



### **Environment, climate, air quality and investment: New risks, new opportunities**

Banks and financial institutions are already subject to a wide range of measures designed to influence their responses to environmental issues, from statutory provisions on reporting and disclosure, to voluntary codes, principles and lending criteria. It is not the purpose of this article to review this crowded field of ethical, sustainability and responsible investment initiatives. Instead, this article suggests that in order properly to assess the risks and opportunities arising from any particular environmental issue, four key aspects need to be considered – science, politics, law and regulation, and timing. It considers those elements further in the context of two key current environmental issues, climate change and air quality, where rapid political and legal developments are throwing up new challenges and leading to fundamental re-assessment of both risks and opportunities for investors.

First, there is the assessment of what is the best available science about an environmental issue, as far as possible disentangled from politics and economics. Scientists hardly ever pronounce the 'last word' on a topic, so non-scientists need to devise ways to apply their own judgement and ask their own questions to decide when the science is clear enough to act upon.

Secondly, there is a political response to the science. Politics responds not only to one set of scientific messages about the environment, but to all the rest of the cacophony of political messages from other sources. For example, while economists might argue that onshore wind farms are one of the best and most economic ways to promote renewable energy, politicians will also be subjected to political messages from the voting public that wind farms are unpopular in peoples' backyards.

Thirdly, there is a response to the politics in terms of law and regulation. This ought to be clear and predictable, in that law is simply a legal expression of the point reached by politics at a particular moment. However, it can be harder to read than that because laws are derived from different sources of policy. Over 80% of the environmental laws in the UK are based upon European Union Directives and Regulations. The European Parliament has a strong influence in the final form of Directives, but little account is taken of its deliberations in many UK institutions. There is also a legal response to breaking news and current events, such as the investigations of wrongdoing at Volkswagen, or the UK government's revised Air Quality plans

in response to the Supreme Court ruling in the *ClientEarth* air quality legal challenge (which are discussed below). Banks and financial institutions need to follow developments in environmental laws and regulations systematically, because they make, break, shape or control the markets in which they operate and make investments.

Fourthly, there is the question of timing of laws and regulations. It may be artificial to try to separate this from politics or law and regulation, and there is clearly some overlap, but successful investments or the avoidance of stranded assets can depend critically upon the point at which laws and regulations take effect. For example a new Republican administration in the USA delayed introduction of a key regulation to limit emissions from tall smoke stacks. As a direct result, a US-Japanese joint venture with state-of-the-art emissions control technology laid off 700 workers and was closed down – the investment came before the regulations which would have created the market.

The next section of this article considers how these principles apply to two current issues of major importance to investors as well as to the rest of the public: climate change and air quality.

#### **Climate change**

The international scientific consensus on the science of climate change is best summarised in the series of reports from the Intergovernmental Panel on Climate Change 'IPCC'. The IPCC's Climate Change 2014 Synthesis Report, Summary for Policymakers stated that –

“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.”

and

“Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”

The Synthesis Report notes that atmospheric concentrations of carbon dioxide, methane and nitrous oxide are unprecedented in the last 800,000 years, and together with

other anthropogenic factors, are “extremely likely” to have been the dominant cause of the observed warming since the mid-20th Century.

The impact of scientific opinion on climate change policy has been greatly increased by the strength of the scientific consensus, and the way it is assembled internationally. The IPCC reports are prepared with a very wide international cross section of authors and expert reviewers. This may not make them infallible but it does make them politically compelling and hard to ignore.

The impacts of the emerging political consensus on the financial environment in which banks and financial institutions operate were apparent even before the Paris Agreement was signed and reflect the acceptance of the consensus view of climate science outside political circles.

In his major speech on climate change and financial stability on 29 September 2015, Governor of the Bank of England Mark Carney identified three main ways in which climate change could affect financial stability –

- First, physical risks: the impacts today on insurance liabilities and the value of financial assets that arise from climate and weather related events, such as floods and storms that damage property or disrupt trade;
- Second, liability risks: the impacts that could arise tomorrow if parties who have suffered loss or damage from the effects of climate change seek compensation from those they hold responsible. Such claims could come decades in the future, but have the potential to hit carbon extractors and emitters – and, if they have liability cover, their insurers the hardest;
- Finally, transition risks: the financial risks which could result from the process of adjustment towards a lower-carbon economy. Changes in policy, technology and physical risks could prompt a reassessment of the value of a large range of assets as costs and opportunities become apparent.”

As the Governor noted, insurers already know more than most about the quantifiable physical impacts of climate change and the way these translate into the cost of claims. But he also noted that increasing levels of physical risks due to climate change could present significant challenges to general insurance business models, with claims on third party liability insurance for directors and officers and professional indemnity if these could be shown not to have done enough to mitigate climate risks, to account for damage done to the environment or failure to comply with regulations.

