



GLOBAL X ETFs RESEARCH

China Sector Analysis: Energy

China’s Energy sector bears the enormous responsibility of powering the world’s second largest economy and most populous country. As of 2020, China’s primary energy consumption was 1.6 times higher than the United States and 4.5 times higher than India, which are the second and third largest consumers of energy as of July 2021.¹ Although energy demand is expected to continue growing, power shortages in Northeast China that grabbed headlines in Q3 and Q4 2021 underscored the transition process the sector is currently experiencing while Beijing refines the Dual Control policy and works towards net-zero emission by 2060. As the government prioritizes stabilizing the economy in 2022 and avoiding a downturn that would adversely impact Energy consumption, certain segments of the Chinese Energy Sector could stand to benefit from oil prices that currently remain at elevated levels.

As the next installment in our ongoing series of the 11 major economic sectors of China, this piece will explore the Energy sector, tracked by the [Global X MSCI China Energy ETF \(CHIE\)](#).

Key Stats

Energy: China vs US	MSCI China Energy IMI Plus 10/50 Index	MSCI USA Energy Index
Market Cap (Millions USD)	670,571	1,356,598
Price to Earnings	7.55	19.09
Forward Price to Earnings	5.97	12.37
Price to Book	0.75	2.32
Forward Price to Book	0.65	2.11
Enterprise Value/Sales	0.95	1.69
Dividend Yield	5.35	3.51

Source: Bloomberg, as of Feb 3, 2022.

Background of the Energy Sector in China

The distribution of China’s electricity is managed by two mammoth state-owned enterprises, namely the State Grid Corporation of China and China Southern Power Grid Co. This distribution network relies on a mix of coal, natural gas, hydropower, wind energy and solar energy. Throughout China’s economic rise, thermal power was and still remains the primary source of power generation, accounting for roughly 79% of China’s power generation of 2021. However, renewable energy sources are making up more and more of China’s total power generation as Chinese companies become leaders in certain segments of renewable energy; in 2011 solar and wind energy sources made up roughly 2% of total generation, but by 2021 that number expanded to 9%.²

Authored by:

Dillon Jaghory
Research Analyst

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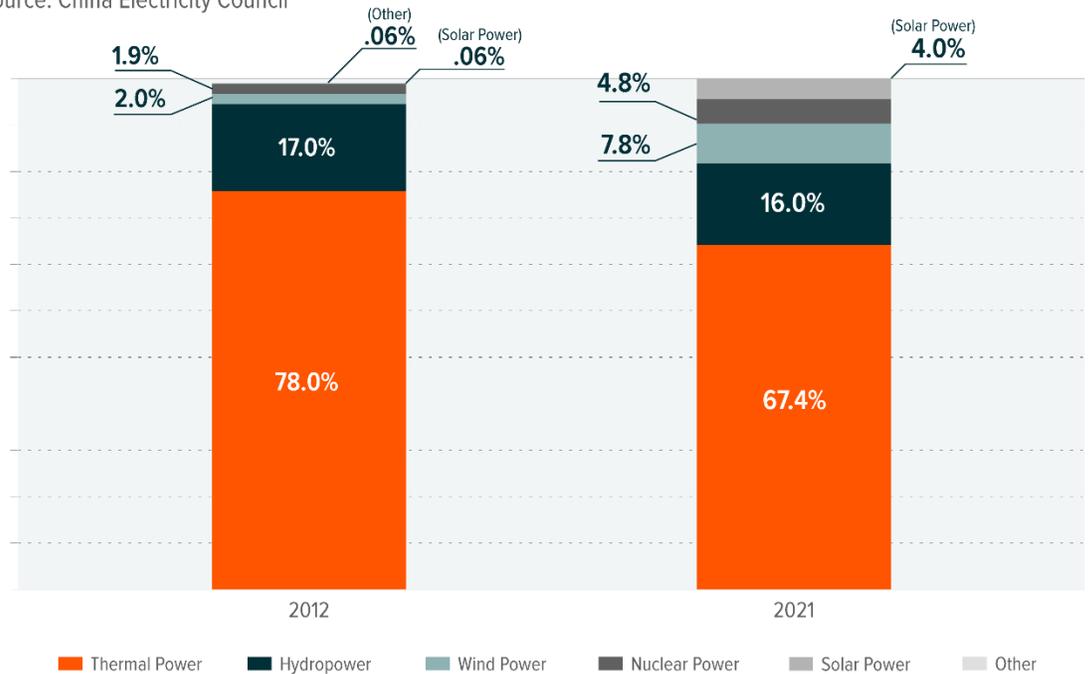
Related ETFs

