TACKLING CLIMATE CHANGE: NOW IS THE TIME

A guide for the third sector
Climate change can seem an overwhelming or distant issue with little influence on your daily work. However, as we all share the same planet and natural resources, all people and organisations have the potential to be negatively affected by a changing climate and understanding this can help us prepare and plan better.

It is important to understand climate change in order to consider the possible impacts upon your work, how to help mitigate extreme scenarios through actions taken now, and what methods are available to increase the climate resilience of your organisation.

This guide will help you explore climate risks and consider a changing future by looking at:

• What is causing climate change and how it might affect Wales and global society

• Climate change strategies and how they link with sustainable development

• The role of the third sector in climate justice related issues

• How climate change might affect your organisation and how you can mitigate risks

This guide is designed to give you a basic understanding of climate issues and where to find further support in different related areas. If you have any queries or would like to know more about how to help tackle or mitigate climate change visit our web-pages or email: inc@wcva.org.uk
Climate refers to the average weather experienced over a long period of time. The Earth’s climate has changed many times in response to natural causes. The term ‘climate change’ usually refers to global warming that has occurred since the middle of the 19th century.

Both natural and human factors affect the global climate. Natural causes include interactions between the ocean and the atmosphere, changes in the Earth’s orbit, and volcanic eruptions. Humans influence the global climate through activities that release greenhouse gases into the atmosphere, such as agricultural and manufacturing activities. These gases absorb energy that is radiated from the earth’s surface, warming the atmosphere and increasing temperatures globally.

The **Intergovernmental Panel on Climate Change** (IPCC) is the world’s most authoritative body on climate change. It is currently made up of scientists from 195 member states of the United Nations and the World Meteorological Organisation. Its role is to provide rigorous and balanced scientific information to decision-makers.

In its **2014 report**, the IPCC concluded, ‘*Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history...Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.*’
What are greenhouse gas emissions?

Some of the gases that make up the earth’s atmosphere are known as greenhouse gases. They trap heat and keep the earth warm, much like the glass of a greenhouse does. Put very simply, waves of radiation from the sun penetrate the Earth’s atmosphere as they contain a lot of energy. The waves lose energy by the time they reach the Earth’s surface and some are not powerful enough to escape back into space. Greenhouse gases make it harder for waves to escape and so more become trapped, causing the surface of the Earth to warm.

Without any greenhouse gases the Earth would be too cold to live on. However, as human activity emits extra greenhouse gases, for example through car engines and home heating, the amount of greenhouse gases in the atmosphere is increasing at an unprecedented rate, which is causing temperatures to rise and weather patterns to change.

The majority of greenhouse gas emissions are made up of the gas carbon dioxide (CO2), so we often talk about carbon dioxide or CO2 as a short-hand for meaning greenhouse gas emissions. Other greenhouse gases, such as methane (CH4) or nitric oxide (NO), are often described in equivalents of CO2 emissions.

When we talk about reducing greenhouse gas emissions that result from the activity of a person or organisation, we talk about reducing our carbon footprint or, for some organisations and governments, setting carbon budgets.
**THE GREENHOUSE EFFECT**

The exchange of incoming and outgoing radiation that warms the Earth is often referred to as the greenhouse effect, because a greenhouse works in much the same way. The greenhouse effect, combined with increasing levels of greenhouse gases and the resulting global warming, is expected to have profound implications, according to most climate scientists.

**NATURALLY OCCURRING GREENHOUSE EFFECT**

- Solar energy passes through the atmosphere and warms the Earth.
- About 30 percent of the energy is reflected back into space.
- **Greenhouse gases** in the atmosphere trap the remaining energy. The solar radiation is absorbed by the oceans, land and atmosphere. As they heat up, the oceans, land and atmosphere release heat, which passes out of the atmosphere and into space.

**HUMAN-ENHANCED GREENHOUSE EFFECT**

- Solar energy passes through the atmosphere and warms the Earth.
- Increased levels of greenhouse gases, caused by human activities, trap the sun’s energy and warm the planet’s surface above the normal temperature, causing significant climate change.