Interestingly, some environmental NGOs are starting to construct similar arguments. Environmental NGO *ClientEarth* supports a Climate and Pensions Legal Initiative, and is arguing that climate change is a material financial risk to investment portfolios, and therefore that pension fund trustees have a legal (as opposed to simply an ethical) duty to review material financial risks to their investment portfolios –

*“ClientEarth is examining these duties and we may bring legal challenges if we find that funds are failing to meet their obligations.”*

Governor Carney’s warning of “transition risks” addressed, for example, the 19% of FTSE 100 companies in natural resource and extraction, and 11% by value in power utilities, chemicals, construction and industrial goods. A carbon budget that limited global temperature rises to 2 degrees above pre-industrial levels could impact between 1/5th and 1/3rd of the world’s proven reserves of oil, gas and coal – so could those become “stranded” assets? The idea is resisted by some oil majors – but as one example of this kind of effect, 2015 saw announcements of the end of deep coal mining in the UK.

Conversely, the Governor noted that financing the de-carbonisation of our economy is a major opportunity for insurers as long-term investors; “It implies a sweeping re-allocation of resources and a technological revolution, with investment in long-term infrastructure assets at roughly quadruple the present rate. For this to happen, “green” finance cannot conceivably remain a niche interest over the medium term.”

The fact that climate change represents opportunities as well as risks is underlined by, for example, Cititrust’s goal to lend, invest and facilitate \$100 billion of environmental finance for environmental and climate change solutions, or Goldman Sachs’ clean energy investment target of \$150 billion.

In her celebrated speech to the United Nations General Assembly in November 1989, Prime Minister, Margaret Thatcher, quoted directly from evidence sent to her by a British Scientist in the Antarctic about the effects of man-induced climate change, and went on to declare –

*“The problem of global climate change is one that affects us all and action will only be effective if it is taken at the international level. It is no good squabbling over who is responsible or who should pay...”*

Nevertheless, this, essentially, is what the international community has been doing by way of a political response for nearly two decades. A diminishing number of states have resisted the messages of the science, while there has been much squabbling over who should pay, and how the burdens should be shared by ‘developing’ countries.

The outcome of the Paris Conference of Parties ‘COP 21’ on 12 December 2015 represented a far greater international political consensus view of the science of climate change and the initial steps needed to address the issue and to limit global warming. The political response to the strength of the scientific consensus was explicit from some of those most closely involved. US Secretary of State John Kerry while conducting negotiations described climate change science as “screaming at us”.

The Paris Agreement at COP 21 (A.2)...*“aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:*

- (a) *Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change;*
- (b) *Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;*
- (c) *Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate – resilient development.”*

The Agreement itself will be legally binding, but each country's "nationally determined contributions" (NDCs) will not. International engagement, transparent reporting and pressure from civil society will be the means for ensuring that countries' commitments are maintained. The machinery for five yearly reviews, and a periodic 'global stocktake' in the full light of public scrutiny, actions before 2020, alignment of reporting and transparency, technology transfer and funding aims of US\$100 billion per year for developing countries will be part of the challenge of making the Paris Agreement effective. The 'progressive approach', ratcheting up increasingly ambitious national contributions, will be very important. It will be open for signature on 22 April 2016, and will come into force when ratified by 55 parties accounting for 55 percent of total global greenhouse emissions.

It seems inevitable that there will be many setbacks along the way, such as the US Supreme Court's 5-4 veto against early implementation of the administration's emissions control plans. The law and regulation on climate change can be expected to develop from the political lead from Paris. NDCs need to be translated into national programmes. At the regional and EU level in particular, legislation to implement, develop and enforce the political consensus will be required. National legal developments will be important. But so will the contributions of some 7,000 cities worldwide, and the point at which business is sufficiently persuaded of the direction of travel to make key investments.

On the timing of such legislation, it is significant that there has been an international commitment to five yearly reviews and extensive action before 2020. The Paris Agreement has profound implications for banks and financial institutions. Their skills will be needed to deliver the major changes that are called for in the Green Climate Fund, the Global Environmental Facility and the Financial Mechanism of the UN Framework Convention on Climate Change, and the very large levels of funding for developing countries, mitigation and adaptation – the Agreement goal is \$100 billion per year. The Agreement will re-invigorate the search for effective carbon markets. It will also generate new levels of technology development and transfer, a point recognised by the International Investors Group on Climate Change, representing some \$13 trillion of funds under management.

Above all, the Agreement re-sets the political compass, and represents an internationally agreed direction of travel towards a fossil fuel free economy. In a major speech in January 2016, UK Special Representative for Climate Change Sir David King referred to the Paris Agreement as "a turning point in human history" and the "biggest opportunity of our age". What is clear is that 195 countries put the failures of earlier conferences such as Copenhagen behind them, put on one side many of the sterile arguments between 'developed' and 'developing' countries, and agreed a common framework for achieving much more ambitious goals on controlling climate change and making a decisive shift away from a fossil fuel economy.

