

Nickelium

stable coin

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Introduction to **NICKELIUM**

Why Stablecoins:

Bridging the gap Between Crypto and Traditional Finance Cryptocurrencies have revolutionised the financial landscape, offering a decentralised and transparent alternative to traditional financial systems. However, their inherent volatility has limited their adoption for everyday transactions. Stablecoins emerge as a potential solution, aiming to bridge the gap between the innovative world of crypto and the stability of traditional finance.

At their core, stablecoins are cryptocurrencies with a mechanism in place to maintain a stable price. This stability is achieved by pegging the value of the coin to an external reference point, such as a fiat currency (e.g., US dollar), a commodity (e.g., nickel), or even another cryptocurrency. This peg aims to reduce the wild price fluctuations that plague popular cryptocurrencies like Bitcoin, making them more suitable for use as a medium of exchange.

There are several ways stablecoins maintain their peg. Fiat-backed stablecoins, for example, hold reserves of the underlying asset (e.g., US dollars) in proportion to the number of stablecoins in circulation. This ensures that the issuer can always trade a stablecoin for its equivalent value in the pegged asset.

Stablecoins offer several advantages over traditional cryptocurrencies. Their price stability makes them ideal for everyday transactions, enabling quicker and more efficient payments within the crypto ecosystem. Additionally, they act as a safe haven for crypto investors during periods of market volatility, allowing them to secure their funds in a stable asset without leaving the blockchain. This stability also fosters the growth of decentralised finance (DeFi) applications, where users can lend, borrow, and earn interest on their holdings without the fear of significant price swings. By offering a bridge between the volatility of crypto and the stability of traditional finance, they can accelerate the mainstream adoption of cryptocurrencies. As the technology matures and regulations evolve, stablecoins could become the cornerstone of a more efficient, inclusive, and global financial system.

However, stablecoins also come with their own set of challenges. The security of fiat-backed stablecoins hinges on the solvency of the issuing entity, raising concerns about potential mismanagement or fraud.

Despite these challenges, stablecoins hold immense potential to reshape the financial landscape.

The Alluring Nickel:

A Crucial Industrial Metal Nickel, a gleaming silver metal, may not be as glamorous as gold or as essential as iron, but it plays a vital role in our modern world.

From gleaming stainless steel appliances to the powerful batteries that drive electric vehicles, nickel's unique properties have made it an indispensable industrial metal.

Nickel's strength and resistance to corrosion make it a key component of stainless steel. This ubiquitous alloy, containing around 8% nickel, is used in everything from cookware and cutlery to surgical instruments and building materials. Its ability to withstand high temperatures also makes it crucial for jet engines, power plants, and other industrial applications.

Beyond its structural applications, nickel's magnetic properties have opened doors in the realm of electronics. It is a vital component of lithium-ion batteries, the power source behind our laptops, smartphones, and increasingly, electric vehicles. The rise of electric mobility has significantly boosted the demand for nickel, as electric vehicle batteries require significantly more nickel compared to their gasoline counterparts.

Nickel mining, however, is not without its challenges. The extraction process can be environmentally damaging, leading to deforestation, water pollution, and soil contamination. Additionally, the geographic concentration of nickel reserves, with major deposits in Indonesia and the Philippines, raises concerns about geopolitical instability and supply chain disruptions.

The environmental impact of nickel mining necessitates a focus on sustainable practices. Responsible mining techniques, coupled with recycling programs, are crucial to ensure a continued supply of this vital metal while minimising environmental damage. Research into alternatives for battery technology is also ongoing, aiming to reduce reliance on nickel and explore more sustainable options.

Looking ahead, nickel's future seems intertwined with the trajectory of clean energy technologies. As the demand for electric vehicles and renewable energy storage solutions continues to rise, so too will the demand for nickel. Responsible mining practices, technological advancements, and a focus on circular economies will be essential to ensure that this alluring metal continues to serve humanity's needs for generations to come.

Nickel ETFs:

An ETF is designed to enable investors to gain an exposure to a total return investment in nickel by tracking the Nickel Backed Index. It is an Exchange Traded Commodity ("ETC") that can be created and redeemed on demand (by Authorised Participants). It trades on exchanges just like an equity and its pricing and tracking operates similarly to an Exchange Traded Fund. The ETC is usually backed by contracts (fully funded swaps) with counterparties whose payment obligations are backed by collateral which is marked to market daily. The collateral is held in pledge accounts at a high street Bank. However it remains an indirect way to gain access to Nickel depending on the performance of the underlying securities and not the Nickel itself.

LME Derivatives:

Nickel derivatives are traded through London Metal Exchange with various issues resulting from false warehousing. A Nickel Stablecoin is recognised as the most efficient way to acquire exposure to the Nickel value without the <u>hiccups of the derivative markets</u>.

We use the daily London Metal Exchange Nickel price quote to determine the value of each Nickelium Token.

