RESEARCH NOTE

# ‘Money changes everything’: New forms of economic and political models

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**Reimagining our concept of value is the key to reshaping the global economy to promote long-term sustainability ahead of short-term consumption. Entrepreneur Fritz AO and writer Nicholas Mallory argue that for humanity to have a future, we must partner with the planet to aid its recovery.**

“Money changes everything”
**– Cyndi Lauper**

## The Price of Money

When Lucile Randon died in January 2023 at the ripe old age of 118, she was officially the world’s oldest person. At her birth, she shared the world with less than two billion people, but, over the course of just one human lifetime, that population has ballooned passed eight billion.[1] The rampant growth of human technology, industrialisation and globalisation which facilitated this population explosion was just as astonishing but cost the rapid depletion of Earth’s resources and severe degradation of the biosphere.

The 21st century must therefore see technological, social and economic change as astonishing as its predecessor, if people around the world are to enjoy the fruits of humanity’s progress, rather than suffer its social and environmental consequences. These developments will have to take a new direction, as we shift our collective ingenuity from pursuing unchecked growth and expansion towards

1. World Economic Forum, 2022

doing more with less and healing the living planet we all depend upon.

Such calls have been made before in terms of global poverty and migration, climate change, waste and pollution, habitat loss and wildlife extinction, but the short-term interests of politicians and businesspeople have always worked against efforts to protect the long-term health of the planet.

For instance, *Our Common Future*,[2] a report by the World Commission published in 1987, called for international development to safeguard the environment, arguing the economy should be retooled to meet current needs without compromising the opportunity for future generations to meet theirs. This call to arms was ignored by politics and commercial interests alike, and the last thirty years have seen resource consumption, land clearing, carbon emissions, pollution and ecological degradation accelerate rather than decline.

The 20th century saw the scale of environmental destruction gather pace in capitalist economies driven by private profit and developing nations eager to exploit their natural resources. The entire planet now exemplifies the infamous 'tragedy of the commons', in which self-interested exploitation of shared resources degrades or destroys that resource for others and future generations. For humanity to have a future, we must partner with the planet to aid its recovery, rather than continuing the plunder.

The type of mass-scale "natural" disasters, which once propelled the plots of science fiction films, are now everyday news, as people reap the bitter harvest of man's rampant exploitation of the Earth. As scientific evidence and activist exhortations have failed to persuade boardrooms and bureaucracies to rethink their priorities, a solution which uses the market – rather than working against it – must be tried, with the motivating factor behind the problems we face – money itself – turned into a tool for progress rather than profit.

If future resource conflicts, climate disruption and ecological breakdown are to be averted, then concrete measures rather than conference reports are required. We all know what must be done, what we need is the key to turn knowledge into action. The time for piecemeal measures has passed, and so the ever more urgent transition towards a socially just, economically rational, and ecologically sustainable global society will require a fundamental retooling of the underlying economic norms and assumptions which created the crisis that we face today.

Economic theory is not the inviolable natural law its practitioners and beneficiaries assume it to be, and just as a host of social norms have been turned on their heads in living memory, so the human construct of economics itself must be transformed into the engine of a cleaner, fairer and more stable future. This will require a rethinking of the nature of money itself.

## The Currency of Hope

Money replaced barter in human economic interactions when settlements based on agriculture supplanted hunter-gather tribes. It has taken many forms through the ages, from cowrie shells through golden coins to flickers on a computer screen, but has always comprised a store of value, unit of account, and a medium of exchange. Money is the lifeblood of economic transactions, but it also produces a host of social and ecological problems, as the valuation of assets and products is based on their costs of production and profit margins, rather than their actual cost to society and the environment.

Measures to incorporate the cost of 'externalities' into the prices paid for raw materials, products and services would expose their actual costs – to

2. World Commission on Environment and Development, 1987

the planet and ourselves. This would encourage consumers to favour less harmful products, and for producers to innovate new ways to reduce their environmental impact, as more damaging goods would now be more expensive, rather than cheaper, than more sustainable alternatives. Rather than relying on goodwill and altruism, the adoption of 'true cost accounting' would channel our economy's drive to maximise profit and utility towards producing more sustainable goods more efficiently, rather than rewarding destructive environmental and exploitative labour practices.

