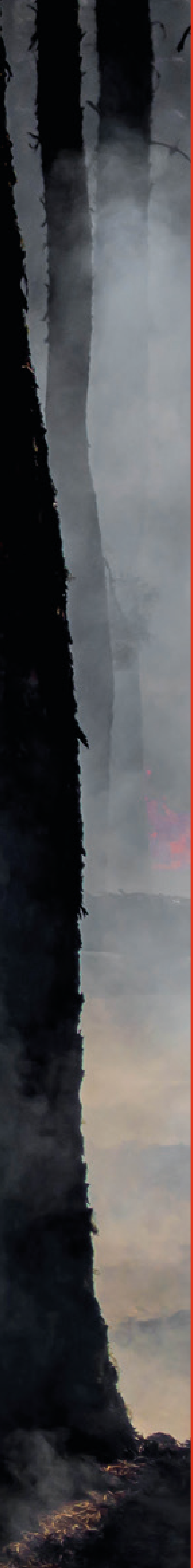

CLYDE&CO

Climate change: A burning issue for businesses and boardrooms

A legal, commercial and insurance view of risk, responsibility and resilience

RESILIENCE

Contents

Introduction

NIGEL BROOK
PARTNER, CLYDE & CO

Climate change is one of the defining issues of our time. Its effects are already apparent around the world and there is widespread and growing concern about the physical, economic, social and political impact it will have in the near future. There is a growing consensus that the transition to a low/zero carbon economy needs to be accelerated rapidly if catastrophic warming is to be averted. That transition will create a range of economic risks as well as opportunities. Furthermore, as social and judicial attitudes harden, the perceived contributors to climate change face significant exposures, including liability risks.

All of this has major implications for businesses. Today, most companies are vulnerable to climate-related risks in some way, even if they are not in the energy sector or other carbon-intensive parts of the world economy. Their boards have responsibilities to shareholders and other stakeholders to understand, measure, mitigate and report on those risks.

Climate-related liability risk is a particular case in point. There have already been hundreds of climate lawsuits around the world, but a shift is underway. Cities, counties, states and company shareholders are beginning to find innovative ways to claim from corporations whose activities may have contributed to climate change, or for alleged failures to protect assets and investments against the impact of physical or transition risks. Such claims will result in a broader spectrum of businesses and senior individuals being exposed to the risk of climate-related litigation.

Claims may stem from physical damage to infrastructure and property or from financial damage to share prices and underlying asset values. They may also include anticipated losses and the costs of responding to climate change in future. These cases are being closely followed.

For these reasons, climate change is now a critical boardroom issue. Not only the corporations themselves but also their directors, are at risk of being held to account.

The increasing liability exposure poses a challenge to insurers. But they also have opportunities to be part of the solution, developing innovative risk transfer products and deploying their expertise in risk mapping and modelling to help mitigate clients' exposure and enhance resilience to climate change.

This paper seeks to explore and shine a light on all these issues, focussing on what businesses, their Boards and insurers need to consider, both now and in their future planning, while assessing the liability risks that are emerging on a corporate and an individual level.

Should you require any further information on this topic, or the issues raised in this report, please do not hesitate to contact us.

Key statistics

2018

The UK's joint hottest summer on record[1]

2˚C

The upper limit on global warming above pre-industrial levels agreed in the 2016 Paris Agreement on climate change

17 out of 18

Hottest years since modern records began have occurred since 2001[2]

1.5˚C

The preferred target limit of global warming above pre-industrial levels set out by the UN International Panel on Climate Change (IPCC)[4]

3.2˚C

UN's projected global temperature increase above pre-industrial levels by 2100[3]

0% carbon emissions

Global net human-caused carbon dioxide emissions will need to be cut to zero by 2050 to keep global warming below 1.5˚C[5]

1 Met Office data.
Source: https://www.theguardian.com/uk-news/2018/sep/03/summer-2018-uk-joint-hottest-on-record-met-office-says

2 NASA and The National Oceanic and Atmospheric Administration of the US analysis. Source: https://www.nytimes.com/interactive/2018/01/18/climate/hottest-year-2017.html

3 UN estimate.
Source: https://www.theguardian.com/cities/ng-interactive/2017/nov/03/three-degree-world-cities-drowned-global

4 UN International Panel on Climate Change (IPCC) Special Report https://ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf

