

The Bridge

Not what you may think...
but what many are hoping for

2025



Cover: In chaos theory, the butterfly effect is the sensitive dependence on initial conditions in which a small change in one state of a deterministic nonlinear system can result in large differences in a later state. This paper describes one half of a “butterfly”.

This paper must be read in conjunction with:

BLUEPRINT - The Environmental Impact Nursery® 2025

Both documents are available at www.curagaia.com

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IMPORTANT INFORMATION

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Author: R.J. (Rod) Holden - Founder, Managing Director & CEO, Perpetual Gold Pty Ltd.

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Introduction

This document describes a financial opportunity reminiscent of the *Big Short*.¹ If fully realised, it disrupts a US\$41 trillion market and eliminates 11.5% of 2023 global emissions.

More importantly, this opportunity could catalyse a global shift in consciousness that humanity and the planet desperately need. It could be the bridge between now and a truly viable future.

Paradoxically, this shift in consciousness is the result of using the economic system in a way that ensures environmental stewardship has priority over economic activity. It has its roots in environmental impact investing, but it adopts a far broader and more ambitious approach. Humanity and the planet need it to be!

This opportunity sits at the nexus of financial, ecological, and behavioural economics. Being at the nexus of these three fields means our opportunity is made up of several uncorrelated but interlinking events and parts. Each will be flagged as we lay out the narrative and then brought together at the end.

To understand anything, especially complex subjects, context is critical. For context, let's start at the beginning (the real beginning) and lay out the important events. This will take a few minutes, and in a world demanding instant gratification, it's worth taking the time to understand the bigger picture.

Before we start, it's worth stating up front that the dates and numbers don't exactly match. They don't match because we're laying out 12,000 years of human evolution and there's overlap—sometimes hundreds of years—between the elements mentioned. It's the narrative around value that's important

The Context

The Satellite View

- Indigenous history is distinct from “modern” human history. This part of the document is based on the modern narrative.
- Modern humans (*H. sapiens*) have been around for about 250,000 years,² where originally, as nomadic hunter-gatherers in the Stone Age, our core values were good hunters, seasonal change, fire and sharp edges. We valued nature, because that's all there was.
- The Holocene started about 11,700 years ago (ya)³ and was the first stable environment since the start of humanity. The Holocene allowed us to transition from the Stone Age to agricultural societies, 10,500ya.⁴ We added good soil, water resources and village life to the things we valued.
- The first known use of gold as a store of wealth was about 6,600ya.⁵ Complex mathematics appeared 5,000ya,⁶ and the first money (Shekel) 4,200ya.⁷ King Croesus brought gold and money together and created the first gold coin (Stater)⁸ 2,600ya. This was the Bronze Age where we also valued ore deposits, urban societies, long-distance trade, precious metals and gems.

The Bronze Age could be considered a sweet spot for humanity where food was plentiful, people were connected via larger villages, the standard of living was reasonably comfortable compared to the Stone Age. We had a simple monetary system that allowed trade to spread wealth, ideas and innovation. The global population was less than 10 million people,⁹ and many orders of magnitude below the carrying capacity of the Earth.¹⁰ Nature was plentiful.

- In the Iron Age we developed methods to produce iron and steel. We also saw the emergence of Dharmic and Abrahamic religions (3000ya & 2000ya)¹¹ and the Sanjiao philosophy - The Three Teachings of Buddhism, Confucianism and Daoism (2,500ya).¹² All religious text have environmental stewardship as a core tenet. Humanity valued steel tools and weapons, which saw powerful societies, and powerful segments within societies, emerge. This is a period in history where organised religion played a central role. Society devolved into the Dark/Middle Ages¹³—the period between the fall of Rome, 1500ya and the Renaissance, 500ya—when the Crusades started (conflicts among Abrahamic faiths).¹⁴

The term Dark Ages employs traditional light-versus-darkness (or good versus evil) imagery to contrast the era's supposed darkness (ignorance and error) with later periods of light (knowledge and understanding).

- As we emerged from the Dark Ages, we saw significant advancements in mathematics (1000ya),¹⁵ the advent of capitalism (800ya),¹⁶ colonialism (500ya),¹⁷ and corporations (400ya).¹⁸ We had the Scientific Revolution (500ya),¹⁹ Industrial Revolution (250ya),²⁰ and Digital Revolution (50ya).²¹ We further developed monocapitalist economics (Smith, Keynes, MMT etc.)²² and governments (democracy, communism, etc.).²³ We now value money, wealth and power the most.

- We took roughly 12,000 years to get to 190m people, another 1,800 years to get to 1bn people, a further 160 years to get to 3bn and the last 60 years to get to 8bn people. We are expected to get to 10bn people in about 20 years (~2045),²⁴ then risk collapse.²⁵ We exceeded the Earth's natural carrying capacity (3bn),²⁶ in 1960. Since that point, nature has undergone a steep and accelerating decline relative to the richness of the Bronze Age.

Now we get closer to Earth and focus on more recent events, firstly around the economy.

Closer to Earth – economic thinking

- The period 1950–1975 was a turning point that saw the rate at which we've turned natural capital into financial capital grow exponentially²⁷ (just as we exceeded Earth's carrying capacity). Economically, we've seen the development of GDP (1953),²⁸ shareholder primacy²⁹ and abandoned gold for fiat expansion³⁰(1971), globalisation, commodity trade and derivatives³¹ (1972) and GMOs³² (1973). The exponential growth of the chemical and military-industrial complexes, consumerism and globalisation. The powerful societies (and segments within each) prioritise economic activity over environmental stewardship, driven by the belief that money, wealth and power have the most value. This bias has been long-lasting.