Reimagining our concept of value is therefore the key to reshaping the global economy to promote long-term sustainability ahead of short-term consumption. Human ingenuity can solve the problems we face through the mechanism of free markets, but only if the value of goods and services reflects their impact on the Earth as well as a company's balance sheet. Technologies, designs and systems already exist to reduce our impact on the planet, but a new type of economy is also required to incentivise and reward their widespread adoption.

Paradigm shifts tend to occur between generations, rather than within them,[3] and so the way economics is taught in schools and universities will also have to change to fit new circumstances. Economics must embrace sustainability if it is to retain its relevance in a world where profit must take its place alongside other, more pressing priorities. The economics syllabus of tomorrow will discuss environmental impacts, social justice and circular production as fundamental tenets, rather than optional extras.

Many drastic, expensive, or wide-scale schemes have been proposed to preserve the environment or promote social justice, but all are opposed by commercial and political decision makers on that basis. Anyone who has reached a position of power within the current system is loath to change it, and so the best approach is to gradually steer human nature, political inertia and commercial interests in a new direction.

Rethinking the role and nature of money would allow the market to evolve and deploy the most efficient solutions to our current and future social and environmental problems in a dynamic, innovative and endlessly flexible way.

Authoritarian states have no interest in ecological or social issues, as their only goal is to maintain power, and their only weapon is force, but apart from North Korea, they do trade in the global economy. Democratic states do translate public concerns into policy, but the relentless churn of ministers and governments often sees the ideas of the previous regimes dropped or downplayed before they pay off properly. Politicians had a poor record in picking industrial "winners" anyway, and there is no reason to believe they will be any more successful in terms of environmental action.

The market is therefore the best way to pool the ideas, energy and priorities of the entire population to generate cost- and resource-efficient solutions by ensuring prices reflect the genuine costs of production, rather than merely their commercial value. This will entrench the drive towards environmental sustainability and social justice into every process and interaction in the economy as a matter of course, whether particular governments, companies or consumers have an interest in these issues. We must work with the system we have today but retool it to produce the results we need tomorrow.

The status quo is not an option. Admittedly, as cheap and accessible resources are depleted and fossil fuel emissions are constrained to slow climate change, the current monetary system will begin to encourage more efficient use of resources as the price of inputs soars. However, they still ignore the spiralling costs of externalities, and so fail to

3. Mcleod, 2023

encourage more environmental solutions through the price mechanism to an adequate degree. The economy cannot remain alienated from the real world which supports it; indeed, its own survival demands the urgent adoption of more environmentally friendly products and systems.

Retooling money and accounting to reflect true, rather than merely commercial, value, will not remove inflation, inequality, monopoly power or crime – indeed, carbon credit fraud[4] nets far more revenue than bank heists these days. However environmental degradation, climate change, and labour exploitation and insecurity threaten the future fabric of society itself and will not be tackled unless their full impact is properly accounted for in our society's economic interactions.

These reforms cannot be imposed by dictate, but they can be encouraged by public sector adoption, voluntary industry agreements, investor and consumer pressure, and legislation to "make polluters pay". They will succeed by outperforming and therefore gradually supplanting their traditional forebears, although change may come more quickly than anyone thinks. We have seen dizzying transformations in many sectors in recent years, driven by globalisation, digitisation and online connectivity. Seismic shifts are not only possible but are enthusiastically embraced by the public, producers and investors when they deliver more value for everyone involved.

The concept of utility must now be expanded if we truly value our planet and want our descendants to thrive, rather than merely survive, in the future. Rather than working for the economy, we must reshape our thinking to ensure the economy works for us. Economic theory should be our tool, rather than our master, and politics should be a way to maximise public wellbeing, rather than promote the individual ambition of its professional class. This can all be achieved by the adoption of measures to ensure prices reflect environmental and social costs as well as profit margins and production costs.

## The Business of Progress

Corporations, or more accurately the boards, managers, workers, and shareholders which sustain them, have a personal stake in the status quo and will dig in to defend it. Cigarette companies denied the health toll of tobacco for decades and fossil fuel firms fought the science of climate change with well-funded public relations campaigns devised by the same advertising firms which now trumpet their environmental aspirations.