Please click below for fund holdings and important performance information.

[CHIE – Global X MSCI China Energy ETF](#)



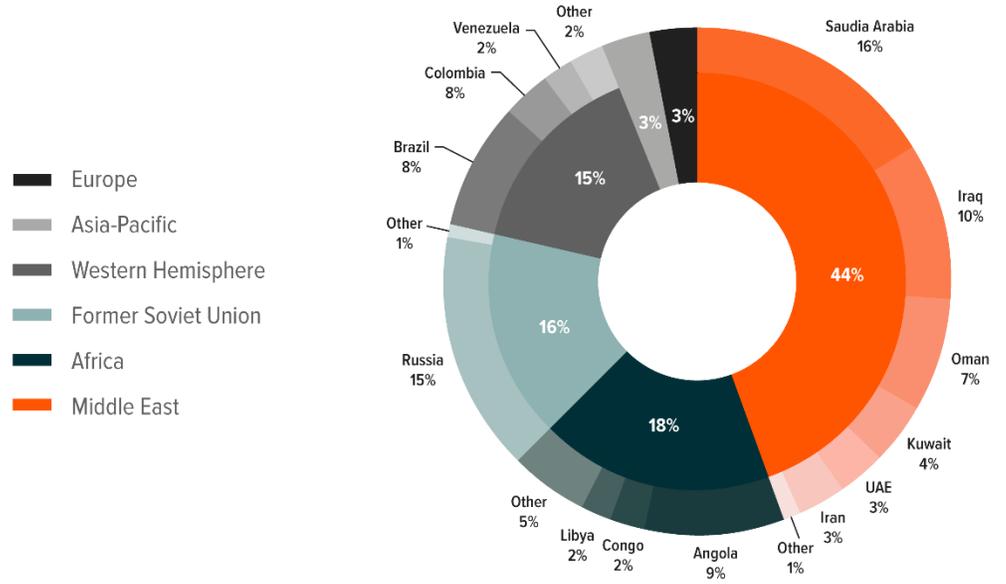
POWER GENERATION IN CHINA 2012-2021, BY SOURCE (TERAWATT HOURS)
Source: China Electricity Council



China is increasingly dependent on oil imports to meet its domestic needs; while domestic production has not risen significantly over the past 20 years, imports have more than doubled over the past 10 years.³ Its main sources of oil imports are Saudi Arabia and Russia. Beyond oil, China has vast reserves of coal that can meet a significant portion of its domestic demand, with 143,197 million metric tons of proven coal reserves in 2020, but imports are still significant.⁴ Not only did China become a net importer of coal in 2007, but it also overtook Japan to become the top coal importer in 2011.⁵ Coal supply became a thorny issue for policymakers after a political conflict disrupted coal imports from Australia in 2020 and power shortages affected Northeast China in the latter half of 2021.

CHINA'S CRUDE OIL IMPORTS BY SOURCE, 2019

Source: FACTS Global Energy Services, China Oil Monthly, February 2020. US Energy Information Administration, "Country Analysis Executive Summary: China," Sep 30, 2020."

