

ADAPT & SURVIVE

Green space and the
climate change challenge

A policy report from Groundwork UK

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July 2009

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Green space and the climate change challenge

‘Adaptation to climate change — that is, taking steps to build resilience and minimise costs - is essential. It is no longer possible to prevent the climate change that will take place over the next two to three decades, but it is still possible to protect our societies and economies from its impacts to some extent’.

Stern Review on the Economics of Climate Change.

Key messages

- **Climate change is a social justice issue**
- **Climate resilience is essential for local economic resilience**
- **Improving green infrastructure is a highly efficient and cost effective means of meeting our adaptation needs**
- **We need to act now to keep our towns and cities habitable**
- **New employment initiatives should support the delivery of adaptation plans**
- **Groundwork’s experience in working with communities and businesses makes it well placed to deliver adaptation solutions that meet environmental, social and economic need.**

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1. Introduction

Our climate is changing and we are experiencing the effects now. Even if we make significant reductions in emissions today, the delayed effects of the carbon dioxide already put into the atmosphere mean that we are 'locked in' to decades of climate change and centuries of sea level rise.

Climate change is not just an environmental challenge but a pressing social justice issue with direct economic impacts. A changing climate will have a disproportionate effect on the poorest communities, both in developing countries and at home.

Groundwork has been tackling poor environmental quality and helping to support local economies in the UK's most deprived neighbourhoods for more than 25 years. People in these communities are already disproportionately affected by climate change, and they are often worst placed to deal with the financial consequences.

New UK Climate Projections show that the UK is likely to see mean temperature rises of around four degrees later this century (with summer temperatures reaching up to forty degrees). So while we must mitigate to try and avoid a two degree rise, we must adapt for four. To achieve this, a major programme of action will be required to meet the nation's adaptation needs, with measures taken today to ensure our towns and cities are habitable in future.

The government has responded to the economic downturn with proposals to create jobs by investing in infrastructure and the development of the 'green economy'. This paper aims to outline the multiple benefits that could be realised with investment in adapting the UK to climate change - in particular the Green Infrastructure required to support this.

2. Groundwork's experience

The development of a National Adaptation Programme presents two key challenges:

- The need to quickly gear up to deliver on the ground - with action required now, and not delayed until the Climate Change Act deadline of 2012.
- The need to ensure the effective engagement of a wide range of stakeholders, particularly local communities and businesses.

Our perspective on addressing these challenges is informed by our many years of experience in working alongside communities, public bodies, private companies and other voluntary sector organisations to deliver action that brings about concurrent social, economic and environmental benefits.

During 2007/08 our achievements included:

Improvements to local environments

- 5,500 ha of land physically improved or maintained – 15 times the size of New York's Central Park.
- 177,000 trees planted

Supporting the local economy

- Active support for 2,400 businesses
- Providing 59,000 weeks-worth of training
- Creating 2,900 jobs
- Helping 2,300 people progress back into education, training, employment or formal voluntary work

Engaging communities

As a result of our work

- 72% of people involved feel that their neighbourhood is a better place to live, and
- 93% of those involved feel more able to influence decisions affecting their local area

Working in partnership

- We work with three quarters of the local authorities in England and Wales.
- We work in over 90% of the most deprived communities in England and Wales (worst 20% super output areas)



3. The key issues we face

3.1 Climate change will impact most on the poorest communities

Deprived urban areas are more likely to be vulnerable to the impacts of the 'urban heat island' effect. This is due to lower levels of tree cover and other green infrastructure, combined with higher concentrations of air pollution and a greater prevalence of people with heart and respiratory disease. For example in the heat wave of 2003 there were 2,000 extra deaths in the UK (35,000 deaths across Europe), with the hot weather producing an increase in the number of days of higher air pollution. Events such as this are likely to become a normal occurrence by the 2040s. These weather conditions will be considered cool by the 2080s.

Deprived communities in urban areas are likely to experience rising levels of fuel poverty. Poorer residents often live in older houses which are harder to heat in winter and harder to cool in summer.

