



#3 THE IMPORTANCE OF MANAGING CONFLICTS TOWARDS A JUST TRANSITION





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Executive Summary

For far too long, agents at all levels of the economic system have been avoiding admitting the size and scope of the problem that we face in the climate crisis. But just because we have ignored it, does not mean that it has gone away, instead the problem has grown as we have successively kicked it further down the road. Now, faced with the inconvenient truth that the climate crisis is a real and severe problem, we need to move faster and at a larger scale than had we acted sooner. What is required is a swift transition to a low carbon economy, but the path to such an economy is riddled with transition risks for both financial institutions and corporations.

We have entered the next industrial revolution, dubbed a “sustainable revolution”, which will require the harnessing of the informational and digital revolutions as well as green technologies, to work towards creating an economy that can exist within the planet’s resources. As with prior revolutions, this process brings massive disruptions, seismic and systemic in nature and will require businesses to accept radical changes to their “business as usual” models in order to adapt to and take advantage of these changes or find themselves stranded.

This transition will bring conflicts as entire sectors of the economy are affected. Financial institutions should not shy away from engaging in the conflicts which arise provided they attempt to do so in a constructive and productive way. They must accept that conflict is in fact a positive opportunity, for wherever there is conflict, there is also the energy and will to enact meaningful change.

To not do so, to shy away from engaging positively in these conflicts, instead merely fire-fighting the consequences, can have destructive effects that will impact generations later. What is a clear recipe for disaster is to deny any responsibility for re-engaging with the redundant workforce and thereby abandon large tracts of a community.

“Doing business for good, with purpose and in such a way that facilitates a transition to sustainable business practices is not only the right thing to do, but also profitable for businesses and their shareholders.”

We hope to demonstrate that meaningful, honest communication and engagement with stakeholders at all levels allows companies and institutional investors to not only successfully resolve any potential conflicts, but in fact come out of these stronger and more profitable for it. As companies such as Veriform, Royal DSM and Ørsted have shown, doing business for good, with purpose and in such a way that facilitates a transition to sustainable business practices is not only the right thing to do, but also profitable for businesses and their shareholders.

The Importance of Managing Conflicts towards a Just Transition

The unknown known

When Donald Rumsfeld gave his “known unknowns” remarks in 2002,¹ he was initially ridiculed, but over time they have been shown to be a brilliant summary of complex matters.

The philosopher Slavoj Žižek adds a fourth category for our consideration, the unknown known; that which we intentionally refuse to acknowledge that we know.² Even in 2021 some of us are still in danger of treating climate change as an “unknown known”. We are acknowledging it, in part, but not moving at the required speed with the necessary solutions. This has previously been justified by claiming the solutions of cleaner, greener and more sustainable business practices and technologies, would bring with them large costs. Costs which were not required, not legally mandated, and seen as being outside the scope of the fiduciary duty. It is beginning to dawn on both financial institutions and corporates that their inaction to date has greatly increased the costs of finding and implementing these solutions and that further delay will lead to them having to foot an even larger bill further down the road. If the last few years have shown us anything, it is that the moment when this bill will come due is rapidly approaching.

The physical risks to asset classes from climate disasters are important to consider, however the far larger elephant in the room relates to the transitional risks that will arise from the migration towards a just, sustainable, low carbon economy. There is now little dissent that this is the only option left.³ Meaningful change is required, not mere lip service, but also a clear and strategic plan for the transition. Players at all levels of our economies are therefore faced with the

“There are known knowns. There are things we know we know. We also know there are known unknowns. That is to say, we know there are some things we do not know. But there are unknown unknowns, the ones we don't know we don't know.”

– Donald Rumsfeld

unenviable challenge of deciding when to begin their transition plans; move too soon and they risk missing out on potential returns, jump too late and they find themselves behind the curve and fighting for their very survival.

1. <https://www.scientificamerican.com/article/rumsfelds-wisdom/>

2. Žižek, Slavoj. Philosophy, the “unknown knowns,” and the public use of reason. *Topoi* 25, pp137–142 (2006) International Center for Humanities, Birkbeck College, University of London, London, UK

3. [Lampe-Onnerud, Christina \(Founder and CEO, Cadenza Innovation\) and Kortenhorst, Jules \(CEO, Rocky Mountain Institute\)](#) (Part of the World Economic Forum Annual Meeting)

Easter morning 1900: 5th Ave, New York City. Spot the automobile.



Source: US National Archives

Easter morning 1913: 5th Ave, New York City. Spot the horse.