- Humanity repeatedly goes through 250-year periods of overlapping economic cycles where the world order changes. In Ray Dalio's book, *How Countries Go Broke: The Big Cycle*,³³ he demonstrates the rise and fall of the Dutch and British empires and the rise of the United States empire over the last 500 years. He measures world powers by eight strengths, each supporting the next as they evolve. These strengths begin with education and move through innovation and technology, competitiveness, output, trade dominance, military strength, financial leadership, and ultimately, the status of their currency as a global reserve. He also lays out four primary final stages of printing money, a wealth gap, a rising rival power, and a monetary reset. This demonstrates the timing of our opportunity.

- BRICS³⁴ is a growing group of countries that seek to build an alternative to what they see as the dominance of the Western viewpoint in major multilateral groupings, such as the World Bank, the Group of Seven (G7), and the UN Security Council. Its stated core function is to “advocate for greater representation in global organisations; coordinate economic policy; reduce reliance on the U.S. dollar;

and create an alternative finance system".³⁵ Over the last 20 years, BRICS has created the New Development Bank and Contingent Reserve Arrangement which are designed to mimic the World Bank and International Monetary Fund. BRICS PAY³⁶ is designed to mimic the SWIFT Payment system. Trade settlements in RMB and the Rouble have grown steadily.³⁷ Together, BRICS nations make up one quarter of global trade, 40% of GDP, and nearly half the global population.³⁸ As individual powers like China and India, or as a unified bloc, they reflect the ascent of a new world order as described by Dalio.

It's clear that we're in the final stages where a new world order will emerge. The emerging new world order is another part of our opportunity, in both timing and structure.

- Gold has played an important and unique role within the global economic system. It's been a store of wealth for over 6,600 years simply because it's rare, malleable and beautiful. That store of wealth was held as jewellery 6,600 years ago. This theme has stood the test of time as jewellery accounts for around 50% of global demand year on year.³⁹ Gold is considered a safe haven asset because of another key physical attribute. It can't be duplicated. It also doesn't generate a yield, which means it sits outside all other financial products in a class of its own. All these attributes mean it's a safe haven asset that has no counterparty risk, especially across borders. For these reasons, Central Banks hold physical gold as insurance against financial market meltdown and as an intermediary in cross-border transitions. After a sudden increase, due to stagflation risks,⁴⁰ Central Banks are now holding as much physical gold as at any point in history.⁴¹ These play into both the changing world order and pending monetary reset narratives. The gold markets are largely opaque, but it's clear that the ownership of physical gold has changed dramatically over the last 20 years.⁴² Finally, gold has been used as the underlying asset in monetary resets, via a gold standard, six times since 1717⁴³ (although one was a silver standard). This theme demonstrates some of the key behavioural economic concepts of loss aversion, present bias, status quo bias and social normalisation. Gold, as a store of wealth, is deeply embedded in the human psyche.

Now we'll look at the environmental elements.

Closer to Earth – environmental reality

- The word "ecosystem" was coined in 1935 by A.G. Tansley in an article that appeared in *Ecology*.⁴⁴

"The more fundamental conception is...the whole system (in the sense of physics) including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment. ...We cannot separate them (the organisms) from their special environment with which they form one physical system. ...It is the systems so formed which provides the basic units of nature on the face of the earth. ...These ecosystems, as we may call them, are of the most various kinds and sizes."

- The last 30 years have seen significant advances in Earth systems, resilience, and climate sciences. Understanding human impacts on planetary boundaries has become mainstream,⁴⁵ and ice core data now goes back 4.6 million years.⁴⁶ We now understand that there are 17 planetary spheres. These range from the Mesosphere at the Earth's core to the Exosphere on the edge of space, and include the biosphere, troposphere, ionosphere, etc.⁴⁷ These 17 spheres are all interconnected and interact, as one system, to regulate the state of the planet. Within them are the various ecosystems. This is nature — or the environment more broadly — which, like all systems, has boundaries. For context, the Holocene epoch is the reference point for understanding planetary boundaries.⁴⁸

We have started to value the knowledge and wisdom of indigenous cultures because they have a deep understanding of the whole planetary system and the various ecosystems they interact with.⁴⁹

Importantly, indigenous cultures have transcended the physical to include the spiritual, in their understanding of how the planetary system works. Something modern humanity has yet to fully grasp, or may have lost since the Stone Age.

- The continued Scientific Revolution and the exponential use of natural resources for economic purposes, cemented the realisation we live on a finite planet. This saw the value of environmental stewardship starting to grow. In 1783, Bogd Khan (Mongolia) was declared the world's first national park.⁵⁰ In the late 1800's multiple National Parks were created around the world.⁵¹ 200 years later there are more than 303,000 environmentally protected areas globally, including over 6,500 National Parks.⁵² The influence of green politics, NCA, ESG, SDGs, impact investing, and sustainability continues to grow globally. Earthrise, as seen from the Apollo 8 space mission, was "the most influential environmental photograph ever taken" because it drove home the reality of Earth being our only home in the vastness of space.⁵³ Environmental stewardship is a core element of indigenous history and continues to grow in the modern human psyche.

Fortunately, over the last 50 years, humanity has been trying to bridge the gap between economic thinking and the environmental reality.

- In the early 1970s science and economic modelling clarified that the modern economic system, on a finite planet, is unsustainable.⁵⁴ Put simply, the planet is the source of energy and resources, which are used to drive GDP with a monocapitalist mandate to maximise growth and profit. Goods and services are consumed as fast as capital and products can be created and the finite planet is also used as a sink for the pollution and waste generated by that same system.⁵⁵ Modelling in 1972 showed we had until mid this century (2050) to change this system or face total ecological, social and economic collapse.⁵⁶ Since the 1950 to 1970 period nature has declined further across every ecological metric.⁵⁷ Tipping points to collapse have now been reached.⁵⁸ An environmental polycrisis is upon us.