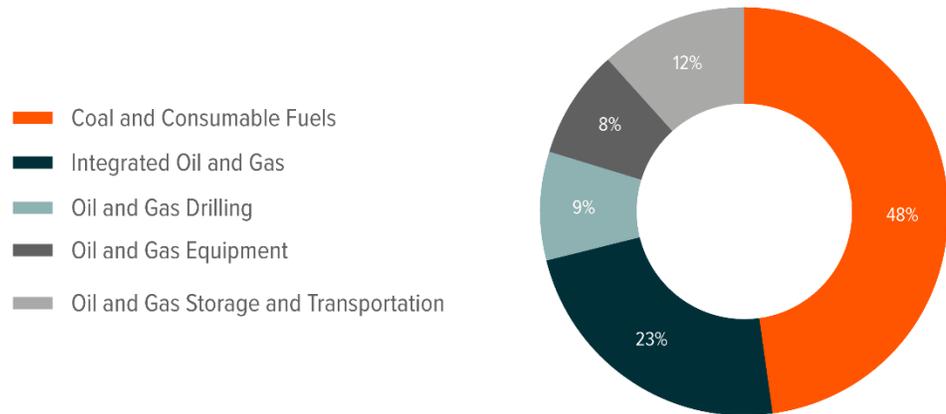


Note: Total may not equal 100% because of independent rounding.

Energy Sub-Industries

GLOBAL X MSCI CHINA ENERGY ETF (CHIE) GICS SUB-INDUSTRY EXPOSURE (% WEIGHT)

Source: Bloomberg, as of Feb 2, 2022.



Coal and Consumable Fuels:

Chinese companies in Coal and Consumable Fuels tend to be large state-owned enterprises, and most have operations in the coal-rich regions of the north, particularly Shanxi and Inner Mongolia. With 2,990 coal plants operating in China as of July 2021, thermal power remains paramount to the Energy sector.⁶ Despite the government's long-term plans to achieve net zero-emissions by 2060, Chinese coal and consumable fuels companies benefit from coal comprising 60% of China's energy consumption.⁷ By 2030, that number could drop to 44%.⁸ Coal and consumable fuel companies will have to adapt accordingly.

SUB-INDUSTRY LEADERS IN CHIE: CHINA SHENHUA ENERGY, YANKUANG ENERGY, INNER MONGOLIA YITAI

Oil and Gas:

Oil and Gas in China is dominated by the three state-owned National Oil Companies (NOCs), namely Sinopec, China National Petroleum Corporation and China National Offshore Oil Corporation. Despite their massive size and output, the NOCs cannot meet enough of China's domestic needs to prevent it from being the largest net importer of oil. Meanwhile, although China's domestic natural gas production more than doubled from 94.9bn to 192.5bn cubic meters between 2010 and 2020, nearly half of China's natural gas supply is from imports.^{9,10} China's pursuit of energy independence could create some opportunities as it seeks to reduce dependence on imports. One such area is shale gas, the production of which could possibly exceed 50bn cubic meters by 2035.¹¹ However, geographical, and technological challenges must be overcome in order for shale gas production to rise in China.

