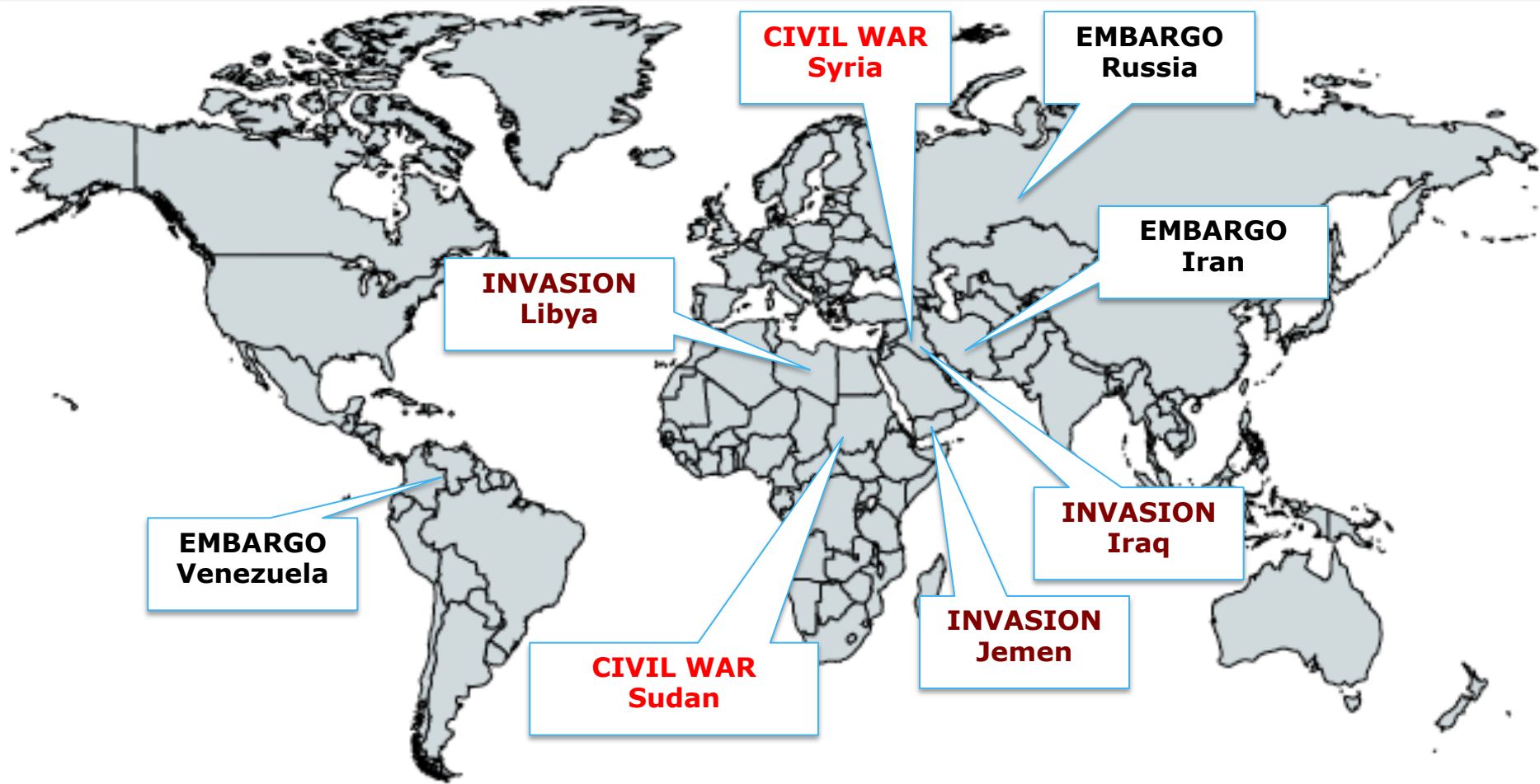
Facts: conflict & war to exclude oil & gas exports of hostile nations

**One day crude oil market WITHOUT sanctions & embargo's: all nations are allowed to export.
By the OPEC/OPEC+ cartels all exporters share in the super-profits.**



