

# THE RISING TIDE

## Climate change and business continuity

### Abstract

There is a growing consensus, based on mounting evidence, that human activities are accelerating climate change. Understanding what this might mean and how we should be preparing for it should be a key concern for organisations in the 21st Century.

The role of government and the international community, through the commitment to conventions such as the Kyoto Protocol and other legislation designed to reduce carbon emissions and improve the current prognosis, will play a vital role. Guidance and reliable data such as the recent Stern Report, to inform decision making will also be pivotal.

What might this mean for our existing business continuity planning frameworks and how should we be preparing for potential climate change threats?

This paper considers and discusses in detail the issues relating to climate change from a business continuity perspective, including potential implications and impacts, and recommended planning considerations.

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## Introduction

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There is a growing consensus, based on mounting evidence, that human activities are accelerating climate change.

Understanding what this might mean and how we should be preparing for it should be a key concern for organisations in the 21st Century.

The role of government and the international community, through the commitment to conventions such as the Kyoto Protocol and other legislation designed to reduce carbon emissions and improve the current prognosis, will play a vital role. Guidance and reliable data such as the recent Stern Report, to inform decision making will also be pivotal.

In the meantime, from a business continuity perspective, what might this mean for our existing planning framework and how should we be preparing for it?

The purpose of this paper is to consider and discuss the issues relating to climate change from a business continuity perspective, including potential implications and impacts, and recommend planning considerations.

This paper does not seek to debate the scientific thinking surrounding climate change. The issues are complex and varied and the predictions and climate models used to reach them are often misinterpreted or misrepresented. Most of all, they are uncertain.

However, whilst there remain conflicting opinions within the climate change debate, the official scientific consensus is clearly expressed in the reports of the Intergovernmental Panel on Climate Change (IPCC) whose assessments form the standard scientific reference for all those concerned with climate change and its consequences. In its most recent assessment, IPCC states unequivocally that the dominant scientific opinion is that Earth's climate is being affected by human activities:

*"Human activities ... are modifying the concentration of atmospheric constituents ... that absorb or scatter radiant energy ... most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations."*

Hence, this paper accepts that climate change is driven by human activity.

Business continuity management is primarily concerned with identifying, reducing, mitigating and preparing for the impacts associated with disruptive events in order to reduce risk, minimise the impact felt to an organisation and ensure continued provision of business or service-critical activities.

The purpose of this paper is to consider and describe the issues relating to climate change from a business continuity perspective. Consequently, the thrust of the discussion is very much focused on the potential for disruption.

It is important, however, to point out that in addition to the potential threats associated with climate change there are a host of emerging opportunities that will be of significance from a strategic risk management perspective and should not be overlooked.

The focus of this paper is primarily from a UK perspective. Global examples have, however, been used throughout the document and many of the principles can equally be applied to organisations and business continuity managers operating throughout the world.

## Impact scenarios and scenario planning

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### Extreme weather events

One of the most obvious and immediate implications of climate change is already manifesting itself through varying weather extremes. This has, and based on current emission scenarios, is likely to continue to be felt in terms of an increased vulnerability to, and potential for, weather-related disasters such as flooding, heat-waves, and tropical storms similar to many of the headline stories that have made the news over the last five years.

Hurricane Katrina and the European summer of 2003, when approximately 25,000 people (mostly the elderly, sick and young) died prematurely in the heat-wave that hit western Europe, both spring to mind. The challenge is not so much the potential for disasters but adapting to the changing threat including the disruption to established cycles and patterns.

Rising sea levels due to glaciers and ice caps melting is also considered a concern, particularly for communities inhabiting coastal areas. In the UK the government predicts that, due to the threat of flooding, the Thames Barrier may have to be raised up to 325 times a year by 2100. In the last five years it has been raised just 55 times. Plans and discussions are already underway to address this.