- Natural Capital Accounting (NCA)⁵⁹ has been developed by the System of Environmental Economic Accounting⁶⁰ (part of the United Nations) to sit alongside the System of National Accounts⁶¹ (SNA) globally. The SNA is a single global standard. Its outcome is the GDP numbers. This allows the comparison of the GDP of different countries to be an "apples to apples" exercise. NCA was developed to value externalities (like pollution of a river and the drawdown of a country's natural resources) onto the balance sheet of each country. There is a significant risk the capitalist system is co-opting the valuations of natural capital to generate financial returns, rather than drive the restoration of degraded natural capital as was initially intended.

The definition of Natural Capital is the land, air, water, living organisms that provide us with Ecosystem Goods and Services. Natural Capital (and by extension its functionality and interconnectedness) is imperative for the survival and well-being of all living species. To provide proper human context, natural capital is the underlying basis for all other forms of capital (financial, manufactured, intellectual, human, social and relationship).⁶²

- There have been significant advancements in global reporting standards to understand sustainable development. The Brundtland Report reflects on the importance of context within these standards. The report's definition for determining sustainable development is widely accepted. *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*.⁶³ There is an ever-increasing volume of work around the necessity to move from monocapitalism⁶⁴ to multicapitalism⁶⁵ to define, measure and report within a proper global context. These include the IFRS Foundation,⁶⁶ R3.0,⁶⁷ KMG⁶⁸ and the United Nations SDG framework.⁶⁹ The Centre for Sustainable Organizations⁷⁰ has developed the preeminent body of work

for Context Based Accounting⁷¹ and Multicapitalism. Their MultiCapital Scorecard⁷² is the only widely recognised framework for authentic triple bottom line accounting.

- To round out the context: for most of the last 12,000 years we've lived with a cognitive **consonance** where our beliefs (humans and monocapitalism over nature) align with our actions (destroying nature for our benefit). Since the start of the science revolution, 500 years ago, we've lived with a growing cognitive **dissonance** where our beliefs (humans and monocapitalism over nature) do not align with our actions (understanding and increasing nature's protection). This provides reason for conflict, especially politically and via international extractivism.⁷³ But most importantly, this understanding of social normalisation of environmental stewardship also provides the seed of our opportunity and the catalyst for a shift in consciousness. Everything is coming to a head all at once, with the collapse of planetary systems and a changing world order. A wider polycrisis is upon us. This represents an opportunity not seen for almost 12,000 years.

Contextual Clarity

The above context was designed to clarify two key points.

The first is a succinct narrative of how humanity has evolved based on an environmental change that happened about 12,000 years ago. There is simply no bigger contextual approach we can take. All of recorded modern human history has occurred entirely within the Holocene.⁷⁴ It is a first-principles approach that demonstrates how each innovation and change built upon the previous as humanity evolved. This narrative is critical to understand as we transition into the Anthropocene Epoch.⁷⁵ It clearly demonstrates that another change is upon us. There is an opportunity to drive a new narrative within that change. We need a catalyst and proof of concept.

The second is how modern values and beliefs have evolved over the Holocene—from the Stone Age, through the Bronze Age, Iron Age, Dark Ages, the last 500 years, and especially the last 60 years. Innovation has been the key driver of these value changes, building on previous successes. It will continue to shape change, but we require the right kinds of innovation for humanity to survive and thrive. From harnessing fire, agriculture, and the wheel to money, steel, industry, economics, and politics, each was—and is—driven by evolving values and beliefs. A notable exception is Indigenous history, where values—rooted in environmental stewardship—have remained largely constant⁷⁶ over that period and, in the case of Australian Aboriginals, extend back 50,000 years beyond modern human history.⁷⁷

Modern values also shape different methods of mobilising capital—such as capitalism, philanthropy, and profit-for-purpose—each governed by their own guiding mandates. It's the same with political structures (monarchy, democracy, oligarchy, etc.). Grasping how, why, and where these values are changing is critical to anticipating the future and identifying emerging opportunities. This applies not only to economics and politics, but also to environmental and social spheres. Since 1968, there has been a growing view that humanity should adopt the perspective seen from Apollo 8—that of a single interconnected system where national boundaries are invisible. However, the reality on the ground is that national boundaries do exist, as do conflict and competition. This adds another element to our opportunity — the conflict and competition between states.

It is natural for there to be challenges and conflict in the period when humanity changes from one set of values to another. The key is to build a bridge between the two sets of values, ensuring both sides have the opportunity to succeed.

Australian Aboriginal Elder Mary Graham, when asked about their culture of sharing, said “Greed is a normal human construct; it takes conscious effort to share”.⁷⁸

Gus Speth, a prominent American environmental lawyer and advocate, once said “I used to think the top environmental problems were biodiversity loss, ecosystem collapse, and climate change. I thought that with 30 years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed, and apathy... and to deal with those we need a spiritual and cultural transformation. We scientists don’t know how to do that.”⁷⁹

Canadian Aboriginal Elder Albert Marshall describes the interface between Indigenous and Western science as “two-eyed seeing” where one does not have to relinquish either position, but can come to understand both.⁸⁰

In summary:

- The Holocene Epoch has seen 12,000 years of changing values driven by innovation.
- We’ve continually created new innovation, built on past successes.
- Environmental stewardship is a core part of Indigenous history⁸¹ and central to the 12 main religious texts.⁸² It’s an exponentially growing part of modern history.
- Population growth, alongside religion, politics, and economics has created a planetary polycrisis. We’re entering a new Epoch because of it.
- Population growth is a fundamental issue, but is coming to a natural end.
- Financial, ecological and behavioural economics are interlinked.
- Gold has played a key role in the human psyche (as a store of wealth) for almost 7,000 years.
- We’ve always had the rise and fall of empires.
- A global monetary reset is in the wings.

