TEMELENE OF A FAILENGENDUSTRY: NARRATIVE SHIFTS. STRATEGIC PIVOTS. AND MOUNTING DESPERATION

The deep-sea mining industry, once touted as a game-changing solution for the clean energy transition, is now grappling with mounting setbacks, fractured legitimacy, and fading momentum. Over a century after polymetallic nodules were first discovered during the HMS Challenger expedition, the arc of deep-sea mining—from Cold War-era intrigue to speculative commercial ventures—has reached a critical inflection point.

Companies like The Metals Company (TMC), which once marketed itself as a climate champion, have increasingly adopted a national security rhetoric—reframing seabed minerals as critical to securing supply chains for defense technologies and strategic autonomy. In its most brazen move to date, TMC announced plans to bypass the International Seabed Authority entirely by seeking a U.S. exploitation license under the long-dormant Deep Seabed Hard Mineral Resources Act (DSHMRA), directly courting favor with the Trump campaign and undermining

treaty, and holds only observer status at the ISA.

multilateral governance. This pivot comes amid rapidly advancing battery recycling technologies, weakening market interest, growing environmental opposition, and widespread calls for caution. With over 30 ISA member states supporting a moratorium or precautionary pause, leading insurers refusing to underwrite DSM activities, and TMC recently surrendering a third of its CCZ claim area, the sector's viability is under deep scrutiny. Confidence has further eroded with the March 2025 bankruptcy of Norway's Loke Marine Minerals—until recently seen as DSM's most viable private player. As TMC pivots from the ISA to pursue licensing through the U.S. government, the industry is increasingly seen not as a frontier of sustainability or security—but as one grasping for relevance. Having failed to justify its existence through environmental benefit or commercial promise, deepsea mining now leans heavily on geopolitical fear to open a door the world is not ready—or willing—to walk through.

Click on box to go to resource.

1873 - Polymetallic nodules are discovered in the Atlantic Ocean during the HMS Challenger expedition, marking the first major deep-sea exploration.

November 1967 - Arvid Pardo, a Maltese diplomat, delivers landmark speech at the United Nations General Assembly advocating that the seabed and its resources beyond national jurisdiction should not be subject to national appropriation. His vision of the "Common Heritage of Mankind" later guides the formation of the International Seabed Authority (ISA).

its most visible executive.

July 1970 - Deepsea Ventures Inc conducts the world's first successful deep sea mining system test in Blake Pateau, off the coast of South Carolina.

1975 - Howard Hughes commissions the Glomar Explorer, a massive ship built under the pretense of a deep sea mining expedition in the Pacific. It is later revealed as a covert CIA operation to recover a sunken Russian nuclear submarine.

and acquires a 15% equity stake.

exploration areas.

November 1994 - UNCLOS enters into force, formally establishing the ISA to regulate seabed exploitation in international

waters and ensure environmental protection "for the benefit of humankind as a whole." The United States does not ratify the

1982 - The United Nations Convention on the Law of the Sea (UNCLOS), a legal framework for governing seafloor activities, is adopted.

1997 - Nautilus Minerals founded as one of the first companies dedicated to commercial deep-sea mining; David Heydon later becomes CEO.

1997 - Papua New Guinea (PNG) grants Nautilus the world's first commercial offshore exploration licenses for deep sea mining.

Early 2000s - Nautilus secures tenement licences and exploration applications across PNG, Fiji, Tonga, Solomon Islands and Vanuatu. By 2007 the company holds claims covering more than 106,500 square miles - an area larger than the United Kingdom.

2001 - Gerard Barron, a close associate of Heydon, invests \$226,000 in Nautilus.

2006 - Nautilus goes public on the Toronto Stock Exchange (TSX).

2008 - Heyden steps down as President of and CEO of Nautilus as Nautilus invests \$1.3 mil in Heydon- associated company, United Nickel Inc. over 6 years.

(UKSR), obtains exploration licenses in the CCZ from the ISA.

