
What futures for climate capitalism?

So where might all this be heading? In the introduction, we ended by suggesting that the issue is less whether we have climate capitalism or not, but rather what sort of climate capitalism we end up with. Capitalism of one form or another will provide the context in which near-term solutions to climate change have to be found. The governance questions we have just discussed, as well as the critiques of carbon markets we looked at in Chapter 8, suggest the issues climate capitalism will have to address if it is to be effective. The forces behind the development of carbon markets – those forces dominant under neoliberalism that we discussed in Chapter 2 – also provide clues as to the possible forms that climate capitalism might take as it develops. But how might we imagine the current ways that climate change is being managed developing into a more fully fledged, coherent system that could lead to decarbonisation of the economy? And what then might be done to make one or other scenario more likely? We sketch out here four possible scenarios. We should emphasise, they are scenarios, not predictions. They are, in effect, scenario-building exercises thinking through how the various elements of climate change politics we have explored throughout the book might play out in the coming decades.

SCENARIO 1: CLIMATE CAPITALIST UTOPIA

One possibility is that the various elements of climate capitalism we discuss in the previous chapters develop fully and are able to produce a rapid decarbonisation of the global economy. Through mechanisms such as the Carbon Disclosure Project (CDP) and other reporting standards, institutional investors are able to lead a process of investment in renewable energy, energy efficiency and conservation, carbon

capture and storage, advanced public transport and urban infrastructure reform, which collectively produce rapid shifts away from fossil fuels, prevent a switching back to coal as gas runs out and secure the carbon from remaining fossil fuel use in underground, geologically viable storage sites.

They are aided by regulators of financial markets such as the Securities and Exchange Commission (SEC) who force companies to disclose their CO₂-intensity, by governments who give indications of the rising price of fossil energy through taxation reforms and who send appropriate signals through the carbon allowances allocated and auctioned in the various markets in Kyoto (and its successor regime) as well as through national and regional policy. These decisions by governments create scarcity in carbon allowances and thus produce reliably high carbon prices, give a clear steer to business about future opportunities and create big incentives to find alternatives to fossil fuels. These price signals from public and private agencies give investors the appropriate signals and the necessary support (in the form of feed-in laws etc) to go full steam ahead in investing in renewable energy, investment which then produces a virtuous cycle as prices for renewable electricity, hydrogen for fuel cells and so on, drop, thus making such investment even more attractive on a purely economic basis. The logic of carbon markets is expanded with the creation of Personal Carbon Allowances, thus creating similar incentives to change behaviour amongst individual consumers and driving demand for low-carbon products and services.

At the same time, the emissions trading begins to work as their designers hoped, reducing substantially the costs of meeting emissions targets, thus enabling both the pursuit of more aggressive targets and the buy-in by a progressively wider range of actors. In the multilateral context, they help enable developing countries to take on targets to limit (the growth of) their emissions, as they see the benefits of being inside an emissions trading system because of the money to be made by selling their excess allowances. They also realise that levels of demand are high for exported renewable energy and other clean energy technologies and construct an industrial base to meet the growing demand for low-carbon technologies. An energy round of trade negotiations might facilitate this. According to the World Bank, the removal of tariffs for four basic clean energy technologies (solar, wind, clean coal and efficient lighting) in 18 developing countries with high levels of greenhouse gas (GHG) emissions would result in trade gains of up to 7%. The removal of both tariffs and non-tariff barriers

could boost trade by as much as 13%.¹ Creative issue-linkages to development issues of more immediate concern to developing countries such as trade, debt and aid and enlightened self-interest on the part of leading developed countries in making key concessions, succeed in enrolling them in efforts to decarbonise the global economy.

Those with a vested interest in such markets become successful at pressuring governments to set progressively more aggressive targets. Michael Grubb's original rationale for emissions trading as a mechanism for redistributing resources from larger to smaller polluters and from rich to poor, is realised. A switch in the approach of developing countries is also facilitated by their increasingly positive experience with the Clean Development Mechanism (CDM). This becomes an effective way to channel investment by Northern governments and institutional investors into emerging markets. These investments are increasingly focused on 'win-win' projects in renewable energy and energy efficiency, and less and less in forestry projects, thus overcoming worries about 'carbon colonialism' and pacifying internal critics that long-lasting social benefits are not accruing to host countries. The CDM is reformed to expand the range of possible investments from individual projects towards sectoral reform and even whole policy reform programmes. Sectoral approaches dramatically reduce transaction costs and enable more actors to participate in these markets, thus enabling key transitions in energy production, transport and agriculture.