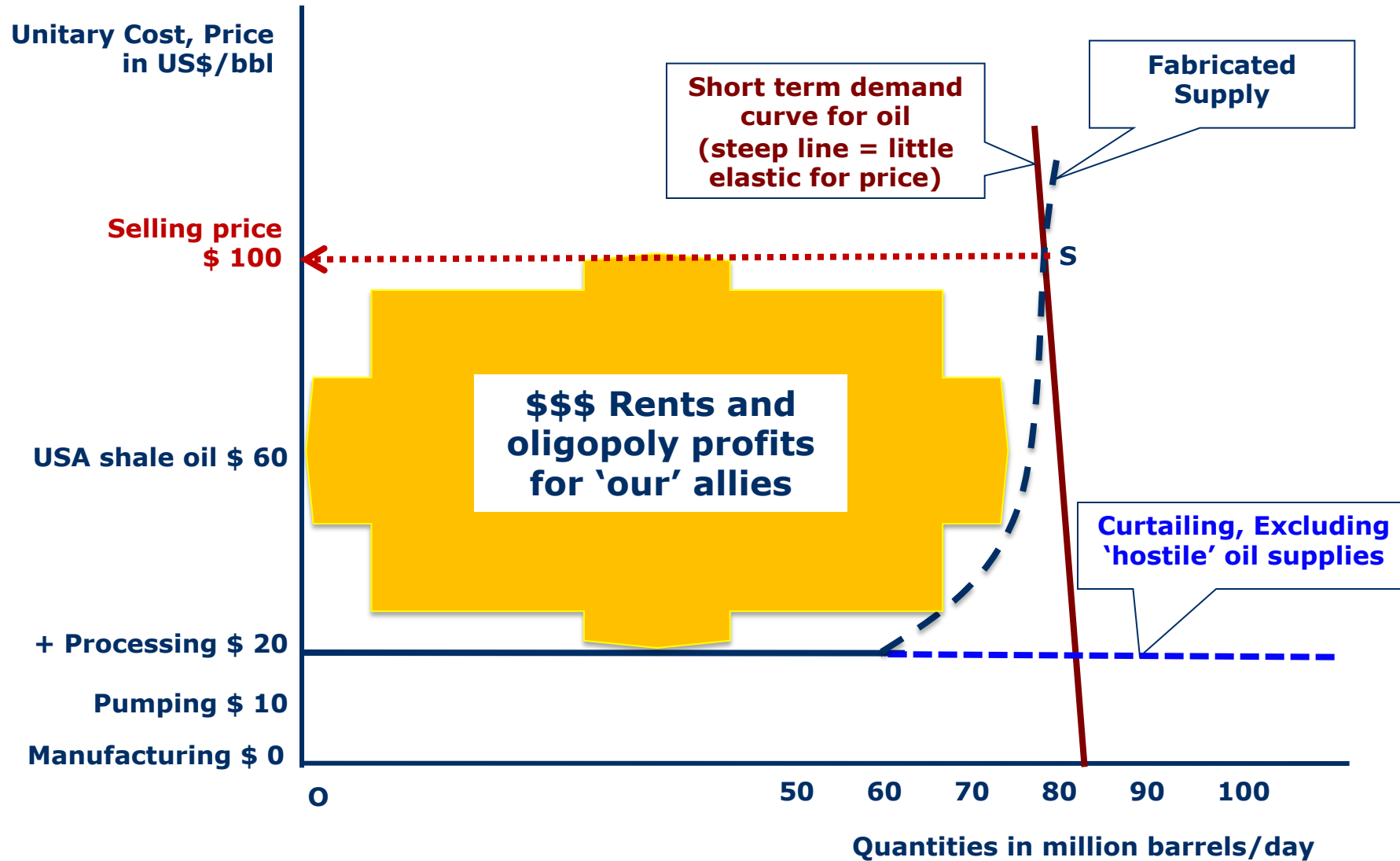
**Shrinking oil & gas use = creating artificial scarcity
by geopolitical conflicts**

EMBARGO – INVASION – CIVIL WAR



USA, Oil&Gas multinationals, Gulf states claim the lion share of oil & gas sales

Rents and oligopoly profits obtained by geopolitical power with impact on global oil prices. A one-day snapshot of global crude oil business.