First Principles Questions

Some key questions emerge from this exposé of human history. What will the next innovation and value set be? What past successes will it build upon over the long term? Where are the logical opportunities in understanding these? Ancient philosophers like Socrates, Plato, and Aristotle explored the difference between capacity (what we can do) and virtue or wisdom (what we should do). This axiom is just as relevant today with fields like genetic engineering, artificial intelligence, nuclear technology, geoengineering, and especially transhumanism. There is an underlying truth that must always be considered: it relates to natural capital and sustainable development, as described above. It provides a critically important contextual understanding of how humanity can interact with the planet in a truly sustainable manner.

In the current setting, the planetary polycrisis, the macro-economic reality and the rise and fall of empires mean change is coming. It’s clearly necessary. Using Ray Dalio’s succinct analysis of the way empires come and go, a monetary reset will be one of the final factors in cementing the new order. Another key question—is there an opportunity to participate, or co-opt, the monetary reset to drive a change in consciousness? If we take the view that we’re soon going to have a global monetary reset, or are already in the middle of one, it’s worth exploring the basics of what a monetary reset might look like.

Central banks globally will very likely play an important role. Financial assets of Central banks typically include gold, foreign international reserves, claims on government, financial and non-financial sectors,

non-financial assets including both tangible and intangible fixed assets. All except gold carry significant counterparty risk in the event of a monetary reset. Central Banks hold physical gold as insurance against financial market turmoil, to balance foreign exchange reserves, to hedge against currencies, to diversify portfolios and as an intermediary in some financial transactions.⁸³ It has no counterparty risk.

The Bank of International Settlements (BIS) will also likely play a key role in how this evolves.

“The BIS’ mission is to support central banks’ pursuit of monetary and financial stability through international cooperation, and to act as a bank for central banks. The BIS is owned by 63 central banks, representing countries from around the world that together account for about 95% of world GDP.”⁸⁴

An important element of the BIS is the Basel Committee on Banking Supervision (BCBS)⁸⁵. The BCBS sets the rules and regulations for banks in 27 countries, as well as the European Union. The BCBS has created the Basel Framework, which includes the Basel III Reforms,⁸⁶ developed after the 2008 financial crisis. Basel III was designed to address excessive risk in the global banking system by setting a higher baseline for capital and liquidity requirements.

The final version of the Basel reforms (Basel 3.1 or Basel Endgame)⁸⁷ was to be in full force on 1 July 2025, with an implementation period until 1 July 2028, but the full deployment has been delayed by the EU (Jan 2026), the UK (Jan 2027), and in the USA the timetable is unclear. With some variation, banks in ten countries have already fully implemented the Basel III reforms (Australia, Canada, China, Hong Kong, Japan, Korea, Saudi Arabia, Singapore, Switzerland, and the European Union – being revised)⁸⁸

Also, on the basis of a global monetary reset, and gold playing a central role, there’s potential (based on history) that governments could reintroduce a new gold standard. When Nixon ended the Bretton Woods System in 1971⁸⁹ (the last time the monetary system was connected to gold)⁹⁰, money printing (over-issuance) has risen exponentially.⁹¹ The outcome has been the debasement of fiat currencies and erosion of purchasing power⁹². There are numerous calls to reintroduce a new Bretton Woods-style system.⁹³

How this would be structured is the subject of much conjecture, including a 50-year government bond backed by gold.⁹⁴ Regardless of the structure, it would require central banks to use physical gold to back a fiat currency or a basket of currencies (e.g., Euro, or a BRICS equivalent). The key purpose of a gold standard, as it has been in the past, would be to provide a stable underlying asset as the basis for a monetary reset.

Interestingly, under Basel III, gold is treated as a Tier 1 Asset (the same as cash) for capital requirements, but gold is not defined as a High-Quality Liquid Asset⁹⁵ (HQLA) for purposes of liquidity. Within the Basel III rules, gold is treated the same as an agricultural commodity (Tier 3), but there is a growing body of evidence demonstrating that gold should be reclassified as a HQLA under Basel’s own definition across both fundamental and market related characteristics.⁹⁶

Taking a different approach it should be noted that, although a hugely successful innovation (a US\$3.26 trillion market),⁹⁷ it’s not considered logical to use private digital cryptocurrency (e.g., Bitcoin) as the basis of a monetary reset. Governments don’t control these assets; they are outside the banking system, are increasingly used for black-market trade⁹⁸ and to avoid tariffs.⁹⁹ They are able to be duplicated (fork)¹⁰⁰ and can be frozen at the stroke of a key. Most importantly, cryptocurrency faces an escalating existential threat from both artificial intelligence¹⁰¹ and quantum computing¹⁰² as these technologies evolve. A positive aspect for crypto is that, being outside the system, there is less potential for authoritarian control. A core element of crypto is that, unlike physical gold, **it transcends**

tangibility as a store of wealth. This is an interesting and important development in behavioural economics and highly relative to our opportunity.

Based on innovation driving change and building on past success (of crypto), another potential alternative is the use of a Central Bank Digital Currency (CBDC).¹⁰³ The issuance of CBDCs globally has been slow, but recent developments in interoperability, cybersecurity and offline payments have mitigated much of the technical risk out of issuing CBDCs. The lack of in-country legislation and regulation, political will and other macro issues have also contributed to the slow issuance of CBDCs. Even so, almost 72% of central banks globally expect to issue a CBDC within 3 to 5 years and 92% are working on creating a CBDC. China is a pioneer and has already issued 4 different CBDCs.¹⁰⁴ Authoritarian control is a key risk for the public in a retail setting.

There is also work underway to back a CBDC with physical gold by the governments of Bhutan¹⁰⁵ and Kyrgyzstan.¹⁰⁶ The Bhutan government is considered the forerunner in this effort, with the King of Bhutan visiting the Perth Mint in Western Australia in late 2024 to buy gold.¹⁰⁷

Interestingly, the BIS and the Hong Kong Monetary Authority completed Project Aurum: a prototype for a two-tier CBDC in 2022.¹⁰⁸

*“Project Aurum is comprised of a wholesale interbank and retail e-wallet systems...**designed to prevent over-issuance** and to be flexible for different CBDC models. The two different types of tokens: intermediated CBDC and stablecoins backed by CBDC in the interbank system. While intermediated CBDC is a direct liability of the central bank, CBDC-backed stablecoins are liabilities of the issuing bank, **with its backing assets held by the central bank.**”*

It was dubbed “Aurum”, the Latin word for gold, to reflect the starting point that digital currency issued under the auspices of a central bank must be as robust and trustworthy as gold.”