Source: George Grantham Bain Collection

In 2011, Morgan Stanley published two photographs of New York City. The first image from 1900 shows one automobile lost amongst a sea of horse drawn carriages; the second photo in 1913 shows one barely visible horse surrounded by a fleet of motor cars.⁴ It took only 13 years to completely disrupt transportation through technological innovation. More recently in 1985 AT&T, the then largest telephone company in the world, hired McKinsey & Company to forecast one question - what the number of cell phone subscribers would reach over the 15 years to

2000. The prediction they were given was 900,000, the actual uptake was 109 million, a variance off by a factor of 120.⁵ When Apple launched the first iPhone in 2007, the then CEO of Microsoft Steve Ballmer could not believe that someone would be willing to pay \$500 for a phone.⁶ Or indeed in 1975 the first digital camera was designed and built in Kodak's R&D labs, but they saw no market for the product, the uptake of which led to their eventual demise, whilst their competitor Fujifilm made the jump to digital and still exists.⁷

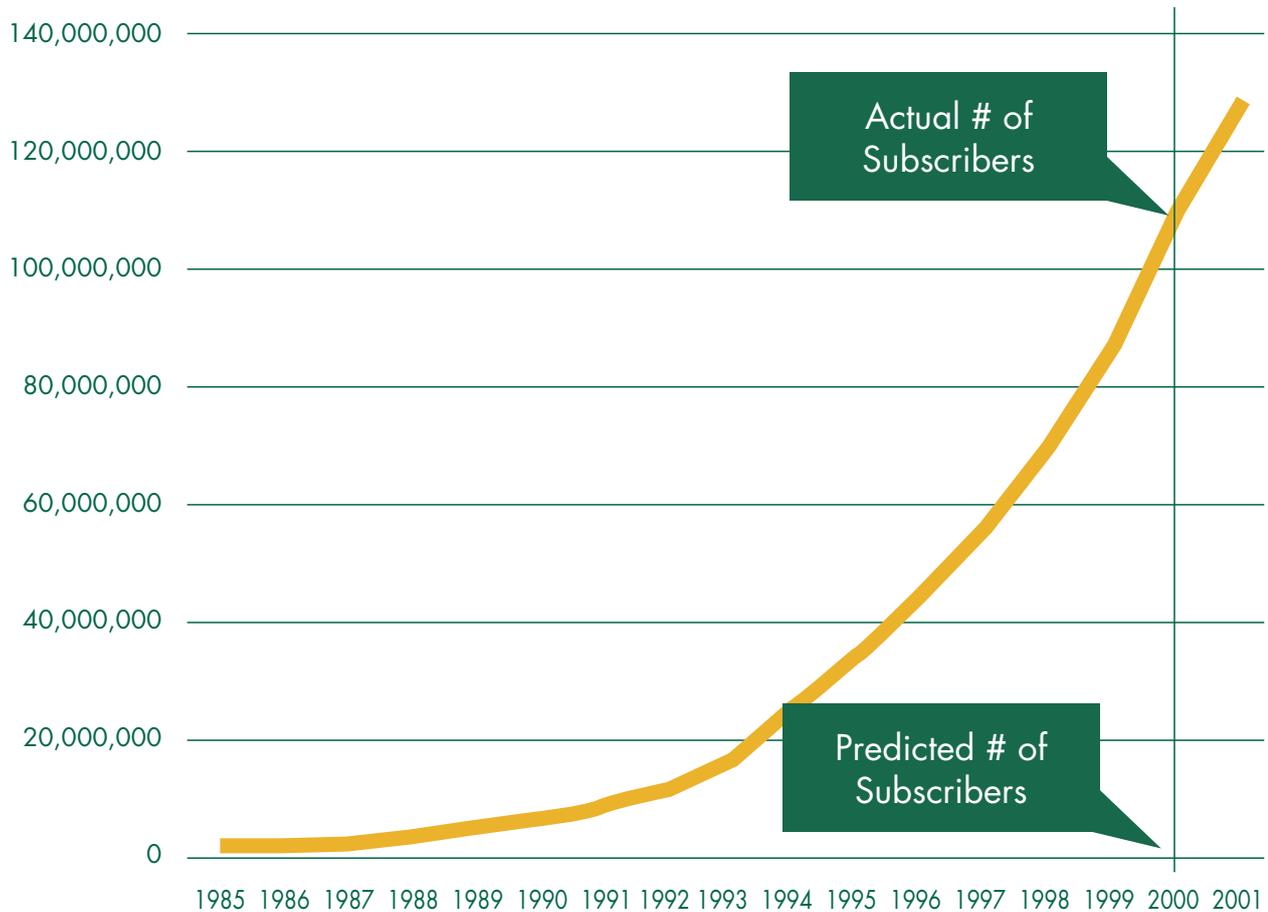
4. 5th Avenue, 1900 vs 1913

5. McDonald, Duff, "The Firm: The Story of McKinsey and Its Secret Influence on American Business" (Simon & Schuster)

6. <https://fortune.com/2017/01/10/steve-ballmer-apple-iphone/>

7. Gann, David (Pro-Vice-Chancellor, Development & External Affairs, University of Oxford), "Kodak invented the digital camera – then killed it. Why innovation fails." (2016)

