Is China Militarizing Its Oil & Gas Security Policies?

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What Does “Energy Security” Mean in China’s Political System?

- Energy security incorporates three core concepts: (1) adequacy and diversity of supply, (2) stability of price, and (3) maintaining a relatively low price.
- Chinese decisionmakers are more likely to consider oil disruptions national security problems (国家安 安全问题) and electricity supply issues as social/economic problems (社会经济问题).
- “Globalists” favor greater reliance on the market and accelerated energy transition efforts to reduce oil dependence while “nationalists” favor a more forward-leaning mercantilist posture to protect China’s energy security.
- How do parastatal entities and commercial firms interface with mercantilistic energy inclinations?
What Role Do Oil and Gas Play in China’s Energy Picture?

Crude Oil as Proportion of Total Primary Energy Use

Source: BP Statistical Review of World Energy, Author’s Analysis
Why is Oil a Subject of Special Concern?

China Self-Sufficiency, By Fossil Energy Source

China Seaborne vs. Overland Oil Imports, 2006-2021 (Million tonnes)

Source: BP Statistical Review of World Energy, Author’s Analysis

Source: China General Customs Administration
What Do China’s Oil & Gas Supply Lines Look Like?

- **Russia-China Oil Pipeline** (30 MTPA). Wartime emergency could potentially see additional surge capacity of 30-40 MTPA within 8-12 months after commencement of conflict.
- **China-Central Asia Gas Pipelines A-C** (55 BCM).
- **Atasu-to-Alashankou Oil Pipeline** (20 MTPA).
- **Myanmar-to-China Oil Pipeline** (20 MTPA), **Myanmar-to-China Gas Pipeline** (12 BCM/yr).
- **Power of Siberia 1 Gas Pipeline** (38 BCM).
- **Oil Ports** (Collectively approx. 670 MTPA)
- **LNG ports** (Collectively approx. 145 BCM)

**Note:** Insufficient cross-border infrastructure and lack of domestic oil supplies would largely prevent strategically significant transshipment from Vietnam, Laos, Bhutan, Nepal, Pakistan, Afghanistan, Tajikistan, and Kyrgyzstan into China. Political factors likely to hinder potential supplies via Indian or Mongolian borders.
Oil Security Pressures Unlikely to Abate Soon

Transportation Oil Use, 10,000 Tonnes

2050 forecast demand much lower than 2025 peak...but basically equivalent to 2015 levels when oil security was already a pressing concern.

Source: CNPC 2050 Outlook
China Gas Security Will Trade Against Coal, Nuclear, Storage Technologies...And Demand Growth, Or Lack Thereof

China Electricity Production, 1985-2020 (TWh, by Fuel)

Planned Coal Plant Additions, MW

Source: BP Statistical Review of World Energy 2021, Author’s Analysis

Source: Global Energy Monitor, Authors’ Analysis

Will post-Ukraine uncertainty push more of these from “TBD” to Year X?
China Domestic Oil & Gas Supply Challenges Also Likely to Persist

What is the molecular dividend yielded by approximately $1 trillion in nominal upstream CAPEX?

PetroChina, Sinopec, and CNOOC Combined Investment and Production, 1998-2020

U.S. Est. Unconventional Oil & Gas Production, 2007-May 2022

Source: Bloomberg, Author's analysis

Source: EIA, Author's analysis
Ukraine Impacts on China’s Energy Sourcing Orientation: It’s Complicated
Ukraine War Impacts on PRC Energy Security Views: 1.0

- Vociferous Western response telegraphs to Beijing that when push comes to shove, economic issues can become national security issues with lightning speed.
- The world changed irrevocably on February 24, 2022.
- Is the world headed toward de-dollarization and commodity-backed currencies?
- What is the most relevant “collateral” in the 21st Century? Oil, gold, nickel—or perhaps other polar power organizing points such as technological dominance and protective institutions?

Currency Transitions A Bit Like Energy Transitions

These seven “reserve” or “quasi-reserve) currencies cover about 2,500 years of history.

Ukraine War Impacts on PRC Energy Security Views: 2.0

West vs. The Rest: PPP GDP, $2017, World Bank

Oil Production: OECD vs. Non-OECD

Source: BP Statistical Yearbook of World Energy, Author’s Analysis

Gas Production: OECD vs. Non-OECD

Source: BP Statistical Yearbook of World Energy, Author’s Analysis
Ukraine War Impacts on PRC Energy Security Views: 3.0

Does China Want To Stake A Larger Proportion of Its Future Energy Security on Russia?

Which Has Weaponized Energy Supplies Against Smaller Neighbors For 30+ Years...

Known or Probable Politically-Driven Energy Supply or Price Manipulations By Russia

...And Which Now Also Uses Energy Supplies to Politically Coerce Its Prime Customers

Source: ENTSOG, Author’s Analysis

Source: BBC, FOI, Keith Smith, Reuters, The New York Times


From 1980s until 2021, No Sustained, Market-Defying Restrictions in Gas Flows to Western Europe.

Source: ENTSOG, Author’s Analysis
What Is China Doing About Oil & Gas Dependency?
Expanding Crude Oil Storage

Cushing currently has about 95 million bbl of net storage capacity.