The World Bank likewise 'decarbonises' its lending programme, realising the need to shift completely away from lending for fossil fuel projects in order to be a credible leader on climate change. This is driven both by the returns to be gained from rapidly developing renewables markets, the cue it takes from its main funders that are also investing heavily in these areas, the demand for sustainable energy options in developing countries and NGOs pressuring the World Bank. Northern tax payers are no longer willing to allow their money to be used to underwrite financial backing for fossil fuel projects when they are trying hard to reduce their own emissions through domestic measures. This enables Northern investment to contribute to wholesale structural reform in the South away from reliance on coal and oil, and thus enables developing countries to 'tunnel through' to a low-carbon economy. This means that the emergence of the low-carbon economy

¹ World Bank, *International Trade and Climate Change: Economic, Legal and Institutional Perspectives* (Washington, DC: World Bank, 2007).

also contributes significantly to poverty reduction in the South, opening up an array of new employment and training opportunities, new sources of revenue and ultimately contributes to the reduction of global inequalities.

Early on, some countries clearly benefit more from the emerging carbon economy than others. The UK is perhaps one of the biggest early winners, gaining competitive advantage in the emissions trading markets (around 70% of all carbon trades are currently brokered through London) and seeking to further consolidate its position as the nerve centre of the global carbon economy. In addition, it seeks to make up ground on previous leaders in renewable energy (Denmark for example) through policy support for wind and solar energy. China is also an early winner as it takes a huge share of the investment through the rapidly expanding CDM, given the size of its market and the scale of opportunities it presents. It uses its attractiveness as a market for foreign investors to set terms which make it a leader among the BRICS (Brazil, Russia, India, China and South Africa) in developing its own self-reliant model of renewable energy production. This allows it to protect itself from dependence on unstable or hostile suppliers and to guarantee secure supplies of energy to underwrite its continuing pace of economic growth.

But rather than causing other countries to resent the gains made by these countries, this competitive advantage works to stimulate other countries to compete in the new carbon economy, seeking to emulate China's success. Other developing countries realise the need to create an effective infrastructure to attract CDM investment in order to compete with China, thus enhancing investment in their countries and adopting a suite of policy measures to attract and keep investors in low-carbon sectors of the economy. The pressure in the USA, from the Climate Action Partnership, the Pew Center on Climate Change, and others, forces the US federal government, as well as many state-level governments, to regulate CO₂ and impose reductions targets across the US economy. This helps to further develop existing policies such as Renewable Energy Certificates as support for the rapid expansion of wind and solar energy to compete with European companies. Canada realises it still has a slim competitive advantage in fuel-cell technology and aggressively expands policy support to maintain that advantage. This contributes both to the development of fuel cells and thus the rapid phase-out of internal combustion engines, thereby undermining opposition to climate action, in particular from oil-rich Alberta. Overall, then, competitiveness pressures lead to a race to the

top, where countries build policy support for the new carbon economy to maintain their competitive edge in that economy.

The overall effect of these dynamics is to produce a rapid shift from a fossil fuel based economy to one based on renewable energy. Perhaps over a 20–30-year time period, global demand for energy stabilises because of the rapid uptake of efficiency technologies, switching away from car dependence, changes in building codes and practice towards 'zero emissions' buildings. At the same time, the fuel mix in the global economy moves from 90% based on coal, oil and gas, to being 70% based on renewable forms of energy. The vast majority of emissions from remaining fossil energy sources are removed from the atmosphere through various types of carbon capture and storage or atmospheric sequestration projects. The costs of these latter projects reduce to such an extent that the setting of carbon prices is sufficient to make them financially viable (which is not currently the case) and the technical barriers to their diffusion are overcome.

The plausibility of this scenario rests on the assumption, common to many advocates of the neoliberal approach to climate change, that the key to decarbonisation is to set appropriate carbon prices. This would create such a powerful incentive across the globe that financial markets will do the rest, directing investment towards ever greater energy efficiency and towards non-carbon energy sources. We would add that it depends on transparent information, and thus that the CDP, and consistent and comparable reporting mechanisms, are also crucial. In this scenario it is the interaction of carbon prices and information about the CO₂-intensity of companies which is crucial. There is a very strong faith in the powers of markets underpinning this scenario. Yet there are many reasons to be sceptical that the simple effect of a high carbon price would be able to affect all aspects of the global economy without other efforts by governments and others.

The plausibility of the scenario also depends politically on an awkward alliance of technocratic civil servants,² opportunistic environmental NGOs and profit-seeking financiers. To support any particular sort of capitalism, political coalitions are necessary. Climate capitalism is no different. All such coalitions entail compromises, especially from the coalition's junior partner. In this case, many environmentalists

² See J. B. Skjaereth and J. Wettstad, *EU Emissions Trading: Initiation, Decision-making and Implementation* (Ashgate Publishing, 2008). While discussing the EU ETS, the authors nicely call the civil servants in the EU who pioneered the ETS the 'Bureaucrats for Emissions Trading' group.

have to live with aspects of the management of the economy that they may be distinctly uneasy with. But the coalition more or less holds together, seeing off opposition both from more radical environmentalists who oppose the commodification of the atmosphere, as well as those with strong interests in the carboniferous form that capitalism currently takes – the coal manufacturers and some trade unions and the oil companies, in particular.

SCENARIO 2: STAGNATION

This rosy image can be contrasted with a rather darker one. In this, the various aspects of the carbon economy we have discussed fail to achieve their potential, and governments fail to take the decisions necessary for them to do so.