McKinsey's Prediction – US Wireless Subscriber Growth



Source: U.S. Cellular® Proprietary and Confidential – Strategic Analysis Group

These instances highlight two separate issues arising from transitions. The first is that disruptions are seismic when they take effect. Secondly, in many cases, those best placed to take advantage are unwilling or unable to do so as there are “unknown knowns”, and businesses are unwilling to undergo the radical changes necessary to make this happen.

Bent Flyvbjerg of Said Business School, Oxford University, posits, “four effective mitigation measures”,⁸ but of these two (avoiding tail risk and cutting the tail) are no longer available to us – we have travelled too far down the pathway of climate change. This leaves making sure contingencies are in place, but most importantly “taking action immediately, at speed, and at scale”.⁹ If we are to address the challenges presented by climate change it is imperative that we take and implement this advice.

8. Flyvbjerg, Bent “The law of regression to the tail: How to survive Covid-19, the climate crisis, and other disasters” (2020)

9. Ibid 8

How to move forward without causing a humanitarian and economic crisis

The world's modern economies are built on fossil fuels powering consumer spending which is incompatible with a transition to a low carbon sustainable future. One of the sunk costs of this transition and central to the debate is the concept of "stranded assets". A report from The Network for Greening the Financial System, made up of central banks and financial supervisors, puts this in context; "So far, scenarios have largely focussed on the potential for assets to become stranded when infrastructure has to be retired before the end of its useful life in order to meet emissions reduction targets. Stranded assets will fall in value leading to losses of both capital and income for owners but also to increased market and credit risks for lenders and investors."¹⁰ This risk applies, at varying degrees of impact, to the entire resource, fossil fuel energy and, depending on deforestation standards, the forestry sectors. Whilst public policy decisions will shape some of these impacts (for example on electric vehicles), the report goes on to estimate potential global losses at up to \$4 trillion for the energy sector alone¹¹ and up to \$20 trillion when looking at the economy more broadly.¹² In June 2020, in response to the Covid-19 crisis for example, BP expected to slash as much as \$17.5 billion from its oil asset valuation in an attempted move to accelerate its transition to a net zero company.¹³

Domestic and international pressures for this migration have grown and will continue to do so. This has serious implications for capital allocation and risk at financial institutions and presents uncertainty in the valuation of affected

enterprises. Carbon Tracker (CT) defines the "petrostates" as the top 40 countries in terms of oil and gas revenue as a percentage of GDP. CT argues that these petrostates will see a drop of 51% in government oil and gas revenues in the shift to a low carbon world, a fall in government revenues of some \$9 trillion over the next two decades, which these countries are heavily reliant upon. In fact, the 19 most vulnerable petrostates have a population of 400 million and 10 of these are categorised as "low" on the United Nations Human Development Index.¹⁴ Without these oil and gas revenues, how will these economies develop in the face of lost tax revenue, job losses and systemic uncertainty?

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What is required is strong strategic planning and careful project management to prevent a potential solution to an ecological crisis to bringing about humanitarian or economic crises. The question thus remains, how can we move forward in achieving successful solutions to all of these competing problems?

10. Network for Greening the Financial System, First comprehensive report, A Call for Action – Climate Change as a source of financial risk, p16-17 (2019)