Project Aurum is designed under the principles of safety, flexibility and privacy to address the existential risks that potentially threaten private cryptocurrencies, but it still locks in potential for authoritarian control via a retail operation of the CBDC. A question emerges around the potential for a hybrid system where a wholesale interbank CBDC stablecoin is issued (backed by gold to prevent over issuance) and the retail component being a corresponding fiat currency.

The key question is whether Central Banks could use either an old or new fiat currency or a CBDC?

An interesting development has occurred in Zimbabwe, long considered an economic basket case. After a period of excessive money printing between 2003 and 2006, Zimbabwe experienced several periods of hyperinflation.¹⁰⁹ After several attempts at issuing new currencies and bonds,¹¹⁰ Zimbabwe issued a gold-backed fiat currency to curb over-issuance. On the 5th of April 2024, the Reserve Bank of Zimbabwe (RBZ) issued the Zimbabwe Gold (ZiG).¹¹¹ It was designed to replace the existing Zimbabwean fiat currency (Zimdollar) and the USD within its economy. The USD accounted for 80% of market transactions in Zimbabwe in April 2024, and by May 2025 this was reduced to 56% (replaced by the ZiG). At the time of issuance, the ZiG was backed by US\$100 million in cash and 2,522 kg of gold (US\$185 million), which was more than 3 times cover for the local currency being issued. The Zimbabwean government also has gold coins and gold-backed digital tokens circulating within its economy.¹¹²

The IMF recently, in June 2025, supported the reforms in Zimbabwe and suggests the RBZ grow the demand for ZiG in the domestic economy. It also cautiously commended the Zimbabwean government on finally achieving fiscal stability, especially in a period of income challenges, high national debt, drought and lower PGM commodity prices.¹¹³ The World Bank Group thinks ZiG and other reforms

could see Zimbabwe achieve steady and rapid growth and move towards upper-middle-income country status by 2030.¹¹⁴ It may be too early to tell, but could Zimbabwe become the case study for the reintroduction of a gold standard globally?

"Nothing is more powerful than an idea whose time has come"

Victor Hugo

Regardless of the answer, and based on all of the above, it's clear that gold has played, is playing, and will continue to play a critical role in the global monetary system. It's also clear that, in the event of a monetary reset, a global recession or depression, stagflation or other black swan event, the demand for gold and price will increase as it has for the last 20 years.¹¹⁵

This fact requires a review of the global gold industry and its effects, especially its environmental impacts. While the following section may appear dry, it's critical to framing what follows.

A Fresh Understanding

- Gold supply comes from two primary sources, mine supply (3,300tpa) and scrap supply (1,100tpa). Demand equals supply, with 93% used as a store of wealth (jewellery, bars, and coins), far exceeding the 7% allocated to industrial use. Jewellery accounts for 51% of demand.¹¹⁶

- There are four phases of the gold industry. Gold *in situ*¹¹⁷ (exploration industry), gold extraction (mining and processing), the physical gold market (refining and products), and the paper gold market (storage and trading). Each phase is backed by comprehensive verification processes developed over hundreds of years (or 4,600 years in the case of fire assay, which is still used extensively today). These verification processes (with the associated governance) are now so robust they allow a commercial bank to lend billions of dollars to a company to finance a mine, based on the verification process that the gold is indeed in the ground.

- All the gold ever mined equals 216,000 tonnes.¹¹⁸ central banks (officially) hold 36,000t¹¹⁹ and ETFs 3,500t.¹²⁰ The majority is held in gold jewellery globally. Indian women are estimated to hold 11% of all gold ever mined due to cultural reasons.¹²¹ There is no estimate for other Asian woman or people in general. Jewellery is a key way to store wealth, especially in Asian cultures.

- Central bank gold holdings is at the highest level since 1974. The top ten (official) central bank holdings (May 2025) of physical gold are United States (8,133t), Germany (3,351t), IMF (2,814t), Italy (2,451t), France (2,437t), Russia (2,329t), China (2,292t), Switzerland (1,040t), India (880t), and Japan (846t).¹²² Gold held in the shadow banking system is unknown. The USA gold holding of 8,133t has not been independently audited (even after Trump and Musk made several statements around doing so). Some conjecture suggests China's unofficial gold holdings may be as high as 25,000t. Emerging countries, including Russia, China, India and Türkiye accounted for the bulk of central bank gold purchases since 2010.

In the latest World Gold Council report on central bank gold buying, 95% of all central banks expect to increase their gold holding.¹²³

- Outside the central bank holding system, significant gold trading is conducted globally. The three most important gold trading centres are in London (LBMA – 49%), New York (COMEX – 35%) and the

Shanghai (SGE & SHFE – 12%), which comprise more than 96% of global trading volumes. Other important trading centres are in Dubai, India, Singapore and Hong Kong (collectively 1.5%).¹²⁴ Although now opaque, given sanctions, Russia is the third largest gold producing nation with increasing production from central and western African countries via Russian military backing of coups.¹²⁵ Average annual trade volumes across all known markets, including gold backed ETFs (2%), equal US\$41.58 trillion in 2021.¹²⁶ The global OTC derivatives market stood at US\$729 trillion to June 2024,¹²⁷ putting into perspective the size of the global gold market.