*The equilibrium of incoming and outgoing radiation makes the Earth habitable, with an average temperature of about 59 degrees Fahrenheit (15 degrees Celsius), according to NASA.*

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**Greenhouse gas effect – Live Science, 2018**
How is the climate changing and why is it an issue?

- The **IPCC** state that, ‘the globally averaged combined land and ocean surface temperature data...show a warming of 0.85 [0.65 to 1.06] °C, over the period 1880 to 2012.’

- According to the **National Oceanic and Atmospheric Administration**, ‘2017 marks the forty-first consecutive year with global land and ocean temperatures at least nominally above the twentieth-century average, with the six warmest years on record occurring since 2010.’

- Considering **future projections**, they state, ‘by 2020, models project that global surface temperature will be more than 0.5°C (0.9°F) warmer than the 1986-2005 average.’

- This increase may seem small but it is worth bearing in mind that the **global temperature difference between today and the last ice age is only 5°C.**

- The current rate of change is also particularly unusual as previously it took 5,000 years for the planet to warm 5°C, whereas the predicted next century of temperature change is **20 times faster.**

Scientists have questioned whether the planet will still be able to maintain the systems which support us whilst adapting to this rapid temperature change. Simply put the rate of change may jeopardise the availability of food, water, oxygen, and suitable weather conditions necessary for human, animal, and plant life...
Studies suggest that the northern hemisphere has been experiencing a **more rapid temperature rise than the southern hemisphere since the 1980s** and that this has influenced rainfall patterns along the equator.

Cities are also more at risk than rural areas of experiencing greater temperature increases, **flooding, heatwaves, and droughts**, due to factors like the urban heat island effect shown below:

*Urban Heat Island effect - Ilmastotyokalut, 2014*
Despite efforts to reduce the impact that humans have on the environment, some climate change is now considered inevitable and new weather patterns are already emerging. These can be seen across the globe and within Wales as global temperatures continue to rise:

- In Wales, we are likely to experience more extreme weather such as heat waves and storms.
- These changes will cause disruption to natural habitats and human communities, such as more frequent localised flooding, drought, and wild fires.
- Island and coastal communities will be particularly at risk from rising sea levels.
- It is also predicted that the oceans will become more acidic, threatening marine ecosystems and a significant global food source.

Wider global climate-related trends will also have an impact on the UK:

- Prices of energy, food and other goods are likely to rise if supply chains across the world are disrupted or resources disappear.
- Increased humidity and extreme heat may exacerbate health problems, extreme storms may disrupt transport systems and emergency services, and flooding may cause economic and personal losses.
- Climate related immigration into the UK is also likely and may impact on community cohesion and service provision.

We therefore need to help vulnerable people and communities develop their ability to cope with these changes.
For more information about the impacts of a changing climate, see the resources and projects linked below:

• **National Center for Atmospheric Research** - ‘Guide to Climate Science’

• **State of the UK Climate** - 2016 Report

• **Tyndall Centre for Climate Change Research**

• **Welsh Government** - ‘Climate Change Annual Report (2014)’

• **Welsh Government** - ‘Climate Change Risk Assessment (2012)’

• **UK Climate Impacts Programme (UKCIP)**
Climate change mitigation and adaptation

Climate mitigation refers to actions that reduce our contribution to the causes of climate change. This means reducing our emissions of greenhouse gases, such as carbon dioxide (CO2), for example through energy efficiency and using alternative forms of transport and energy.

Current attempts to minimise human-made climate change include reducing our greenhouse gas emissions and finding ways to stop greenhouse gases entering or remaining in the atmosphere through carbon sequestration.

Carbon sequestration is defined as a natural or artificial process by which carbon dioxide is removed from the atmosphere and held in solid or liquid form. Natural carbon sinks such as living forests sequester carbon through the process of photosynthesis; as the plants grow they absorb CO2 and if they are left to decompose slowly much of the carbon is then stored in the soil.

Carbon sequestration through reforestation and restoring peat-lands could create opportunities for green jobs and also help enhance our natural environment (which in turn provides us with clean air, water, and nutritious food).
Certain industries have also developed artificial carbon sequestration processes, also known as carbon capture and storage (CCS), to help mitigate against climate change. Although it is widely acknowledged that CCS is still a relatively new and as yet unproven technology.