11. See IEA and IRENA, Perspectives for the Energy Transition (2017)

12. Ibid 11

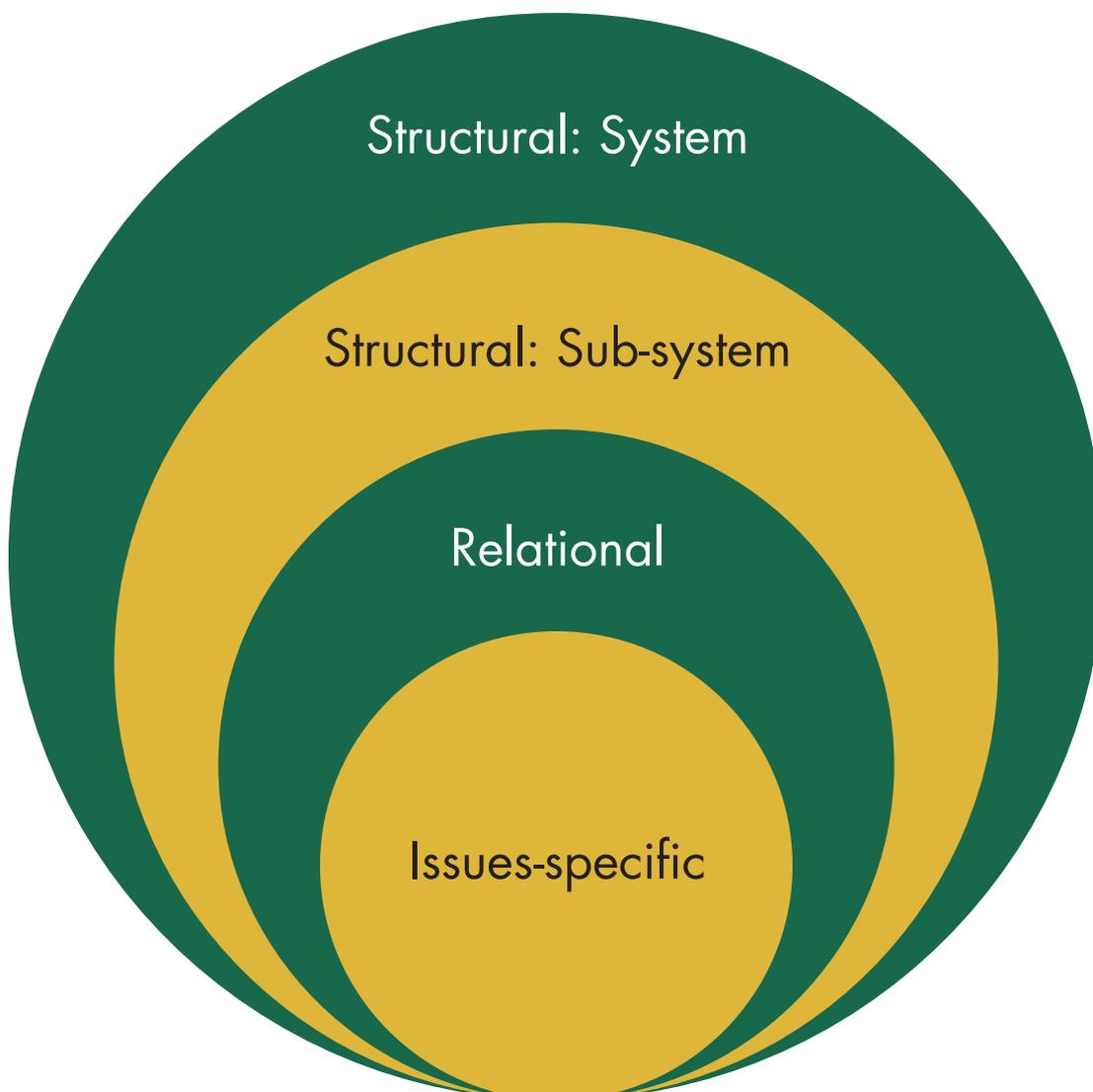
13. [BP \(2020\)](#)

14. [Carbon Tracker, "Beyond Petrostates: The burning need to cut oil dependence in the energy transition" \(2021\)](#)

Two important realities must be accepted. Firstly that disagreements and conflicts are a natural part of human relationships; every time we enter into a discussion which includes phrases like “I want” or “I need” we are entering into negotiations. The second, more important and harder to accept, is that conflict is in fact a positive oppor-

tunity, for wherever there is conflict, there is also the energy and will to enact meaningful change. Financial institutions should therefore not shy away from engaging in the conflicts which arise provided they attempt to do so in a constructive and productive way.

Maire Dugan’s Nested Model of Conflict



Conflict can cause us to lose sight of the wood for the trees; current presenting issues are usually magnified and distort the discussion of the bigger picture. Conflicts rarely occur in a vacuum, and understanding how disputes, between individuals, or even groups, are manifestations of larger socio-political issues or deeper, longer running conflicts is pivotal to attempting to find a way forward. One of the simplest and most effective lenses by which to try and understand the interconnected topography of conflicts is Maire Dugan's Nested Model of Conflict. The model (pictured on page 8) situates conflicts in four rings; the more serious a conflict the more layers of the nesting are engaged. Dugan makes distinctions between addressing conflicts at these different levels; conflicts that are issues specific (the lowest level) may simply require the resolution of those issues, through an understanding of how and why the relationship has deteriorated. Conflicts reaching higher levels may require a structural change which requires envisioning a radically different shared future to resolve what at first glance might appear a relatively straightforward problem.¹⁵

In applying this model, climate change and the transition to cleaner, greener industries and technologies will leave many assets and investments stranded, which will see a massive swathe of jump to distress pricing on these assets. Pension funds which hold these assets will therefore suffer when they are hit, if they have not already; threats in this area will no longer be linear or regress to the mean but regress to the tail and have a cascading impact.