A lack of green infrastructure in urban areas also increases the risk of flooding. Residents in deprived areas are likely to be less aware and worse prepared for an extreme weather event like a flood. According to the Environment Agency, poorer people are likely to be more exposed to flooding, but less likely to have home contents insurance.

In the floods of 2007, there were 55,000 flooded properties, with damages estimated to be around £3 billion. The Foresight Future Flooding report estimates that the number of properties at very significant risk from surface water flooding alone could rise to 300,000 – 400,000 per year by the 2080s, potentially leading to several billions of economic damage each year.

3.2 Climate resilience is essential for local economic resilience

A programme of action for adaptation could contribute to local economic resilience in two key ways. Firstly by reducing the risks and costs of climate change impacts

Key facts

Homes and businesses are facing higher summer energy costs and power shortages. In 2006, London's peak summer electrical energy demand exceeded the peak winter demand. Power cuts and power rationing affected thousands, with offices, shops and tube stations forced to close.

High temperatures in July 2006 caused 'sticky' conditions on roads resulting in road closures, e.g., in Oxfordshire, 37 roads were closed with significant impacts on local businesses.¹

The 2007 floods put many businesses out of action for some time with a serious effect on trade – particularly for small businesses. Flooded premises or loss of power and communications resulted in lost orders. Delays were increased by lost or damaged paperwork resulting in problems making insurance claims, and many businesses did not have adequate insurance in place.²

to local residents and businesses and secondly by supporting the creation of diverse local economies more able to bounce back from the effects of recession.

The Centre for Local Economic Strategies (CLES)³ has identified the following key elements required for resilience:

- economic diversity, with productive links between the commercial, public and social economies;
- the development of local or neighbourhood level solutions to economic problems
- the contribution of the economy to social and environmental objectives (e.g., local environmental quality, health, well-being and local democracy)

Investment in adaptation could support development in all of the above areas, creating both high and low tech jobs which could be well matched to people and places.





Green roof at Mountain Equipment Coop, Toronto, Canada – a sight which should be much more common in the UK

4. Meeting the challenge

4.1 Adapting our landscape

In adapting to climate change we can also make our towns and cities more attractive, with a better quality of life. Green infrastructure - or linked networks of green and blue spaces - can help alleviate the consequences of climate change by providing cooling, wind breaks, water management, habitats for biodiversity and improving air quality.

In addition, green infrastructure supports mitigation efforts by reducing the need for power consumption for heating and cooling, together with its contribution to carbon capture and storage. Improving the quality of urban areas would also encourage people to walk or cycle, helping to further reduce carbon emissions.

Natural England has described how 'soft' adaptation measures⁴ such as Green Infrastructure can be more sustainable and cost-effective than 'hard' engineering solutions, as they do not add to climate change, cause detrimental impacts or limit the ability of other parts of the natural environment, society or business to carry out adaptation elsewhere.

The Natural Economy Northwest programme has outlined a method for calculating the economic value of these measures, balancing the cost of investment with the benefits of:

- savings from reduced energy use and lower insurance premiums;
- the lower costs of 'soft' as opposed to hard engineering measures
- savings resulting from carbon capture and storage
- increased investment levels and employment creation in previously vulnerable communities.

Recent research by the University of Manchester on 'Adaptation Strategies in the Urban Environment' (ASCCUE)⁵ suggests that adding 10% green cover to built-up urban areas could keep maximum surface temperatures at a 1961-1990 level up until the 2080s.

In recent years, however, the trend has been towards a decline in green cover in urban areas. This has resulted from development pressures, an increase in the use of front gardens for car parking spaces, and householder extensions. There has also been a lower rate of tree planting over the past decade⁶, with more threats to older trees. In addition large native trees have tended to be replaced with smaller, ornamental types which



provide less shade⁷. Climate change will also create challenges for the management of green infrastructure, for example irrigation in times of drought so that it continues to provide cooling benefits when it is most needed. There are opportunities to provide this through the collection and storage of rainwater, which would also help to reduce flooding incidences.