Many of the measures to help reduce emissions may also have other benefits such as saving money and encouraging a more sustainable society. For example, policies designed to encourage walking can reduce carbon emissions from cars and increase public health.
Climate adaptation refers to actions that address the impacts and opportunities created by our changing climate.

Despite our efforts to limit the human-made causes of climate change, some climate change will be inevitable as a result of the warming that has already happened and we need to adjust the ways that we live and work to cope with this.

Effective measures to enhance our capacity to adapt to the consequences of climatic change will be vital, such as strengthening flood defences and public infrastructure.

The response to mitigation and adaptation are closely related and can often benefit from being considered together.

The UK Government's ‘Climate Change Act (2008)’ includes a system that aims to cap CO2 emissions over five-year periods to help us stay on track to reduce emissions by 80% by 2050.

This is thought to be the level of reduction required to meet the latest international target on climate change, the Paris Agreement. This aims to limit the rise in average global temperature to ‘well below 2 degrees Celsius above pre-industrial levels’.

The Climate Change Strategy for Wales outlines Welsh Government’s commitment to tackling climate change and describes where it will work with partners to reduce greenhouse gas emissions and enable effective adaptation.
The **Well-being of Future Generations (Wales) Act 2015** sets out a path towards sustainable development with environmental, economic, social, and cultural well-being at its heart.

- The Act sets out ways of working to help protect against future risks, including the adverse effects of climate change.
- Ensuring the well-being of Welsh citizens whilst living within environmental limits is crucial to sustainable development.
- This vision for a better future incorporates healthy, prosperous, and cohesive communities with everyone having access to decent housing and facilities.
- It also strives for a fair and just society where all citizens are empowered to determine their own lives and shape their communities.
- Being resilient to the impacts of climate change and having a low-carbon economy are also emphasised within the Act as necessary to support sustainable development.
Making the transition to a low carbon economy is part of the approach to reducing our carbon emissions as well as coping with other issues such as resource scarcity.

Many organisations argue that, if this is done well, it will not only help limit potentially catastrophic damage from extreme weather events but simultaneously enhance, rather than undermine, social justice.

This is because the likely unavoidable impacts of climate change will not be felt equally and experience to date shows that they will hit those with least resources to cope hardest and fastest.

Many third sector organisations are already campaigning for greater action on climate change, arguing that there is a moral imperative to act as well as social, environmental and economic reasons.

There is more about this in the ‘Climate Justice’ section.
For more information about strategies to tackle climate change and progress sustainable development, see the resources linked below:

### Preparing for climate change reports:

- [UK Committee on Climate Change](https://www.gov.uk/government/organisations/committee-on-climate-change) - ‘[UK adaptation policy](https://www.gov.uk/government/publications/uk-adaptation-policy)’


Decarbonisation resources, projects, and legislation:

• Natural Resources Wales -
  ‘Carbon Positive Project’

• UK Committee on Climate Change -
  ‘2017 Report to Parliament - Meeting Carbon
  Budgets: Closing the policy gap’

• Welsh Government -
  ‘Climate Change Strategy for Wales:
  Adaptation Delivery Plan’

• Welsh Government -
  ‘Ecological Footprint of Wales (2011)’

• Welsh Government -
  ‘Public Sector Decarbonisation’

• Welsh Government -
  ‘Wales Greenhouse Gas Emissions 2014’
Sustainable development resources, projects, and legislation:

• **Natural Resources Wales** –
  ‘State of Natural Resources Report’

• **UK Government** –
  ‘Clean Growth Strategy’

• **UK Committee on Climate Change** –
  ‘An independent assessment of the UK’s Clean Growth Strategy: From ambition to action’

• **Welsh Government** –
  ‘Climate Change and the Well-being of Future Generations (Wales) Act 2015’

• **Welsh Government** –
  ‘Sustainable Development and Climate Change Annual Report (2015)’
It is widely predicted that climate change will exacerbate existing inequalities both globally and in the UK as the groups of people most vulnerable to the likely unavoidable impacts of climate change are generally those already identified as being disadvantaged in some other way.