CATEGORY LEADERS IN CHIE: PETROCHINA, CHINA PETROLEUM AND CHEMICAL (SINOPEC), CHINA OILFIELD SERVICES

Global X MSCI China Energy ETF (CHIE) Top 5 Holdings

Name/Ticker	Market Cap (Billions USD)	Description
China Shenhua Energy	66.83	Founded in 2004 by its parent company Shenhua Group, China Shenhua Energy is a state-owned Coal and Consumable Fuels behemoth listed on the Hong Kong Stock Exchange and Shanghai Stock Exchange. China Shenhua Energy is the sixth largest mining company in the world based on market capitalization as of May 2021. ¹² As of FY 2020, 72.9% of its revenue came from coal and 21.2% came from power services. ¹² Most of its coal mining operations are based in Inner Mongolia and the northern provinces of Hebei, Shanxi and Shaanxi, while its power operations are concentrated more in the southern part of the country.
PetroChina	137.3	PetroChina, an Oil and Gas company, was incorporated in 1999 and is the listed subsidiary of the state-owned China National Petroleum Corporation. To put PetroChina's importance into perspective, the company produces roughly two-thirds of China's oil and gas. ¹⁴ In recent years, PetroChina has been planning to readjust its business to align with the government's net zero emission goals; the company aims to have one third of its overall spending go into low-carbon energy projects by 2035. ¹⁵
Sinopec	76.5	Sinopec, also known as China Petroleum and Chemical Corporation, is a state-owned Oil and Gas company that was founded in 1998 as part of a government-led restructuring of the industry. With a total of \$46.7bn in chemical sales in 2020, Sinopec is ranked as the second largest chemical company in the world. ¹⁶ Aside from operations in China, which accounted for 81.8% of Sinopec's revenue in FY2020, Sinopec also derives 10.2% of its revenue from operations in Singapore. ¹⁷
Yankuang Energy	14.8	Based in the northeastern province of Shandong, Yankuang Energy is a state-owned Coal and Consumable Fuels company. Yankuang Energy is the subsidiary of the mining giant Shandong Energy Group, which was created as the result of a merger between Yankuang Group and Shandong Energy in 2020. As of FY2020, 23.7% of Yankuang's revenue comes from overseas market against 76% from the domestic market, and the overwhelming majority of its overseas shipments go to South Korea, Japan, Australia, and Singapore. ¹⁸ The company is currently devising a plan to diversify into wind and solar energy to keep up with China's fight against climate change.
China Oilfield Services	8.4	China Oilfield Services is a state-owned Oil and Gas company that controls a formidable array of drilling rigs and oil-drilling vessels. China Oilfield Service's operations are split between well services, drilling services, and marine support and transportation, which comprise 46%, 40% and 10% of its revenue respectively as of FY2020. ¹⁹ Roughly three quarters of the company's revenue come from the domestic market, and that has not changed significantly despite the company expecting to sign 54 new overseas projects in 2022.

Tailwinds and Headwinds:

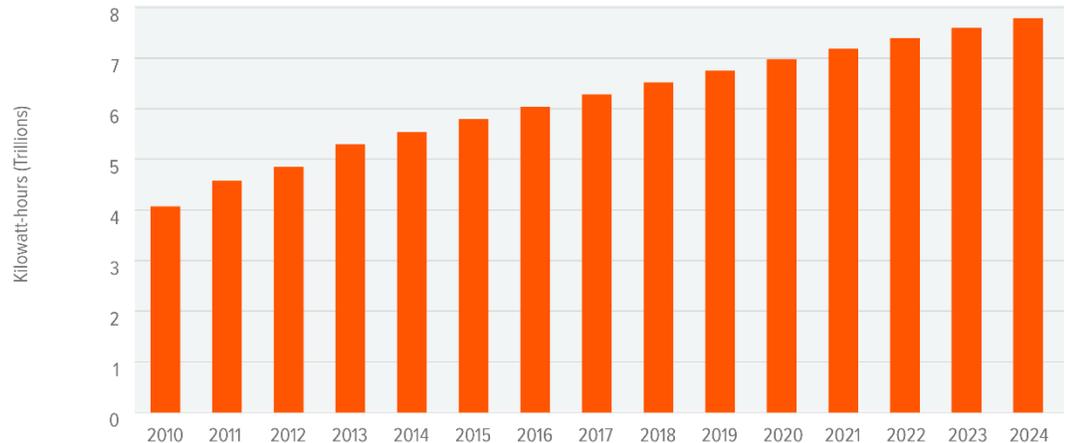
- **Demand for energy moves with economy:** China's economy is expected to continue growing and demand for energy will likely grow along with it, albeit at a slower pace than historically as the economy faces structural headwinds and diminishing returns to investment. This also comes with



the caveat that the government’s Dual Control policy will slow down that growth. The Dual Control policy, which was introduced in 2016, seeks to limit growth in energy consumption and energy intensity with the goal of increasing environmental sustainability.