- London Precious Metals Clearing Limited (LPMCL) was created by LBMA members in 2001 and controls the clearing and settlement of gold and silver transactions on gold physically held in London. It's a non-profit company owned and operated by four LBMA member banks: HSBC, ICBC Standard Bank, JP Morgan and UBS. Most OTC spot gold settlement uses an "unallocated account".¹²⁸ In the case of delivery to the buyer, it usually occurs at "T+2" (2 days after the transaction),¹²⁹ but for the first time, in January 2025, this changed to 4 to 8 weeks for delivery of physical gold due to supply challenges.¹³⁰

- Unallocated gold is a pool of physical gold bars held by banks for settlement purposes. The client has a general entitlement to the gold and is an unsecured creditor. Unallocated gold is held on-balance sheet and recorded as an asset by the bank and the client credit is treated as the corresponding liability.¹³¹

- Allocated gold refers to physical gold bars held by banks (or storage facilities) as assigned to a specific owner (each owner has title to specific bars). The banks act as custodian for the owner and the gold is neither an asset nor liability for the bank. Allocated gold, held by commercial banks, is excluded from Basel III calculations.¹³²

- In both allocated and unallocated scenarios, gold bars must meet specific criteria—typically around 400oz in weight and >999.5% purity—and are individually numbered and stamped by the refiner.¹³³

- Unmined gold (in the ground) is characterised by several categories. The most important are Resources and Reserves. The distinction lies in the amount of supporting data and the application of modifying factors. Resources are gold deposits where the size and grade are known with confidence. Reserves are Resources with mining parameters applied to define the cost and amount recovered by mining.¹³⁴ Broadly speaking, only about one quarter of Resources become Reserves due to various factors, mostly economics.¹³⁵ Resources and Reserves are verified and reported to markets through the application of frameworks. There are at least 12 frameworks globally (JORC, NI43-101, etc.,) and an emerging single global framework (CRIRSCO).¹³⁶

- Unmined gold Resources are estimated at 196,000 tonnes globally¹³⁷ with a gold value of US\$18.9 trillion (US\$3,000/oz). Unmined gold Reserves are estimated at 59,000 tonnes globally,¹³⁸ with a gold value of US\$5.69 trillion. Unmined gold includes over 13,000 tonnes in Reserves (23% of total) in stranded or likely to be stranded gold deposits.¹³⁹ These stranded gold Reserves have had billions spent to discover and derisk them, have a gold value of US\$1.32 trillion and a market value of \$0.00. They have a zero-market value because the proponents couldn't secure a social and/or environmental licence to mine them due to the significant negative impact mining these deposits would have on the environment. This large percentage of unmined and stranded gold Reserves is important to note because if the world creates a seventh gold standard, as part of a global monetary reset, it's highly likely governments will ignore the environmental impact and legislate to mine these stranded assets on sovereign economic and national interest grounds. Even if this were to happen, the rate of mine

production would likely not increase substantially in the short to medium term due to geological, reserves, equipment and manpower constraints. This adds another element to our opportunity.

- To understand some of the environmental impact of gold mining we applied a (2012) life cycle assessment¹⁴⁰ to 2023 gold mine supply (3,646t).¹⁴¹ Gold mining average impact (across non-refractory and refractory ores) in 2023 was the use of 917 million GJ of energy and 945 million tonnes of water and generated 80.9 million tonnes of CO₂e (Scope 1 only) and 4.6 billion tonnes of solid waste. Please note, these numbers are conservative, due to ore complexities and extrapolation across the industry, and are out of date. This 2012 life cycle assessment used a gold grade of 3.5 grams per tonne (g/t) of ore. The average grade mined is now lower than 1 g/t,¹⁴² meaning the real impact is likely to be at least 3 times greater. The impacts of placer, artisanal and illegal mining are also not included. It's also worth noting the impact from gold mining is several orders of magnitude higher than mining of other metals due to the extremely low amounts of metal per tonne of ore in gold mining (the metal to rock ratio).

Applying this same methodology to the 59,000t of unmined gold Reserves (at the 2023 production rate) it would take just over 16 years to mine, would use 14.8 billion GJ of energy and 15.3 gigatonnes of water and generate 1.3 gigatonnes of CO₂e and 74.6 gigatonnes of solid waste. Based on 2023 global emissions of 37.79 billion tonnes,¹⁴³ this equates to 3.44% of global emissions. Again, these numbers are conservative and out of date and could easily be 3 times higher (or more). (i.e. 44 billion GJ energy, 46 Gt water, 3.9 Gt CO₂e & 224 Gt solid waste).

If all known gold Resources (196,000t) were converted 1:1 into Reserves, the impact from mining them would be an order of 49.3 billion GJ of energy, 50.8 Gt of water, 4.3 Gt of CO₂e and 248 Gt of solid waste (or 3 times higher at 148 billion GJ energy, 152 Gt water, 12.9 Gt of CO₂e and 744 Gt solid waste). Although these data are outdated, they simply confirm the environmental impact from gold mining is significant and substantial in global terms.

- In the event that there is a new gold standard, the demand for physical gold will grow explosively. This will probably result in resource nationalisation and potentially confiscation of privately held gold by governments as Central Banks seek to quickly stock their vaults. This happened in the USA in 1933 via Executive Order 6102.¹⁴⁴ The legislation has been established in Australia since 1959 (Part IV Banking Act 1959)¹⁴⁵. There's a question that if governments decided to confiscate private gold, what might the implications be? This would effectively mean private citizens "stacking" small amounts of gold (coins, 1oz ingots, etc) as a personal insurance policy in times of need (i.e. a bank run) the gold potentially becomes worthless. Would a counterparty be willing to transact and then own an illegal product they can't use? Would they likely opt to retain their asset (e.g. a car) instead?

- Several new business models for gold have emerged over the last 60 years. Gold backed exchange traded products include closed-end funds, notes, ETFs and commodities. Franco-Nevada Mining Corporation developed the royalty streaming model in 1986 by funding mine development in exchange for a percentage of the gold produced for the life of the mine¹⁴⁶. Gold backed crypto has recently emerged to become a US\$1.7 billion industry, with Tether Gold recently acquiring a 35% interest in a gold royalty streaming business (CAD\$122m) to secure physical gold supply.¹⁴⁷

These are excellent examples of innovation built on existing successes within an industry.

