

## The Great Transition: what do we need to do and what role does the accountancy profession have?

Accountants record, reflect and report – but the climate crisis they will help combat demands action. It is a crisis of flaming forests, rising seas and freezing assets. Laptops may need to be put away, and clerks drafted from their standing desks to sail catamarans, tend vertically-farmed tomatoes<sup>1</sup> or manoeuvre sun-dimming balloons as they spray reflective aerosols into the sky.<sup>2</sup> There are over two million accountants on the planet, including nearly 600,000 registered with the ICAEW<sup>3</sup> – a considerable workforce, but often unseen, connected online as if they are sat in a sprawling audit room somewhere above the Atlantic, hidden within The Cloud.

The work of accountants provides the platform from which the world's powers take great leaps. Accountants lay the boards and fill in gaps where a society, without a system of double entry, might otherwise step out into empty space. It is possible to conceive of the climate crisis as a failure, species-wide, to apply principles of double-entry bookkeeping and recognise the duality of transactions when taking resources from the Earth and disposing of them.



The trouble is that, as individuals, it is not in our nature to think about what is left, when there is more than we would ever need just for ourselves. We take responsibility for our own survival. We might need biscuits to survive; our priority is to find and gain control of a biscuit. Once gained, we do not worry about how many biscuits are left – surely, there are so many that the one we took is immaterial. Even if it were material, managing the global reserve of biscuits would not require everybody to worry about it at once. If we did, none of us would have time for finding biscuits. This shortcoming of people to overlook the truthful sum of what they consume is evident in our shared experiences: we cringe before checking bank balances; we buy more books than we read; and we express shock to learn exactly how many teabags are left in the communal jar only two days after refilling it. But in the time since the adoption of double-entry accounting (with its origins in the mercantile waters off the coast of Italy in the 1300s),<sup>4</sup> humanity has increased to such an extent that it is no longer possible to discount the effects of what we consume. A modified opinion is required.

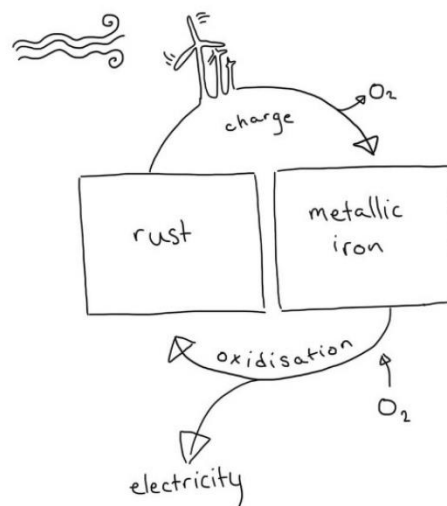
Luckily, accounting as a concept is already designed to deal with our transactional effects on natural resources. Sometimes called the language of business, it is linguistic in that it is built from words and numbers (that is to say, the words we use to count things) and used to communicate information. Also, like a language, it is notoriously difficult to learn. However, it is difficult not only because of its detail and abstraction, but also because it describes parts of transactions we do not otherwise talk about. Students cross their brows over the untranslatability of debits and credits, the always-positive amounts which represent changes in what a business owns and what it owes (though perhaps we set ourselves up for this with a school curriculum that freely uses negative numbers, despite historical contentions). Double entries represent processes which make up for our habit of seeing from only one perspective, by reconciling the needs of the great human entity with the resources the Earth can offer it.

The accounting system allowed for commerce to proliferate in medieval Europe, and for the aggregation of wealth which has enabled investment and technological advancement in the time

since. The human population has increased from four hundred million people in the fourteenth century<sup>5</sup> to eight billion today. Similarly grown are our balances of cash, expenditure, loans and debts, though many have gone unreported: amounts of water used; waste produced and disposed of; fuel burnt; materials repurposed. Of all these, there is one especially important omission, which casts doubt on our profitability as a species and significantly impairs the reserves we have amassed: carbon dioxide. We produce huge amounts of CO<sub>2</sub> each year, after which it remains in the atmosphere for many more. It is the primary greenhouse gas causing global warming (the others are methane, nitrous oxide, ozone, hydrofluorocarbons and hydrochlorofluorocarbons) and it is our challenge to reduce its production until we make no more of it than can be converted back into other sorts of matter. This transition to net-zero emissions is a target many countries committed to in the legally binding Paris Agreement, with a due date of 2050 and a total allowable warming of 1.5°C.