### Supply chain, utilities and infrastructure

In turn, naturally occurring resources, utilities and supply chains are likely to be placed under ever-increasing pressure as existing building and transport infrastructures struggle to adapt. Brown-outs may become more frequent as air handling systems are cranked up to deal with temperature rises, and technology, buildings and people struggle to keep cool in the heat.

Take, for example, the recent and extensive power cuts in London's West End, which left more than 3,000 people (businesses and residents) without electricity as faults, combined with a high demand for air conditioning, put extra pressure on the local grid. This issue is of particular concern in relation to communications and IT rooms, which are especially sensitive to fluctuations of just one or two degrees in temperature - whilst the cost of utilities bills is creating a continuity problem of a entirely different nature and the need for a change in behaviour,

### Water resources

Temperature rises and changing patterns in rainfall are likely to intensify current water shortage problems and afflict around five billion people, especially in southern Africa, around the Mediterranean and in central Asia.

Here in the UK residents, consumers, businesses and water companies have all been urged by ministers to use water sensibly in the interests of preventing a serious water shortage in the southeast of England and The Environment Agency has recently updated its plans to deal with drought in the UK.

However, this particular problem is also exacerbated by the need for huge reinvestment in our water supply system, both to reduce losses from leaking pipes, as well as increasing capacity to meet water demands. This latter point is particularly contentious as it is likely to involve some people having to leave their homes for good in order to make room for reservoirs, or face increasing hikes in the cost of water and more frequent hosepipe bans.

With metered water likely to eventually become compulsory across the whole of the UK, industries reliant on large quantities of water are also likely to face rising costs. At the same time, this opens up opportunities for the desalination industry, potentially costing or saving businesses many thousands of pounds.

#### Climate and disease

Less obvious consequences are likely to include a re-introduction of diseases traditionally associated with more temperate countries as warmer winters reduce seasonal die-off of many pathogens and their carriers, allow them to move into areas that were previously too cold. For example, vector-borne diseases such as malaria and the West Nile virus, also transmitted by mosquitoes and recently (1999) making an appearance in the United States, as well as 'domestic' disease such as e-coli and salmonella.

#### Finance

Climate change will have a range of financial implications for businesses, not only from the potential cost of recovery as a result of weather-related disruptions, but also due to increased insurance premiums. The Association of British Insurers (ABI) is predicting that in the UK, climate change could increase the annual costs of flooding by almost 15 fold by the 2080s.

Certain industry sectors may also be seen as poor opportunities for investment, e.g. agriculture. The cost of critical resources and day-to-day running of the business are also likely to rise as the push to reduce emissions and encourage cleaner behaviour inflates the price of resources such as water, of particular concern for industries that use large quantities of it to manufacture.

## Impact on business

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Different industry sectors will be affected by climate change directly and indirectly in a variety of ways and with varying degrees of intensity, as will their response to it.

This section seeks to explore some of the likely ways in which climate change will impact upon business.

**Statutory authorities** are likely to be put under additional strain as an increasingly ageing population, more vulnerable to changes in climate, require increased support during very hot and cold periods. An increase in weather-related incidents, such as flooding, will also place a greater demand on their services.

**The retail sector and other consumer industries** may experience an upturn as consumer behaviour, affected by changes in climate, opens up the market to a whole range of products, such as barbeques, soft drinks and alcohol, sports equipment, water butts and summer clothing, not to mention the growth in sales of energy-saving devices such as solar panels and appliances. Supermarkets are also being forced to respond to the demands of an increasingly environmentally conscious public with a whole range of marketing campaigns designed to communicate their green ethics and attract buyers.

**The transport industry**, which has always been susceptible to changes in the weather, will also feel the effect of extreme weather as underground transport systems struggle in the heat and flooding causes rail disruption. Airlines, likely to be put under increasing pressure to cut emissions, may be required to pay levies, thereby necessitating price rises. Operators of heavy goods vehicles and motorists will also feel the direct costs of a greener UK resulting from initiatives such as congestion charging schemes, putting pressure on many small delivery-based companies.