And it is not just stranded assets but stranded liabilities that will soon come into play. Currently the fossil fuel sector is the only industry that must concern itself with Asset Retirement Obligations,

or the legal obligation to decommission their assets in accordance with environmental standards at the end of their productive lives, further diminishing the value of some stranded assets.

If these obligations are applied to any other sectors, then the cost of industries and companies that are not low carbon or circular will rise. The EU's Right to Repair legislation coming into effect this year highlights a legislative move in this new direction and over 20 US states are following suit.¹⁶

"The jump to distress pricing will not simply be a line of figures on a spreadsheet but will have clear and visible impacts on local communities, members and stakeholders."

But such a transition, whilst having the issues listed above will also cause conflicts at a relational level. The jump to distress pricing will not simply be a line of figures on a spreadsheet but will have clear and visible impacts on local communities, members and stakeholders. The transition will not only lead to a strain in relationships between pension funds and their stakeholders, but also with politicians at both a local and national level, representatives of the industries and asset classes that they hold and of the workers in those industries. Unless those relationships are strengthened, and the relational conflicts are given time and space to be aired, then the resolution of issues will never be achieved to the satisfaction of the parties. If we fail to resolve these relational conflicts, as Maire Dugan claims, they will "become the one hurdle

15. Dugan M., "Imaging the Future: A Tool for Conflict Resolution" In Peacebuilding: a field guide by Reyhler, Luc& Paffenholz, Thania, Boulder, Lynne Rienner Publishers p366 (2001)

16. [European Parliament \(2020\)](#)

that no handshake, promise, or carefully written clause could wipe away".¹⁷

Conflicts at the system or subsystem levels are usually inherently interlinked, and climate change will particularly highlight issues of systemic inequalities. It will highlight tensions at the local, provincial or state levels between those whose economies are driven by dirty, heavy industries and those which are not, between metropolitan and rural areas, between old carbon heavy industries and newer more sustainable industries. An example of this is the "gilet jaunes" (yellow vests) movement in France with what started as a protest by the rural population on the carbon tax on diesel fuel announced by the government as part of their low carbon strategy, but then escalated into wider anti-government sentiment on economic and social policies, reflecting a feeling of discontent across the whole country.

At a systemic level it will also call into question conflicts surrounding the role that will be expected, particularly of the consumer-driven Western world, and its role in the coming years to lead the way on the transition to a just, circular and low carbon economy. The conflicts at these systemic levels will be the deepest and the hardest to grapple with, namely issues including inequalities of race, class, justice and freedoms. The first step to resolving any of this will be the acceptance of the risk that necessarily goes with attempts to transcend violence (or in this case fear and division).

The United States and the United Kingdom offer two examples of just how the decline of sunset industries can be poorly and indeed destructively mismanaged. Particularly stark warnings should be taken from the decline and decay of the "Rust Belt" in the US and the UK's Industrial North which followed the dismantling of the heavy

iron, steel and mining industries in those areas beginning in the 1970s. The coal industry in the UK had been in decline since the late 1950s, but where earlier contractions had been agreed by the workforce and accompanied by government and industry initiatives that provided economic security through new employment opportunities, the period from 1978-1987 had no such safety net. As a result, there was minimal alternative employment and a massive impact on the area. Some two million manufacturing jobs were lost from the steel, shipbuilding, machine-tool and automotive industries. Manufacturing output was lower in 1987 than it had been in 1973 and from 1980 to 1985 it suffered negative net investment.

"Ensuring the buy-in of all impacted through engagement and planning to provide alternative employment avoids the sorts of confrontations witnessed during the miner's dispute."

Those firms that survived the period showed marked productivity gains and lower operating costs (partly due to the markedly reduced union power resulting from higher levels of unemployment). What was obvious was a marked North-South divide in terms of deindustrialisation and unemployment levels.