A large part of this work includes the electrification of energy and power grids. Among the many technical innovations involved is the problem of storage. Form Energy's iron-air batteries beautifully exemplify the borrow-and-return perspective inherent in net-zero accounting.

The iron-air battery exploits the process of rusting, which connects the aesthetics of the natural world with the glass, metal and too-blue liquids of laboratories. The batteries comprise



rusted iron immersed in a salt-water solution. They are joined up to air-powered windmills, which on windy days send an electric current through the solution, causing reduction – the chemical process of rust converting back to iron; this is how the batteries charge. Then, on calm days, the iron oxidises, producing rust and giving up electrons which are released as electrical charges into the power grid.<sup>6</sup>

Scientists, industries and a global community of accountants have already gathered vast quantitative data concerning money, CO<sub>2</sub>, and the world these currencies exist in, which can inform what we do in future. We have less experience applying our knowledge to deal with the sort of crises that will be characteristic of a warming globe. The response to the COVID-19 pandemic, of developing vaccines and granting cash for the welfare of businesses and individuals, is reflective of the pace, impact and expense of such crises. The pandemic created laws, catalysed technologies and prompted profound behavioural shifts for individuals who adapted to the new normal ways of living. The response may also be emblematic of its aftermath: debts, inflation, resource and labour shortages and increased socio-economic division.

Good accounting keeps score on a global scale, preparing us for the unprecedented. Accounting information reflects the substantial effects of human activity on the Earth, providing foundations for governments to implement policy, for companies to invest in the best technology and for individuals to have confidence that their own actions will assure our status as a going concern.

## Regulating for net zero

On a morning in January 2023, a wand of sunlight beamed through space and broke on the City of London's glass towers in flashes of orange and purple. Inside the towers are people who will be among the first onboard a space elevator to a newly habitable Moon. The BBC's chairman Richard Sharp stood on a high floor in one building, overlooking the others, and explained the jeopardy faced by the BBC World Service, the BBC's long arm that gathers and distributes information

through TV, radio and online.<sup>7</sup> It is factual, impartial and was accessed by 364 million people in 2021, which includes 65 million people in India and 48 million in the United States.<sup>8</sup> The BBC's global reports tell us about the places most affected by climate events, such as the 2022 floods in Pakistan, where high-gear monsoon rains displaced 33 million people,<sup>9</sup> or the storms and rising water in Bangladesh that chase thousands of people a day from low-lying villages and force them to seek refuge in its capital.<sup>10</sup> In future years, such events will be more frequent, with the Institute for Economics and Peace predicting that by 2050, 1.2 billion people will be in transit seeking new homes.<sup>11</sup> Those who can influence climate outcomes – who as a rule are not those most directly affected by them – should be kept informed.

However, in 2023, the BBC could be about to shrink its offer, consolidating the World Service into BBC News, a second TV news channel aimed at audiences living in the UK, which prioritises issues of more direct relevance to Licence Fee payers. That would mean less information about climate change and fewer stories to motivate an appropriate response. Downsizing BBC World Service is an environmental issue, and it is a decision that is shaped by accounts.

Right now, the BBC's Licence Fee income is frozen (and, in real terms, decreasing), so it is harder than ever to justify funding the World Service when there are other avenues the BBC could pursue for commercial benefit. One of the reasons the World Service has not been downsized already is that policy is in place, in the form of a Royal Charter, which insists the BBC continue certain activities which line up with its mission, aims and public service. Global news is among these, and its provision is regulated by the BBC's financial auditors, who qualify an opinion on the truthfulness of its accounts and the regularity of spending in line with the Charter.