Carbon markets come to be widely seen as simply another scam by an already tainted financial sector. Climate fraud becomes the next Enron and the next sub-prime crisis rolled into one, with both its dodgy accounting and its bubble economy easily exposed. Many have already made connections between the financial crisis that began in 2008 and 'sub-prime carbon' to challenge our reliance on financial actors to take the right sort of action on climate change. Speculators start to gamble on the carbon price, precisely at a time where general trust in financiers is very low. Carbon markets thus lose legitimacy. The effect of an economic downturn and recurrent financial crises is to force companies and financial investors into even shorter time-frames for securing returns on their investments rather than taking a risk on buying into longer-term decarbonised scenarios. Focus then returns to more cautious and predictable sources of funding and corporate strategy oriented towards keeping the fossil fuel economy buoyant for as long as possible. Recent moves by Shell and BP to reduce their investments in renewable technologies might be indicative of how these trends could play out.

Governments cease to invest much effort in carbon markets and the aggressive targets that might sustain interest in them do not materialise. Pressures to prioritise support to 'old manufacturing' – such as car companies – or to resist 'new deal' demands for a windfall tax on oil and gas companies, especially in a time of financial crisis, are heeded and pressure on these sectors to reform dissipates. In debates about emissions trading systems, the regulated companies – the steel and electricity companies – gain (or keep) the upper hand over financiers, keeping such targets weak, limiting the use of auctioning and

thus the scandals of windfall profits continue. Carbon markets remain and the voluntary offset market in particular continues to serve a niche market, but they remain small and do not produce any transformational effects on carbon emissions. Most actors engaged in voluntary markets are widely seen as cowboys, but they are sustained by those companies driven mainly by the desire to present a positive image as a responsible corporation rather than shift their corporate strategies towards low-carbon investments.

In the international negotiations, positive outcomes remain plagued by geopolitical wrangling. In the debates about what to replace Kyoto with, the USA gets fixated with making sure that whatever regime exists, it looks like an American-led one, as opposed to the 'Euro-centric' regime which Kyoto had come to be seen in the USA (despite its US origins). So the results become an incoherent mess rather than an expanded, coherent architecture. Similarly, the North-South struggles that have characterised climate negotiations from the beginning continue in stalemate. Developing countries, even rapidly developing ones like China, continue to refuse any sort of limitation on their expansion of fossil energy use, and the USA correspondingly refuses to set any ambitious targets for itself. No one finds creative ways round this impasse. Ideas such as an expanded CDM or 'no-lose' targets for developing countries (where they get benefits from exceeding a target in terms of carbon credits they can sell, but have no penalties for not meeting them) fall by the wayside. Those developing countries that have gained very little from the CDM to date, most notably sub-Saharan African countries, resist moves towards its expansion unless efforts are made to address its uneven nature, which play-safe investors are reluctant to endorse and governments are wary of imposing in a more cautious economic climate.

As the carbon markets falter, so do projects like the CDP. Investors lose interest in knowing the CO₂ emissions of companies they invest in when it becomes clear that the governments and markets between them cannot be relied on to give a consistent and credible signal that would turn CO₂-intensive companies into a business risk. Shareholder activists and NGOs fail to persuade investors that they should be more proactive or companies to see climate change as a central aspect of Corporate Social Responsibility (CSR), since fossil fuels remain too cheap and ubiquitous for investors and businesses to ignore. The business case becomes business as usual.

In fact, the rising tide of legal activism and liability claims has a perverse effect, inhibiting bolder and more adventurous moves by

companies, who retreat into modes of crisis management rather than proactive prevention. As has been the approach of some oil companies to climate change, they act on the maxim that 'the spouting whale gets harpooned', as one Exxon official put it.³ As companies that make strong claims for CSR or for carbon neutrality get more easily attacked for failing to live up to that claim, companies learn to simply keep their mouths shut.

Efforts by environmental NGOs to forge coalitions with different parts of business as a consequence largely fail. They increasingly have doors shut in their face, as companies prefer to keep their heads down on climate change. Environmental groups return to confrontational tactics, helpful in keeping the issue in the public eye, but making it difficult to build a political coalition that could sustain projects towards decarbonisation against those who would lose from such a transformation.

As climate change itself progresses, periodic crises from hurricanes, sea-level rise, droughts and the large-scale movement of climate refugees serve to keep climate change on the agenda. The response of the insurance industry is to withdraw coverage from ever more areas of the world, rather than use its power to invest in renewables. Some efforts are made to mitigate carbon emissions, and countries do manage to depart from the 'business-as-usual' emissions path. But there is nothing like the coherence in the way these efforts combine, necessary to turn them into something which could create the transformational effect to decarbonise the global economy.

