Businesses, organisations and communities need to adapt so they can continue to function in our changing climate.

Climate change – what risk to Suffolk?

Carbon reduction is a key priority for Suffolk's ambition to become the greenest county and many of us are increasingly active in energy saving and cutting our CO_2 emissions. However, even if emissions do fall we will still have to adapt to a changing climate to ensure businesses, organisations and communities can continue to function.

Some questions to ask yourself

- Is your community, business or organisation able to cope when there is disruption to power supplies, water supplies and communication networks?
- Do any of your and buildings get uncomfortably hot during summer weather?
- Do you have problems with river flooding or surface water drainage?
- Do you face competition for water or are affected by the consequences of drought?
- Do you expect your new and existing buildings/infrastructure still to be in place in 50 years time?
- Are you ready to exploit opportunities presented by a changing climate?

Climate change will have a wide range of implications for all of us: water shortages, flooding, heat waves, changing disease patterns, changing biodiversity and increased risk of crop/animal diseases. Worldwide, extreme weather events will occur more frequently. Not only will these impact directly on the UK but we could also experience knock-on effects from impacts on other parts of the world, such as changes in food supply and security, political stability and migration patterns.

Alongside these negative impacts, more frequent warmer summers will lead to more outdoor lifestyles. Farmers may be able to grow new crops and explore new markets. A changing climate could also increase domestic tourism as traditional overseas destinations become too hot.

The time has now come to act on adaptation in Suffolk. Many organisations, communities and businesses have already started this process, but many have not. We now know enough about the future climate and the likely impacts. We all need to be planning how we can respond to these changes.

The following are some examples of how extreme weather events are already affecting organisations and communities in the UK.

Risks to People

Vulnerable people, especially asthma sufferers, the old, young and sick are most at risk from extreme heat during warm weather and associated airborne pollution. The NHS heatwave plan states that the situation becomes urgent when temperatures rise above 26ºC and particularly if temperatures fail to drop at night time. According to the NHS the 2003 heatwave killed 2,000 people prematurely in the UK when temperatures reached 38ºC. Across Northern Europe 35,000 people died that year as a direct result of this heatwave.

The effect of high temperatures on school classrooms can also result in both children and teachers suffering, with schools having to temporarily close down, as occurred in Oxfordshire in 2003. By the 2040s these 2003 temperatures will be considered to be a normal summer across Europe. By 2060s it will be considered cool.

On current projections, we can expect more frequent storms and a relative sea-level change at Lowestoft of 12cm by the 2020s and 45cm by the 2080s. This predicted sea level rise will result in increased flooding for some of Suffolk's coastal communities and will also have a significant impact on important wildlife habitats. The tidal surge in November 2007 came within 2cm of over topping the sea defences in Lowestoft. As well as causing huge economic damage, flooding of any kind results in social misery for months afterwards. Some residents affected by the 2007 Gloucester floods still had not returned to their homes two years later.

Risks to buildings and infrastructure

Our buildings and infrastructure are at an increased risk of damage in the changing climate. Suffolk's roads are prone to melting when temperatures exceed 35ºC, as occurred in parts of England in 2003 and 2006. As well as causing costly long-term damage, this can result in economic and social disruption if roads are temporarily closed. In the future, summers will usually be hotter and peak temperatures of 35ºC and above will be normal within 30 years.

An additional risk to homes, businesses and infrastructure will be triggered by more frequent intense rainfall events that have the ability to cause flash flooding when drainage systems are unable to cope. The results of this will be transport disruption, potential road safety issues, and flooded homes and businesses. It is possible that by the 2040s we can expect a 25% increase in rain on the wettest day, and this may require aspects of Suffolk's infrastructure to be redesigned.

To reflect these risks to our buildings and infrastructure, it is therefore vitally important that planning policies are sufficiently robust to ensure development is located appropriately and that the design of infrastructure, homes and businesses can better cope with more frequent extreme weather events and the related consequences.

Risks to businesses

Extreme weather events can also cause disruption to power supplies, water supplies and communication networks. This was seen during the 2009 flooding in Cumbria and the cold weather in 2009/10. As well as severely affecting communities, it resulted in massive economic disruption, lost business orders and in many cases, businesses failed. According to a survey conducted by the Chartered Management Institute, 25% of companies experienced extreme weather conditions last year. Based on current trends, we can expect more frequent extreme weather events, including high winds, storms, heatwaves, and flooding.

Adnams Distribution Centre, Southwold

Risks to our open space and heritage

Aside from the obvious impacts of storm flood damage, much of Suffolk's agriculture and wildlife is also sensitive to drought conditions. More frequent hotter and drier weather will place important habitats under high levels of stress. It is likely that by the 2050s there will be almost a fifth less summer rainfall. Robust scientific evidence indicates that every degree rise in global temperatures will result in a 10% extinction of global species. This potential loss of biodiversity could significantly affect Suffolk's heritage landscapes that we currently enjoy.

What can you do now?

Are you at an early stage in thinking about adaptation?

Here's what you need to consider:

- How vulnerable is your community or organisation to the effects of climate change? How might you be affected; how soon, how often and to what extent. This will help you decide what steps to take.
- What do you need to do now? Some changes such as sea level rise, will be gradual whereas others, such as intense rainfall, may come sooner and with little warning. Decide what action you need to take quickly to improve your ability to cope with effects in the short term, as well as longer term changes.
- What can you do to adapt and who with? Once you've carried out an assessment and made plans, you need to act. This may include working in partnership with others.
- Can you change your plans if you need to? Your plans should be flexible so you can adjust them if required.

Are you already taking steps to adapt?

If you have started to plan for adaptation but want to do more, here are some things to consider:

- Is your evidence up to date? The latest data, UKCP09 climate projections, are now available to help you to identify the main threats and opportunities to your organisation.
- Are you turning plans into action? Can you learn from others' work? We need to share best practice and any lessons learnt.

For more information:

www.defra.gov.uk/environment/climate/action

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