So, we've explored the first principles of the evolution of modern human history, what a monetary reset might look like and the structure and environmental impact of the gold industry. By now you've likely guessed that gold plays a role in the opportunity we uncovered. But how?

The Outcome

A very simplistic view is that gold is dug up from the ground, melted down and turned into bars. It's then stored in another hole in the ground called a vault. There are numerous quotes dating back to 1877 stating how crazy this construct seems. On this topic, Warren Buffett reportedly said at Harvard in 1998: "Anyone watching from Mars would be scratching their head."¹⁴⁸

When viewed in the broader context—particularly in relation to precious metals—it's evident that this process is a legacy of exploitative colonialism,¹⁴⁹ which spread globally from the 15th century and later evolved into extractivism¹⁵⁰ in the 20th century.

Returning to the "modern" gold industry.

Once the gold is stored in a vault, a piece of paper (sic) is issued that gives the holder a right to the gold in a vault. Some of those pieces of paper are traded instead of the gold bars changing hands, due to weight, security and storage issues. If we issue a piece of paper that's related to the gold in the ground rather than in a vault, then 99.99% of the environmental impacts are eliminated. The gold is stored in nature's vault, which is arguably more secure. Put simply, technology, innovation and existing industry validation processes allow us to monetise and trade the gold in the ground.

That's the simple answer, but when you start to explore the implementation of this concept, numerous obstacles begin to emerge. Do we need an option to dig up the gold in the future? What about sovereign risk and resource nationalisation? Will investors accept gold in the ground, instead of in their hand? How do we get started? How do we demonstrate the highest level of product integrity that's superior to a bar of gold in the Bank of England? The list goes on.

The author has spent a lifetime trying to understand the answers to these questions and many more. The last 13 years have been a full-time effort. About 5 years ago a quantum shift in thinking allowed solutions to finally emerge. Interestingly, the essence of one of the answers is drawn from indigenous culture. The final piece of the puzzle was timing. The right timing is now, due to the global reset.

We've developed a proprietary model, surrounded by a multi-layered moat, called Perpetual Gold.

Some key elements of the Perpetual Gold model are:

- The environmental impact of gold mining is embedded in the product (jewellery, bars, coins) and expressed in the cost. We remove the impact and capture the cost as profit
- We use all of the current industry safeguards, frameworks and verification processes that the industry uses to protect investors, both retail and institutional. If banks are willing to lend billions of dollars against gold in the ground because of industry safeguards, then investors should be able to rely on the same protections to generate returns from gold in the ground too
- By developing a unique, analogue, gold product all parties can use it to back either fiat currency, a basket of currencies, a CBDC or private crypto. It can be held by central banks, sovereign wealth funds, and institutions. It's like owning the only global store selling picks and shovels to miners

- Our gold product is priced at a 90% discount to the spot price, yet its value—validated through accounting principles—exceeds that of a comparable gold bar held at the Bank of England. This presents a compelling arbitrage opportunity.
- When gold prices and input costs are at historical averages, we can generate more profit, faster and with less risk than traditional gold mining
- The structure of our model aligns with Article 9¹⁵¹(EU dark green fund mandate), the Equator Principles¹⁵²and Sharia Law¹⁵³and has the potential to be deemed a Tier 1 Asset and a High-Quality Liquid Asset under Basel III. This makes it important to central banks, sovereign wealth funds, governments, and institutions globally
- Regardless of the gold price, it's not economically viable to mine in future, which means it's the only model that can be used to remonetise \$1.32 trillion worth of stranded assets (23% of all gold reserves)
- We've used Discounted Cash Flow (DCF) Modelling, with a 40% discount rate, to demonstrate Internal Rate of Returns of almost 400%
- Trading of the OTC products¹⁵⁴we create delivers long-term, recurring revenue
- Using a shareholder activist strategy,¹⁵⁵we can capture share price appreciation of asset owners
- The biggest negative impact will be on the mining industry, but this industry can be redeployed into historic mine legacy remediation, as the technical disciplines are extremely similar
- This construct requires investors to transcend tangibility, as has been done in the US\$3.26 trillion cryptocurrency industry. The difference is gold, stored in nature's vault, doesn't have the multiple risks that crypto has and has much more integrity due to industry safeguards
- If adopted across all unmined gold Reserves globally, it would eliminate 3.44% of 2023 global emissions. If applied to ALL unmined gold (Reserves and Resources) it would eliminate 11.5% of 2023 global emissions. The elimination of other mine-related environmental issues (freshwater wastage, biodiversity loss, acid mine drainage, etc) is just as significant. This is the elimination of impacts, not offsetting
- The corporate structure means other parties, governments, banks, and institutions cannot co-opt or exploit the Perpetual Gold model solely for financial gain. It locks in change for good
- At each gold deposit location, we share a minimum of 30% of the gross revenue with the local community, plus another 10% with the state government. If the asset owner (usually a resource company) is local, then 90% of the gross revenue goes back into the local community. This replaces the lost economic activity from not mining the gold deposit. This structure means a country's *in situ* gold endowment funds sustainability-based activity and innovation at the local and state level. This generates up to 1.3 orders of magnitude in economic activity, without the negative impact or legacy issues from mining

The Bridge

Let's explore the significance of the last point. This is the real opportunity for humanity. It has the ability to provide the bridge between our current state and where we must be ecologically, socially, and economically. It ensures integrity and delivers on its promises.