Hence, the BBC's Royal Charter is a regulatory policy that promotes green outcomes and empowers accountants to measure the effectiveness of a business along non-commercial lines. The result is that BBC News remains the most trusted news brand in America and accessed weekly by almost one quarter of all internet users in Kenya.<sup>12</sup> In addition to being good for the environment,

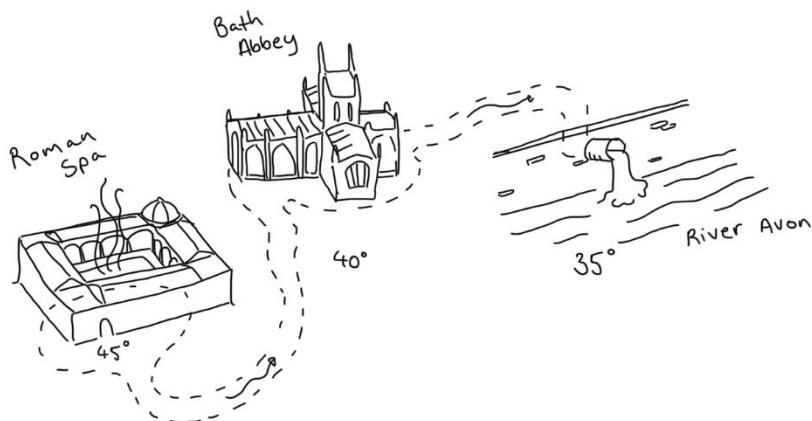
this visibility has a positive business effect on the BBC. Its global reputation makes its commercial assets, such as TV dramas, more valuable. The respect it earns also wins the BBC protection from the UK Government, which recognises the Corporation's role in winning soft cultural power for the UK, promoting tourism, commerce and investment.

What the Royal Charter provides is an expanded concept of materiality – a powerful tool in environmentally responsible reporting, underpinning the Financial Reporting Council's updated Statement of Intent for January 2023.<sup>13</sup> Globally, the International Sustainability Standards Board is creating an international framework of required disclosures of sustainability-related financial information (IFRS S1) and climate-related disclosures (IFRS S2). In future years, most accountants and auditors will become involved in reporting on companies' environmental impacts. They might reassess the useful economic life of a diesel-powered engine, along with any assets that could become obsolete or prohibitively expensive due to sanctions or taxation. Accountants will collaborate with actuaries to estimate provisions needed to manage climate risks: the loss of warehouses, livestock or harvests due to fire and storms, and the cost of litigation for failure to adapt to new, required standards. Already, advice for good environmental practice and reporting is a fast-growing service offered by the leading accountancy firms.

In the UK, the FRC leads the charge for ecological, social and governance reporting (known as 'ESG'). Since 2016 the Council's guidelines have encouraged businesses to produce complete, transparent pictures of how they impact the environment, society and stakeholders, including as much as possible that is relevant to those who make decisions for the business. Scanning over a company's annual report, you are likely to see case studies on how salary expenses include the cost of training apprentices, charts linking yearly growth with reduced waste, icons tagging carbon-neutral processes and diagrams explaining the flow of resources: from the Earth to business, and back to the Earth.

A beautiful example is Bath Abbey's Footprint, a £21-million initiative to preserve its historic floor, during which the Abbey also installed renewable underfloor heating using energy from the

Roman baths. The initiative's value for the future of the Abbey is clear, and its reports enhance this message with a map showing the underground flow of hot water, and a photograph of the Abbey faithfully reflected in a puddle.<sup>14</sup>