However, executives have a responsibility to sustain their companies over time as well as maximise immediate profit, and so must consider environmental as well as financial sustainability in an age when irreversible tipping points are being reached. They also rely on a liveable planet, and profits will tumble if natural resources run out. A sustainable agricultural sector, for example, needs healthy soils and a predictable and equitable climate without a string of 'once in a century' floods, fires and drought. Farmers who once opposed any controls on land clearing, water extraction or carbon emissions now understand that yields will depend on better environmental stewardship, and working in partnership with the natural world, rather than attempting dominion over it.

Through most of history, companies did not pay the full costs of production, or pass them on to their customers, as the cost of 'externalities' such as pollution or work-related diseases was ignored and so borne by society overall. Firms which churned out disposable goods without environmental safeguards and paid the minimum wage could offer lower prices than competitors, generating greater sales and profits for owners and shareholders. In recent decades, manufacturing and its externalities have been outsourced en masse to China and developing Asian nations with lower wages and environmental standards than the West, reducing costs and exporting the 'externalities' as well.

4. Morton 2022

A fairer, more rational system necessitates the social and ecological externalities of production being accurately and independently assessed and then borne by the business itself to drive innovation and efficiencies to produce the lowest priced goods by inflicting the least – rather than the most – harm on workers and environment.

## Turning ideas into realities

This idea dates back decades, and was always dismissed as wishful thinking, but several trends are now driving governments, companies and consumers around the world to not only accept 'true cost accounting' in theory but embrace it in practice.

Modern technology, from blockchain and bar codes to satellite observation, enables tracking of natural resources through international supply chains, allowing environmental externalities to be accurately measured and assessed in real time. Atmospheric and water pollution can now be monitored and ascribed to individual factories and firms, for example, allowing its impact to be incorporated into new forms of environmental accounting and awarded an accurate monetary value.

The extent, exploitation and value of common natural resources – from wild fish stocks to native vegetation and clean air and water – can now be calculated to allow individuals and companies which exploit or damage them to be charged accordingly. This monitoring and charging create an incentive for such companies to reduce waste, improve efficiency, develop alternatives and innovate to create new ways of operating which cause less environmental damage and therefore reduce their costs and prices.

Consumer demand for 'environmentally sustainable products' is also growing every year, and better monitoring can hold companies to account if green claims fall short of the reality. Progress is being made in terms of sustainable woods, responsible fishing and reducing plastic pollution, although such problems are far from solved. Industries, activists and government regulators are agreeing an ever more comprehensive range of robust indices to assess overall and individual performance, with consumer-facing ratings for product sustainability forcing companies to insist on higher standards all the way down their global value chains.

Furthermore, private investors and pension funds which once pursued private profit regardless of its common cost are now seeing the reputational and commercial value of more socially responsible investing. Progress in each of these domains encourages further change in the others, and a critical mass of academic, popular, political and commercial opinion is changing attitudes and practices more quickly than even the most optimistic advocates hoped for.

Over time, the long-sought convergence of short-term commercial drives and long-term common good in the economy should become an increasingly powerful and eventually unstoppable phenomenon, like a snowball rolling downhill, as change moves from the impossible to the desirable through the possible to the inevitable.

The economic theories taught in schools and universities, the measures we use to ascribe and exchange value, and the democratic institutions we rely on to regulate market failure must all evolve at the same time to keep pace with these transitions. A new language of sustainability must replace the worn-out lexicon of profit at all costs, new accounting methods must inculcate social and environmental costs alongside those of land, labour and capital, and politicians must hold each other accountable to the interests of future generations, as well as current voters at the ballot box.

## True Cost Accounting

Modern mechanised technology can clear vast tracts of forest or ransack seas of fish, allowing no time for stocks and vegetation to recover. However vast they once seemed, natural resources are manifestly not infinite and therefore, in any

rational economic system, cannot be free. There are no such things as 'externalities' on a planet we all share when these costs are borne by everyone. The exploitation of finite resources by one actor at modern industrial and global scales denies their bounty to others, and to future generations, and so the adoption of "true cost accounting" offers a concrete and actionable first step towards a more sustainable business culture.

