

ECONOMY

China Focuses on Deep-Sea Mining to Fuel Rare Metals 'gold rush'



Mawei Shipbuilding is constructing a vessel designed by Nautilus Mining and equipped with diggers to trawl the sea - Reuters

By: Emily Feng in Fuzhou

During the Qing dynasty that ruled imperial China for more than 300 years, Mawei Ship building was famed for constructing the empire's first warships. For centuries one of China's biggest ship builders, it is now turning its attention to the ocean floor. As Beijing seeks to shore up its dominance as a global metals supplier, the state-owned shipyard is building a vessel equipped with diggers to trawl the watery depths for precious minerals and metal deposits. With deep-sea mining set to begin off the coast of Papua New Guinea in early-2019, the boat, designed by Nautilus Minerals, is the first of its kind. Its development highlights how China is increasingly turning to the ocean to secure control of resources to fuel its high-tech electronics industry. "Modern technological innovations have made [deep-sea mining] a much more realisable feat than it was years ago," says Sabrin Chowdhury, analyst at BMI Research. China supplies 95 per cent of the world's rare earths — metals used in making nearly all today's electronics products. It has used its near-monopoly to choke off supplies to other countries, including in 2010 when it briefly embargoed rare earth exports to Japan, Europe and the US, setting off a panic about a potential shortage. But global demand for green-tech products such as wind turbines and solar panels, which depend on rare earth metals, may outstrip even China's land-based supply. Meanwhile, anticipation of rising demand for electric vehicles has pushed up prices for metals used in batteries such as copper, manganese, nickel and lithium as land-based deposits become increasingly depleted. In February, a group of hedge funds including China's Shanghai Chaos began stockpiling cobalt, which is used to enhance lithium-ion batteries. While countries such as Japan and South Korea have developed maritime mining technology, much of it adapted from deep-sea oil drilling and diamond mining, China is particularly keen on tapping into

a wealth of maritime resources. A series of volcanic fissures between tectonic plates the "ring of fire" allowed fantastically shaped deposits containing high concentrations of precious elements to form along the Pacific seabed. "China has more mining exploration areas in international waters than any other country in line with its higher mineral demand," says Stef Kapusniak, an engineer at SMD, a UK-based company that is one of the largest manufacturers of remotely operated deep-sea vehicles. SMD was acquired by a subsidiary of Chinese state-owned railroad and manufacturing behemoth CRRC, in 2015. In the early 2000s, developing maritime resources became a national security prerogative and is funded under the 863 programme, which supports research with military and national security applications. Since then, Mawei's partnerships with foreign companies and other state-owned companies have helped build China's expertise, analysts say. Others see geopolitics as an ulterior motive in China's mining strategy. "Deep-sea mining is only one [part] of China's multi-pronged strategy to establish sovereignty over the South China Sea," says Terrence Haverluk, a professor of geopolitics at the US Air Force Academy. There are currently no mining licences for the South China Sea, but "the cost to extract these heretofore unknown resources are less important than establishing sovereignty over these territories". Chinese companies have three of the 27 licences awarded by the International Seabed Authority for deep-sea mining in the Pacific Ocean. The ISA is expected to finalise its mining regulations at the end of this year, after which licence-holders can move beyond exploration into mining. "When I first started coming to China in the late-1990s, China was [hardly] involved in [deep-sea mining]," says Michael Johnston, chief executive of Nautilus Minerals. "China is now capable of doing 80 per cent of the entire thing, from building the machines to the boats." Tongling Nonferrous Metals Group, a Chinese state-owned copper company, will be the first buyer of the copper Nautilus mines. However, experts warn that environmental risks have not been adequately taken into account. "In all cases, seabed mining will, by its very nature, destroy species and habitats within the mining zones," says David Santillo, a research fellow with Greenpeace. "There is no justification for a 'gold rush' to mine the seabed; instead we should be focusing on making smarter and more efficient use of the materials we already have."