**Motor car manufacturing** is already responding to consumer demands for increasingly sustainable and eco-friendly solutions, another example of industries' response to capitalise on the demand for environmentally responsible solutions.

**Tourism** may decline in seasonal locations (such as ski resorts suffering from poor snow cover and tropical destinations experiencing an increase in storms and bad weather) and conversely flourish in areas benefiting from an increase in temperature, such as the UK. The Centre for Future Studies (CFS) recently released a report prepared for the UK insurance company Churchill, listing ten popular tourist destinations, including the Maldives, that the Centre predicts could be permanently closed down or subjected to a visitor cap within 15 years due to the impact of climate change.

**Agriculture** may also experience both positive and negative side effects resulting from changes to the climate with a few surprise delights, such as the recent success of vineyards in the UK. Conversely, the Canadian Cabernet's future looks in doubt with predictions that changes in climate could leave 80 percent of wine crops too parched to produce. Water-based crops in Asia are also likely to suffer as a result of changes in rainfall levels. Vladimir Puttin was quoted as saying; "An increase of two or three degrees wouldn't be so bad for a northern country like Russia. We could spend less on fur coats, and the grain harvest would go up." An interesting observation with Russia estimated as the largest single market for fur in the world and yearly retail sales of up to US\$2.5 billion.

With climate change likely to have huge impacts on agriculture and food production, we could see some interesting political dilemmas emerging as countries are forced to look elsewhere or become dependent on assistance from other countries.

**The building and construction industry** will also be under pressure to adapt to, introduce and self-educate in new climate-responsive technologies. In addition, there is likely to be an increasing consumer demand to utilize sustainable materials and energy sources that may affect traditional construction techniques. They may also have to adapt to more difficult and uncertain working conditions due to flooding, high winds and even pest infestations.

**The energy sector** is being increasingly forced down the renewable route. The options for reducing emissions depend on the changing mix of fuel used in generation, regulation of emissions from, and efficiencies of, power stations, and further development of energy services for customers. As such, the significance of renewable energy sources is likely to increase. Options to reduce emissions from the domestic sector include tackling poor thermal efficiency of housing and improving energy efficiency standards.

**The energy sector** in particular has always been heavily dependent on the seasons. Maintenance schedules are typically constructed around the summer months when energy consumption, primarily for heating, has traditionally been low. With demand during the 'traditionally quiet' months anticipated to rise, as a result of the increased use of air conditioning extending these periods, some interesting policy implications can be anticipated both for the government and the national grid.

**The insurance industry** is likely to destabilise with a rise in premiums due to the anticipation of increasingly weather-related disasters based on current impact scenarios and larger and more frequent claims being made.

What is evident is that climate change cuts across every industry sector. The above are just a few examples of sector-specific scenarios. Understanding how it will affect you is key to ensuring you can adapt.

Impact checklist

From a business continuity perspective, scenario planning that takes into account likely climate-related

scenarios that have the potential to disrupt provision of services will be a useful way of identifying your vulnerabilities.

In order to avoid the mistake of trying to plan for every conceivable eventuality, a pragmatic and flexible approach has long been championed as best practice.

Grouping impact scenarios is a useful way of doing this and they can largely be divided into three key areas; impact on people, assets and business priorities. It is a useful method/checklist that can be applied to any industry sector. Figure one identifies some of the key considerations.