The value of such assets must be presented in terms accountants can factor into balance sheets and business strategies. Indeed, the former World Bank president Robert Zoellick argued that 'the natural wealth of nations should be a capital asset, valued in combination with its financial capital, manufactured capital, and human capital" at the 2010 Convention on Biological Diversity[5] in Nagoya in Japan, as ascribing a value to the natural world offers an argument to protect it in the language that investors, financiers and companies understand.

This task is eased by online tools such as Artificial Intelligence for Ecosystem Services (ARIES),[6] developed by the Gund Institute for Ecological Economics[7] with funding from the US National Science Foundation,[8] which can calculate the value of natural ecosystems on local, regional, national and global scales.

For example, the collapse of bee colonies[9] around the world, and a broader 'insect-apocalypse' caused by pesticides, intensive agriculture and habitat loss threatens the viability of global agriculture as well as natural ecosystems. The United Nations Environment Programme[10] estimates the value of animal and insect pollination at $200 billion a year,[11] given that a third of global food production depends upon it. A decade ago, the World Bank's annual *Changing Wealth of Nations* report[12] estimated the planet's natural resources, from the remnant wilderness of forests, rivers and wetlands to farm and grazing lands, the minerals, oil and coal under the ground, and the fish in the seas to be worth an eyewatering $44 trillion dollars, with almost $30 trillion of this mammoth total in developing nations.

Jonathon Porritt's *Capitalism as if the World Matters*[13] made the argument for retooling capitalism to address, rather than exacerbate, ecological collapse in 2005 and offered a 'five capitals' model for expanding the traditional concept of wealth creation to acknowledge the value of these natural assets and encourage the economy to embrace environmental sustainability and broader social goals.

He argued that all firms rely on five types of capital to produce their goods and services and so have an interest to protect and improve their stocks of each asset, rather than exhaust them. As well as financial resources and the traditional notion of capital in terms of tools and buildings, he stressed the importance of natural capital – any resource or energy used to produce goods and services; human capital – including people's health and motivation as well as knowledge and skills; and social capital – in terms of strong institutions and positive civic relationships.

Societies which consume these resources faster than they can be replenished are clearly unsustainable, and while education, for example, can improve human capital, some aspects of natural capital are irreplaceable once destroyed.

5. Secretariat of the Convention on Biological Diversity, 2011
6. ARIES, 2021
7. https://www.uvm.edu/gund
8. https://www.nsf.gov/
9. Zissu, 2022
10. https://www.unep.org/
11. Food and Agriculture Organisation of the United Nations, 2016
12. World Bank, 2021
13. Porritt, 2007

Porritt also offered twelve characteristics for a sustainable society, including living within nature's capacity to regenerate and recovery, individual health and wellbeing, trusted and accessible forms of governance, knowledge-driven manufacturing, and a financial system which "accurately represents the value of natural, human, social and manufactured capital".[14]

Companies will only incorporate these ideas into their accounting practices when they offer opportunities for added value – or are forced by their shareholders, investors and customers. As we have seen, the increasing power of environmentally concerned consumers and "socially responsible" investors is already driving environmental sustainability, social justice and corporate governance practices into companies which once paid no regard to such ideas. The pressure is also becoming more sophisticated, as simple ESG policies which ban investment in particular types of firms can be highly counter-productive. The cause of freedom, for example, is not served by a refusal to invest in Western defence firms, nor are better mining techniques helped by spurning innovative start-ups.

However, forward-thinking company executives are also beginning to acknowledge that their energy use, carbon emissions, working conditions and supply chain management practices will affect their reputation, recruitment, sales and long-term commercial sustainability. Firms which consider these issues and reduce their risks will tend to be more prepared and resilient when the economic consequences of social disruption and environmental collapse begin to hit home. Such firms must also be more transparent about their practices than their rivals, shedding light on problems which otherwise may have festered unseen.

Socially conscious investment funds have matched or outperformed the market in recent years as a result. The MSCI KLD Social 400 Index[15] (formerly the Domini Social Index) has consistently generated higher returns than Wall Street's S&P 500 on both an actual and a risk-adjusted basis by replacing companies which ignore these issues with comparable firms with better ESG records. These firms also tend to be younger, more dynamic, and more in tune with modern consumer sentiments than those they replace and generate more growth as a result. Far from losing out for moral reasons, investors can prosper by favouring ESG metrics over traditional cash flows, revenue and profit figures.

