

From crisis to crisis: Energy Security, Geopolitical Chokepoints and the Green Transition

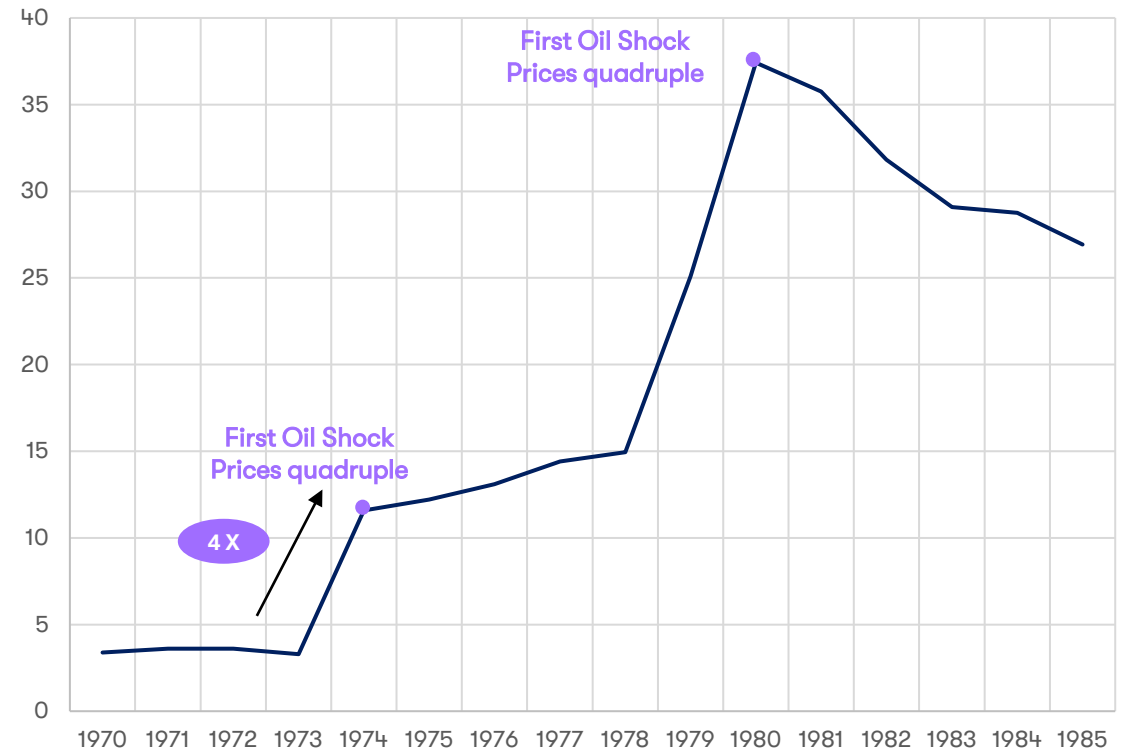
2026



The 1973 Paradigm Shift – The Birth of Modern Energy Policy

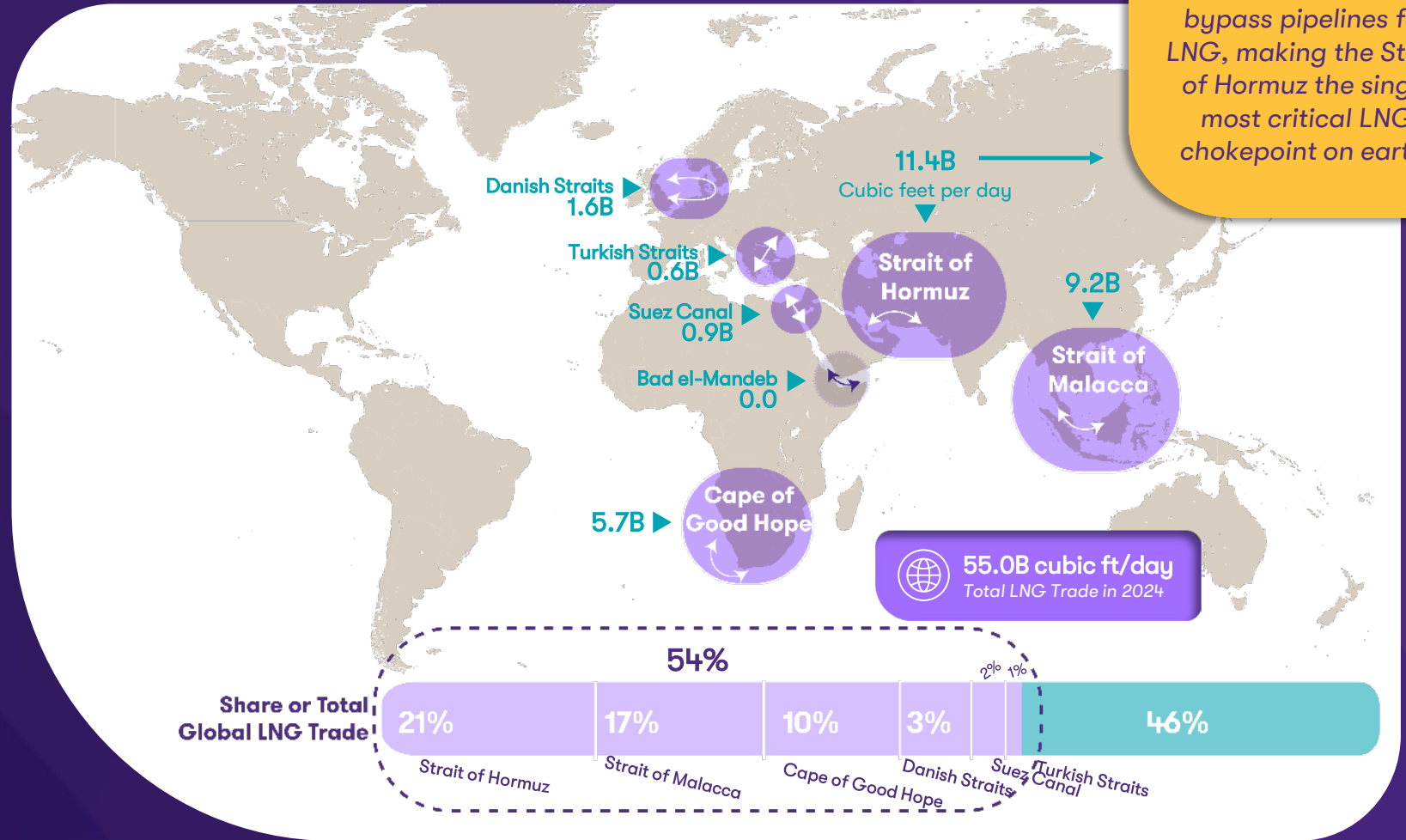
- In October 1973, an OAPEC oil embargo caused global crude prices to quadruple, rising from approximately \$3 to \$12 per barrel within months.
- The crisis led to severe inflation, slowed industrial production, and introduced "stagflation" to Western economies.
- This event vividly revealed the vulnerability of concentrated energy supply routes and production.
- The 1973 crisis was a definitive turning point that forced industrialized nations to re-evaluate their entire economic infrastructure.
- It signaled the end of an era where economic growth was linearly tied to cheap, abundant oil, and initiated the first major global push toward coordinated energy security and efficiency.

Crude Oil Prices Per Year (1970–1985) - Nominal Price per barrel (Average)



Strategic Fragility: Geopolitical Chokepoints

- The Strait of Hormuz: This narrow corridor connects the Persian Gulf to global markets and currently handles approximately 20% of the world's oil and gas flows.
- The lack of viable alternative routes for Persian Gulf crude makes this area a symbol of strategic fragility.
- A hypothetical 10% reduction in supply through such a chokepoint could spike global prices by over 50% and significantly reduce GDP growth in importing nations.
- Geopolitical chokepoints illustrate the dangerous interaction between geography and global energy stability.
- While alternative pipelines exist, they cannot fully substitute for the throughput capacity of primary straits, necessitating constant geopolitical foresight and scenario-based planning.