5 UN International Panel on Climate Change (IPCC) Special Report https://ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf

Extreme weather events seen as

#1 most likely global risk[6]

3x

The number of registered weather-related loss events has tripled since the 1980s[8]

1,000

Climate change cases filed across

26

Jurisdictions around the world (as at May 2018)[7]

USD 10 billion

rising to

USD 55 billion

Increase in annual average inflation-adjusted insurance losses since the 1980s to the past decade[9]

6 World Economic Forum *The Global Risks Report 2018* http://reports.weforum.org/global-risks-2018/press-release/

7 Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy "Global trends in climate change legislation and litigation: 2018 snapshot", May 2018 http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/04/Global-trends-in-climate-change-legislation-and-litigation-2018-snapshot-3.pdf

8 The Climate Change Litigation of the World database, Sabin Center for Climate Change Law http://climatecasechart.com/ (data cited as at 21 November 2018

9 Bank of England https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/report/transition-in-thinking-the-impact-of-climate-change-on-the-uk-banking-sector.pdf?la=en&hash=A0C99529978C94AC8E1C6B4CE1EECD8C05CBF40D


DRIVERS

Key drivers of the new, heightened risk environment

For businesses, the pressures shaping climate change-related risk are bearing down from many angles. Satisfying the expectations of various stakeholder groups, from customers to shareholders to policy-makers to the general public and the international community is a complex and sometimes contradictory task. The key drivers are:

POLITICAL

Under increasing public scrutiny, governments around the world are taking robust measures to curb greenhouse gas emissions, from implementing carbon trading schemes and tax breaks designed to encourage investment in renewable energy to shifting towards electric vehicles. Global efforts culminated in the 2015 Paris Agreement, when nations worldwide came together to agree ambitious measures to limit global warming.

However, with the US now withdrawn from the Paris deal, there has been a rift in the political consensus, which is spurring some climate change activists to seek other routes to further their cause – an issue dealt with in more depth later in this report. Additionally, the UN 2018 International Panel on Climate Change (IPCC) special report adds pressure on governments to curb global warming even faster and further than the upper limit (2˚C) set out in the Paris agreement - to just 1.5˚C[10].

10 UN International Panel on Climate Change (IPCC) Special Report https://ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf

REGULATORY

The regulatory perspective on climate change is more complex and broad-based than it may first appear. Alongside tightening environmental regulation, in which a number of sectors such as marine transport, aviation, automotive as well as energy are increasingly having to adapt operations and meet stringent emissions standards, other regulators are getting involved in the debate.

Notable among these are financial regulators, such as the Bank of England (BoE) and the Australian Securities & Investments Commission (ASIC) who are taking the lead in improving corporate awareness – and disclosure – of climate change as it potentially affects financial stability by undermining asset, and thereby investment values.

> Climate change is an existential threat to certain sectors of the world economy.
>
> *- Nigel Brook, Partner, Clyde & Co, London*

FINANCIAL/ECONOMIC

A move towards cleaner, greener business models makes increasing commercial sense for businesses across sectors as the confluence of factors outlined in this section create a strong market for products and suppliers who do as little "damage" to the environment as possible. From the rapidly growing market for electric cars to the emerging trend for more sustainable and energy-efficient building materials to the impetus to reduce use of plastics, recent years have seen an acceleration in demand towards more environmentally-friendly alternatives to a range of products. Tapping into these market shifts is no longer the preserve of niche players or social enterprises; doing so can help businesses protect and even increase market share.

For this reason credit ratings agencies are increasingly likely to incorporate climate change factors into their ratings criteria, with clear implications on businesses' borrowing power and their ability to secure investment.

Moreover, the drive towards "ethical investing" is gaining momentum, increasingly ruling out investments in anything deemed to have a detrimental social or environmental impact. Increasingly, this could shape institutional investor strategy.

REPUTATIONAL

Financial drivers are closely linked to reputation and brand value. Consumers' growing consideration of a brand's perceived ESG (environmental, social and governance) credentials can help damage or drive the valuable intangible commodities of customer loyalty and goodwill, with a critical impact on a business' fortunes.

And scrutiny is intense. Activism and public concern over the impact of burning fossil fuels on the environment is nothing new, but increasingly we are seeing a more active approach to driving change. For example, activists and other "injured" parties such as cities affected by rising sea levels are seeking new ways to "name and shame" those they see as "offenders" in the courts as well as to seek damages for current or even future losses.