Executives always want to minimise their exposure to risk, and it is no longer possible to pump untreated effluent into rivers, exploit vulnerable workers or source endangered woods and fish without social media blackening that company's name or incurring expensive lawsuits.

In the end, commerce is about human interaction, rather than spreadsheets and percentages, and company leaders interested in environmental, social and governance issues tend to attract and retain better management teams, which in turn boosts their bottom line in every other aspect. This, more than any idealistic vision of saving the environment, explains why ESG assets may hit $53 trillion by 2025, a third of global AUM.[16] While older investors and executives may still see ESG issues as a distraction, cost and box-ticking exercise, a new generation recognise their importance.

Classical economic theory assumes perfect knowledge and rational decision making, but flaws in our thinking processes still hamper progress to our goals. Most of us still prioritise the short-term needs of our hundred-member tribe, rather than the long-term interests of our species and our dependence on all others, but a reformed market

14. Ibid.
15. MSCI KLD 400 Social Index (USD), https://www.msci.com/documents/10199/904492e6-527e-4d64-9904-c710bf1533c6
16. Bloomberg, 2021

mechanism can compensate for our individual blinkers. When adjusted for the actual cost of what we do, price signals will do the thinking for us.

Diversifying decision making and embracing mutually beneficial partnerships in commercial sectors – through proven approaches such as Global Access Partners' Second Track process – will allow fresh voices to channel fresh ideas, challenge old prejudices and dismantle ingrained group think, and a larger voice for civil society through such forums will impress the need for a wider set of priorities.

This long-term perspective can encourage a focus on modern technology. Every innovative technology is expensive to produce and may be outperformed by older methods – a good horse was far more practical than the first car, but over time many innovative technologies not only replace their forebears but create new, unforeseen and enormously lucrative industries.

Companies which eschew the future are turning their back on the best and most certain growth opportunities there are. Electric vehicle fleets, for example, will soon replace internal combustion engines by force of law in many countries, but already offer a better deal in terms of operating costs and higher up-time. A host of new technologies, from clean energy to precision agriculture using fewer pesticides, plant and lab proteins to AI systems monitoring, offer forward thinking firms a potential bonanza.

If long-established – dare we say old fashioned – metrics such as ROI and IRR are no longer fit for purpose because they misrepresent true costs, ignore externalities and over-emphasise the discount rate, then they should be rejected, as firms which take a long-term view and invest in research and development have significantly higher revenue and market valuation growth than their competitors.

We must work and think in terms of systems, rather than silos, to solve the problems we face – another point emphasised by the Second Track method. Rather than view employee wages as a mere cost to reduce in isolation, for example, by shedding staff, casualising contracts and degrading conditions, a more far-sighted manager values the intangible benefits which investment in the workforce accrues, and its greater long-term value to the company's bottom line. It is firms which attract and retain talent, rather than pare costs to the bone, which are best placed to prosper in dynamic market conditions.

Choosing the sustainable, net-positive path is not only common sense, but business sense. Systemic thinking not only takes responsibility for 'external' costs to manage them for internal benefits, but helps build the strong company values, employee engagement and positive spirit which will see it through tough times.

Political stewardship must see the world in similar terms. The economic cost to the United States of wheat-belt droughts, east coast hurricanes and flooded or roasted cities necessitates its recommitment to limiting climate change for practical as well as ethical reasons. Homo sapiens has changed the world through its actions but can change it again for the better if we abandon the negative, win-lose mindset and take a broader "net positive" view on the value of investments to reduce existential risks, tackle systems challenges and work with others in the value chain to benefit all stakeholders.

## Value Chain Indices (VCIs)

The value chain indices, for example, permit direct comparisons to be made between products throughout their often-complex journeys through international supply chains, from raw materials to finished goods and, eventually, discarded refuse.

Developed and agreed by stakeholders throughout an industry, properly formulated VCIs are based on independent, objective data on land, water, energy, carbon, pollution and social welfare impacts throughout a product's life cycle.

The Sustainability Consortium,[17] for example, encourages diverse companies, universities and government organisations to agree methodologies to extract lifecycle data from their supply chains to reveal impact hotspots. The indices they generate can then be used to weigh different impacts against each other and so prioritise action in the most pressing areas.