2011 - Heydon launches DeepGreen Metals ULC (DeepGreen), later joined by Barron, who becomes

2007 - Barron exits Nautilus at the height of its share price, netting \$31 mil on his \$226k investment

March 2012 - DeepGreen Engineering Pte Ltd. (DGE), a subsidiary of DeepGreen, secures an option agreement with Marawa and the Republic of Kiribati for ISA-reserved

January 2011 - PNG grants Nautilus a 20-year mining lease for the Solwara 1 project

July 2011 - Nauru Ocean Resources Inc. (NORI), a wholly owned DeepGreen subsidiary, is awarded a 15-year ISA exploration contract sponsored by the Republic of Nauru, covering 74,830 km2 in the Clarion-Clipperton Zone (CCZ).

2015 - Nautilus releases an environmental and social benchmarking report to reassure investors about Solwara 1. Environmental groups criticize the report for conflicts of interest and failing to address concerns raised in its Environmental Impact Statement (EIS).

March 2013 - Lockheed Martin, through its UK subsidiary UK Seabed Resources

June 2017 - Mining.com hails DeepGreen as experiencing a "Tesla moment." The company

March 2017 - Maersk invests \$25 million in DeepGreen, including vessel

provision and project management support for CCZ exploration.

markets itself as environmentally progressive and aligns with Glencore, Maersk, and Fiore Group.

November 2019 - Nautilus files for bankruptcy. PNG absorbs an estimated \$120 million in losses.

February 2019 - Gerard Barron, CEO of DeepGreen Metals, addresses

November 2020 - Impossible Metals is founded, claiming to develop robotics that "harvest" nodules without seabed destruction.

the ISA Council on behalf of the delegation of Nauru and makes an appeal to open the CCZ mining as a response to climate change.

April 2020 - DeepGreen acquires Tonga Offshore Mining Limited (TOML), holder of an ISA exploration contract sponsored by the Kingdom of Tonga.

June 2021 - Deep Sea Mining Science Statement: Over 800 marine scientists and policy experts sign a global statement urging a moratorium on deep sea mining, warning that the science is insufficient to proceed responsibly.

April 2020 - DeepGreen releases a white paper advocating deep sea mining as a greener alternative to land-based mining.

June 2021 - Nauru, triggers the ISA's "2-year rule," pressuring the Authority to finalize mining regulations by mid-2023. Nauru's contractor (soon to be reenvisioned as The Metals Company). The contractor working alongside Nauru is DeepGreen Metals (soon to be reenvisioned as The Metals Company).

August 2021 - The New York Times reports that Heydon allegedly gained access to confidential ISA data and had prime exploration sites held while he sought developing-country sponsors.

The Metals Company's Chief Financial Officer stated that "[w] hether [the ISA] has finalized what the legal framework for deep sea mining will look like or not, we'll file our permit application and force them to process it."

Sustainable Opportunities Acquisition Corporation to form The Metals Company, trading as "TMC" on NASDAQ.

September 2021 - DeepGreen merges with the SPAC

September 2022 - TMC initiates first mining test in the CCZ just seven days after receiving surprise ISA authorization.

May 2022 - TMC releases its first Impact Report, portraying itself as a sustainable source of battery metals.

March 2023 - Jervois Global suspends construction of the only primary cobalt mine in the U.S. due to weak market prices. March 2023 - Lockheed Martin sells UKSRL and its CCZ licenses to Norway's Loke Marine Minerals, marking its exit from deep sea mining.

2023-2024 - TMC spends nearly half a million dollars lobbying the U.S. Congress and multiple federal agencies to influence NDAA votes.

"This acquisition accelerates Loke's exploration plans, and ambition to deliver the safe production of nodules with as minimal an environmental impact as possible." - Former Loke CEO Walter Sognnes

March & July 2023 - In the face of an expiring 2-year rule deadline, an increasing number of ISA Council members express positions that no commercial mining applications should be approved in the absence of a

May 2023 - Maersk reduces its TMC stake from 9% to 2%, intending to divest entirely.