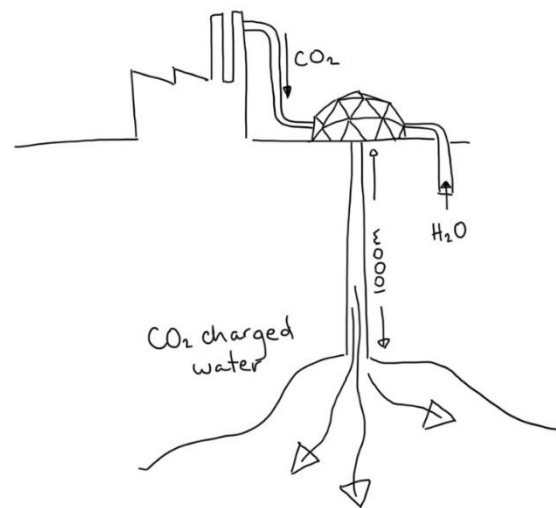


Similarly transparent are the UK Antarctic Heritage Trust's accounts, which are printed in full colour and formatted so that people unfamiliar with the presentation of accounts can easily find information.<sup>15</sup> Both organisations are charities and therefore started reporting like this long before the FRC guidelines – their income relies on donations from individuals, companies and grant-awarding bodies, who need assurance of genuine, positive impacts if they cannot expect dividends.

A commercial company has a still greater duty to show that its green operations enhance its financial performance. If a business operated Form Energy's iron-air batteries, their savings effect would be reflected in expenses for the year, but not the batteries' future value to the business, which is more than their balances as assets. The use of iron-air batteries would imply low maintenance costs, a more stable cash position and resilience as energy prices fluctuate. So implementing ESG reporting is not only a shot of green juice to clear the palate, but is essential for representing how a company is as affected by its environment as by its financial transactions.

In the transition to net zero, the most crucial reporting statistic is a company's CO<sub>2</sub> emissions. CO<sub>2</sub> is created in nearly all business processes and companies are liable to their emissions in the reporting period as well as accrued historical amounts, since the gas is retained in

the atmosphere year on year and consolidated on a global level (until, after hundreds of years, it is absorbed into the oceans). At the root of CO<sub>2</sub> production are fossil fuels: their extraction; refinement; the energy they release in combustion; and their by-products. Fossil fuels are natural resources that can be transformed into energy with powerful simplicity, and their stewardship by people has been immensely profitable. However, operations relying on fossil fuels will, with each year that passes, become more harmful and more expensive, as policy comes into place to enact the legal requirements of the 2050 Paris agreement and as resources become scarce. The work of accountants can ensure businesses understand the financial impacts of emissions, and the economic benefits of investing in renewable energy sources, offsetting (such as wetland restoration and ocean fertilisation) and carbon capture – the process of taking CO<sub>2</sub> from the air and injecting it deep into the Earth's crust.<sup>16</sup>



However, it is a problem for accountancy that not even a business operating at a net reduction in emissions is clean of fossil fuel's oily slick. Google, for example, became carbon neutral in 2007, and in 2020 announced that it had compensated for all the carbon it had ever created. In the last two years, Google even rewired the aluminium industry to enable the use of recycled metals for their Pixel 5 phone.<sup>17</sup> Yet *The Carbon Bankroll* report of 2022 claimed that, owing to ready cash



held in bank accounts, Google's annual CO<sub>2</sub> product was 113% higher than their reported figure.<sup>18</sup> That is because, eventually, almost all money in banks is used to fund the fossil-fuel industry, which requires huge lending facilities to build transcontinental pipelines and ocean ziggurats. To say that Google is responsible for all this CO<sub>2</sub> is a contentious perspective (requiring an extension of the accounting concept of control) but surely there would be less oil extracted if nobody lent Shell money to drill the holes.

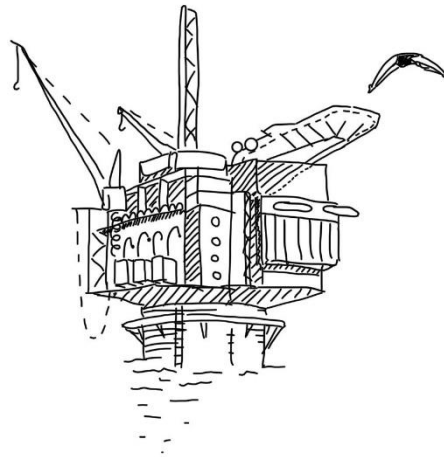
## Accounting for future technologies

To dismantle the fossil-fuel industry and rebuild a net-zero superstructure in its image is hard to conceive in a society which is yet to agree on how carbon should be taxed. But we have spent enough time looking at what has happened and asking what we can do to fix it that there are now credible paths to pursue, all involving big investments in technology. Recognising this, America signed its Inflation Reduction Act in the summer of 2022. This is a standard-bearing act of green policy which enables \$350 billion of government spending on climate initiatives. For perspective: that is roughly equivalent to the net assets of Apple, a company whose transformative, technological impacts at least approach the scale of change that will be needed to reach net zero.