VCIs are replacing the plethora of standalone standards and certifications previously used in industries to ensure the sustainability of parts of a supply chain, such as responsibly sourced fish or wood products. Value chain indices offer a comprehensive index for an entire industry which can be applied consistently across most or all firms in a sector over time to track relative performance.

The true dollar value of ecosystem impacts, and resources can be integrated into VCIs to become increasingly informative tools for investors. They will offer a dependable proxy for banks to use when calculating credit risks, for example, increasing the amount of investment funding offered to more progressive firms as they offer lower risk than their competitors. Such indices will also guide consumer choices in more reliable ways than the plethora of misleading or information-light eco-labels slapped on by many retailers. Uniform energy star ratings, for example, are widely trusted and used by buyers of white goods, and similar environment and workers' rights ratings will follow, doubtless offering access to apps offering extra detail which customers can browse with mobile phones.

As these indices become voluntary global standards for major producers in various industries, political policy makers will use them to inform regulation which mandates the inclusion of external costs in the prices of products and services across a suite of social and environmental issues.

This in turn would encourage the development of circular economies, in which innovators reduce external costs – and so reduce consumer prices – by designing out waste and pollution, building more durable and repairable products, recycling waste into new products and using renewable materials and energy.

In the future, our descendants will wonder why those who fought to save the planet had to justify their stance, while those who continued the assault on their children's future saw no reason to change. The cost of inaction is now far higher than the cost of action, but true cost accounting, value chain indices, and closer cooperation across silos and throughout supply chains are innovating ways to reduce inputs and costs, reduce rather than shirk responsibility for 'externalities'.

## True prices make moral markets

So, new accounting procedures which incorporate the costs of 'externalities' into prices will use the same market forces which now encourage the exploitation of human and natural resources to favour companies which minimise harm. The majority of price-sensitive consumers hunting for the best quality at the lowest price will encourage innovation and efficiency in the cause of social and environmental responsibility just as the minority of socially conscious consumers already do.

Companies which currently ignore or pay lip service to these issues will be forced to innovate and insist on higher standards throughout their supply chain, and the twin but formerly antagonistic imperatives of profit making and sustainability will pull in the same direction.

17. https://sustainabilityconsortium.org/

## The Second Track Solution

As noted in this paper, the economic and democratic drivers of this process can be accelerated by a range of cross-sector, multidisciplinary forums, alliances and movements. Global Access Partners' Second Track engagements, in which experts and stakeholders from diverse sectors meet in a private capacity to discuss issues of common concern, agree recommendations and work to implement these ideas themselves as well as share them with decision makers, offer a proven engine for the generation, dissemination and deployment of positive measures.

Such groups broaden and enrich the understanding of all concerned, revealing new areas of mutual interest. They unlock more creative thought processes within our brains, sparking fresh ideas which individuals alone could not have envisioned. They also ensure more concrete outcomes, disseminating and implementing these ideas through new networks connecting otherwise siloed or even antagonistic sectors.

Every age thinks its norms and functions to be natural, inevitable, and the highest expression of human ingenuity, yet each is overtaken in its turn, as new ideas and challenges emerge, interact and develop. If we want a better future, or any future at all, then new ways of thinking are not an indulgence, but a necessity and, if history is any guide, also an inevitability.

Progressive campaigners have long realised that changing the language in which an idea is discussed is a giant step towards winning the argument. In similar fashion, the language and terms in which economics and politics is practised must be reimagined to ensure that a better set of outcomes are achieved.

As Peter Söderbaum argues in his paper on "A New Language of Sustainability," a fresh way to discuss economics and management will empower and mainstream the changes outlined above. Economics must broaden its horizons to encompass a wider set of goals and parameters, just as accounting and prices must acknowledge externalities as well as input costs. Economics must evolve to optimise the allocation of scarce resources in terms of environmental sustainability as well as classical supply and demand, and "move away from one-dimensional monetary analysis, so called "monetary reductionism," toward multidimensional thinking and analysis as "non-monetary impacts are as 'economic' as financial impacts".

Rapid social change, like economic upheaval, is increasingly common, given the influence which social media and other forms of instant, ubiquitous communication have on our lives. Deeply engrained attitudes towards women's and gay rights, for example, have been transformed in less than a generation.