Coastal sites DOMINATE China’s new oil storage project landscape.

Detailed **Baker Institute China Energy Map** updated bi-annually can be accessed at: [https://www.bakerinstitute.org/chinas-energy-infrastructure/](https://www.bakerinstitute.org/chinas-energy-infrastructure/)

Source: [https://storymaps.arcgis.com/stories/f330fd6ec064476585d654c348c7f0f7](https://storymaps.arcgis.com/stories/f330fd6ec064476585d654c348c7f0f7)
Electrifying the Vehicle Fleet

China Has Rapidly Scaled Up Sales and Production of EVs...

...But Norway’s Example Shows That Displacing Material Volumes of Diesel and Gasoline Is A Monumental Task

Source: CAAM China, Author’s Analysis

Source: Statistics Norway, Author’s Analysis
Chinese policymakers have already repeatedly demonstrated a willingness to robustly intervene in local vehicle markets through license plate auctions, quotas, and EV subsidies.

Will this be translated into more aggressive fuel pricing policies, especially for gasoline?

Diesel a less likely target given its criticality to goods transport and resultant risk of consumer inflation.

Could dis-incentive pricing of gasoline be intensified as EV proportion of passenger car fleet rises?

Source: Bloomberg, EIA, Federal Reserve Bank of St. Louis, Author’s Analysis
Will China Militarize Its Oil & Gas Security Policies?

The term “energy security” first appeared in the 2004 China Defense White Paper, the same year China’s oil imports ballooned.

The 2006 White Paper noted that concerns about energy resource security (along with multiple other non-traditional security threats) were mounting. The 2008 and 2010 White Papers used similar language.

The 2019 White Paper offers more nuanced views that likely more accurately reflect leadership thinking about the intersection between naval power and commerce protection, noting that with respect to China’s overseas interests “The PLA conducts vessel protection operations, maintains the security of strategic SLOCs, and carries out overseas evacuation and maritime rights protection operations.”

Oil Supply and Demand Disruptors: Probability vs. Magnitude

- Global pandemic
- Major war in East Asia
- Successful attack on core Saudi oil processing and export infrastructure
- Major hurricane pushes 20+ foot surge up Houston Ship Channel
- Significant air/naval conflict with Iran
- Direct military conflict between NATO and Russia
- Major US-China economic warfare
- Internal strife takes a mid-level oil exporter offline within next 12 months

**Magnitude of Disruption, ’000 Bpd lost**

- **10,000**
- **9,000**
- **8,000**
- **7,000**
- **6,000**
- **5,000**
- **4,000**
- **3,000**
- **2,000**
- **1,000**
- **0**

**Probability of Disruption**

- **100%**
- **95%**
- **90%**
- **85%**
- **80%**
- **75%**
- **70%**
- **65%**
- **60%**
- **55%**
- **50%**
- **45%**
- **40%**
- **35%**
- **30%**
- **25%**
- **20%**
- **15%**
- **10%**
- **5%**
- **2%**
- **1%**
- **1%**
Potential Downsides of Militarized Oil & Gas Security Approach

Damage & Casualties

Opportunity Cost of Moving Combat Power Out of Priority Theatre

Source: U.S. Navy

Source: The Diplomat, NavalTechnology.com, Wikipedia, Author’s Analysis
Will China Contest Control of the Global Maritime Commons?

Perspective: China’s continual Horn of Africa counterpiracy deployment since 2008 accumulates a bit north of 1,100 “out of area” ship days annually.

Will Appetite For Presence Abroad Grow With Naval Capacity?

PLA Navy Major Surface Combatant Fleet Growing Rapidly

...And More—and More Capable—Aircraft Carriers Loom

Two large openings are visible in imagery of the Type 003 from September 2021.
China is likely to continue its accelerated naval modernization program, including both quantitative and qualitative improvements to its naval and air assets, as well as special operations forces. Oil and gas import security do not appear to be a core driver of these efforts, but naval, air, and special operations capabilities are fungible across theatres on relatively short notice.

A key warning indicator of strategic intent: pursuit of access to facilities with deep draft ports and airfields plus access agreements that permit placement of munitions and execution of combat operations.

Source: [https://news.agu.org/files/2014/11/Shipping_routes_red_black.png](https://news.agu.org/files/2014/11/Shipping_routes_red_black.png)
Where Could I Be Wrong?

- Dual Circulation Drives Beijing to Seek Overmatch in Indian Ocean To Protect Resource Supply Lines
- Domestic Endeavors—Such as Transport Electrification—Fail to Meaningfully Reduce Oil Demand
- Economic Reforms Fail and the PRC Economy Remains Disproportionately Energy Intensive
- China’s Economic Growth Does Not Slow In the Manner We Believe It Is Now
- China Achieves Breakthroughs in Unmanned Ships and Other Technology That Enable More Cost-Effective Global Power Projection
- China Dramatically Scales Up Its Nuclear Sub Fleet—Perhaps Leveraging Russian Defense Industry’s Coming Desperation
Thank You!

Questions, Comments, Praise, and Hate Mail Alike May Be Directed To:

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Further Reading