> Businesses need to consider – today - the medium to long-term impacts of climate change on whether a project or investment is viable or not over the next 5, 10, 20-plus years.
>
> *- Neil Beresford, Partner, Clyde & Co, London*

SCIENTIFIC

The science behind climate change is well known and hard to refute but science is also playing a role in better identifying the consequences of climate change. As Nigel Brook, Partner, notes: "Mainstream science on climate change is now rock-solid. Scientists are able to predict with great accuracy, for example, when and by how much sea levels are likely to rise or assess the likelihood of extreme weather events or shifts in flooding patterns."

On top of this, he points to the emerging field of "attribution science", by which scientists are able to state, not that climate change caused a specific event, but the extent to which it could have affected it. Once this developing area of science becomes more established, it should make future impacts easier to plan for but it could also make it easier to create credible legal arguments tracing causal liability back to businesses.

TECHNOLOGICAL

Science is an evidence-based exploration of the world in which we live, and with more satellites in the atmosphere than ever before, and increasingly sophisticated algorithms being developed, there are now huge amounts of data with which to map and model climate-related risk.

Technological advances and data-driven insight can have both positive and negative consequences for businesses – playing into the hands of potential litigants but also providing new bases for defence and potentially handing an advantage to those with access to the best data. It also allows insurers to develop more sophisticated and targeted risk-transfer products.


RISK

Physical and financial risk

In its seminal report published in 2015, the Bank of England identified three primary risk factors in which climate change is likely to impact on the insurance sector[11] – which it has subsequently re-iterated in its 2018 follow-up review of the banking sector[12].

The BoE's remit may rest with financial services and the extent to which climate change could undermine the stability of financial systems, but since banking and insurance are central cogs in the engine of the wider economy, the wider implications for businesses of all stripes (as well as their investors and insurers) are clear.

Broadly these 3 key risks are:

PHYSICAL RISKS

The impact on asset values and insurance liabilities from damage to property as a direct result of severe weather events such as storms or floods, or indirectly from factors such as business interruption caused by disruption to global supply chains.

TRANSITION RISKS

The financial risks which could arise from the shift to a lower-carbon economy as carbon-intensive financial assets are re-priced, perhaps rapidly, potentially causing shocks to share prices. As BoE Governor Mark Carney has explained: "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."[13]

LIABILITY RISKS

The risk that parties who have suffered loss or damage from climate change seek to recover losses from those they deem to have been responsible. As the BoE notes, "Such claims could come decades in the future."

Clearly, the first two risk factors highlighted here have profound implications for the third risk factor – liability. We look at each factor in more detail next, in the context of an evolving litigation landscape.

11 https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/publication/impact-of-climate-change-on-the-uk-insurance-sector.pdf?la=en&hash=EF9FE0FF9AEC940A2BA722324902FFBA49A5A29A

12 https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/report/transition-in-thinking-the-impact-of-climate-change-on-the-uk-banking-sector.pdf?la=en&hash=A0C99529978C94AC8E1C6B4CE1EECD8C05CBF40D

13 https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A


LIABILITY

Liability and the evolving litigation landscape

We are already seeing a broad range of new types of liability exposures as well as novel litigation tactics being deployed in the battle by activists to force change and by cities and others to recover the costs of climate-related damage and resilience measures. To date, many of these proceedings have failed to overcome substantial legal hurdles, but that could be about to change. Several cases underway around the world are being closely watched, creating the potential for copycat claims against a broadening range of targets in the event of a successful outcome or even should cases overcome preliminary hurdles at the pleadings stage.

> It's difficult to think of a sector which won't be impacted by climate change.
>
> *- Neil Beresford, Partner, Clyde & Co, London*

CORPORATE LIABILITY

Businesses have a responsibility to evaluate future, as well as present, risks.

When it comes to **physical risks**, companies should be conducting thorough risk assessments before any significant investment takes place.

Will a new hotel built on the coast still attract tourists in five to ten years at the rate sea levels are rising? What is the likelihood of a planned factory or warehouse having to be mothballed if its operations are frequently disrupted because it is built in an area that becomes a high flooding risk thanks to climate change? Will agricultural land be able to provide the produce and output levels and quality that its current owners base their business models on?