Cynicism and fatalism starts to set in about the possibility of doing anything except adapt to whatever climate change has to offer. The fact that most of those hardest hit are in already marginal situations contributes to this cynicism. The affluent see those displaced by sea-level rise or flooded out of their homes and shrug their shoulders. They feel they have seen it all before and don't feel guilty about turning away climate refugees at their borders. This happens even within rich countries, as in reactions to Katrina in the USA in 2004, where climate change exposes, but does little to heal, deep social rifts and economic inequalities. In the absence of definitive lines of responsibility, and the failure of human-rights-based approaches to advance further,

³ D. Levy, 'Business and the evolution of the climate regime: the dynamics of corporate strategies,' in D. Levy and P. Newell (eds.), *The Business of Global Environmental Governance*, (Cambridge MA: MIT Press, 2005), pp. 73–105.

climate change remains everyone's and no one's responsibility as the world drifts towards a world of 5°C warming.

This scenario is highly plausible, especially in the light of the weak Copenhagen Accord of 2009. One could say it is currently the most likely outcome, depressing as that might be. But there are two other broad possibilities which lie somewhere between climate capitalist utopia and this scenario of stagnation.

SCENARIO 3: DECARBONISED DYSTOPIA

Believers in carbon markets suggest that they can both help us decarbonise and do so equitably. Their critics suggest that such markets are plagued by 'climate fraud' and 'carbon colonialism'. What if the critics are right about the latter, but wrong about the former? That is, we end up with a form of climate capitalism which does create a low-carbon global economy, but which does so in a highly inegalitarian manner?

As carbon prices start to have an effect on behaviour, investment is drawn more to a series of quick-fixes, techno-fixes and drastic solutions that reduce transaction costs and produce economies of scale for their sponsors, but which lead to a range of negative social consequences.

First, the recurrent climate impacts of ever greater magnitude start to provoke panic measures. Urgency is invoked to legitimise the implementation of the fantasies of a number of scientists – to install large mirrors in the sky which reflect back incoming radiation from the Sun, to spread iron filings in the ocean to accelerate the rate at which the sea absorbs CO₂, to artificially create cloud cover or to install large-scale atmospheric CO₂ absorption devices. Indeed, many governments are already exploring seriously the potential of large-scale geo-engineering solutions.⁴ The rising price of carbon helps to make these measures seem reasonable, while the military supports such measures, having interpreted climate change as a security threat needing such a response and fears about climate-induced immigration fuel populist measures by governments.

In terms of investments which produce decarbonisation, money pours into biofuels both in the North and South, producing large mono-crop plantations with appalling working conditions, the

⁴ D. G. Victor, M. Granger Morgan, J. Apt, J. Steinbruner and K. Ricke, 'The geoengineering option: a last resort against global warming?' *Foreign Affairs*, March/April; POST (Parliamentary Office of Science and Technology, 2009), 'Geo-engineering research', *POSTnote*, March, no. 327.

destruction of biodiversity, and price rises of key food crops which place them beyond the reach of the poor. The panic about food price rises during 2007–2008, created in part by the push for biofuels, starts to become the norm, but the rich are able to insulate themselves from criticism. Biotech companies realise that carbon markets are a means to sell the genetically modified (GM) trees that they have already cultivated, which grow much faster than conventional trees and are able to absorb considerably more CO₂ and over longer periods of time, while drought-resistant GM crops are held out as a solution for farmers seeking to adapt to the consequences of climate change. The nightmares of GM activists are thus realised as rapid climate change provides a window to roll out biotech on an unprecedented scale.

And not just the nightmares of GM activists. High carbon prices, rather than creating a wave of investment in renewable energy, help to boost the renaissance of nuclear energy as the solution to climate change in a carbon-constrained world. As in the past, new plants are sited predominantly in remote and poorer areas where the opposition can be more easily overcome. In the USA, many nuclear sites are hosted on Native American lands, while in many other countries poorer communities become the hosts of rapidly assembled nuclear reactors. The injustices produced by the social side effects of technologies, exposed over the years by the environmental justice movement, continue, legitimised this time by the threat of climate change, while terrorists seek to access nuclear materials produced by these plants.

Alongside nuclear, most investment goes into carbon capture and storage. The lack of investment in renewables means the benefits of decarbonisation in developing countries are not realised. The spread of small-scale, decentralised technologies, not requiring an elaborate electricity grid, which could radically increase access to electricity services among the rural poor, does not occur. Micro-energy projects at the village level to meet local basic needs (rather than fuel a new consumer class in countries like India and China) fall by the wayside. Instead, developing countries get large-scale investments in coal plants with CCS (carbon capture and storage) and in nuclear, benefiting primarily urban elites and large transnational business.