Trump Turns To 43-Year-Old 'America First' Trade Law To Pressure China

President Trump authorized his top trade official to look into whether China is guilty of intellectual property theft, a move that could eventually lead to trade sanctions.

Trump called his action "a very big move" against practices that cost our nation "millions of jobs and billions and billions of dollars each and every year."

He cited not just the theft of intellectual property such as computer software, but also Beijing's requirement that U.S. companies turn over proprietary technology as a condition of entering China's markets.

"We will safeguard the copyrights, patents, trademarks, trade secrets and other intellectual property that is so vital to our security and to our prosperity," Trump said at the White House. He was flanked by U.S. Trade Representative Robert Lighthizer, Treasury Secretary Steven Mnuchin and members of his economic team.

Eventually, it could lead the administration to initiate what's called a Section 301 investigation, a sanctions mechanism that's part of the Trade Act of 1974.

Section 301 was widely used in the 1980s under the Reagan administration. More recently US presidents have complied with a requirement to obtain World Trade Organization authorization before using Section 301.

But Trump has implied he may use Section 301 without WTO authorization. Bypassing the WTO would be quicker.

"It saves time," says Matt Gold, a former deputy assistant US trade representative. A WTO case "would take a few years for us to



bring it to a WTO panel, get a decision, then it will get appealed to the WTO appellate body. Then we get another decision. Then we have to go through another WTO process to get authorization for specific types of trade barriers. ... So it can take a few years to get the WTO authorization."

The Two-Way

Trump Administration Quietly Starts Review Of China's Trade Status But Gold says using Section 301 without WTO authorization would leave the US government in conflict with its obligations under international law.

The White House move was applauded by technology groups, which have long complained about intellectual property theft. The Information Technology and Innovation Foundation issued a statement saying "for too long China has flouted the spirit, if not always the letter of its commitments under the WTO and other agreements."

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The Trouble With Nord Stream 2
How the Pipeline Would Benefit Russia at the EU's Expense

Vladimir Putin, then Russian prime minister, on board a pipelayer vessel in the Gulf of Finland, September 2010.

By Petr Polak

In 2005, the state-owned Russian energy company Gazprom and several European firms agreed to create Nord Stream AG, a consortium that would oversee the construction of the world's longest undersea natural gas pipeline. German and Russian leaders noted that the pipeline, connecting the Russian city of Vyborg to Greifswald, would let Gazprom serve gas markets in northwestern Europe directly through Germany. With Germany as a major energy transit hub, the EU could then protect its gas supplies if conflicts between Russia and Ukraine were to disrupt the flows from the pipelines to the south. Polish officials felt differently. Radek Sikorski, then foreign minister, compared the arrangement to the Molotov-Ribbentrop Pact of 1939, the non-aggression deal between Hitler's Germany and Stalin's Soviet Union that led eventually to the joint invasion of Poland. Warsaw regarded Nord Stream, as the pipeline is known, as a geopolitical risk that would increase the influence of Moscow and Berlin over its own domestic gas supply. At the time, EU officials dismissed Sikorski's comparison as an exaggeration. Over the three years since Russia annexed Crimea and began its war in eastern Ukraine, however, his warnings have seemed increasingly prescient. To be sure, Nord Stream will not lead to a Russian-German invasion of Poland—but the pipeline, which was first used in 2011, has brought Berlin and Moscow closer together in a way that has left some Central and Eastern European states, including Poland and Slovakia, more vulnerable to Russian arm-twisting.

An expansion of the project, called Nord Stream 2, is on track to be completed by 2019, renewing the urgency of these concerns. At an estimated cost of \$11.8 billion, Nord Stream 2 would add two more gas pipelines to the two already in place, doubling the project's capacity and deepening the reliance of central, southern, and eastern European states on Russian gas. Although the project would alleviate gas shortages in some of those countries, the added capacity would weaken the position of Ukraine through which a number of large pipelines now pass in the European gas market. It is also further dividing the EU between members that favor the project and those that oppose it.