Failure to answer these or similar questions satisfactorily – or to ask them at all - could result in significant financial losses for which investors will want redress. In this, the advent of attribution science could provide as much an opportunity in terms of future forecasting as it poses a threat.

When considering physical risks, companies may also need to bear in mind the emerging trend for product liability actions. These are based on the extent to which polluting businesses can be held liable for the existing and future costs of climate change. We look at this liability in its own right in the next section.

In effect, companies could face litigation over their actions (or lack of action) insofar as they have contributed to climate-related damage.

Transition risks may be even harder, but no less important, to quantify. Nigel Brook puts it: "As we pivot away from fossil fuels, there will be winners and losers in the global economy. If that happens rapidly – and nobody quite knows how fast this will happen – there could be some significant shocks ahead, with investments being written off."

A range of factors, from government policy changes to the falling price of renewables and increasing consumer demand for electric vehicles, could accelerate this shift. Of major concern is the risk of so-called "stranded" or "trapped" assets, where it becomes uneconomic for oil and gas majors to realise all the assets on their books – with potentially severe consequences for their share prices.

Outside of oil & gas, companies risk being left behind in this transition to a low carbon economy on the one hand, and making the wrong bets on investments on the other. Investors too need to exercise caution and could find their investment models under threat, especially those that track major indices. For instance, almost a third of the FTSE100 (by value) is made up of oil & gas, chemicals, basic resources and industrial goods and services companies[14].

When it comes to financial statements, accounting properly for risk as it could affect asset values is vital – but can be very challenging, given the uncertainties surrounding future trading conditions and given that there are currently no international standards on disclosure. However, voluntary standards do exist, developed by the Taskforce on Climate-related Financial Disclosures (TCFD), and financial regulators are pushing for best practice. Where standards exist, courts may take a dim view of corporate failures to disclose relevant risks should litigation alleging that asset values have been mis-represented arise. The scale of damages in such claims could prove extremely costly, both for companies and their directors.

14 Source: FTSE Russell factsheet 31 September 2018
https://www.ftse.com/Analytics/Factsheets/temp/44779198-d364-4272-acbd-b6ca6a9cd2ea.pdf

> Climate change litigation is not new – but now we are seeing new types of claims emerge, brought by a wider range of claimants against businesses, with potential for increased D&O risk too
>
> *- Neil Beresford, Partner, Clyde & Co, London*

> We're starting to see lawsuits where damages are sought to compensate for future losses, and "product liability" arguments are being used.
>
> *- Neil Beresford, Partner, Clyde & Co, London*

PRODUCT LIABILITY

Petroleum as a "defective product"

For years, governments have been under pressure to tighten the regulation of emissions from petroleum-based products, with claims being brought predominantly in the administrative courts, to compel governments and regulators to take a tougher line on climate change.

In 2017, a new type of litigation emerged in the United States. Cities, counties and states have begun bringing lawsuits against the oil industry.

Their approach creates significant risks to the companies concerned because the lawsuits have been commenced as simple tort claims in the state courts. If state court jurisdiction is upheld, it allows plaintiffs to launch similar actions nationwide in courts which are often perceived to be a dangerous forum for corporate defendants.

The complaints focus upon an allegation that the oil industry has, for the last 50 years, sold and marketed petroleum, despite knowing about the harmful effects of burning carbon-based products. The arguments are similar to those used in tobacco and asbestos litigation, although the core allegation that petroleum is a defective product is clearly on a different scale. Such a finding has potential to disrupt the global economy.

High stakes

Activists are attempting to use this route to force change, but they are not the only types of plaintiffs involved. States and cities are now seeking to recoup the costs of infrastructure projects and urban development plans they say are required to enable them to withstand higher sea levels or more frequent extreme weather events. Importantly, the losses sought are generally future losses rather than existing ones.

Such actions are already gathering pace across the US, for example in California, Colorado, New York and Baltimore, though none has yet achieved a successful outcome.

“The stakes are high,” warns Neil Beresford. “It only takes one jury to accept the climate science to set off a landslide of similar actions.”

“At the moment, the biggest risk from tort claims is from activists looking to drive change and gain exposure rather than seeking financial damages. However, if we do start to see significant damages awards, the plaintiff bar will take a greater interest. This new area of exposure is a real risk for companies and their insurers.”