The development of the CDM, and the changing investment practices produced by the CDP, end up locking most developing countries precisely into a dynamic of carbon colonialism. The large powerful ones – China, India and Brazil in particular – are able to insulate themselves from this dynamic, or rather their elites are able

not only to insulate themselves, but rather to profit from it, increasing both their wealth and power relative to the rest of their societies. Investment through the CDM still predominantly goes to a handful of countries, and more low-hanging fruit such as hydrofluorocarbon (HFC) or methane capture projects are found. Reforms of the CDM open up much greater possibilities for forestry projects, which lock large areas of the developing world into the status of being a heritage park for carbon sequestration or host to large-scale forest plantations. Those inhabiting forest areas that attract money from carbon finance are driven off the land their ancestors have occupied for centuries in the rush to cut emissions and make money whatever the social cost. The voluntary offset market similarly increases its focus on forestry projects, as businesses and individuals wanting to be ‘carbon neutral’ lose interest in treating such projects as investments in the South, preferring to concentrate on just offsetting their emissions. The World Bank continues its role as major financier of CDM projects, and continues also its tradition of funding large projects with only very concentrated benefits amongst Southern elites and largely based on support to fossil fuels as demanded by the largest recipients of its loans. Large populations in the South become increasingly consigned to the role of guarding forests, while people in the North continue to enjoy high-consumption lives.

The institutional investors behind the CDP contribute to this tendency. The project entails an attempt to enhance investor power over other businesses. In the North–South context, this serves to deny access to capital markets for many Southern businesses, unable to guarantee their products or processes are ‘carbon neutral’, and without access to the technology which would make them so. Instead of mobilising investment to spread access to those technologies, investor-led governance creates new barriers to entry for Southern companies into world markets.

Similarly, governments shift the burden of implementing carbon cuts squarely onto individuals. Personal Carbon Allowance schemes proliferate, but end up operating more as surveillance schemes, enabling the state to monitor personal behaviour ever more intensively, rather than produce egalitarian outcomes. The rich manage to buy up extra credits easily, following the well-known maxim that ‘the poor sell cheap’. The poor get locked ever further into fuel poverty, decarbonising through not consuming, selling surplus allowances for a pittance while experiencing lives that are more and more intrusively monitored.

In this scenario, environmental NGOs are largely co-opted into a world ruled by global finance. Enough of them either don't see the importance of the injustices being caused in the name of climate change, or choose to look away while they support, implicitly or otherwise, the development of carbon colonialism as a less bad choice than stagnation and climate chaos. Elites in the South are also co-opted into this ruling coalition, bought off by creaming off the benefits of large-scale projects and the political pay-off of the power that these bring.

This form of climate capitalism is thus the extension of neo-liberalism as it has operated for the most part to date – highly inequalitarian, creating great vulnerabilities for those on the economic margins and concentrating wealth and power in the hands of a few. Carbon markets do, however, deliver real reductions in overall GHG emissions, but in ways which do not spread benefits beyond the core of the carbon economy. While climate capitalism flourishes in Chicago and one or two other places, and the city of London maintains its dominance, the carbon economy does not redistribute the wealth it accumulates, but rather extends its control across the planet from a well-protected centre. This is a world in which the insurance industry responds to rises in climate-related damage by withdrawing cover from people living in vulnerable and fragile environments, in which inequalities associated with fuel poverty are exacerbated as prices rise, but no redistribution is forthcoming. Climate refugees are correspondingly treated with contempt, either refused access at all or held in camps for years as 'illegal aliens'.

SCENARIO 4: CLIMATE KEYNESIANISM

The problems of legitimising carbon markets could go in one of four directions. They could turn out to be unfounded, in which case the climate capitalist utopia could come about. They could become insurmountable, bringing about the collapse of carbon markets, and lead to stagnation. They could be well founded but the critics could be easily ignored, leading to the previous scenario. But they could turn into a dynamic which leads to much stronger governance of the carbon markets that enables those markets to do their job in producing climate capitalism.

In this scenario, the critics of the carbon economy who argue that its neoliberal, laissez-faire character is the source of its ineffectiveness, turn out to be spot on. As they start to win political arguments, and as the inability of carbon markets to exercise an

invisible hand that drives down carbon emissions becomes increasingly obvious, more and more political forces come together to strengthen their governance. Markets are not abandoned, merely better governed to direct them more closely towards the goal of decarbonisation and to ensure the 'environmental integrity' of offsets both in the CDM and the voluntary markets.

But at the same time, the market actors themselves realise the limits of what they can achieve autonomously. To work well, carbon markets need to be well integrated across the world. They need to be based on consistent units so that trading can occur easily and their value can be recognised by traders in a range of regulatory environments. They need reliable reporting regimes so that the emissions of companies can be readily checked against their permit allowances. All of this requires sound intervention by governments and coordination amongst them internationally. Through lobby groups like the International Emissions Trading Association (IETA) and the Carbon Markets and Investors Association, financiers start to play a more active role not only in pushing for stronger targets, which benefit them as they stimulate trading activity, but also for better coordinated rules among the different countries in the world, and predictability and transparency in the rules being developed.

As a consequence, governments use their power to shape how carbon markets operate. They set stringent targets, set about closing loopholes and addressing weaknesses (such as the windfall profits problem in the EU ETS) and set stringent rules for offset projects in the CDM. They act to limit speculation in emissions trading markets to ensure that prices reflect the scarcity in the allocation of permits rather than the short-term strategies of finance houses. Collectively, they act on institutions like the World Bank to get it to abandon finance for fossil fuels and greatly expand investment in renewables and energy efficiency in developing countries, and not only in its CDM or other 'carbon finance' investments, but across its development lending portfolio.