### Air quality

The science of air quality does not have an international body comparable to the IPCC to organise and represent its consensus. However, scientific understanding of the health effects of air pollution has advanced considerably in the last two decades, for example on the health impacts of fine particulates. The science has been very unevenly applied to relevant international and EU law.

The World Health Organisation (WHO) estimates that there are about 7 million premature deaths from air pollution per year worldwide, some 2.7 million (2012) from outdoor air pollution, and 4.3 million from household air pollution. Regionally, the European Commission estimates annual premature mortality across Europe from air pollution to have been 520,000 in 2005, 406,000 in 2010, projected to fall to 340,000 by 2020. The UK government has accepted in its own publications and statements an estimated annual figure of 29,000 premature deaths from air pollution, 80% attributable to emissions from traffic.

The political response to the kind of mortality figures outlined above has been very much delayed, perhaps because air pollution is not always visible except in extreme circumstances of city smogs, or made up of complex contributory causes, and it has been left to 'government' to sort out. This is changing in response to strong legal challenges and public events. Politically, past inaction has allowed pressure for change to build up, and candidates in the forthcoming London Mayoral election put the issue near the top of their priorities.

Seventeen EU Member States face infringement proceedings for breaches of the EU Ambient Air Quality Directive over levels of fine dusts, and a further six, including the UK, are being referred to the Court of Justice of the European Union for breaches of NO<sub>2</sub> levels set by that Directive, with the UK risking daily fines for longstanding breaches of EU law. Such fines can now be shared with responsible public authorities under the Localism Act 2011, which has left many local authorities concerned that they may share fines for lack of action to address air pollution where it may be outside their powers and resources to control it effectively.

Environmental NGO *ClientEarth* has helped prompt the NO<sub>2</sub> EU infraction case against the UK and also achieved a

landmark ruling in the UK Supreme Court in April 2015 that the government was in breach of EU law on air quality, and a mandatory order that it must present revised air quality plans by 31 December 2015. Although this was done, the plans focus on transport emissions in six cities including London where legal breaches are likely to continue after 2020. *ClientEarth* has already announced that it regards the government's revised plans as inadequate, and it will be renewing its legal challenge that they fail to deliver compliance with EU law as quickly as possible.

In the midst of this legal activity, news broke that Volkswagen had fitted defeat devices designed to result in misleading emissions data on 11 million cars worldwide. In January 2016, the US government filed a multimillion dollar civil suit against Volkswagen in the US District Court in Michigan. It is fairly clear from subsequent investigations that EU vehicle emissions tests have failed to reflect real life driving conditions for the 23 years since they were introduced.

Nevertheless, the response of the UK government and other EU governments with car making facilities has been to argue that more time is needed for the car industry to comply with the tests if they are really to reflect Real Driving Emissions ('RDE'). By a narrow margin in February 2016 the European Parliament voted against a veto of RDE proposals, and therefore to allow the industry to permit emissions at 2.1 times the present legal limit until 2020 and 1.5 times thereafter. What is seen by some parts of government and some parts of industry as a short term 'win' may in fact represent a further loss of public trust in its products and its pronouncements. In particular, this has led the European Commission to propose radical new legislation which would give the Commission powers to carry out spot checks, order product recalls, and impose fines of €30,000 per vehicle, so the issue is affecting product stewardship legislation more generally.

Legal responses to these issues will continue through 2016 and beyond, with continuing EU infraction litigation and judgements, tighter emissions control and testing requirements, follow up to the *ClientEarth* Supreme judgement, threats to use the Localism Act 2011 if the UK is subjected to fines after 2020 for continued breaches of EU law, closer scrutiny of the costs and benefits of diesel engines, and new national and local legislation on Clean Air Zones all likely.

For banks and financial institutions, the financial impacts of these issues will be significant. The London Mayor's projections for continued breaches of air quality legislation after 2020 show Central London and Heathrow as remaining hotspots. The issue is accepted by government to be a key factor in the viability of allowing a third runway at Heathrow and direct threats of further legal action based on air quality legislation have played a major part in the announcement that any decision on increasing London's airport capacity will be delayed until after the London Mayoral elections. The development of a network of Clean Air Zones like the London Low Emission Zone or its projected Ultra Low Emission Zone in other cities across the UK will have impacts on investments in road transport, older vehicles and newer bus fleets. Wider air pollution concerns will impact on aviation and shipping. These will be opportunities, as well as threats, for different fuels, cleaner energies, electric cars, hybrids, low emission transport technologies, and financial impacts upon many other forms of investment.

## Conclusions

For investments in the environmental sector, the risks may be considerable, but the opportunities are increasing dramatically. For each issue, understanding the science, the politics, law and regulations and the timing of new regulations can help to make these impacts more predictable.

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