Firstly, the author of this document also developed a Blueprint for The Environmental Impact Nursery® (TEIN). This was developed after 12 years of research, while simultaneously developing the Perpetual Gold construct. In short, a TEIN is an innovations lab designed to drive innovation in environmental sustainability and develop solutions to complex environmental problems. The structure of The Environmental Impact Nursery® also eliminates greenwashing and mission drift. The overall mandate is to provide funding and support for solutions to environmental problems and fund them through the "valley of death." The solutions are environmental moonshots, but in a structured, common-sense and risk-adjusted manner. Part of the critical litmus test is to ensure the solutions don't make the problem worse. Read the Blueprint for further details on the TEIN.

The overall aim is to establish an Environmental Impact Nursery® on every appropriate gold deposit, with the Perpetual Gold model funding each nursery. There are potentially 1,700 gold deposits, in over 100 countries, that the Perpetual Gold model could apply to. These numbers are hard to quantify for various reasons, but could equate to a direct positive financial impact on around 100 million people across developed and developing countries.

The Environmental Impact Nursery® has 7 investment and innovation themes:

- Environmental Markets & Services (Market Based Solutions)
- Remediation & Management of Natural Capital (Environmental stability)
- Asset Recovery & Recycling (Circular economy)
- Clean Technology & Efficiency (Clean planet)
- Agribusiness & Natural Capital (Regenerative economy)
- Green Chemistry & Materials Science (Bio products)
- Education & Media (Generational change).

The network effect of 1,700 plus related Environmental Impact Nurseries®, in over 100 countries, working across these 7 themes is expected to be significant, through the cross-pollination of ideas, R&D and successes. Also, working on these seven themes collectively allows for a more holistic approach to the global polycrisis, rather than whack-a-mole solo efforts on climate, biodiversity, water, pollution, etc.

Secondly, each Environmental Impact Nursery® is self-funded via the Perpetual Gold construct. To give an indication of the potential amount of funding available, 30% of the gross revenue from stranded assets alone (13,679t), via Perpetual Gold, is US\$39.6 billion available to fund innovation across these themes.

If applied to all unmined gold globally (196,000t), this 30% would generate US\$567 billion to fund these seven innovation themes over the next 20 to 30 years. This is the scale and speed of positive innovation and impact humanity and the planet needs from an environmental perspective. It's also the scale of impact the planet needs to compete with and disrupt the current economic system.

Furthermore, the multiplying effect from funding innovation is expected to be significant. According to a 2021 CSIRO report, every dollar spent on R&D in Australia is estimated to create \$20.8 in economy-

wide benefits and a 104% average annual return.¹⁵⁶ When combined with the potential of 1,700 Environmental Impact Nurseries®, in over 100 countries, and the amount of capital that could be mobilised, the economic impact could reach US\$12 trillion over a few decades and encompass billions of people.

Thirdly, imagine if the Perpetual Gold model could become the basis of a whole country's economy.

Bougainville, an island off the coast of Papua New Guinea (PNG), hosts one of the world's largest gold deposits containing 19 million ounces at the Panguna Mine. The mine opened in 1972 and was operated by Rio Tinto. Environmental degradation and social and financial inequality led to an armed rebellion in 1988, closing the mine. This sparked the Bougainville Civil War (1988–1998), which killed up to 15,000 people.¹⁵⁷

After the Bougainville Peace Agreement¹⁵⁸ was signed in 2001, Bougainville became an autonomous region of PNG in 2005. It's set to become the world's newest country in 2027, if it gains full independence from PNG. There is strong interest in reopening the Panguna mine to fund Bougainville's future economy, but doing so is divisive within the community. A class action involving 5,000 people (2024)¹⁵⁹ and a human rights complaint (2020)¹⁶⁰ are still pending resolution.

The application of the Perpetual Gold model to the Panguna gold deposit would generate more economic activity, without the negative environmental and social impacts, than restarting mining. Modelling indicates it could generate US\$5.7 billion in gross revenue, with \$4.35 billion (76%) going directly into the Bougainville community. The application of the multiplying effect could create US\$87 billion in sustainable economic activity over a roughly 10-year period. This would increase Bougainville's GDP per capita by around 20 times and establish a truly sustainable nature-based economy, built on ecological sustainability. There is no need for BCL shareholder dilution to fund mine infrastructure, and capital inflows could commence by late 2027. Managing this success would then become the biggest challenge. *

Last but not least, by sharing 60% to 90% of gross revenue with local and state economies through the monetisation of in-situ gold deposits, all parties are incentivised to protect and value these gold deposits in the same way we protect National Parks. This could build exponential growth in the current cognitive shift towards protecting nature.

When local or national entities engage with the model at scale, it strengthens the link between environmental stewardship and economic prosperity. It also fosters widespread recognition of environmental stewardship as the key to economic prosperity.

This is the single most important aspect of the Perpetual Gold model, especially when considering the potential numbers of people this model could reach.

It has the potential to create a catalyst for a final shift in global consciousness – one that prioritises environmental stewardship over pure economic growth.

Gold is the world's purest form of capital — as long as it remains stored in nature's vault!

"Opportunities multiply as they are seized." Sun Tzu

*The Panguna modelling relies on assumptions that may fluctuate, influenced by both geological and political variables.

About the Author

With core skills in creative problem-solving, he is a serial founder with a background in business, natural capital, extractive industries, and construction. He is known for playing the long game through a combination of patience, strategy, and stoicism. In the gold industry, he led the development of several large gold exploration projects. He was the founder and CEO of Gold Report Australia, which developed the first software for assessing and investing in ASX-listed gold companies, and he traded gold on NYMEX.

Following a life-changing event, he developed a passion for sustainability and environmental management, and is using his unique background to drive change. Rod was the catalyst for introducing the New Code for Environmental Management in Australia's resource industry in 2000. This was a significant initiative that created lasting systems change within the Australian minerals industry.

Perpetual Gold is the culmination of his life's work and experience to date. He intends to dedicate the rest of his life to developing and scaling Perpetual Gold and The Environmental Impact Nursery® globally.

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“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”

Buckminster Fuller