Governments also start to realise, as carbon prices go up, that additional policies are necessary to reach those parts of society that carbon markets can't reach. They realise that no level of carbon price will be high enough to stimulate the retrofitting of large amounts of housing stock to realise the potential for savings in households, and develop aggressive 'command-and-control' policies to roll out such a programme. They realise that without infrastructure investment in urban areas, high carbon prices will not be sufficient to get enough

people out of their cars and onto bikes or into trains and buses. They, therefore, reorganise urban planning processes to systematically favour such sustainable transport modes. Such policies, far from damaging the economy, however, stabilise the construction industry at a time when the housing market is in recurrent crisis. They create jobs, increase skill levels, as well as address other problems like fuel poverty and urban congestion.

In the voluntary carbon markets, the continuous pressure caused by the problem of 'climate fraud' means that the certification systems like the Gold Standard become essential for project operators. There are repeated scandals about the worth and effectiveness of offsets that do not meet increasingly stringent criteria (including and beyond the Voluntary Carbon Standard (VCS), Offset Quality Initiative, Gold Standard and the Climate Community and Biodiversity (CCB) standards. This means that the space in the market for fly-by-night offset providers, less concerned about tangible environmental gains or social side effects, closes down. If there is less easy and quick money to be made, over time interest declines and actors move out of these markets. This leaves behind a small regulated market and most cowboys move on as transaction costs for them increase and demand declines as poorly perceived carbon credits are self-defeating for companies looking to generate good publicity. It becomes impossible to have offset projects without certification – no one would buy the product – and there is pressure to adopt ever more stringent standards in the projects. Offset projects thus become progressively more useful in pursuing both decarbonisation – eschewing large-scale 'low-hanging fruit' projects in favour of ones which are transformational – and serve broader sustainable development goals. Forestry projects, for example, become restricted to small-scale community forestry projects; large-scale plantations are avoided.

At the same time, the current signs of movement in North–South diplomacy develop further. In negotiations about the international regime beyond 2012, there are increasing discussions about some developing countries taking on some commitments, such as 'no-lose' targets, where they gain financial benefits if they meet or exceed their targets, but are not penalised if they don't. This is combined with a greatly expanded CDM organised to generate investment in broad programmes across whole economic sectors rather than just individual projects. This, in effect, becomes a 'grand bargain' between North and South, facilitating a great expansion in investment to the South, more evenly distributed among Southern countries. This is facilitated by a

quota system in the case of the CDM, which ensures a fairer share of carbon finance for sub-Saharan Africa and agreement on new and increased levels of additional aid for mitigation – a fixed per cent (up to 1 per cent) of Northern countries' GNP as currently proposed by China and the G77. Some see this as a new 'Marshall Plan' for the climate, ironically noting that the UN climate change secretariat is housed in the building in Bonn, the Haus Carstanjen, where the original Marshall Plan was signed in 1947.

This form of climate capitalism, therefore, regulates those areas of the carbon economy that are currently under-regulated. It deepens and strengthens regulation of those areas that are already subject to regulation and tries to steer a nascent carbon economy towards a fully fledged form of climate capitalism that delivers growth (as any form of capitalism must) but in so doing achieves a significant degree of decarbonisation. Importantly, however, it does this in a way that seeks to address inequalities in the carbon economy.

We call it climate Keynesianism after John Maynard Keynes, the British economist. His ideas about the importance of planned economies with strong mechanisms of redistribution had an important influence over post-war economic policy in the West; the last time a similar transformation of capitalism occurred by bringing it under more collectivised control. Rather like with the development of capitalism after the Second World War, this sort of climate capitalism is also based on a broad social compromise. In 1945, that was based on an accommodation between capital and labour, combined with a multilateral bargain between countries. With climate Keynesianism, it is based on a compromise between environmentalist critics and city financiers, combined with new sorts of global governance designed to address unequal contributions to climate change and unequal exposure to its effects.

As governments negotiate turning the CDM into a climate Marshall Plan, they also realise the need to embed this in broader shifts in the ways they manage the global economy multilaterally. The World Bank, as it decarbonises its own projects, at the same time starts to play the coordinating role conceived for it by Keynes and Dexter White in managing a global economy along more sustainable and predictable lines. This time, their focus would be ensuring that its future course is compatible with the goal of preventing dangerous climate change. Similarly, increasing demands to make sure carbon markets do not create 'carbon leakage' turn into demands for tougher minimal standards that apply to companies across the world. In the meantime,

countries with commitments to reduce emissions implement border-tax adjustments to tax carbon and energy-intensive products from countries not subject to those commitments (as the USA and the EU have both already suggested they could do) so as not to suffer a comparative disadvantage.⁵ In order to do this, reforms in the World Trade Organization's rules are developed so that this does not become simply an excuse for protectionism; rather, it enables such adjustments as long as they are well designed, and thus helps to create pressure for action on climate change in rapidly industrialising countries.