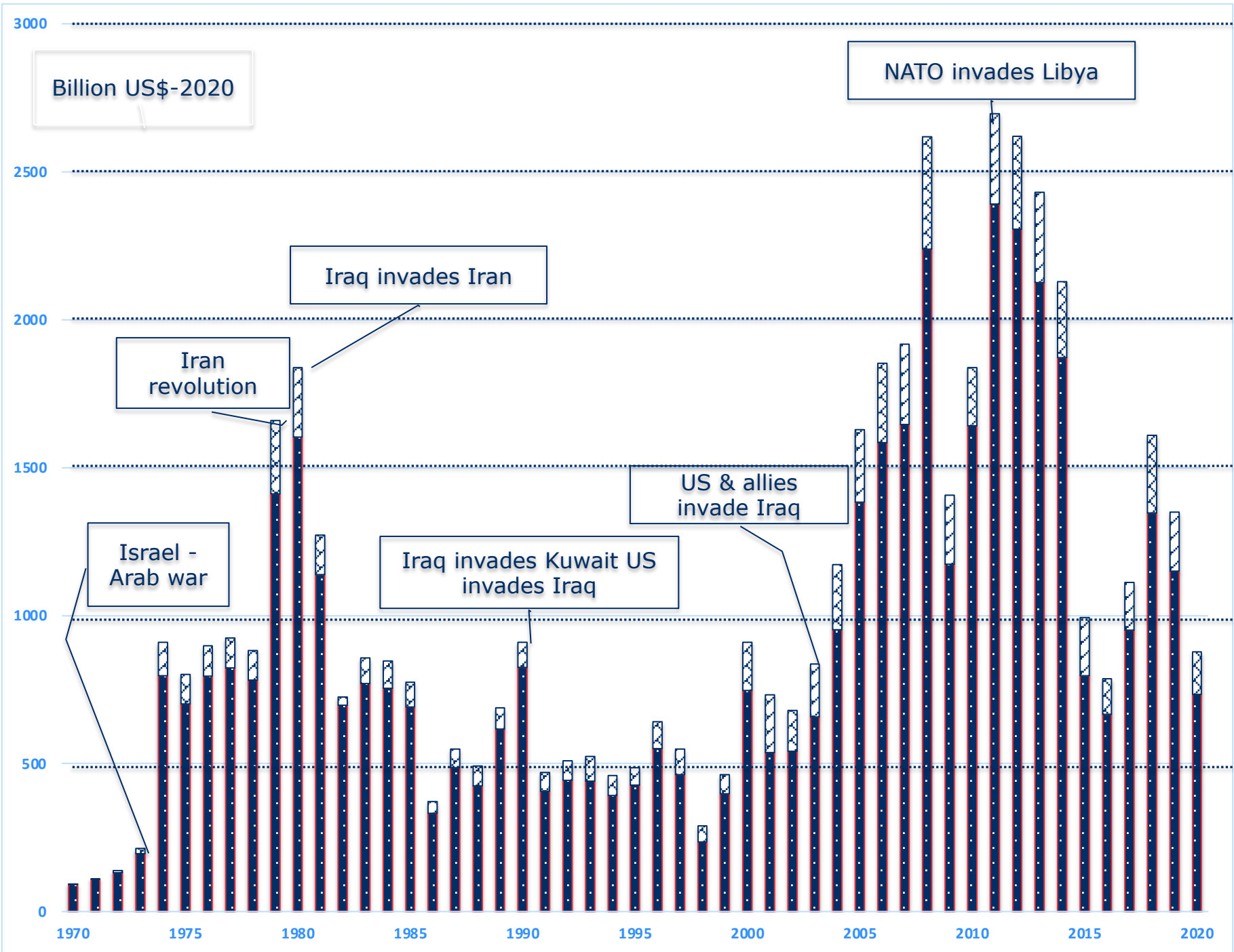


Extract Super-Profits

1970-2020:
52,544 bn
US\$-2020

on average:
1,030 bn/yr

Coincidence
of war &
excessive
rent heights
or
Causality?