In Situ Synthetic Reserves to use as Collateral for Nickelium:

Having taking in account all the above problems regarding the proof for real reserves to back any product based on Nickel, Destrier LLC decided to step into the mines themselves, use real academic data to train its machine learning algorithms and create its synthetic mines and back-up asset in-situ measured reserves designed and geographically allocated as per the highest JORC specifications.

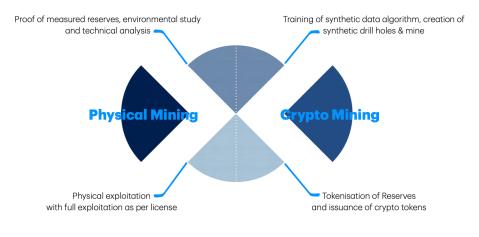
Tokenisation and disruptive model

Destrier LLC defined its methodology not as complimentary to the physical mining process but rather as a disruptive proposal where the blockchain tokenised value of the nickel is transferred directly from the synthetic mines into the wallets of the crypto investors. The synthetic reserves are backing up the Nickelium Tokens to guarantee that each token represents 100 grams of Nickel.

Destrier's pricing model is also designed to infuse volatility back into the Nickel market rendering its nickelium tokens an attractive alternative to the physical nickel market.

Synthetic Mines: Destrier proposal

Data Acquisition and Multi Client Library



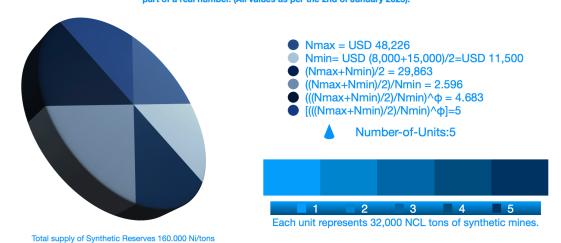
Data Mining

Mining Our mines

Mining the Mines: positive integer Formula

$$Number - of - Units = [(((Nmax + Nmin)/2)/Nmin)^{\varphi}]$$

Nmax is the maximum LME Nickel Value over the last 10 years (both before and after Covid). Nmin represents the mean of the minimum before Covid and the minimum post Covid within 10 years. ϕ =1.618 is the golden ratio.The symbol [.] denotes the integer part of a real number. (All values as per the 2nd of January 2025).



From our Mines to your Wallet

Tokenomics



Cryptomining

Nickelium's Golden Formula to power up Nickel's Value

$NCL = [Ni + max[10000,(Ni - No)^{\varphi}]]/10000$

assumptions are based on the fact that each nickelium token represents 100 gram of real in situ Nickel data

- Ni=Daily LME Nickel price per ton
- 🛑 USD 15,000 equal to the four years low price that was reached on the 2nd of January 2025
- No will always represent the 25 years low starting from the 2nd of Jan 2025
- 🛑 the max function secures that NCL will always represent its underlining reserves and crypto premium
- \bigcirc $\phi \approx 1,618$ and it is the golden ratio that powers up the per ton value of the token
- the 1/10.000 factor tokenises the value
- NCL= Nickelium Token



Nickel Production Chain & Concerns:

Extraction

Nickel extraction from its ores involves a series of processes that depend on the type of ore and the desired purity of the final product. Here's an overview of the main steps involved in the extraction of nickel:

From Sulfide Ores:

Sulfide ores are first crushed and ground to liberate nickel minerals from waste materials.

The ore is then subjected to selective flotation, where it is mixed with reagents and agitated to produce air bubbles. Nickel sulfide particles adhere to the bubbles and are collected as a concentrate. Magnetic separators may be used to further purify the concentrate, especially if the ore contains magnetic sulphides. The concentrate is then smelted at high temperatures (around 1,350°C) to produce a nickel-iron sulfide known as matte, which contains 25 to 45 percent nickel. In the next step, iron in the matte is converted to an oxide, which combines with a silica flux to form a slag. This leaves behind a matte with a higher nickel content.

From Laterite Ores:

Laterite ores require different processing since they do not contain sulfur to provide heat for smelting. These ores are often subjected to a high-pressure acid leach (HPAL) or the Caron process. In the HPAL process, the ore is treated with sulfuric acid under high temperatures and pressures, which dissolves the nickel and cobalt into the solution. The Caron process involves drying and reduction roasting of the ore followed by leaching with ammonia2.

Refining:

The nickel matte can be further processed to purify the nickel. One method is the ammonia pressure leach, where nickel is recovered from solution using hydrogen reduction, and the sulfur is recovered as ammonium sulfate, which can be used as fertiliser. Another method involves combining carbon monoxide with impure nickel to form a volatile compound, which is then thermally decomposed to yield pure nickel. These processes can produce nickel with a purity greater than 75%, which is sufficient for many applications, such as stainless steel production. However, further purification may be required for other uses.

The extraction and refining of nickel are complex and require a deep understanding of metallurgical processes. The methods used must also consider environmental and health safety standards to minimise the impact on the surrounding ecosystem and human health.