As China and other 'rising powers' play a leading role in the global economy, countries seek to address issues of carbon leakage and capital mobility through international law, as well as the forms of national regulation outlined above. To be effective this would not just occur through the climate regime, but be a component of trade and investment regimes that impact flows of trade and finance more profoundly. This might take the form of calls to set common basic commitments - written into multilateral and bilateral trade agreements such that investor rights are contingent on investor responsibilities to use best available technologies and to screen and conduct impact assessments on the climate footprint of their investments. Over time then, climate change objectives are mainstreamed into other areas of public international law and multilateralism in a way which addresses some of the policy incoherence that current exists.⁶

But the 're-embedding' of the global economy within a framework of strong rules is not only achieved through states. In 1945, states were the only agents capable of making and implementing such rules. Now they have been joined by a whole host of governance actors and processes which exceed their control. But these new governance arrangements start to complement the work of governments.

These include the sorts of voluntary and CSR-led initiatives that we described in Chapter 3, which would send strong signals down

⁵ For example in the Waxman-Markey Bill which passed the House of Representatives in the USA in June 2009, and, initially by the EC-mandated High Level Group on Competitiveness, Energy and Environmental Policies, though in its second report the Border Carbon Adjustment proposal was dropped. Some proposals would require importers to purchase offsets in a domestic cap and trade scheme at the point of import.

⁶ P. Newell, 'Fit for purpose: towards a development architecture that can deliver', in Paluso, E. (ed.), *Re-thinking Development in a Carbon-Constrained World: Development Cooperation and Climate Change* (Finland: Ministry of Foreign Affairs, 2009), pp. 184-96.

supply chains from buyers to suppliers that lower carbon production is required. Large supermarkets such as Tesco in the UK have said they will label the carbon footprint of all their product ranges (which run into the hundreds of thousands). Many exporters are already feeling the pressure to reduce the fossil fuels associated with the manufacture and transportation of their products amid concerns about 'food miles', for example. Whilst the age of voluntarism would not come to an end, CSR is transformed by constant pressure from NGOs, as well as shifts in government regulation, into a much stronger driver of corporate transformation. As businesses become subject to much greater scrutiny about their emissions profile, the corporate governance scandals which look like 'Enron environmentalism' prompt efforts beyond voluntary codes, making businesses increasingly accountable not only to shareholders but to a much wider range of interests. The entrenchment of shareholder activism has the same effect - shareholders make more demands of companies that go beyond narrow measures of self-regulation. Threats of litigation by indigenous peoples and others affected by the inactions of leading polluters (as has already occurred against the US government)⁷ about climate impacts also make investors jumpy, sending ever stronger signals to companies they invest in to avoid complicity in exacerbating climate change. Those companies then turn to states for stronger regulation to create level playing fields and clear signs of what is and isn't acceptable and to avoid future damaging litigation. Disclosure projects like the CDP start to work in clear synergy with government regulation; companies act to make sure there is one single reporting framework (to avoid duplication of effort), enhancing transparency and allowing investors to make informed choices.

So, in part, states develop stronger forms of regulation in reaction to the limits of these sorts of softer, voluntary forms of governance and private regulation. The pressure exerted by climate activists through shareholder activism, company boycotts and engagement in the construction of private standards discussed in Chapter 8 comes over time to be considered inadequate, problematic or both. This scepticism about the excessive engagement of civil society actors with market initiatives comes to be seen as a distraction from the need for regulation and redistribution, which in turn feeds demands for a state-led approach. Questions are also posed, especially by climate

⁷ P. Newell, 'Civil society, corporate accountability and the politics of climate change', *Global Environmental Politics*, 8(3) (2008), 124-55.

justice groups, about the legitimacy of civil society actors setting social and environmental benchmarks for assessing performance. Groups engaged in those strategies find themselves questioned about the lack of sanctions that apply to forms of soft and private regulation and the uneven and non-universal nature of voluntary schemes. This prompts calls for leadership on the issue by the UN and governments who are increasingly expected to use public regulation to fill the gap left by market-led initiatives in the carbon economy. These pressures strengthen calls for a 'Green new deal'.

The development of strong rules to guide carbon markets, policies to reach areas that markets cannot affect and a global bargain to create an integrated decarbonisation of the economy across the world become the central elements in creating a genuinely new form of capitalism. By re-regulating the carbon markets and producing redistributive mechanisms both within countries and across the world, governments create stable conditions for investment in carbon markets and in renewable energy, energy efficiency and so on. The potential benefits of such an economy become more evenly spread around the world. But at the heart of this coalition remains global finance - whose coordinating power is mobilised and channelled by governments to achieve decarbonisation.

PURSuing CLIMATE CAPITALISMS

These are of course imaginative exercises, and ideal types, not predictions. All, however, seem to us intrinsically plausible ways that the development of responses to climate change might play out over the next 20-30 years. In all likelihood some messy mix of them will co-exist - some areas of the world stagnating, others going ahead with a pure neoliberal version, while others still regulate the carbon economy more stringently. These differences could even be deliberately chosen as competitive strategies by states in a global economy, just as states regulate their economies differently as competition strategies at the moment. High levels of transnational investment, integrated strategies and the global reach of many key players in the carbon economy may generate pressures for higher levels of uniformity and convergence in the governance of carbon markets, even if these take some time to be realised.