What the technology will look like has been subject to speculation both by engineers and the creators of fiction, and stories of climate-related disasters forecast the outcomes of environmental and ethical choices. In the early years of climate anxiety, eco-thrillers<sup>19</sup> such as *Threads* (1984) explored human impacts on the Earth from nuclear war, while *Edge of Darkness* (1985) considered the planet as a self-regulating system that maintains optimum conditions for life while expunging any threats. In 1999, *The Matrix* suggested a web-based solution for coping with solar radiation and resource scarcity, and 2014's *Interstellar* tackled similar issues via extra-terrestrial migration. Both *Don't Look Up* (2021) and Chinese blockbuster *Moon Man* (2022) place man in opposition to that constant, cosmic threat of the transorbital space rock, without overlooking its political impacts. But

in these stories, little time is devoted to the sceptical perusal of suppliers' annual reports before a high-risk project is financed to stave off global devastation.

It is more likely that humanity will be destroyed in increments, and that in our response we will make many smaller decisions. Recent eco-science fiction, such as Matt Chrulew's *Phase Change: Imagining Energy Futures* (2022) and Naomi Booth's kitchen-sink, near-future horror *Sealed* (2017), consider the gradual encroachment of disaster, and ethical, socio-economic problems that will not be soluble with one asteroid-shattering response. In *Sealed*, human bodies have developed an immune response to the heat-related pollution which causes nostrils and other orifices to seal over. It is a health issue which disproportionately affects people who cannot afford safe housing and who live in areas, such as the tropics, where heat events occur with increased frequency. These people also lack the social and political influence to drive investment in harm-reducing technology. The development of cauterising treatments to prevent sealing is led by private healthcare providers, who are happy to invest in research assured of future cash flows from the individuals who can afford the treatments.



Science Fiction acts as literature's version of management accounting, analysing recent events and predicting probable futures, enabling us to deal with ethical problems before they arise. Over 40 years ago, Ridley Scott directed *Blade Runner* (1982) and provided a platform for Philip K Dick's anxious rumination on artificial intelligence. It primed audiences for the complex issues

surrounding labour, knowledge and consciousness now presented by such technologies as ChatGPT – as well as, perhaps, inspiring us to create these technologies sooner.

Accounting enables similar analyses of future threats and the options for dealing with them. At some time in the future, a decision will need to be made about whether or not to dim the sun. It is not something humans have tried before (though there is some precedent in our transformation of the atmosphere with heat-trapping gases), but volcanoes have made a start. During a large eruption, they release particles into the air that can measurably cool the Earth for several years. The prospect of filling the troposphere with volcanic ash is uncomfortable, sounding too much like a concession to darkness and the cruelties of winter, even if it would be 'remarkably inexpensive' at around \$2.5 billion per year.<sup>20</sup> But if a darker sky were observably, accountably effective for managing solar warming, evidence alone might not be enough to persuade signing on the dotted line – after all, the accounts kept of global warming have not been frightening enough to inspire sufficient action.

This is a limitation of accounting in the net-zero transition. Accounting can record and forecast the tidal shifts of economies, which are moved by forces greater than individuals, but it cannot predict or enforce actions like an investment, made by one or several people who must not only understand a decision but believe in it. Blotting out the sun seems unlikely while the dark skies of the *Matrix* overworld are retained in cultural memory.