Nigel Brook agrees, pointing out that attribution science could have a key role to play here. “If plaintiffs can convince a court that a certain percentage of a storm surge or drought conditions was driven by climate change that in itself was brought about by the defendants, that would open up whole new categories of liability,” he says.

The defendants have numerous arguments at their disposal. Their primary goal is to obtain rulings that the cases should be heard in federal court. That should improve the quality and consistency of decision-making. They also argue that the lawsuits transcend the powers of an ordinary court. Climate change is such a complex and wide-ranging issue, operating on such a global scale, that only the executive and legislative arms of government can address it. Whatever the court’s view on the causes of climate change, it is not for a judge or jury to begin injuncting the sale of petroleum.

Wider ramifications

If the courts decide that petroleum can be considered a defective product, there could be ramifications for sectors outside of oil and gas. “Potentially, any industries which consume petroleum or sell petroleum-consuming products could fall into the line of fire,” says Neil Beresford. He points out that claims has already affected the energy sector. A Peruvian farmer has commenced a damages claim against a German energy company for loss and damage caused by a nearby melting glacier.

However, Beresford says that those who seek to claim from other sectors face a more difficult burden of proof. They will need to show that the defendants knew or ought to have known about the risks, which may be harder to demonstrate against companies other than the oil and gas majors.

> All boards need to think about whether and to what extent climate change is an issue for them. Only then can they mitigate the risks, look for solutions and find opportunities
>
> *- James Cooper, Partner, Clyde & Co, London*

> A key focus right now for plaintiff firms, investors and regulators is disclosure: are public companies saying the right things about their exposure to climate change risk – and also about the opportunities it presents them with.
>
> *- Ned Kirk, Partner, Clyde & Co, London*

D&O/E&O LIABILITY

"From corporate liability, there are different routes up to board level, creating potential exposure to climate change-related claims against directors, executives and officers personally," says James Cooper. "It's important that the Board can show it has considered potential risks, even those that may seem contingent, taken action to mitigate them where necessary, and crucially, that they have ensured that asset values are represented fairly on balance sheets."

Claims will typically fall into two categories:

Wrongful acts (eg mis-representation or omissions of material fact) – Where the value of assets, such as potentially "trapped" oil or gas reserves or property or development land at risk of flooding, is over-stated in financial statements. This could be because insufficient consideration has been given to the future trading environment and likely viability of these assets, or due to confusion over how to report on these assets.

As Cooper makes clear: "Misrepresentation is actionable – and just because there's no international standard on reporting, it doesn't mean there's no liability."

Failure of fiduciary duties - Board members have a duty of care to stakeholders such as shareholders, as well as other interested parties such as employees and local communities or even the international community.

Directors, executives and officers could be held liable for failing to prevent their company from causing climate-related damage.

Asset managers could face claims if they have purchased stocks without fully considering the risks of a changing climate to their portfolios or who are deemed to have held onto assets too long, where climate change risks subsequently result in sharp price corrections.

Even financial advisers could be vulnerable to lawsuits, if they are seen to have failed in their duty of care when carrying out due diligence prior to investments being made, or when audits are subsequently conducted.

> Plaintiff firms will continue to test various claims and theories of liability, as they did with tobacco, asbestos and other mass tort claims.
>
> *- Ned Kirk, Partner, Clyde & Co, New York*

IMPLICATIONS FOR INSURERS

For insurers, Brook points out that exposure could affect both sides of the balance sheet: on the risk/underwriting side (in terms of the physical, transition and liability risks insureds face), and on the asset side (in terms of how those risks could impact them directly as major asset owners themselves and asset managers for others). There are opportunities for the insurance industry, uniquely placed as it is to offer an in-depth understanding of climate risks to assist the markets in understanding, mitigating and transferring that risk. Brook suggests that dialogue between underwriters and asset managers is vital to share insight.

This is discussed in more depth later in this report.

LEGAL ACTION: WHO, WHAT, WHY?

- Securities class actions – where groups of shareholders bring actions against companies and senior individuals within them to compensate them for alleged losses incurred
- Derivative actions – where shareholders bring actions on behalf of the company against the board, alleging breach of fiduciary duty
- Tort claims on the basis of product liability arguments claiming that an alleged "defective product" caused environmental damage resulting in current losses or future costs to put right or guard against the effects of climate change

A CASE IN POINT? RAMIREZ VS EXXON

A recent decision in a securities class action in the US against ExxonMobil suggests that the long-anticipated spectre of a rise in climate-related D&O claims could at last be about to materialise.