There are also of course a series of contingencies whose impact is difficult to assess. Perhaps top of the list, how will climate change itself play out in the near term, and how will it be interpreted politically?

Will a series of climate-related disasters help to keep pressure up for stronger targets, or will the rich start to pull up the ladder on 'climate refugees'? Or will a few relatively calm years cause people to become blasé?

But beyond the course of climate change itself, plenty of other factors will have an effect on responses to climate change and the development of climate capitalism. How will the financial crisis of 2008 have an impact? It could lead to a broad re-regulation of finance which might favour the 'climate Keynesianism' scenario. But it could equally cause financial companies to withdraw from 'risky business' like carbon trading as well as cause others to mistrust finance even more, leading to stagnation. What about oil prices? If the high oil prices are here to stay, because 'peak oil' has been reached perhaps, they could intensify pressure to wean economies off oil, contributing to either climate capitalists' utopia or climate Keynesianism. But they could also lead simply to more oil exploitation, the further development of disastrous projects like the Alberta oil tar sands, intensive development of biofuels and a focus on carbon capture and storage policies, which produce decarbonised dystopia. How will the continued rise of China affect things? Will it mean China starts to accept the need to accept commitments, or will it increase the difficulty of reaching any diplomatic agreement which markets need to create reasonable certainty about the future of carbon markets? Numerous other contingencies can be imagined - broader legitimacy crises for neoliberalism, shifting population demographics, how widespread protest campaigns become and the longer-term impact of the 2008 US presidential election. All of these, in some sense, will act as drivers of the development of climate capitalism, but in ways that are impossible to predict.

If prediction is impossible, making claims about which of these scenarios is desirable and how it might be pursued is less complex. Our writing of them is of course tendentious, leading to a favoured version at the end. Our assumption is that either climate capitalist utopia or climate Keynesianism is in principle desirable. But given the various drivers just discussed, and how deregulated markets in practice work, pursuing a pure neoliberal version of climate capitalism is likely to lead to either stagnation or to decarbonised dystopia. The question is then for us how best to pursue climate Keynesianism.

By historical analogy, we can infer a good deal. In the aftermath of the crash of 1929, the depression which followed, and the Second World War, the global economy was radically reorganised. Global finance was restricted using capital controls. Economies were

managed closely to prevent booms and slumps (using Keynes' ideas) and to pursue full employment. A whole set of novel multilateral institutions were created to stabilise and facilitate the expansion of trade and investment between countries. But at the heart of this was also a dynamic of social unrest and the way that big business responded to it. Unions and political parties that represented them played a key role in forcing business to adapt, to accept a place for labour in economic management and significant limits on businesses' freedom of action. But most businesses also came to realise that such limits could actually be beneficial; that by spreading wealth more evenly, more people would have money to buy the products created in their factories.

Climate Keynesianism will clearly have its own features, but the response of business to protest and contestation will again be crucial. The basis for the political compromise on which climate Keynesianism would need to be based would require that the financiers realise that strong rules facilitate the smooth operation of carbon markets, even while it might eliminate some opportunities, such as the dodgier carbon offset schemes. The activities of critics of carbon markets, as we discussed in Chapter 8, are thus crucial to producing the pressure to regulate those markets, which might make those markets actually achieve their potential. This is of course ironic given that the critics, for the most part, want to abolish carbon markets. But then many of the union activists in the 1930s wanted to abolish capitalism, but in practice contributed to a better-regulated and more successful version of it.

The multilateral dimension is more complex. In 1945, much of the world was still ruled in a directly colonial fashion, and the rules established either didn't apply to colonies or were simply applied to them as an extension of the obligations of colonial powers like Britain and France. Now, the whole world is engaged in negotiating the rules, and the inequalities across the world are much more complex than simply a question of rich and poor countries (despite the rhetoric of developing countries in UN negotiations and the fragile solidarity of the G77 + China grouping). The situation is also more complex in that multilateral governance by states is accompanied by growing numbers of private governance schemes like the CDP. A grand multilateral bargain is thus perhaps harder to produce. But its essence is similar to the compromise made by financiers. Implicitly, a bargain already exists whereby industrialised countries take the lead in emissions reductions, but do so in a way which facilitates investment in developing countries that might (repeat, *might*) help decarbonise the latter. This

was the logic which underpinned the CDM. A green Marshall Plan that would be the basis of such a bargain would require a greatly expanded CDM, aided by a reformed and refocused World Bank and other shifts in institutions like the World Trade Organization (WTO), but also by the investment switching activity helped by private governance projects like the CDP.

There are of course no guarantees. There are no guarantees that we will avoid stagnation, with the accelerated climate change and extensive social and political disruption that this is likely to produce. There is no magic lever we can pull to ensure a desirable outcome. It will be, rather, the result of politics – the messy world of struggle and compromise over visions of how the world should be organised. The world has always been thus.