*Figure one:* **BUSINESS CONTINUITY IMPACT CHECKLIST**

- |                            |   |
|----------------------------|---|
| <b>People</b>              | <ul style="list-style-type: none"><li>- Implications for workforce, customers and suppliers in terms of health, welfare, security and ability to work and get to work.</li></ul>  |
| <b>Assets</b>              | <ul style="list-style-type: none"><li>- Impact on building design, construction, maintenance and management;</li><li>- Vulnerability of key assets to climate-related disasters;</li><li>- Availability of key assets such as workforce, premises and technology;</li><li>- Prohibitive cost of key assets and utilities.</li><li>- Vulnerability of supply chain, logistics and transport;</li><li>- Impact of weather on your organisation, your customers and competitors and anyone else upon who you depend;</li><li>- Financial implications such as insurance premiums, cost of recovery, stakeholders' investment;</li><li>- Changing demand for services - both those you depend on and those you provide;</li></ul> |
| <b>Business priorities</b> | <ul style="list-style-type: none"><li>- Cost of raw materials and utilities, such as soaring energy costs;</li><li>- Impact on business processes, such as denial of access to premises;</li><li>- Impact of climate-related disruptions on reputation and stakeholder confidence;</li><li>- Cost of protecting key assets e.g. insurance, flood-proofing etc;</li><li>- Cost of recovery and damage to key assets;</li><li>- Cost of increased absenteeism;</li><li>- Loss of productivity.</li></ul>  |

This technique allows a pragmatic and manageable approach to be taken so that, for example, plans designed to cope with staff shortages as a result of industrial action can be adapted to deal with possible fluctuations as a result of heat-related illness or any other incident.

An example of this technique and some of the likely potential impact scenarios in relation to business continuity are shown in figure two.

*Figure two:* **BUSINESS CONTINUITY CONSIDERATIONS / IMPLICATIONS**

**Extreme weather events:** Worldwide, economic losses from weather and flood catastrophes have increased tenfold during the past 30 years of accelerating climate change. Unseasonable drought, higher temperatures and longer drier seasons are predicted to unleash forest fires on a scale never seen before across the globe. Super hurricanes as a result of warmer oceans are also anticipated.

**People**

- Increased absenteeism/staff shortages as a result of climate-related health impacts such as extreme heat;
- Increased absenteeism/staff shortages due to carers having increasing pressures placed upon them e.g. schools closures during flooding, elderly relatives affected by temperature fluctuations and requiring additional support.

**Assets**

- Infrastructure vulnerability to extreme weather events;
- Increasing cost of recovery;
- Implications for temperature control (heating and cooling);
- Climate-proofing buildings;
- Pest damage to buildings;
- Disruption to transport and utilities;
- Prohibitive costs of key assets and utilities.

**Business priorities**

- Disruption to the supply chain, logistics and transportation and loss of productivity;
- Denial of access to premises;
- Rise in insurance premiums;
- Disruption to utilities;
- Damage to reputation.

## Developing adaptive capacity and delivering adaptive action

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Whilst it is difficult to predict exactly what the future holds and how it will affect us, what is more certain is that much will depend on our ability to adapt to these changes.

Development of adaptive capacity is a term that is frequently being used to describe the requirement to respond to challenges presented by climate change. It encompasses both current coping ability and strategies that expand future coping ability.

The UK Climate Impacts Programme (UKCIP), established to help businesses and the community understand the implications of climate change, identifies two strands to this concept:

*Developing adaptive capacity* - What governments and regulators can do e.g. putting in place policy and legislation;

*Delivering adaptive action* - What individuals and businesses can do e.g. incorporating sustainable technologies into building infrastructure, business continuity planning.

## The role of government

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Climate change is a global issue, influenced by and influencing a whole range of social, political, environmental and economic issues. Consequently, the action of government decision makers and government will play a fundamental role in influencing the extent of climate change across the globe.

Success will be based on a combination of 'carrot and stick' methods as well as commitment to ongoing research and education in order to assist those delivering adaptive action.

### International commitment

Recognising the problems of climate change, in 1988 the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change. The role of the IPCC is primarily to assess research relevant to understanding climate change and its potential impacts, in order to drive internal strategic policy. IPCC is open to all members of the UN and WMO.

Since then a series of international conferences, notably the first International Earth Summit in Rio de Janeiro in 1992 and the Kyoto Earth Summit in 1997, have driven climate issues within the international arena.

Whilst Kyoto has been overshadowed by its failure to get one of the world's biggest emissions producers, the United States, to sign up to the protocol, the conventions have been important drivers for ensuring climate change remains a priority on the world stage and getting governments to commit to reducing current emission levels.