**Sanctions
+
War in
Ukraine
+
Embargos

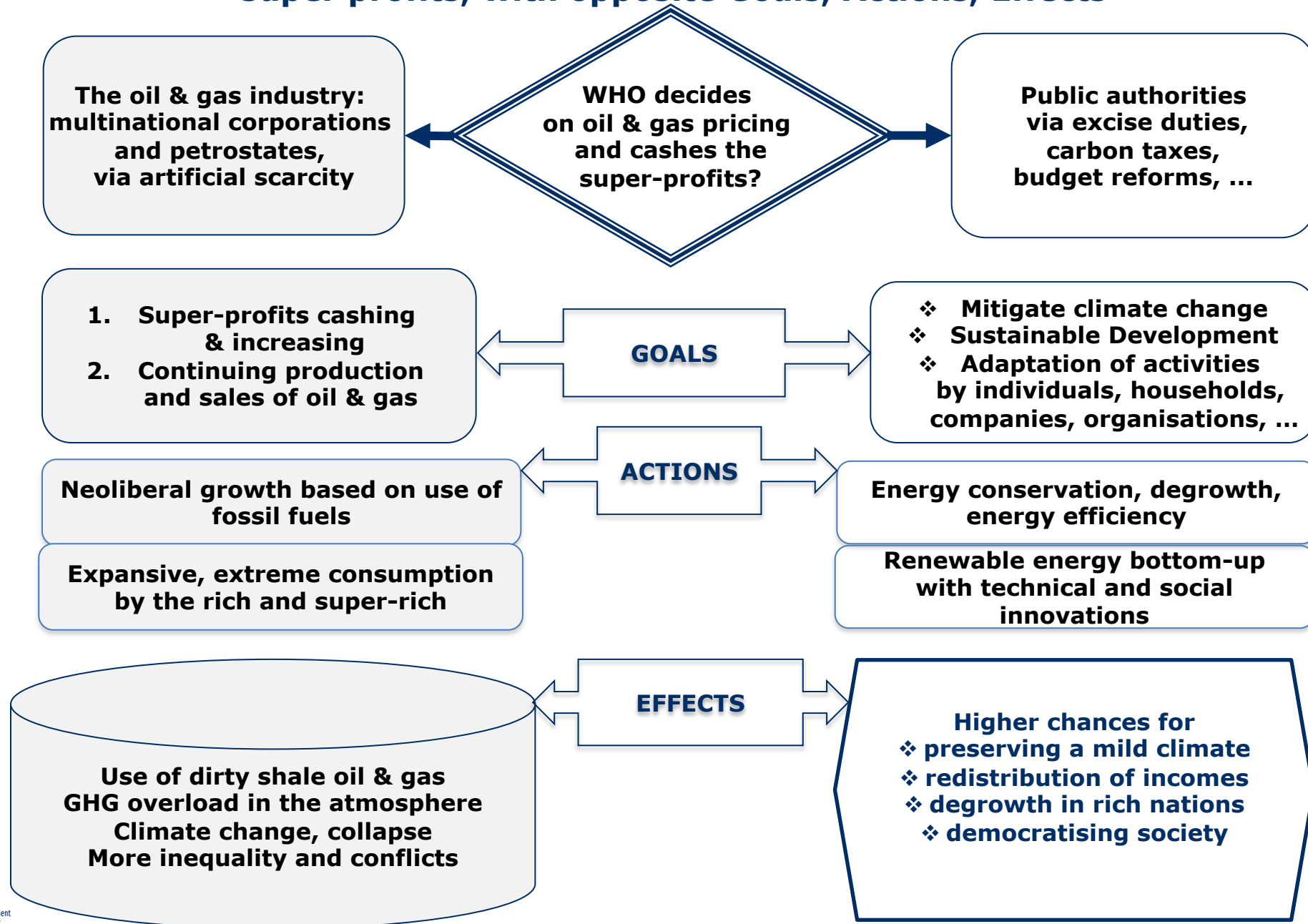
=**

**Super -
profits
again