For example, The Stern Review highlights individuals particularly at risk as those deprived by their health and mobility, lacking awareness of the changes, with less social capital, and the poorest in our communities.

The term ‘climate justice’ has been used to highlight this and, along with environmental and social justice approaches, helps reinforce the importance of ensuring that the burdens and benefits of climate change are shared fairly and that the negative impacts of climate change do not impact disproportionately on certain sections of society.

Locally, nationally, and globally the most vulnerable people with the least power and money are often deprived of a clean and healthy environment...
• Whether it is to do with exposure to air or water pollution, the location of hazardous installations, or simply not having safe access to the natural environment for recreation or play, the poorest in society are often disproportionately affected.

• People living in the poorest neighbourhoods in the UK also tend to be worst hit when the environment is damaged, for example in areas prone to flooding.

• Deprived communities are, on average, less likely to have access to high quality green spaces and to services, such as doorstep recycling, and are less likely to be financially prepared for extreme weather events.

The World Health Organisation identifies a number of negative health effects that are likely to worsen with climate change; including heat-related deaths, insect spread diseases, skin cancer, and respiratory allergies.

Those in poverty and suffering from existing ill health are most vulnerable to all these effects. The lowest income bands already experience a higher burden of illness due to a number of factors; including low wages, occupational stress, unemployment, inadequate housing, poor nutrition, poor education, limited access to health care, transport and shops, lack of recreation facilities, and exposure to air pollution.

This leaves the poorest in society, here and across the world, more exposed to the negative effects of climate change on health.
The impact of climate change on vulnerable groups is not always highlighted in climate change policy or its general narrative.

This is aggravated by the lack of opportunity that many disadvantaged groups have to influence climate-related policy decisions.

Within the third sector, there has sometimes been a perception that the environmental and social justice movements have worked against each other with different priorities or messages.

In reality, most organisations are well aware that the problems of climate change and poverty are interrelated and that ambitions to lift people out of poverty and to create a sustainable environment are mutually supportive.

Many third sector organisations have worked to promote the importance of recognising climate change as a social justice issue and to help represent vulnerable groups in policy debates.

Publications such as Stop Climate Chaos Cymru’s ‘Cutting Carbon Creating Jobs’ report and the Wildlife Trust’s ‘Green Infrastructure’ report also demonstrate approaches where climate change and economic or social disadvantages can be tackled simultaneously.
For more information about the third sector’s role in climate justice, see the resources linked below:

**Climate justice reports and resources:**

- **Carnegie Trust** - 'Bridging the gap between climate change, resource scarcity and social justice: The future role of civil society associations'

- **Carnegie Trust** - 'Creating a Climate for Social Justice'

- **Carnegie Trust** - 'Supporting local places and local people'

- **DVSC** - 'Health, climate change and poverty'

- **Friends of the Earth** - 'Tackling Climate Change, Reducing Poverty'
• Joseph Rowntree Foundation -
  ‘Vulnerability to heat-waves and drought: adaptation to climate change’

• National Council for Voluntary Organisations -
  ‘The Big Response project’
  (identified both direct and indirect impacts of weather changes on people and society)

• New Economics Foundation -
  ‘Tackling climate change reducing poverty’

• Oxfam -
  ‘The Welsh Doughnut Report’
  (framework for sustainability)

• Welsh Government -
  ‘Caring for Patients Before and During a Heatwave: Advice for care home managers and staff’
Climate justice projects and services:

• **Capacity Global** -
  works specifically with people and communities in urban areas, who suffer most from environmental injustice, to ensure their voices get heard

• **Climate Just** -
  tools for mapping communities vulnerable to climatic events (including flooding and heat waves) and fuel poverty

• **Environmental Justice Foundation** -
  a registered charity established in 2000 to empower people who suffer most from environmental abuses to find peaceful ways of preventing them

• **Environmental Law Foundation** -
  pro-bono service available

• **Friends of the Earth** -
  has a Rights and Justice Centre which offers free legal support, helping communities and other campaign groups protect their environment
• **Joseph Roundtree Foundation** -
  has an ongoing research programme exploring the social justice impacts of climate change