Public pressure for change can be substantiated through philanthropic research funding to gain credibility with decision makers. Alfred Nobel devoted his dynamite fortune to his Nobel Prizes, the Rockefeller Foundation was funded by oil, and Bill Gates has used his fortune to tackle malaria and other global problems. A new generation of tech billionaires will in turn tire of their superyachts and turn their minds to personal legacy through global change, and we must encourage them to use their resources to transform the economic system which produced them.

Transformations in economics and politics will also open fresh career paths, consulting opportunities and whole new industries, in turn creating a new cadre of professionals with a personal stake in promoting an alternative set of goals which also

benefit others. Over time, as generations and their embedded attitudes age out, and new generations replace them, what was once the radical alternative will become the accepted status quo, and people will look back and wonder how the strange beliefs of the past were ever adopted.

The future remains ours to make, and if we fail, we have no-one to blame but ourselves. As Pëtr Kropotkin wrote in 'Fields, Factories and Workshops' a century ago: "Such is the future – already possible, already realisable; such is the present – already condemned and about to disappear. And what prevents us from turning our backs to this present and from marching towards that future, or, at least, making the first steps towards it, is not the "failure of science," but first our crass cupidity – the cupidity of the man who killed the hen that was laying golden eggs – and then our laziness of mind – that mental cowardice so carefully nurtured in the past."[18]

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18. Kropotkin, 1912

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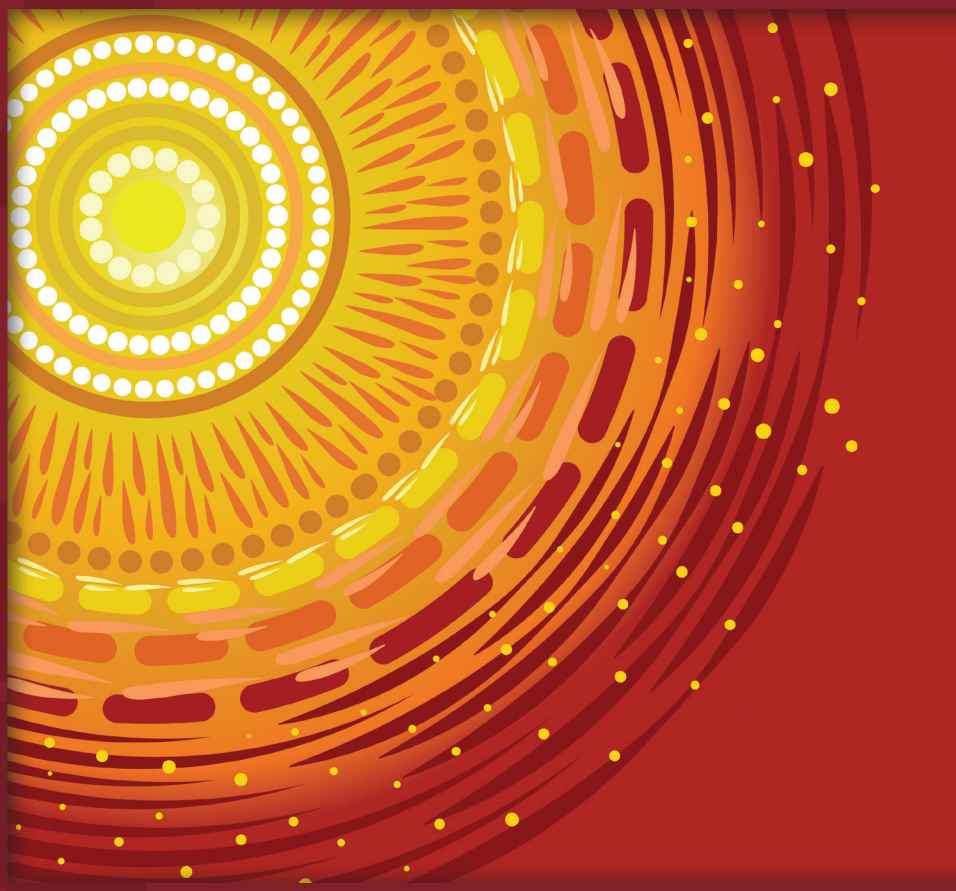

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