The important lessons to be learned from this are that ensuring the buy-in of all impacted through engagement and planning to provide alternative employment avoids the sorts of confrontations witnessed during the miner's dispute in the mid-

17. Dugan M., "Imaging the Future: A Tool for Conflict Resolution" In Peacebuilding: a field guide by Reychler, Luc& Paffenholz, Thania, Boulder, Lynne Rienner Publishers p366 (2001)

1980s. With costs of over £7 billion in policing and for coal and oil imports and more than a thousand arrests and nearly the same number of strike related dismissals, it was a major industrial struggle and set the tone for industrial relations that in some ways survive today. What is important to recognise when considering future deindustrialisation is that although direct job losses may be inevitable, the process should be managed in such a way as to provide alternative employment – hope – for those in a sunset industry, to create a shared vision of a future to which all can aspire.¹⁸

From hitting a peak of activity in WW2, the US “Rust Belt” saw a collapse in heavy industry once the wave of demand from demobilised troops and the baby boom began to wane from the 1950s onwards. According to economist Barry Bluestone, more than 32 million jobs were lost during deindustrialisation of the 1970s and 80s; an event he called “cataclysmic”.¹⁹

This US experience differed from the UK above because although there were massive job losses from the industrial shocks, the adjustment to a rapidly shrinking local labour market was both outward migration and reduced inward migration that resulted in massive drops in population.²⁰ Pittsburgh is a prototype for the Rust Belt - it grew with the new technology of the 19th century (Bessemer steel process, aluminium reduction, Westinghouse, etc.), but suffered terribly from the collapse of its steel industry through the 1970s

and 80s. It has taken decades for rejuvenation to occur with “The Power of Eds and Meds” now breathing some life back into the area.²¹ Despite this the City of Pittsburgh is still only half its size from 1950, a period over which the US population has more than doubled.

“What is important to recognise when considering future deindustrialisation is that although direct job losses may be inevitable, the process should be managed in such a way as to provide alternative employment – hope – for those in a sunset industry.”

Whilst some other areas such as Columbus, Ohio, and Buffalo, NY have suffered, but then managed a recovery, others such as Youngstown, Ohio, a former steel-making city, remain deeply depressed. On Black Monday, September 19, 1977, when Youngstown Sheet and Tube in Ohio closed down, the town lost some 40,000 jobs.²² For reference, the population on Youngstown in the 1970 census was approximately 140,000.²³ However even when displaced workers find new jobs, within two years of being laid off they still typically earn only about 40 percent of their previous income.²⁴ Some were not this lucky.

18. Phillips, Jim. “Deindustrialisation and the Moral Economy of the Scottish Coal Fields, 1949 to 1991.” *International Labor and Working Class History* no.84 p99-115 (2013) and Perchard, Andrew. “Broken Men” and Thatcher’s Children” *Memory and Legacy in Scotland’s Coalfields.* *International Labor and Working-Class History*, no. 84 p78-98 (2013)

19. Bluestone, Barry. “Beyond the Ruins: The Meanings of Deindustrialization”, Cowie & Heathcott, eds. Ithaca and London: Cornell UP (2003)

20. Did the Rust Belt Become Shiny? A Study of Cities and Counties That Lost Steel and Auto Jobs in the 1980s [with Comments]
Author(s): James Feyrer, Bruce Sacerdote, Ariel Dora Stern, Albert Saiz and William C. Strange
Source: *Brookings-Wharton Papers on Urban Affairs*, p41-102 (2007)

21. [Penn University for Urban Research, “The Power of Eds and Meds”](#)

22. [Russo, John and Linkin, Sherry Lee. “The Social Costs of Deindustrialization” Youngstown State University \(2014\)](#)

23. [1970s Census of Population and Housing, United States Department of Commerce](#)

24. Uchitelle, Louis, *The Disposable American: Layoffs and Their Consequences*, New York, Knopf, p46 (2006)

In 1985, a Wendy's burger store opening in downtown Youngstown was seen as an encouraging sign of economic growth by local officials but S. Paul O'Hara points out that several of the new employees of the restaurant were former steelworkers, now earning \$3.35 an hour where their former steel mill jobs had paid \$15-\$20.²⁵ More recently, between 2000 and 2009, the State of Ohio has experienced the worst job losses since the Great Depression and in Baltimore, Maryland deindustrialisation caused unemployment, poor housing, increased levels of drug use and higher crime rates, resulting in "death zones" – where mortality rates greatly exceed the national average.²⁶

These wider impacts are why Detroit became known as the arson capital of the world when the auto industry retrenched, where a combination of no prospects of employment combined with a crashing housing market to trigger a wave of arson. In the decade between 1977 and 1987, the United States shed about 500,000 jobs in the auto industry and 350,000 jobs in the steel industry, far outstripping any other job losses in recent U.S. history. These job losses were concentrated in roughly 140 of the 3,000 counties in the United States.²⁷ Almost twice as many people left those areas as lost jobs. In their 2009 essay 'The Social Costs of Deindustrialization', economists John Russo and Sherry Lee Linkon argued "Deindustrialization is the direct result of corporate and governmental decisions that have not only displaced millions of American workers, but also done major harm to American communities. These injuries to our cities create social and economic costs that everyone pays."²⁸

A mobile population will migrate to find employment, reducing the impact of shrinking local labour markets, but this presupposes that alternative employment is available and the workforce has relevant skills or can be reskilled. Sufficient government and private sector investment to redeploy the workforce can greatly reduce the impact of industrial decline but will be of finite capacity.