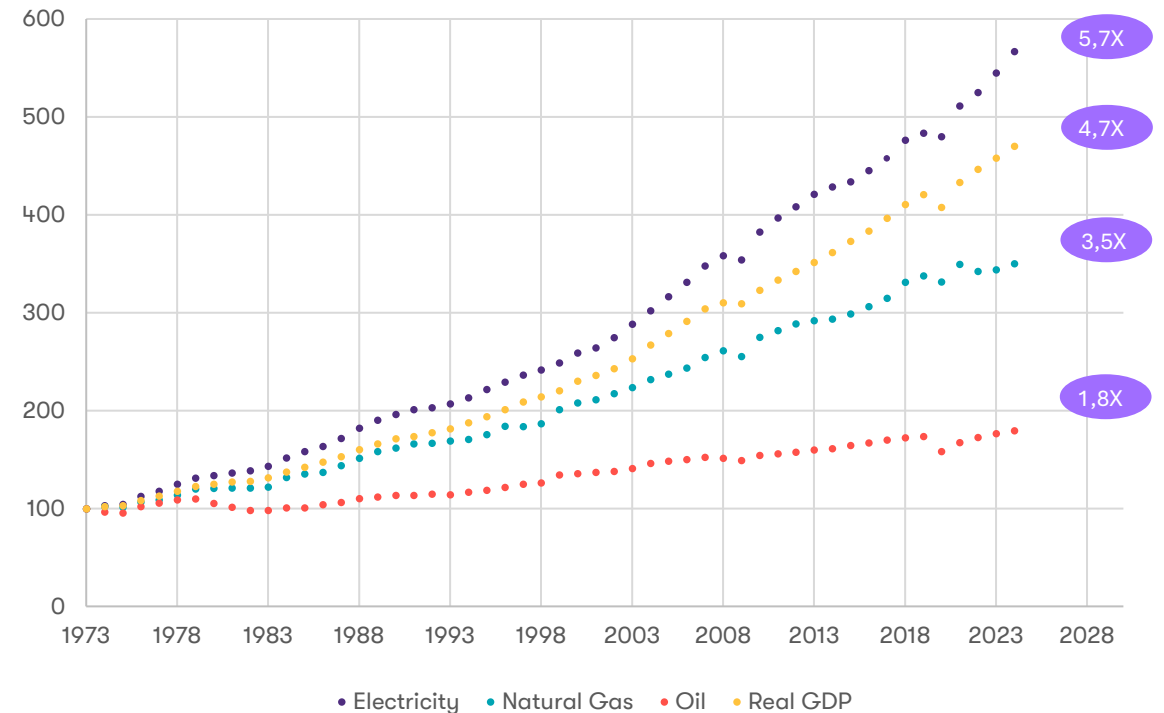


Unlike oil, there are no bypass pipelines for LNG, making the Strait of Hormuz the single most critical LNG chokepoint on earth.

The "Efficiency Jaw": Decoupling GDP from Hydrocarbons

- Since 1973, global Real GDP has expanded by a factor of ~4.7, while oil consumption has only grown by ~1.8x.
- Structural Decoupling: This divergence confirms a shift in the macroeconomic production function away from carbon-heavy inputs.
- Collapse in Oil Intensity: Advanced economies have successfully prioritized fuel substitution and radical efficiency gains.
- This decoupling is a direct result of decades of investment in process optimization and the gradual electrification of various sectors.
- Transitional Roles: Natural gas acts as a "resilient bridge," tracking economic expansion more closely than oil, though it cannot match the exponential trajectory of the electric sector.
- The shift toward electricity represents a move from a framework powered by physical fuel combustion to one powered by digital and electric systems.
- This transition is essential for sustaining the growth of modern, tech-heavy economies while managing carbon intensity.

Correlation between real GDP growth, electricity and fossil fuels consumption (normalized at 1973=100)



Correlation between real GDP growth, electricity and fossil fuels consumption (normalized at 1973=100) – sources: World Bank Open Data, IMF, IEA World Energy Balances, United Nations Energy Statistics Yearbook, Energy Institute (EI) - Statistical Review of World Energy

Renewable Energy as a Strategic Security Asset

- Renewable Energy Sources (RES) operate at near-zero marginal cost, dampening price volatility during extreme market events.
- Empirical data shows a consistently negative relationship between RES share in the generation mix and wholesale electricity prices.
- By displacing fossil fuel imports, RES reduce systemic risk and dependency on external suppliers or dangerous transit routes.
- Once promoted primarily for environmental reasons, renewables are now core to energy security.
- By lowering the frequency with which high-cost gas plants set market prices, they provide a structural buffer against the price volatility of global fuel markets.



Relationship between changes in RES share in the generation mix and Day-Ahead Market (DAM) prices across selected EU countries (2025 vs 2024) – source: ENTSOE Transparency platform, own elaboration.

Redefining Security for the 21st Century

Holistic Security for Energy Grids

- Security is no longer solely about access to resources; it is defined by the flexibility, diversification, and composition of the system itself.
- To fulfill the potential of RES, enormous investments are required in transmission grids, distribution networks, and flexibility resources like storage.
- The lessons of 1973 - diversification, proactive investment, and international coordination - remain the foundation for a sustainable and secure future.
- A truly secure energy system must be resilient to both geopolitical shocks at chokepoints and the inherent intermittency of a low-carbon grid, requiring a holistic approach to market reform and infrastructure development.





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