excessive**

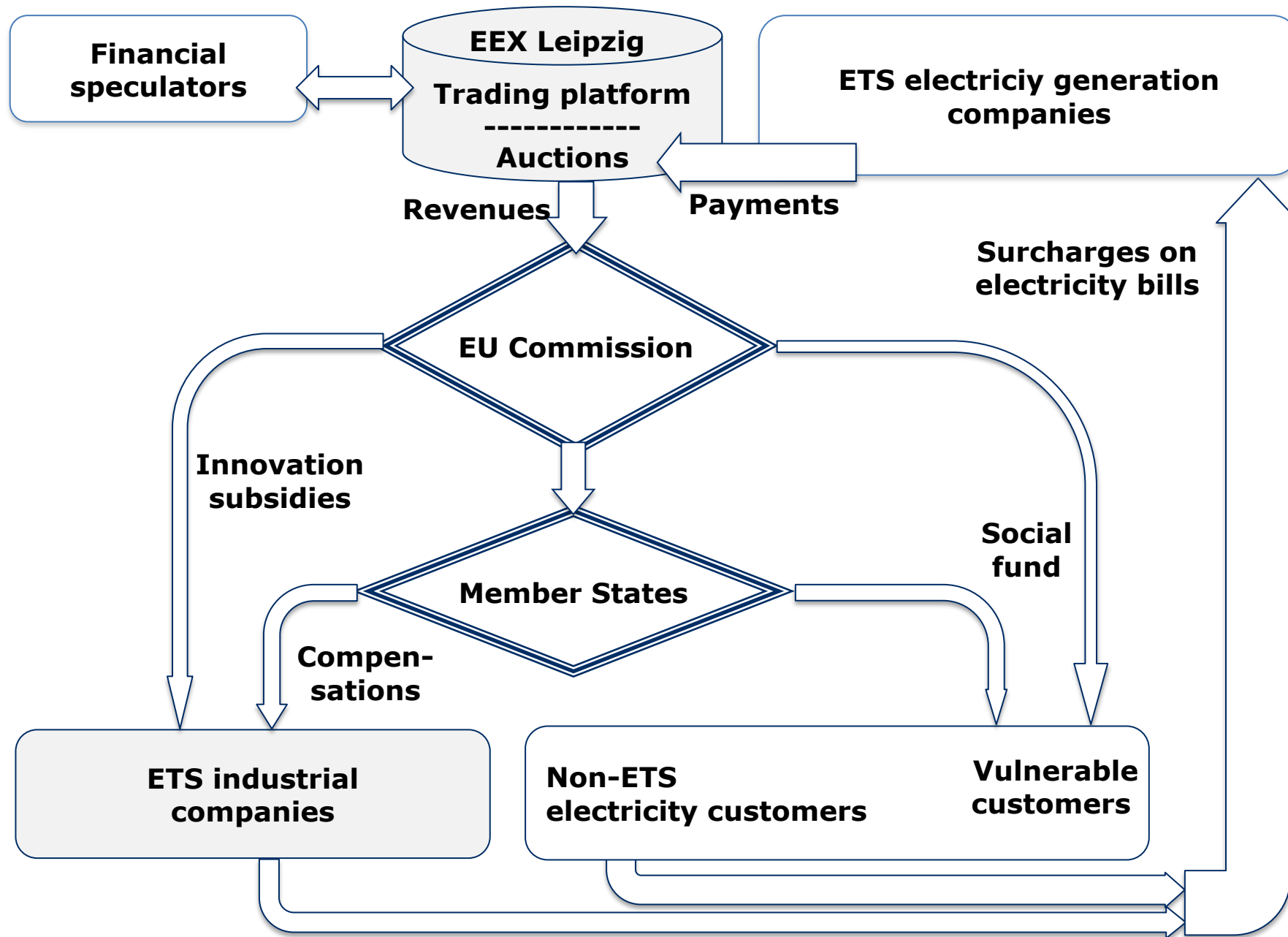
**IEA (2023)
estimate for
2022
amounts to
3750
billion US\$**