Environment

Nickel extraction has significant environmental impacts, affecting air, water, soil, and ecosystems. Let's explore these effects:

Air Pollution:

Smelting nickel ores releases sulfur dioxide (SO₂) and other pollutants into the air. SO₂ contributes to acid rain, harming vegetation and aquatic ecosystems. Dust emissions during mining and processing can also affect air quality.

Water Contamination:

Leaching of nickel from ores can contaminate groundwater and surface water. High-pressure acid leaching (HPAL) used for laterite ores generates acidic wastewater. Runoff from mining areas can carry dissolved nickel and other metals into rivers and lakes, impacting aquatic life.

Soil Degradation:

Mining activities disrupt soil structure, leading to erosion and loss of fertile topsoil. Tailings (waste material from processing) can contain toxic elements, affecting soil quality and plant growth.

Wildlife Habitat Destruction:

Deforestation for mining operations destroys habitats for plants and animals. Wetlands, which are essential for biodiversity, may be drained or altered during nickel extraction.

Biodiversity and Protected Areas:

Approximately 40% of global nickel reserves are in locations with high biodiversity and protected areas1. Mining activities can threaten unique ecosystems and endangered species.

Carbon Footprint:

The energy-intensive processes involved in nickel extraction contribute to greenhouse gas emissions. Fossil fuels are often used for energy, exacerbating climate change.

Bioavailability:

Nickel's bioavailability (how easily it is taken up by organisms) affects its impact on the environment. Regulatory standards consider bioavailability to estimate risks posed by metals.

In summary, while nickel is crucial for green technologies like electric vehicles, responsible extraction practices are essential to minimize environmental harm. Balancing economic benefits with environmental protection remains a challenge for the nickel industry.

Transport

Nickel ore transportation and shipping is a complex process that requires careful handling due to the ore's inherent properties. Nickel ore, often referred to as 'the world's most dangerous cargo', presents significant hazards during transportation and shipping.

Here are some of the key risks associated with the transportation and shipping of nickel ore:

Liquefaction:

Nickel ore is a cargo that may liquefy if the Moisture Content (MC) exceeds the Transportable Moisture Limit (TML). Liquefaction is a phenomenon where a soil-like material is abruptly transformed from a solid dry state to an almost liquid state. This can happen when the cargo is compacted by the ship's motion and vibration. As the cargo compacts, the volume between the particles reduces and trapped air is expelled. Eventually, the water pressure resulting from the compaction presses the particles apart, potentially leading to them losing direct contact, resulting in a sudden loss of shear strength and entering a fluid state. This can cause the cargo to shift unexpectedly during transportation, affecting the stability of the vessel and potentially leading to capsizing .

Weather Conditions:

Typhoons and tropical storms pose significant challenges to the safe shipment of nickel ore. These weather conditions increase the moisture content before loading and cause severe rolling and pitching during the voyage, which in turn may result in liquefaction and shifting of the cargo.

Inaccurate Data and Standards:

Certificates provided by shippers often contain inaccurate data about the MC, Flow Moisture Point (FMP), and TML of the cargo being presented1. Furthermore, sampling methodology and laboratory analysis techniques used by the mines continue to not meet the standards set forth in the International Maritime Solid Bulk Cargoes (IMSBC) Code.

Infrastructure and Storage:

Most mines in countries like Indonesia and the Philippines are situated in remote locations and are not easily accessible, making it difficult for independent surveyors to attend and take samples of the cargo to be loaded. Due to lack of infrastructure at most ports, the cargo is stored in stockpiles exposed to all weather conditions or, in some cases, transported directly from the mine to the ship.

In conclusion, the transportation and shipping of nickel ore is fraught with hazards. It requires strict adherence to safety guidelines and regulations to prevent accidents and ensure the safety of all involved.

IMPORTANT CONSIDERATIONS-DISCLAIMER

Crucial Factors to Consider

Before proceeding, it is imperative that you thoroughly review this section as it contains vital details regarding the essence, aim, and constraints of this whitepaper. Additionally, it outlines what you must acknowledge, consent to, and comply with if you opt to peruse this document.

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Glossary of Terms

Digital Currency: Currency existing solely in electronic form

Cryptocurrency (Decentralised Digital Currency): Open-source, cryptographically secure digital currency using a distributed ledger.

Fiat Currency (Real-World/National/Sovereign Currency): Non-cryptocurrency currencies, typically government-issued.

Cryptocurrency System: Software and processes designed to facilitate a cryptocurrency's operation.

Legacy Financial System: Financial systems excluding cryptocurrency systems.

Utility-Backed Digital Tokens (Dapps): Decentralised tokens valued based on their application's utility, not solely for value transfer.

Asset-Backed/Pegged Cryptocurrency: Cryptocurrency with value linked to a real-world asset, distinct from utility-backed tokens.

Proof of Reserves: A cryptographic/mathematical verification by an issuer that all asset-backed digital tokens are fully supported by the underlying asset.