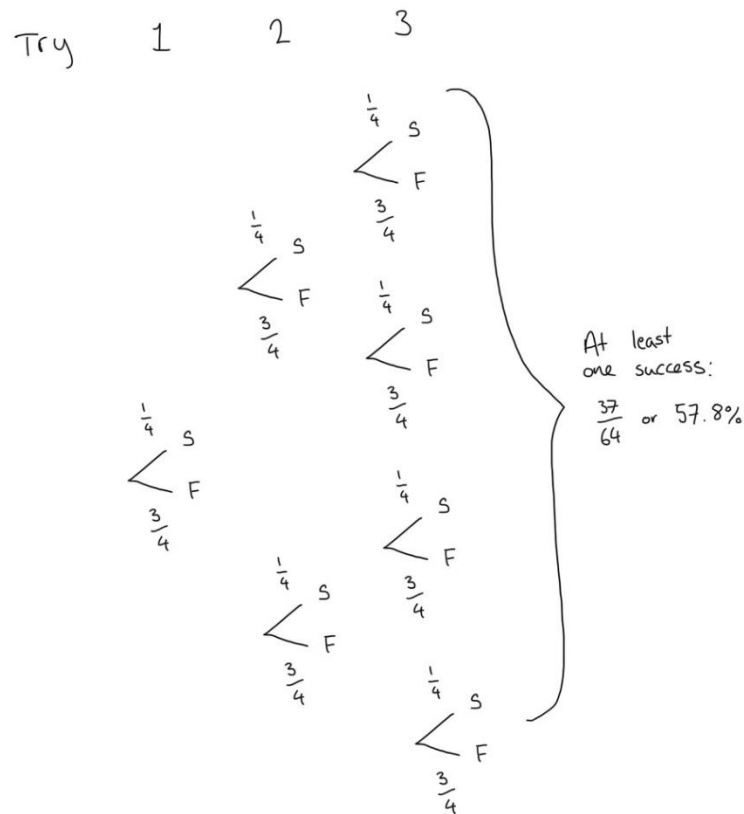
More often, emission-reducing technology sits better with visions of a future captured using the full colours of the visible spectrum. On a stretch of the English coast, at Crosby Beach in Liverpool, one can see rows of towering windmills perpendicular to the Irish Sea. It is hard to guess their size, but the distance from sea to tip is 130 metres,<sup>21</sup> comparable with the height of the Blackpool Tower, and their blades circumscribe a disc three times the breadth of St Paul's dome. On an autumnal day, they are almost invisible, reflecting only the grey skies around them. At sunrise (or sunset, seen from the further side), they emerge from a blue haze painted with the golden light that ennobles geese when they arrive from unknown shores.

Even more birdlike are new, all-electric aircraft built to carry passengers, such as the Alia. Unlike its living and mechanical relatives, it flies using propellers, four of them pointing upwards in a square grid. With these, it lifts and changes direction. When the propellers at the front stop spinning, the nose dips and the back propellers angle to fly the Alia forward. That is to say, it works like a drone. It carries less appeal to a person who dreams of flight than aerofoil wings and the explosive thrusters of a jet. But given its power economy – it can fly from Liverpool to Glasgow for less than the cost of an airport taxi – it begins to sound charming.<sup>22</sup> Accounting enhances our interpretation of this technology and the Alia takes on some of the elegance of a swan. As well as having well-documented impacts, these technologies are emotive. Perhaps measuring and accounting for their psychological effects would help them to be adopted.

## Accounting for individuals

Anyone looking closely at the financial statements of a large company can find they feel too small to matter. Picturing the size of a financial derivative is like trying to imagine the distances of the planets after Mars. It is similarly difficult to visualise the Amazon's deforestation in terms of English football fields (over 8.4 million)<sup>23</sup> or how many potatoes we would consume while traveling through space to find a new rock to live on.

A dinner-table conversation about climate change is likely to come around to the question of why a person should act when their impact doesn't compare to that of governments and industries. It is an argument used to excuse personal inaction against carbon emissions: if effectiveness is improbable, it seems hardly worth trying. But people do try, and one of the happy phenomena of probability is that even when one successful attempt is unlikely, a win becomes much more likely with several, provided only one shot needs to score.