What's more, Nord Stream 2 could generate hundreds of millions of dollars in revenue for Gazprom. That should trouble Western officials, because the company's revenues support Moscow's foreign policies. Gazprom effectively subsidizes Russia's wars in eastern Ukraine and Syria, finances Kremlin propaganda aimed at undermining European unity, and lubricates the machinery of anti-European parties across the continent.

The good news is that there are a few ways that the EU can reduce its reliance on gas from Russia while meeting its own energy-efficiency targets. It can take steps to increase its use of renewable and unconventional energy, for example. It can expand its program to build liquefied natural gas (LNG) import terminals, accommodating the delivery of more natural gas from the United States and the Middle East. And it can construct more pipelines between EU member states.

A FOREIGN CURRENCY PIPELINE

As one of the world's largest oil and natural gas exporters, the Russian state derives more than half of its revenue from energy production. As oil and gas prices have fallen in recent years, the country has had to accommodate deep budgetary shortfalls. Moscow based its revenue and spending forecast for 2016, for example, on a projected oil price of \$50 per barrel—and when oil prices fell well below that threshold, the government had to come up with \$130 billion in reserves to compensate for the shortfall. Russia's wars in Syria and eastern Ukraine have increased the financial burden. The country seems set to face revenue problems as long as energy prices stay low.

Foreign currency loans would help Russia bridge those gaps, but Western sanctions have choked off Moscow's access to them. That leaves energy exports as one of the few remaining ways for Russia to raise foreign currency. To get much-needed dollars and euros, Russia must extract and export oil and gas, regardless of low prices.

So far, Nord Stream 1 has not contributed much to Gazprom's bottom line, even if it has added to Russia's foreign reserves. The project looks to be disastrous for Gazprom's shareholders—especially the Russian government, which owns 51 percent of the company. That is partly because Gazprom is obligated to pay about \$319 million to send gas through the pipeline every quarter, regardless of the amount of gas it ships. (Gazprom can recover some of that money as one of Nord Stream's shareholders.) There is little reason to believe Nord Stream 2 would be more profitable.

Making matters worse for Russia, the EU already restricts the amount of natural gas that it can import from Russia through Nord Stream. In 2016, the EU imported less than half of the Russian natural gas that pipelines could accommodate. (Even though Gazprom's exports through Nord Stream 1 remain below the current pipeline's capacity, the company and the Russian government hope that building Nord Stream 2 would lead Germany to push harder to raise Russian gas sales to other European countries.) And Gazprom is far weaker than it was when Nordstream's first phase became operational. Global gas prices have fallen recently, the company is set to build another costly pipeline in the Russian Far East, and sanctions have blocked its access to credit from global financial institutions.

For all these reasons, Nordstream 2 looks set to be a disaster for Gazprom and for the Russian government. So why then is Moscow moving forward with the project?

GAS POLITICS

Although the economics of Nord Stream 2 make little sense, Russia has far better geopolitical reasons to build the pipeline.

For starters, Nord Stream 2 could give Moscow more leverage over Ukraine and a number of other neighboring states. With the ability to meet almost all of Western Europe's natural gas needs through the Baltic Sea, Moscow could cut off some of Kiev's energy supplies without jeopardizing its gas exports to the West. (Such a move might challenge its legal and contractual obligations within the EU, but Russia has shown no enthusiasm for meeting the letter of its obligations under similar circumstances, much to the concern of EU authorities.) Moscow could take similar measures against other countries transited by pipelines from Russia, such as Belarus, Poland, and Slovakia.

Russia may or may not take such a step. More certain, however, is that Nord Stream 2 would weaken Ukraine's position as a major shipper of gas to Europe, stripping Kiev of at least \$2.2 billion in revenue and undermining the West's investments in the country's reform, which depend partly on economic stability.

The expanded pipeline would threaten the economic health of other countries, as well. If Europe's consumption of natural gas falls as it turns to renewable and unconventional energy sources, the continent could eventually procure all the gas it needs through the expanded Nord Stream pipeline, taking advantage of economies of scale by using the pipeline to its full capacity.

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