### Legislation and guidance

The 2004 Civil Contingencies Act (CCA), The Fire and Rescue Services Act, DEFRA's Making Space for

Water, the Foresight Flooding Report, and the Environment Agency's Flood Risk Management Strategy all make reference to emerging risks as a result of climate change and the need to place equal importance on both prevention and intervention strategies.

Developing resilient communities through business continuity planning, local forums and risk management are all key themes. The CCA, in particular, represents a sea change in the government's whole approach to emergency management, which has traditionally been response-focused.

Much will now depend on ongoing commitment to implementation at a local level and how it is enforced.

#### Policy, regulation and incentives

The rate of development across Europe has placed natural habitats and their ability to adapt to environmental change under increasing pressure, with flooding in many parts of the UK as a direct result of the disruption caused to natural river drainage as a result of road network development.

Continued efforts need to be focused on controlling development in floodplains and ensuring properly enforced building regulations that take into consideration future climate-related risks determining the buildings of tomorrow.

With carbon dioxide emissions seen as the biggest offender in terms of contributing to climate change, the energy sector is being gently coerced into finding alternative and greener solutions. The European Union Emissions Trading System has been in operation since January 2005 and the UK government recently announced its intention to cap energy emissions with severe penalties being put in place to curb offenders and grants and other economic incentives used to encourage take-up of sustainable options.

Tax incentives, such as a carbon energy tax, are also seen by some advocates as key to making alternative sources of energy more attractive.

#### Information and education

In terms of information dissemination, the government's role is vital in ensuring that organisations have enough reliable data to make well informed decisions.

Continued research is required to validate current predictions and assist decision making regarding investments in mitigation versus potential loss and opportunity, as well as the use of emerging technology such as green energy sources.

From a local perspective, guidance and education is also required to help communities adapt to and reduce their vulnerability to climate impacts, as well as ensuring they fully understand the implications of failing to act and, in terms of recovery, the resilience of businesses will play a vital role in this process.

## The role of business continuity

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Despite the varied and wide range of potential climate related impact scenarios, it's not all doom and gloom. With the extensive media coverage that the climate issue has been receiving it would be easy to get hysterical about climate change. With climate change frequently cited as one of the biggest challenges currently facing humanity, it is important not to downplay its significance. This does not however translate as 'do nothing.'

Incorporating climate change into the existing risk management portfolio will require significant effort including the skill of applying a whole new perspective to analyse and challenge existing arrangements and strategies.

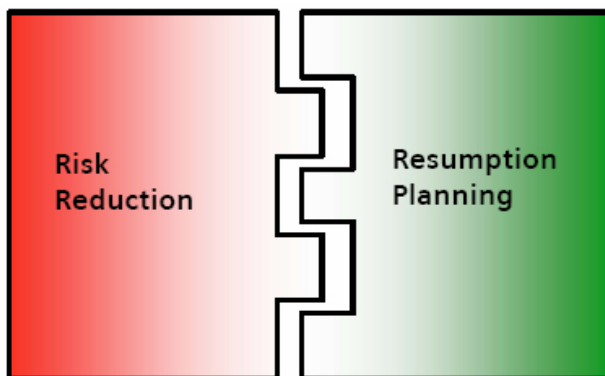
What might have seemed a robust strategy within the context it was originally developed, could well fall down when introducing climate threats several years from now.

It will require broadening the focus of current planning arrangements to consider the impact scenarios most likely to affect your business and revisiting and challenging existing priorities and recovery strategies to ensure they remain valid, as well as paying rigorous attention to supply chain issues and dependencies.

### Continuity planning considerations

Business continuity, which is primarily concerned with identifying, reducing, mitigating and preparing for the impacts associated with disruptive events in order to reduce risk, minimise disruption and ensure continued provision of service critical activities, can be used to prepare for a range of new threats and challenges, including those associated with climate change. As figure three illustrates, business continuity is a process made up of two halves; those activities concerned with actually reducing known risks to the organisation and then the activities involved with resuming and recovering the business.