Nan Goldin, a photographer, began a campaign in the 2010s for museums and galleries to refuse donations in millions from the Sackler family, whose manufacture and distribution of the highly addictive opioid Oxycontin has been a leading cause of drug-related death in the twenty-first century. By staging demonstrations with no more supporters than could fit around a coffee table in Brooklyn, she succeeded. The Guggenheim, the Met, the Tate and the National Portrait Gallery have together refused millions in funding from the Sacklers.<sup>24</sup>

Goldin campaigned because she believed in a narrative of justice. The museums, while they conceded, presumably did so for different reasons. Company accounts do not qualify good and bad money, but the museums, as businesses, saw the case for cutting off this income because it posed a threat. They saw how the Sacklers' money could create litigation costs, damage their reputation and betray the trust of their stakeholders. They rejected the money because they feared being defunded. The museums' action was brave – but reliably informed by good accounting. Knowledge of their cash flows and environment enabled a decision that improved their chances of survival. People make decisions in the same way. If they must do something difficult, they need assurance that it will be good for themselves as well as for the environment: a win-win narrative.

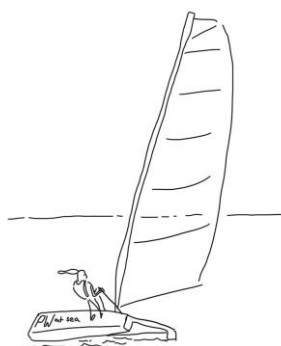
At Brayton Point Power Station in Massachusetts, Joe Biden said that climate change makes him think of jobs.<sup>25</sup> The U.S. Bureau of Labor Statistics estimates that there are 586,000 jobs in the US in mining, quarrying, and oil and gas extraction.<sup>26</sup> All those jobs will dissolve when fossil fuels are replaced, and we cannot expect people to choose that kind of destabilizing lifestyle shift – unemployment – for themselves. Fortunately, reducing emissions creates jobs; that is partly why it costs so much money. To support a net-zero transition, replacing fossil fuels in the US will require a net increase of around two million people working in low-carbon energy by 2050, including 700,000 workers in wind energy and over one million people working to replace the country's power grid.<sup>27</sup>

In accountancy, green industries will increase both the amount of work and its complexity. There is precedent for this in the innovation of marijuana regulation in California after it was legalised for recreational use in 2016. Accountants have been deployed in companies that produce, move, and sell marijuana, where drawing together a set of accounts is like piecing together fragments of an almost lost symphony. It has caused new headaches for auditors since the formerly criminalised trade was mostly documented on paper, if at all. There is also work for regulators, with accounting standards to devise and unrecorded species of ethical consideration to be wrangled.<sup>28</sup>

Governments and large companies will have to fund this industrial revolution, since the most effective way of getting something done with money is to have it to start with. But people like Nan Goldin show that you can still tell the powers that be what to do with it. In fact, telling them where to stick it is one of the primary actions of the climate movement. Sometimes it works.

## How accountancy can change

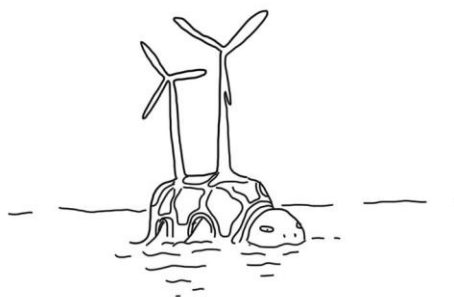
The future of financial reporting will take climate impact as seriously as it does tax liabilities. Standards must adapt to enable that. So, too, must the accountants who uphold them. The ability of accountants, and accounting, to achieve the Great Transition relies on the assumption that the profession embodies independence, objectivity and competence, but the world economy learnt the hard way that over-reliance on this leads to crisis. Before the financial collapse of 2008, the independence of KPMG's audit of General Electric was compromised by pressure from the company to assure stakeholders by concealing a \$200 million hit to their profits.<sup>29</sup> The case represents many similar instances from that time of providing assurance over huge asset balances that turned out not to exist. In the years after, stronger legal safeguards were established to prevent companies and their auditors from becoming trapped in co-dependence.