"Government and private sector investment to redeploy the workforce can greatly reduce the impact of industrial decline but will be of finite capacity."

What is a clear recipe for disaster is to abrogate any responsibility for re-engaging with the redundant workforce and thereby abandon large tracts of a community. This latter course is destined to generate hostility and conflicts that invariably will culminate in the kind of physical violence and prolonged splitting of families and communities that was witnessed in the UK as a result of the closure of most of the coal industry by 1987. As Russo and Linkon argue we should advocate a new vision of capitalism that takes environmental, social and human capital every bit as seriously as it does materials and money. And we should advocate policies that encourage forms of economic development that build strong communities as well as strong companies.²⁹

25. O'Hara, S. Paul, *Envisioning the Steel City: The Legend and Legacy of Gary, Indiana in Beyond the Ruins*. Edited by Jefferson Cowie and Joseph Heathcott, Ithaca, NY, Cornell University Press p230 (2003)

26. EIR Economics Staff, *The Case of Baltimore: Deindustrialization Creates 'Death Zones'*, EIR, p5 (2006)

27. *Did the Rust Belt Become Shiny? A Study of Cities and Counties That Lost Steel and Auto Jobs in the 1980s*, Brookings-Wharton Papers on Urban Affairs, pp41-43 (2007)

28. Quoted in Greenhouse, Steven, *The Big Squeeze: Tough Times for American Workers*, New York: Knopf, p203 (2008)

29. Ibid 22

Collaborative approach needed to build less and build better

It is an inconvenient truth, but any solution to our current environmental and ecological crises requires a collaborative supranational solution. At the same time our current crisis parallels many of the discussions surrounding globalisation and its discontents. Economists, including Nobel Laureate Joseph Stiglitz, have been vocal in their criticisms of just how short globalisation has fallen from its promise to bring prosperity for all. For climate change, as for globalisation, success will mean sustainable, equitable and democratic development, not simply an increase in GDP but also measurements of living standards, health, education and other important metrics.

Indeed, Nobel Laureate Simon Kuznets, the creator of GDP, was critical of its use and applications stating the welfare of a nation can scarcely be inferred from a statement of national income. Calls for ever increasing GDP have now become a political necessity and are rarely matched with questions or distinctions sought “between quantity and quality of growth, between its costs and its return and between the short and the long term”.³⁰ Objectives should be specific – goals of more growth should specify more growth of what, for what and indeed at what cost?

The World Trade Organization’s mechanisms and treaties were created to allow for a “level playing field” within international trade. Similarly, meaningful transition to a just economy and an economy which is circular and sustainable will require creations of similar levelled playing fields particularly with regards to information, knowledge and technology. The pathway for developing countries to transition to sustainable economies should not leave them hampered by unsustainable levels of debt or poverty, paralleling the processes of rapid market liberalisation and deregulation which wreaked such havoc in

“The pathway for developing countries to transition to sustainable economies should not leave them hampered by unsustainable levels of debt or poverty.”

South America, Africa and Asia in the second half of the 20th Century. Furthermore, profit maximisation can no longer be the only metric or goal to which we work. This is not to say that profit and competition are inherently bad, both are incentives within markets that drive us towards innovation. However, this current crisis we are facing requires us to bring total value driven economics back into our discussions.

Discussions surrounding environmental issues usually fall into the “carrot or stick” dichotomy of either taxation of harmful behaviours or incentives and subsidies for green positive industries. However, what seems to be emerging is a third narrative, notably the idea that meaningful impact investing can be more effective with profitable outcomes by allowing for systemic overhaul of business practices. Examples such as Canadian company Veriform, Dutch company Royal DSM and Danish company Ørsted (formerly Danish Oil and Natural Gas) show not only that placing environmental concerns at the heart of your business practices is good for business but that a lot of these changes can be quickly and effectively implemented with great benefit.

Veriform, a metal fabrication business, reduced its carbon footprint by 77% between 2006 and 2017. Over this period, it doubled its physical footprint and increased headcount by 30%. Sales per kilowatt-hour of energy tripled and every tonne of emissions eliminated delivered C\$900 in cost savings, proving that even in

30. Kuznets, S ‘How to judge quality’, in Croly, H. Ed. ‘The New Republic’, 147:16 p29 (1962)

heavy industries, growth is not inextricably tied to increasing the carbon footprint.³¹

However, reducing emissions across a supply chain only goes so far; businesses still working on a model driven by constant linear consumer-driven growth will eventually fail.³² What is needed is to build less but build better. Another great example of these principles can be seen in the drastic transformation of Royal DSM (formerly Dutch State Mines), founded in 1902 to mine coal reserves in the Southern Province of Limburg. Former CEO, Feike Sijbesma, claimed that at one time they were one of the most polluting companies in the world. However in 1965, the Dutch government announced the closure of coal mines. This process took place over the next ten years.