*Figure three : The BCM Jigsaw (Source: Siemens Insight Consulting)*



### Adapting your current BCM programme

The business impact analysis (BIA) and risk assessment processes form the backbone of business continuity planning. Factoring climate related scenarios into both of these processes will greatly assist with informing your priorities for action.

Accurate risk assessments will need to take into account a broader range of threats based on available data in order to identify those areas most at risk.

What is also vital is that these assessments take into account the long term implications of climate change i.e. “we aren’t currently at risk of flooding but could become so in ten years”.

Consider also different types of weather-related events. The implications of flash-flooding or severe wind might affect even those well above sea level. The ABI and London Climate Change Partnership have both published documents detailing key considerations for location and development planning that act as useful guides.

*Consider*

- Asking 'What are our business recovery objectives – how does climate change affect existing priorities?'
- Asking 'How do we incorporate climate change into our existing business continuity approach and adapt existing plans and procedures?'
- Asking 'Is our plan all encompassing, including business operations, technology, and suppliers?'
- Asking 'Are our plans up to date?'

Vulnerability assessments

Understand your vulnerabilities and, where possible, implement mitigation strategies. Plans need to consider those employees, services and assets that are most vulnerable to the effects of climate change; in particular extreme fluctuations in temperature.

Just as they always have been, continuity strategies should be based on identifying critical services and core personnel required to keep them going during a disruption. Selection of the most appropriate individuals however should also be factored into planning arrangements in the same way many organisations have been forced to do whilst undertaking their pandemic 'flu preparations, taking into account those with young children and other caring responsibilities.

*Consider*

- Asking, 'How will our workforce be vulnerable to the impact of climate change and can current planning arrangements be adapted to deal with this?'
- Asking, 'Where does our workforce live and how might climate change affect their ability to come to work or work from home?'
- Asking, 'Which members of staff are most vulnerable to climate changes?'

Crisis management

With the advent of potentially more frequent and diverse extreme weather events emerging as a symptom of climate change, the importance of developing a robust, and flexible crisis management framework has never been more relevant. Ensuring a structure is in place to provide the appropriate level of leadership and decision making required during the immediate phase of an incident is absolutely vital. Get this bit wrong and you can forget about recovery.

*Consider*

- Asking, 'Do our staff know what steps to take in the event of an emergency and how do the climate scenarios we are facing alter this?'
- Asking, 'By who and how will decisions be made in the event of a disruption?'
- Asking, 'Do we have a well rehearsed and strong crisis management team to enable strong leadership and decision making in the event of an incident before it occurs?'

## Risk management

Risk managers must make decisions despite the scientific uncertainty surrounding climate change, which should obviously be considered alongside the wider risk environment. Taking an integrated approach to risk management that considers the cost-benefit analysis of intervention will help inform decision making. Joining forces with others with a risk portfolio such as facilities, operational risk and IT managers will help create a holistic view of where the priorities lie. As with all risk management, understanding the fundamental implications of failing to act is vital.

### *Consider*

- Incorporating climate risk management into mainstream business management strategies and procedures – UKCIP suggests making someone in the workplace responsible for it with support from senior management.
- Exploring what existing resources and advice can be used to assist you.
- How regulation will affect your business and what the consequences of not acting are.
- Risk mitigation strategies, including insurance, should be based on a well defined risk and vulnerability assessment aligned to the organisation's risk appetite.

## Strategic planning

Incorporating climate change objectives into the strategic planning process is vital given the longer term timescales involved with many of the predicted climate related impacts.

If new developments can incorporate recommended climate adapted infrastructure, such as buildings naturally designed to keep cool, money may be saved in the long run.