2021-2022

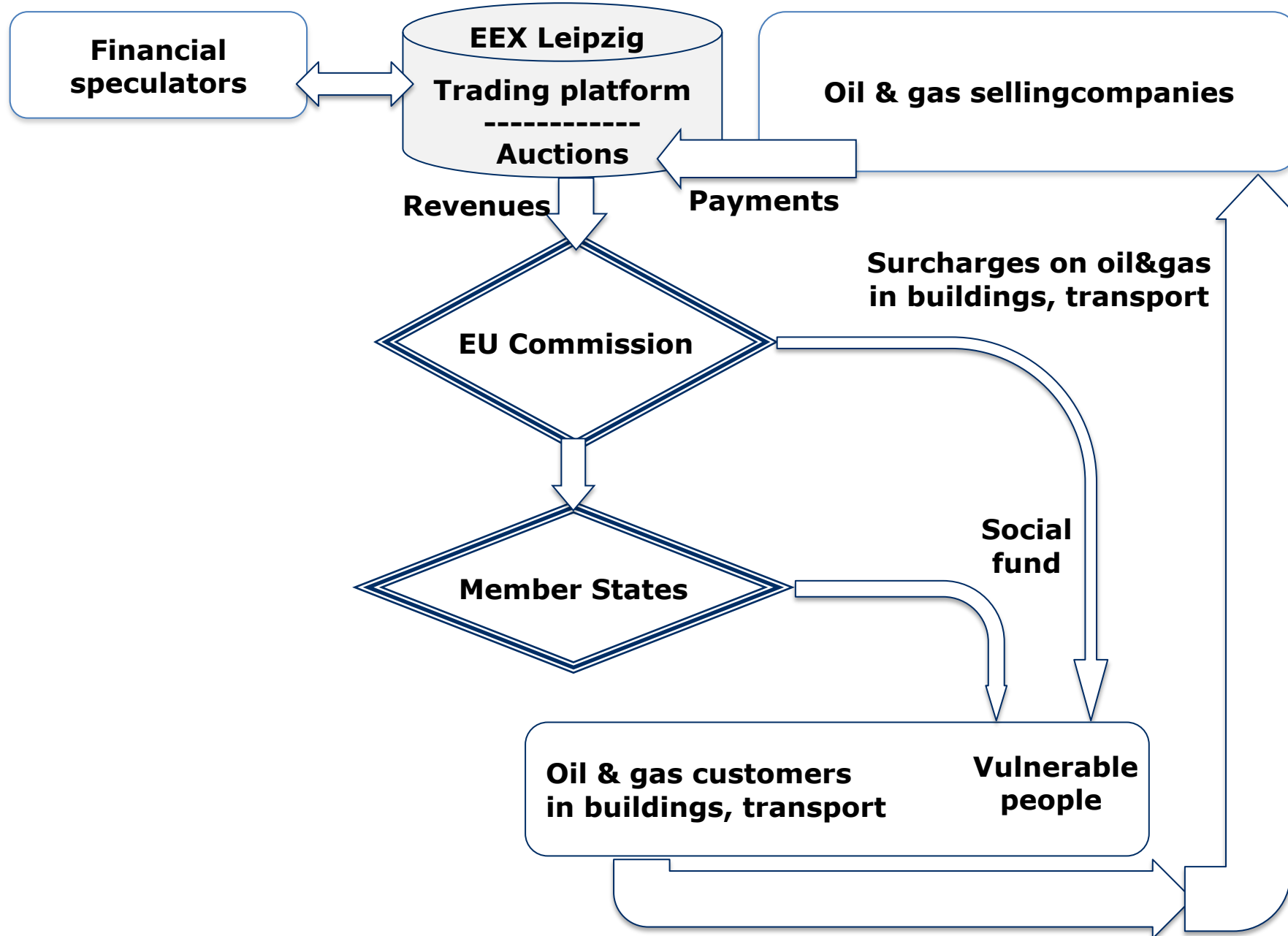
Opposite paths for determination of oil and gas prices and for collecting the associated super profits, with opposite Goals, Actions, Effects