Like other regulators around the world, the Securities and Exchange Commission (SEC) has recognised that climate change is a material risk that companies should report, and in 2010 it issued interpretative guidance on disclosure requirements. The SEC and state attorneys general have also carried out an investigation into Exxon's climate change disclosures.

In 2016, a securities class actions was filed shortly after Exxon disclosed that it might have to write down 20% of its oil and gas assets. In the action styled *Ramirez vs ExxonMobil*, the lead plaintiff alleged that Exxon hid and mis-represented the potential costs of climate change.

It claimed that certain officers, including its CEO, had made false and materially misleading statements about the value and amount of its oil and gas reserves and its efforts to incorporate proxy costs for greenhouse gases into the investment and valuation process.

However, in August 2018, events took a significant turn. The court denied Exxon's motion to dismiss the Ramirez action.

Ned Kirk, Partner, explains that this is important because around 50% of US securities class actions are dismissed at the pleadings stage. "The fact that this claim made it past a motion to dismiss raises the liability risk and the potential damages could be significant. This test case could give incentives as well as guidance to plaintiffs looking to file other cases against other companies."

There are still many hurdles ahead to establish liability in this case, but if the Ramirez claim succeeds, he warns, "We could see a wave of shareholder class actions and/or derivative actions or other types of lawsuits coming off the back of this."

However, Kirk adds, "There could be a favourable impact in that companies will wake up to the fact that they need to be more careful when making disclosures about climate change – if they're not there already."


INSTTRANCE

Insurance issues and solutions: a new risk market

Insurers are no strangers to climate change issues, and have had to price in the risks that climate change brings for several decades. However, just as risks appear to be ramping up, new opportunities are also emerging for the industry to develop new insurance solutions, and even to create a new risk market in this space.

When it comes to reducing exposures, some insurers may feel it necessary to increase reserves to cover the probability of rising defence claims costs. Of course, reviewing policy wordings and exclusions for climate change related exposures is also vital: understanding not only the risks but also how the policy will respond.

"For insurers, it's very much a question of managing historic as well as future exposures," says Neil Beresford. For instance, (re)insurers may face claims under historic towers of liability insurance. They will need to understand the coverage offered, the relevance of pollution exclusions and the nuances of how the policies might respond. When writing policies today, not just for oil and gas majors but for any company whose activities relate to fossil fuels, insurers will need to take into account the risks arising from those companies' past and future liabilities.

In light of this, there are a number of questions of principle that insurers may wish to consider early on, including:

- **Has an occurrence already taken place?** Many of the historic programmes will be written on an "occurrence" basis; therefore insurers will only be liable for damage which occurs during the period on risk
- **What constitutes a triggering event?** For example, can damage to the atmosphere trigger coverage?
- **Are exclusions applicable?** Most general liability policies will contain pollution exclusions. How do those operate in a climate change scenario?
- **Who is committing the damage?** It may be the customers of the insured, not the insured itself, who have caused the damage
- **What is the governing law?** The answer to any of the above questions may differ according to the governing law of the policy

Developing novel risk transfer instruments

For insurers, reducing their exposures while developing solutions for clients to help build resilience to climate change risk is a delicate balancing act. There is, of course, a danger that some kinds of risks simply become uninsurable, but the industry is working hard to come up with innovative solutions to ensure that doesn't happen, and to find ways to extend coverage to more communities and businesses that aren't currently insured.

In this, the role of the Insurance Development Forum (IDF) is instrumental. Launched by leaders from the insurance industry with the United Nations and World Bank at the Paris climate summit, the IDF's aim is to address climate change issues and build resilience through the use of insurance and by deploying the sector's risk management capabilities.

Its work includes developing a sustainable platform to help governments "assess and understand their risks and develop and deploy effective integrated insurance solutions tailored to their unique challenges", and to deliver "microinsurance" solutions to vulnerable people around the world.

Across the industry, novel risk transfer instruments are being developed, based on a deeper understanding of the risks and creating new ways in which insurance products can respond, for example, using the power of insurance pricing to incentivise investing in resilience measures or the development of "parametric" insurance.

SPOTLIGHT ON PARAMETRIC INSURANCE

"Parametric" insurance is a good example of how the industry can harness the power of climate change science and the prevalence of data to create solutions to the risks.