Internal project and change management procedures also need to take into account the business continuity implications of climate change. Whilst a move to a new site by the coast might reduce city-based costs, what will be the implications of a location by the sea in the future? BS 25999, the British Standard for Business Continuity Management, introduces the concept of using a strategic and tactical framework for assisting with making these type of decisions and selecting the appropriate risk management strategy.

### *Consider*

- What kind of an impact weather has on your organisation, your competitors and other organisations that you rely upon to provide services.
- For organisations with overseas offices, how might this affect your global strategy?
- Ensure climate change is on your strategic planning agenda.
- Is climate change informing strategic business decisions from a continuity perspective?
- Incorporate climate considerations into your risk management programme.
- Seek out opportunities to offset risk.

## Wide area planning and resilience

There are an increasing number of forums, such as the London Climate Change Partnership, springing up in many different countries. With the introduction of the 2004 Civil Contingencies Act, local authorities have an increasing responsibility to warn and inform businesses and the local community regarding the threat of disruption within the local area, as well as a duty to publish and maintain the community risk register produced by the multi-agency resilience forum.

Forging liaisons, remaining informed and proactively seeking information from existing sources within your local area is a powerful means of ensuring you have the information you need available to you to plan appropriately, as well as the obvious benefits to be had during a response from having established relationships prior to a disruption occurring. This particular area has an important bearing on local preparedness arrangements, particularly relevant when many of the likely impacts of climate change are likely to be widespread.

### *Consider*

- Working with local groups to lobby government to set standards in this area.
- Making use of existing guidelines and standards such as the data and tools being developed by the UK CIP initiative.
- Plans should be based on a well defined risk and vulnerability assessment and aligned to the organisation's risk appetite.

## Technological progress and adaptation

As the IPCC points out, significant (faster than expected) technical progress relevant to greenhouse gas emissions reduction has been made in recent years.

Advances are taking place in a wide range of technologies e.g. the market introduction of wind turbines, hybrid engine cars and bio-ethanol fuel etc.

Whilst it is anticipated that until at least 2020 energy supply and conversion is likely to remain dominated by fossil fuels (still deemed relatively cheap and abundant) greater use of low carbon energy supply systems will play an important role in emissions reduction.

With the whole energy sector set to face increasing government regulation regarding emissions – that combined with wholesale cost and supply problems, prices are set to soar. For businesses, exploring the use of renewable energy supplies could provide a number of benefits including reduced power bills and dependency on the carbon industry. This will become increasingly valid as incentives and penalties are introduced.

### *Consider*

- Exploring alternative energy options and the long term potential cost savings involved.
- How you can incorporate green technologies into existing and future environment.
- Understand the year on year cost saving versus initial investment.

## Scenario planning

Scenario planning will be a useful way of identifying your vulnerabilities. Identify priorities by grouping impact scenarios as demonstrated by the impact table earlier in this paper.

This technique allows a pragmatic and manageable approach to be taken so that, for example, plans designed to cope with staff shortages as a result of industrial action can be adapted to deal with possible fluctuations as a result of climate related illness or any other incident.

### *Consider*

- Undertaking scenario planning to identify likely outcomes and, where appropriate, put contingency plans in place.

## Know your dependencies

Knowing who you depend upon to deliver key services is a vital component of business continuity. This needs to be re-evaluated with a climate hat on. Make sure your assessments take into account key utilities and consider how your business would be affected if, for instance, water restrictions meant you lost mains water supply and building sewerage for a few days.

### *Consider*

- Asking, 'What are the implications for our supply chain, where are our key dependencies' single points of failure?'
- Understand your supply chain and consider how regulation might affect these dependencies e.g. an increase in emission taxes or increasing cost of fuel.
- Consider how you and the people you depend upon might be affected by weather changes.
- Asking; 'Who are our key suppliers, where are they based and what plans do they have in place?'
- Asking, 'What alternatives do we have in the event of supply failure?'