• **Lancaster University** -
  environmental justice research and resources

• **Mary Robinson Foundation: Climate Justice** -
  a centre for thought leadership, education and advocacy on the struggle to secure global justice for those people vulnerable to the impacts of climate change

• **University of East Anglia** -
  **Global Environmental Justice research group** -
  an interdisciplinary group of scholars interested in the linkages between social justice and environmental change

• **World Health Organization** -
  aims to prevent and reduce the health effects of climate change through strengthening health systems, helping them to adapt, and building institutional capacity
Climate change and your organisation

Climate change will affect how your organisation does its work

Global businesses are already changing the ways that they operate due to climate trends and it is likely that this will affect us too, very soon if not already.

Climate change is not just an environmental issue as there will also be volatile social and economic impacts. As third sector organisations and groups we need to understand what these impacts will be, how they will affect the people and communities we support, and how we might need to change as a result.

More stormy weather, higher energy prices, and reduced transport reliability are just some of the climate-related trends that are likely to have a direct impact on organisations.

Third sector groups may need to think about how to alter their policies and services to reflect future weather patterns.
As with other risks, it would be impossible to manage every threat that climate change could pose for your organisation. The key will be to explore the range of challenges you could face, and assess them according to their likelihood and potential impacts.

From this you will be able to create an action plan for managing, reducing, and adapting to the risks:

- The **Getting to Grips with Charity Risk Management** is a useful guide to this process.

Of course, there are lots of trends that are likely to have a major impact on the third sector in the coming years, but climate change is an essential one to consider as it cuts across many of the issues our sector is already dealing with.

It is also likely that your organisation will face growing pressure to demonstrate how it is acting sustainably, including action on climate change, from legislation, funders and other stakeholders.

For more information see WCVA’s 2016 ‘Shape Your Future’ reports:

- ‘**Future Trends**’
- ‘**Future Scenarios**’
We know that the third sector has a key role to play in engaging communities and individuals, especially harder to reach and vulnerable groups, to consider how climate change will impact upon them, how they can build resilience, and live more sustainably.

When extreme weather happens, such as flooding, the third sector will play an important role by providing help in the response and aftermath of such events.

The third sector also has an important advocacy role; we must campaign for a more sustainable future whilst ensuring that climate change mitigation policies are fair and do not disproportionately impact on already disadvantaged people.

It is also critical that we mitigate the effects of climate change in the next few years and reduce our own carbon footprint.

Another way that third sector organisations can contribute to a low-carbon future is by strengthening and making more visible the links between well-being and carbon reduction within their own policies and organisations.
The Welsh Government sees the third sector as having a crucial role in helping to address climate change; ‘the third sector has already taken wide-scale grassroots, community based action on climate change and sustainable development’.

They recommend that those third sector organisations who are already taking action help inspire and motivate others by pooling resources and expertise.

- For more information read the ‘Climate Change Strategy for Wales: Sector Action Highlights - Third Sector’

Many in the third sector are already working to improve community well-being but to act 'sustainably' in its fullest sense third sector organisations will need to meet their core objectives without using more than our fair share of the earth’s resources.

This usually translates into reducing the amount that we consume and pollute; both of which have direct links to greenhouse gas emissions.

- The 'Carbon Trust's Resource Efficiency Resources' are a useful guide to this process
• Tackling climate change offers opportunities to help achieve existing goals and future-proof efforts to build more resilient communities, stronger local economies, and a more equitable society.

• It also provides new opportunities to generate income and save money, for example, through co-operatively owned renewable energy generation and reducing your resource demands.

There has been much debate about what a low-carbon future will look like and whether it can be achieved in Wales and further afield.

Research from the Centre for Alternative Technology’s ‘Zero Carbon Britain’ project shows that a modern, zero-emissions society is possible using technology available today...

...It is up to us all to help make this happen.
If you would like more information about tackling climate change, how apply for funding for environmental activities, or have any other queries, please get in touch:

www.wcva.org.uk/invest-in-nature-cymru

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