November 2023 - Senate Resolution introduced to urge UNCLOS ratification.

for mining and processing polymetallic nodules.

American Samoa and are denied.

finalized regulatory framework. **July 2023 -** Canada becomes the 18th ISA

July-December 2023 - Congressional Republicans lobby U.S. agencies, promoting deep sea mining as vital to national security.

member state to formally support a moratorium on deep sea mining.

October 2023 - Launch of DYNE Maritime: A Defense-Oriented Deep Sea Fund—a \$100 million fund targeting dual-use technologies in ocean exploration and monitoring, explicitly positioned within the AUKUS framework—framing seabed technologies as strategic assets.

January 2024 - Norway becomes the first country to formally approve deep sea mining within its jurisdiction.

February 2024 - Impossible Metals submits an unsolicited request to BOEM for a mineral lease sale offshore of

December 2023 - The FY2024 NDAA directs the Department of Defense (DOD) to assess domestic capacity

March 2024 - The DOD determines cobalt stockpiling is

April 2024 - Ret. Rear Admiral Hugh Wyman Howard III, with deep U.S. Navy and defense ties, joins the advisory board of Impossible Metals, signaling the expanding military-deep sea mining personnel pipeline.

currently unnecessary. March 2024 - TMC warns in SEC filings that ISA approval

July 2024 - The count of ISA member states supporting a deep sea mining moratorium or pause rises to 32 (France backs a full ban).

March 2024 - SAFE Summit, Washington D.C.—Gerard Barron pitches a U.S.-based nodule processing facility to senior

for its exploitation plan may be delayed indefinitely.

July 2024 - American Samoa declares a moratorium on deep sea mining in its territorial waters, citing ecological risk.

policymakers, industry leaders, and retired military officers shifting TMC's narrative toward national security.

July 2024 - Scientists reveal that nodules in the CCZ may be producing oxygen without sunlight, a potentially groundbreaking ecological discovery.

"Forget about mining, focus on refining." - Gerard Barron

July 2024 - Major insurers Zurich, Swiss Re, Hannover Re, and Vienna Insurance Group announce they will not underwrite deep sea mining activities.

August 2024 - Brazilian oceanographer Leticia Carvalho is elected ISA Secretary General, replacing longtime incumbent

November 2024 - TMC reaffirms its plan to file for exploitation under its NORI subsidiary by June 27, 2025.

Michael Lodge.

November 2024 - The DOE approves a \$475 million loan to Li-Cycle to construct a battery materials facility in New York.

December 2024 - The newly signed into law NDAA instructs the DOD to evaluate the feasibility of domestic nodule processing.

January 2025 - A coalition of contractors threatens legal action if the ISA fails to adopt a mining code in 2025. Legal experts dismiss the threat as unfounded.

December 2024 - Norway suspends Deep sea mining development

January 2025 - TMC voluntarily relinquishes its exploration contract with Kiribati. giving up one-third of its CCZ claim.

amid political backlash.

February 2025 - Impossible Metals delays its 2026 CCZ test with BGR, citing unreadiness.

April 2025 - President Trump signs an Executive Order titled "Unleashing America's Offshore Critical Minerals and Resources", directing federal agencies to expedite permits for deep sea mining in both U.S. and international waters.

March 2025 - Loke Marine Minerals files for bankruptcy, just two years after acquiring

April 2025 - The Metals Company, via its U.S. subsidiary, applies to NOAA for commercial mining rights in the CCZ—an attempt to bypass ISA oversight by

March 2025 - TMC declares its intention to bypass the ISA by seeking a U.S. mining license under the dormant DSHMRA statute.

April 2025 - Impossible Metals submits a mineral lease sale request to BOEM for federal waters offshore American Samoa.

invoking the long dormant U.S. DSHMRA under Trump's Executive Order.

March 2025 - TMC is named in multiple investor class action lawsuits alleging misreporting and financial misconduct.

Lockheed's deep sea mining assets and aspiring to lead the sector.

Sources accessed: All hyperlinks were last accessed in June 2025