## Adapting existing strategies

Think 'out of the box' about how current strategies and existing tools can be used in different scenarios. For example, local authority gritters designed for laying salt on icy roads during freezing temperatures were this summer put to work spreading crushed rock and dust on melting roads to create a 'non-stick' surface and prevent further deterioration. Introduction of an afternoon siesta during hot spells, as suggested by the Directorate of Industrial Training (DIT) and championed by Siesta Awareness via the launch of National Siesta day on Wednesday 28th June, might also be considered a viable coping mechanism by some businesses during the hottest summer months.

### *Consider*

- How you can adapt existing strategies to deal with a wider range of threats?
- Review existing plans and procedures and consider how they will work in the event of increasing climate-related risks such as the possibility of flash-flooding.

- Asking; 'Do we have a robust building recovery plan which focuses on key utilities and facilities?'

## Insurance

Reconsider your current insurance cover and assess whether it will provide suitable cover for climate-related scenarios. Base all investment on a robust risk assessment and consider alternative strategies.

### *Consider*

- Asking 'Do my organisation's policies adequately address such areas as loss of production, inability to supply customers, employee assistance, and communications?'
- Asking 'Does existing coverage include climate-related risks?'
- Asking 'What are the costs of not adapting.'

## Think positive

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The scope and objectives of this paper focus on the implications of climate change from a business continuity perspective.

Consequently the thrust of the discussion, examples and impact scenarios are predominantly centred around the potential for disruption. It is however important to reiterate that depending on which point of view you take, there are also a number of emerging opportunities that the climate threat may present.

This is important to bear in mind when carrying out the cost-benefit analysis of investing in climate change, particularly when making your case to senior management. Some of these benefits include:

- Ability to provide assurance to investors and insurance companies;
- Compliance with industry standards including ISO 27001 and BS 25999;
- Long term savings and financial benefits of switching to alternative technology initiatives;
- Opportunity to tap into the increasingly green marketplace and environmentally-aware public;
- Ability to demonstrate a commitment to corporate social responsibility to shareholders, who are increasingly asking questions regarding the company's climate change preparedness;
- Staff 'feel good' factor associated with working for an environmentally responsible organisation.

## Conclusion

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As this paper has demonstrated, the challenges facing us as a result of climate change are undoubtedly enormous. The scope of this paper was to explore the key issues and considerations of climate change from

a business continuity perspective. However, it is important to remember that there are a wide range of avenues and angles beyond the scope of this document, underlining the value of a collaborative approach that takes into account both opportunity and loss.

Whilst there is increasing consensus among scientists that we are contributing to the speed of climate change, there are still many uncertainties as to what this will actually mean in terms of definitive impact scenarios. Such is the nature of risk management. Decisions have to be made based on the information that we have available to us at the time and adapted and reviewed in response to future changes.

In the meantime, a traditional approach to business continuity that combines both prevention and intervention can be applied to reducing climate related risks. Be informed, take decisions and continue to review your strategy as life and the environment change.

Start by reconsidering and revalidating your current arrangements and incorporating or reapplying the considerations listed in the previous section within a climate context and keep in mind the following points:

- The same principles apply for preparing for climate risks as for other business continuity disruptions;
- A combination of political commitment; planning and policy changes, fiscal incentives, legislation, communication, within and between organisations, as well as investment in appropriate technology will help us to adapt to the challenges posed by the climate change scenario;
- Continue to reassess climate-related strategies in order to respond to changes;
- There is a need for wide-area planning in order to achieve resilience in an increasingly interdependent environment;
- Understand the way in which climate change could directly and indirectly potentially affect the company's resources, reputation, operations and finances;
- Take a consequence management approach to preparing for disruption. A plan to deal with denial of access as a result of a terrorist threat can be applied to dealing with denial of access as a result of climate-related flash-flooding;
- With climate-related impact scenarios still uncertain, risk management and the development of flexible risk management strategies will be essential;
- Think long term – what will the future hold? Although risks aren't all apparent now, how might the world look in 5-10-15 years?
- Global companies need to think about the varying scenarios for overseas offices;
- Take adaptive action.

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