ELECTRICITY CONSUMPTION FORECAST IN CHINA 2010-2025

Source: Statista, World Bank as of May 2021.



Note: Data from 2010 to 2020 estimated, data from 2021 to 2025 forecast.

- Transition to clean energy presents opportunities and challenges:** Environmental sustainability is becoming increasingly necessary as the effects of climate change become more salient. To that end, the government is not only implementing the Dual Control policy, but has also committed to achieving net-zero emissions by 2060. This will inevitably require a period of transition for companies, which can have mixed effects on the Energy sector. For the oil and gas sub-industry, while China National Offshore Oil Company is attempting to make inroads into wind energy, Sinopec is investing more into hydrogen fuel.²⁰

Policymakers and local governments will also have to deal with challenges in this transition phase. As an example, when the National Reform and Development Council issued warning to provinces for failing to meet Dual Control goals in August 2021, provincial governments responded by implementing energy curbs that resulted in widespread power shortages. The incident prompted the government to loosen the restrictions in the short-term and move towards a Dual Control policy focused on emissions rather than energy consumption for the long-term.

- Fluctuations in energy market can be difficult to predict:** As 2021 demonstrated, the challenges created by climate change, geopolitical tensions and supply chain disruptions can bring about fluctuations in the energy market. As one of its countermeasures against the power shortages that afflicted China in the latter half of 2021, the government ordered coal miners to maximize production. The shortage of coal was in part exacerbated by China imposing an unofficial ban on Australian coal imports in November 2020, a move that came as a result of a political dispute between the two countries. Both of these factors contributed to a rally in coal in 2021. It is important to remember that these fluctuations in the energy market can be difficult to predict and will not always have a favorable impact on the Chinese energy sector.

Conclusion

Chinese Energy is a sector in transition as it balances the simultaneous needs of energy security and clean energy. While policymakers seek to shield the domestic power supply from geopolitical risks, the NOCs and coal giants are exploring new strategies amid a global transition towards clean energy. Energy is a cyclical sector that is sensitive to changes in the broader economy, as such, China's efforts to stabilize the economy in 2022 will be crucial to sustaining energy demand and consumption.

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1. BP Statistical Review of World Energy, July 2021.
 2. China Electricity Council, as of Feb 2021.
 3. Columbia SIPA Center on Global Energy Policy, "Where does China get its oil," Jul 12, 2020.
 4. BP, "Statistical Review of World Energy 2021," as of Jul 2021.
 5. Carnegie Endowment for International Peace, "Understanding China's Rising Coal Imports," Feb 16, 2012.
 6. Global Energy Monitor, "Global Coal Plant Tracker," as of Jul 2021.
 7. Quartz, "China's boycott of Australian coal has been good for India," Aug 26, 2021.
 8. Enerdata, "Coal may account for 44% of China's energy mix 2030," Jun 25, 2021.
 9. China National Bureau of Statistics, as of April 2021.
 10. US Energy Information Administration, "China adds incentives for domestic natural gas production," Oct 23, 2019.
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 12. Financial Times, as of May 2021.
 13. Bloomberg, as of Feb 3, 2022.
 14. Ibid.
 15. South China Morning Post, "China's carbon neutral goal: PetroChina maps out low-carbon projects pipeline, spending plan to help fight climate change," Aug 26, 2021.
 16. C&EN, "C&EN's Global Top 50 chemical firms for 2021," Jul 26, 2021.
 17. Bloomberg, as of Feb 3, 2022.
 18. Ibid.
 19. Ibid.
 20. Columbia SIPA Center on Global Energy Policy, "Green Giants? China's national oil companies prepare for the energy transition," as of Sep 2021.

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