Rather than indemnifying a specific loss, a parametric policy allows insureds to receive pay-outs if a specified triggering event happens, such as when, for example wind-speeds, flood levels or power outages hit a certain level, measured against a pre-determined index. With huge volumes of data measurable from space and available instantly, this creates new opportunities for coverage, and minimises costs and delays for insureds, by removing the need for loss adjustments.

Pay-outs could theoretically even be received before a claim is made, providing excellent customer service to those hit by weather-related catastrophes, and helping to create strong, long-lasting client relationships.

Insurers as advisers: risk modelling and resilience planning

Increasingly, the insurance sector is offering value-added services to clients, by developing risk modelling, resilience mapping or other data analysis capabilities in addition to their core insurance and risk transfer products. Such options are enabling insurers to develop deeper client relationships, acting in an advisory capacity as they provide tools which help increase insureds' visibility over their business-critical vulnerabilities.

BUILDING A MORE RESILIENT FUTURE: A JOINED-UP APPROACH

As the number of climate-related incidents increases, so too will the need to recover, repair and rebuild responsibly. Moreover, as urbanisation gathers pace, keeping the pressures climate change poses front of mind is paramount when developing new cities.

From the continued growth of existing mega-cities such as Tokyo and London, to the explosion of population in new urban centres in previously rural areas, particularly in China, designing-out risk as much as possible has to be a central focus. Reducing energy usage or focussing on renewable energy sources such as solar panels mounted on new buildings is one way; designing resilient infrastructure is another.

This creates huge opportunities as well as challenges. For construction companies, it represents a chance to take more of a consultancy role, enabling them to add value and increase revenue streams – an enticing prospect in a sector currently operating on the slimmest of margins.

Taking on such an innovative role, would, however require significant investment in R&D. Given the construction industry's profitability pressures, Liz Jenkins' view is that: "Public-private partnerships and joint ventures are probably the way forward to get this new infrastructure designed and developed. It's all about the public and private sectors coming together: and that means governments, local authorities, constructors, designers, insurers, the tech sector and a range of other specialists."

"Such a collaborative approach should give contractors comfort because the risks will be shared. This includes working with major tech companies who have the bandwidth on their balance sheets to test out ground-breaking techniques using sophisticated data analytics. Insurers can also deploy cutting edge methods such as risk modelling to bring innovative new products to the mix and the public sector should benefit from the increased economic growth and productivity that a more resilient world should deliver."

Co-operative working relationships like this will require the public sector, the owner or the developer to move away from a traditional fixed price turnkey contract. Instead there could be contracts where the parties involved agree on the outputs required, with risks and rewards shared, with all parties incentivised to deliver the best possible solution.

> There are huge opportunities, as well as challenges, for the construction industry arising from climate change. To address these, the public and private sectors will need to work together. Public-private partnerships and joint ventures will have to come to the fore.
>
> *- Liz Jenkins, Partner, Clyde & Co, London*

CONCLUSION

The direction of travel is clear. The momentum of climate change is such that even if radical, concerted action is taken worldwide to eradicate carbon emissions and free the global economy from its dependence on fossil fuels, the effects of global warming will continue for centuries to come.

Against this backdrop, the importance of climate change as a critical business issue cannot be underestimated – with implications across all industry sectors and reaching right up to the highest echelons of corporate leadership. With new forms of legal action currently being launched against more types of defendant in more jurisdictions, and historic as well as future liabilities at stake, ignoring climate change risk is not a viable option. Activity is ramping up and it shows no signs of slowing down.

> For insurers, liability for climate change disclosures is likely to be a key issue for D&O insurers in the near future.
>
> *- Ned Kirk, Partner, Clyde & Co, New York*

As with managing any risk, the key is preparedness. The dynamics of climate change litigation will doubtless continue to develop and evolve but its likelihood and impact can be minimised by taking pro-active steps to understand, identify and mitigate areas of exposure and enhance resilience. In this, insurers have a vital role to play, broadening coverage and fostering innovation, working together with businesses.

It's a continual work in progress, in which considerations around responsibility, risk and resilience are fundamental to developing best practice and protecting against the long tail of potential liability. Helping businesses deal with the multi-faceted effects of climate change is an area where Clyde & Co is particularly active with extensive experience advising a range of clients in many sectors on the complex issues it raises.

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