In action against climate change, one of the greatest challenges to accountants will be overcoming comparable pressures to act on the part of commercial entities, and therefore prioritise the communities and economic segments to which they provide the most direct benefits. Those who will suffer first and most due to global warming are those not represented by the world's economic

powers. Unsurprisingly, the countries where people will be most impacted are those which benefit least from the fossil-fuel industry. Climate poverty works like financial poverty: those with the least to spend get in the most trouble for spending it, straddled with debts that are first caused by powerful superstructures of greed.

What decisions *are* made are controlled by those who have the most money. Beyond taxing them, the best we can do is advise them on how to spend it, while making sure the best people are in place to offer that advice. Guided in part by good business sense, and in part by critical labour shortages, the largest accounting firms have diversified their staff. PwC has newly opened offices in Klaipėda, Lithuania and Bhubaneswar, India; worldwide, new possibilities to work from home have enabled people from smaller towns, with lower-income backgrounds, with disabilities and care responsibilities, and at various stages of life, to train and work as accountants. The decentralisation of Western financing practices is similarly reflected in the ICAEW's ACA syllabus. Soon it will cover Islamic finance and its concept of *mudarabah*, which does not recognise earning from loans, instead treating lending as an investment and interest as profits. This reflects not only a changing global economy but also the diversified perspectives of regulatory staff and stakeholders at all levels. As the innovator of management consultancy, accountancy embraces the guiding principle that a diverse workforce is a stronger one. The sum of their skills is greater; the working environments they create together promote hard work and honest communication; and they better represent the economies they provide an opinion on. Furthermore, accounting is one of the most powerful, catalytic tools for change.





There is hope of transitioning to net zero. The response involves using less, getting smaller and doing more. Time is short and progress will be made along a steep incline, demanding huge shifts of practice and the constant support of positive narratives, many of which will be told in company accounts.

The fossil-fuel economy will dissolve. Batteries will undo the ravages of earth and air. Cars will park with the humming of spaceships, and thousands of charging stations will line streets miles beyond the nervous tendrils of Fulham Road. Green commerce will create a new workforce and new accountants applying their considerate, equitable principles to new tasks. They will record how boilers were replaced in corner cupboards and how cups of tea were made for the people who installed them. They will mark down the fleet of drone-like aircraft that will be visible from the bus passing Heathrow, the new homes found for Agas, and the cattle that will graze beside their anaerobic digesters in the last light of evening.

The Great Transition requires a restructuring of economies, institutions, technologies and thoughts, by way of investments, disposals, allowable taxable expenditure and governance disclosures. To have any hope of maintaining progress, we will need true and fair records of how we did it. In the face of this hard work, we are fortunate to have several hundred years of evidence to show us that keeping accounts is worthwhile: its history is written in the stone and steel of cities. If we are lucky, it will feature in the annals of our savings accounts.

The past two years have witnessed a change in personal money management towards prepayments. At the start of any month, subscription fees are paid not just for utilities, but for bike rides, cinema-going and weekend trips to cafes. The effect is that spending feels more and more like an operation in the standard course of business. Increasingly, forces greater than us ensure the expenses of daily life are moderated, properly accounted for and reliably extracted. Meanwhile, the social and environmental factors affecting us are monitored, and the suitability of self-governance is reviewed and overridden using curated news feeds and playlists. On any one day, we make fewer decisions about purchases and our brains are freed up to do what they're best at – like producing

positive, chemical responses to music, colleagues' stories and fruit – and leaving adding up to the accounts.

The sense of freedom is rarely so strong as when, after entering the release code for an e-assisted bicycle, I strap in my backpack with an elastic cord that is exactly long enough. Some energy from my lunch combines with what is stored in the lithium-ion cells of the bike's motor. I whizz down the street in the knowledge that the prices of renewable energy are falling rapidly, forecasting a future in which the entire world (and not just Denmark, on particularly windy days) can generate all its electricity free of emissions. Plug it all in, tear out the boilers and thaw your icy fingers over the glow of the induction stove.



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