Electric power oligopoly-monopoly companies and EU's climate policy flagship ETS



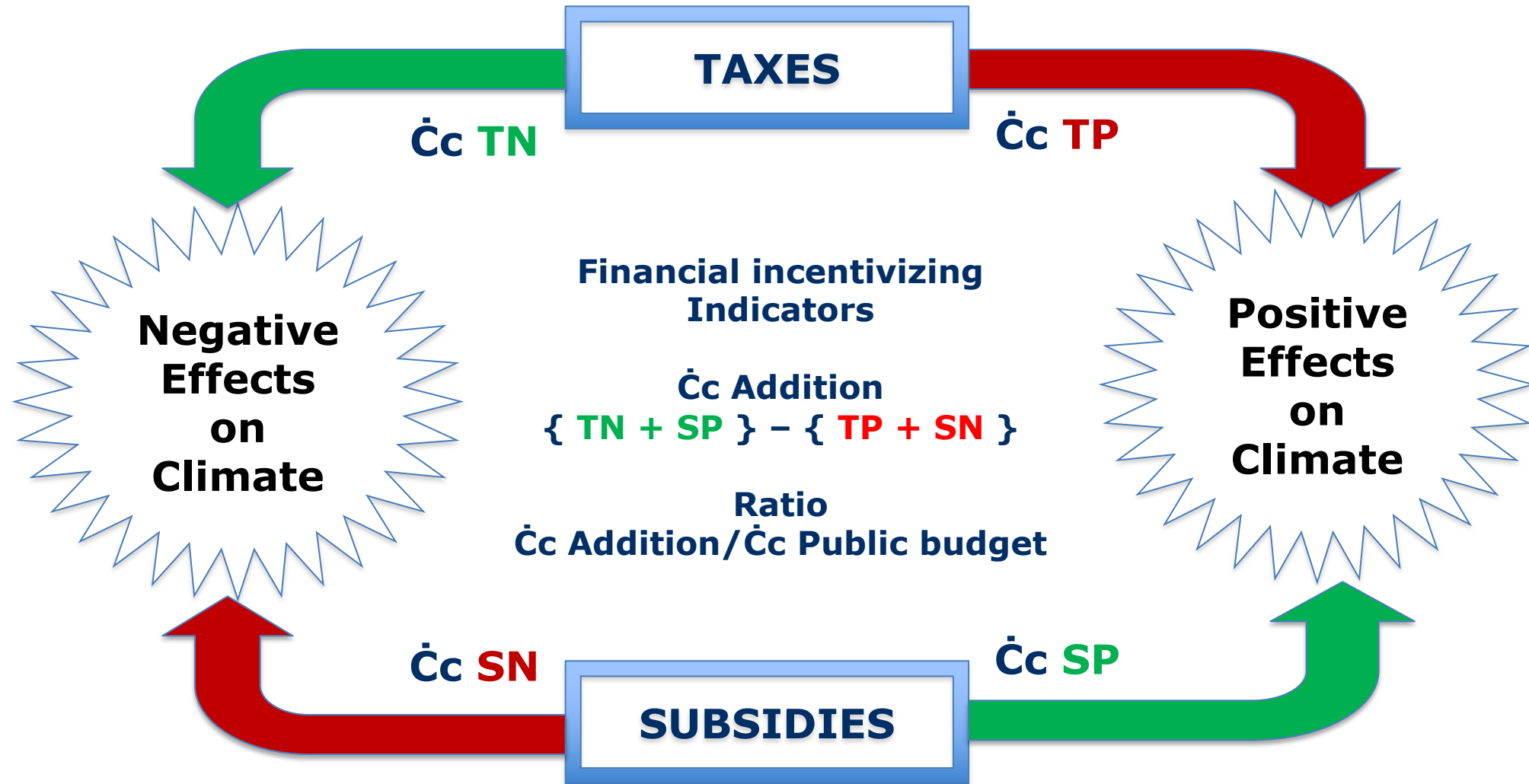
Fit-for-55 allows oil & gas companies to tax oil & gas use in buildings, transport



Democracy and taxing

- ❖ **Magna Carta (1215) is the start of European democratic institutions**
 - ❖ **Cizitens and local communities opposed arbitrary taxing by noblesse**
 - ❖ **Taxes must be approved by the constituency, the people**
 - ❖ **Data about taxes must be transparent and publicly available**
 - ❖ **Nowadays: IMF enforces the transparency of taxes in National Accounts**
- ❖ **EU climate policy instruments ETS & Fit-for-55**
 - ❖ **Allow private companies to charge carbon taxes on citizens**
 - ❖ **The financial flows in the ETS are not public, nor transparent**
 - ❖ **Fit-for-55 is also opaque**
- ❖ **Neoclassical carbon pricing proposals**
 - ❖ **Fetisj is the Global Uniform Carbon Price**
 - ❖ **Via artificial markets for a global emission permits trading system**
 - ❖ **Via the globally harmonized carbon tax**

Gauging financial incentivizing in climate change politics by Country-specific-currency (Ĉc) money flows



Such budget reform approach is a substitute for utopian *Global Uniform Carbon Price*, like uniform carbon tax, or emission permits trading covering heterogeneous sectors