It was promised that mines would be closed only when the miners had reasonable opportunities for new jobs or when other arrangements for work could be made and they called for large companies to come to the area and employ the miners. They also indicated that the certain coal mining regions would serve as reversion areas that would receive public funds for restructuring its economy. "The miners did not need to find work on their own, but rather were supported by the government. A socially responsible dismissal system was developed in which employment finding and schooling were offered, especially for the older miners."³³

So in the early 1970s, Royal DSM sold their last coal mine and transitioned into a bulk chemical company. Approximately 50,000 miners were

moved out of mining activities with half of the total finding work within the company's chemical activities or in an external role. 21% of the total were retrained.³⁴ In the 1990s, following internal debate about the need for change and their vision of the future, they acquired the then largest biotech company in the Netherlands, which is how Sijbesma came to join the company. The company did not see a long-term sustainable future as a bulk chemical company and transitioned again, driven by two goals; to be a successful business and to improve the world. Even in 2008, Sijbesma rightly thought that these two things were not mutually exclusive, that it was possible to both make money for your stakeholders and to leave a better world behind.³⁵ So, a company that was founded to

"Royal DSM has become a global sustainability leader, and at the same time has tripled the company shareholder value."

mine coal now works to combat malnutrition, to produce new and renewable energies in the fight to address climate change and use the ideas of the circular economy to reduce waste. During this transition, the stock price of Royal DSM has increased from a low of €15.76 following the Global Financial Crisis in 2008 to €117.96; an increase of over 780%.³⁶

There is an inherent contradiction that sits at the heart of discussion around transitions to a low carbon economy. The raw materials and minerals

31. [Chartered Professional Accountants Canada \(2020\)](#)

32. Meadows, Donella H., Meadows, Denis L., Randers Jorgen and Behrens III, William W, 'The Limits to Growth', Universe Books, New York (1972)

33. Gales, Ben and Holsgens, Rick, 'Coal Transition in the Netherlands', University of Groningen (2017)

34. *ibid* 33

35. [The story of DSM through the eyes of CEO, Feike Sijbesma \(2019\)](#)

36. <https://www.dsm.com/corporate/investors/shares/share-performance.html>

necessary to create the required infrastructures, technologies and equipment to act as a catalyst for this transformation come from extractive industries which are themselves destructive to the biosphere and a massive contributor to the climate change we are attempting to fight. Batteries for energy storage and electric vehicles require rare earth metals such as lithium, solar panels are made of silicon and wind turbines require steel, fiberglass and concrete in vast amounts to operate. What sacrifices therefore are justified in the name of progress towards a fairer, sustainable economy? How are these judgements made, and what justifications, if any, can be made to the swathe of countries in the developing world who are seeking to increase their wealth and standards of living in line with what the Western world is currently enjoying.

John Rawls, the American philosopher, is most famous for his thought experiments around justice and fairness within society. In his most famous thought experiment, the Original Position, he asks what principles of social justice would be chosen by parties thoroughly knowledgeable about human affairs in general but wholly deprived, by a “veil of ignorance”, as to what their role would be in the new social order.³⁷ What was thought experiment in the 1970s might come to be a reality in our current futures. If we think again of our current impending “sudden climate break and steering failure” with the consequences beyond our control, we need to start thinking and acting as if we were behind this “veil of ignorance”. Conversations about how we should go about our sustainable revolution and the principles that should drive our “just transition” are legion.

Discussion around collective assets, the shared natural and cultural resources, restorative practice and social justice have resurfaced. We cannot predict where we would find ourselves in the wake of a potential climate apocalypse or other more minor but equally life changing disasters that may come over the coming years. The centre of Rawl’s experiment is that the only way to ensure that you have a happy outcome within the new social order is to ensure that you would be happy to find yourself in any role or situation within it. If a system is just, then you have little to fear from it. How therefore do we go about trying to create transition plans that meet these conditions, societies that do not leave people behind and what, if any, costs are we willing to accept?

“We need to start thinking and acting as if we were behind this “veil of ignorance”. Conversations about how we should go about our sustainable revolution and the principles that should drive our “just transition” are legion.”

37. Rawls, John, A Theory of Justice, Cambridge, Massachusetts: The Bellknop Press of Harvard University Press (1971)



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