Therefore, if we are to achieve Green Infrastructure improvements on a sufficient scale (e.g., achieving a 10% increase in urban green cover), and allow planting time to mature (e.g., for trees to develop a large enough canopy to provide shade), we must take action now.

According to Natural England, 'timely and sustainable adaptation will prove to be good value for money.'

4.2 'A Green New Deal - Cool City Corps'

A shift towards a greener economy with investment in green jobs as part of a strategy to combat recession is welcome but must include more elements than just investment in high technology. Such investment may take some time to bear fruit in terms of job creation and those jobs created will not be suitable for many. To tackle the rising unemployment figures, what have been termed as 'shovel ready' jobs in grey and green infrastructure will also be needed.



Shovel-ready jobs are essential - and can be directed towards adaptation measures

A programme of urban greening ('the Cool City Corps') could rapidly be developed along the lines of the New Deal's Environmental Task Force. This would involve teams of trainees implementing environmental improvements both to increase green cover and to make practical differences to quality of life in deprived communities. The new 'Future Jobs Fund' has the potential to fund programmes of this type.

The programme could also include:

- the promotion and development of green roofs in targeted inner city locations
- the installation of rain water collection systems to provide irrigation for green infrastructure
- natural flood management techniques such as restoring upland catchment areas and flood plains, and installing sustainable urban drainage systems

Our experience has also shown that employment programmes with an environmental focus are particularly effective in making the link between worklessness and wellbeing. Working in the natural environment can provide mental and physical health benefits and help overcome barriers to employment. It attracts high rates of volunteering and provides popular work placements for the long term unemployed, people with learning difficulties and with mental health problems. Environmental programmes working with disaffected or truanting children, officially described as Not in Education, Employment or Training (NEET), have also proved remarkably successful.

It is important that this activity has a focus on areas of urban deprivation, where climate impacts may be high, but the lack of awareness and multiple pressures faced by these communities means that adaptation will be a low priority.

4.3 Bringing communities and businesses on board

Engagement with local communities is crucial to developing adaptation actions that will work best on the ground. It should form a fundamental part of the process of developing adaptation strategies from the outset, and ensure communities are given opportunities



to be involved in decision-making and active participation in delivery.

For example, guidance by CABI Space 'Adapting public space to climate change' emphasises the need to involve local people in the design and management of public spaces to ensure they meet users' needs, considering the likely increase in use. Community engagement on public space can also provide opportunities to raise awareness about the effects of climate change and the action people can take to minimise the negative impacts for themselves and their environment.

The private sector has an important contribution to make to adaptation strategies, and will also benefit by planning for future change. Groundwork's Environmental Business Services and Green Business Park programmes have for many years helped companies improve their environmental and competitive performance. Groundwork can support businesses by helping to increase awareness, identify risks, improve skills, and undertake adaptive measures that can help protect premises and the surrounding neighbourhood from climate impacts.

Groundwork's experience has shown that environmental improvements on business sites and industrial estates improve business performance in terms of security, image, attracting and retaining staff and customers, and that these benefits permeate to the wider local economy⁸.

6. Next steps

In embedding adaptation into Government policies, programme and systems, we would like to see the actions outlined below.

Policies

Groundwork supports the view of Natural England⁹ that adaptation of the natural environment should be a major underpinning element of a statutory national adaptation programme:

- Statutory guidance on adaptation should include advice to public authorities, utilities etc., on incorporating green infrastructure into their action plans and ensuring effective community engagement in the process.
- Adaptation and green infrastructure strategies should be a fundamental part of the new Integrated Regional Strategies, and incorporated into local economic development and community plans.
- Measures of the adaptation of the natural environment should be included in Climate Change Public Service Agreements (PSAs).

The planning system

Green infrastructure should be a key component of spatial planning, embedded into regional and local planning processes, as called for by the Landscape Institute¹⁰, CABI¹¹ and Natural England.

We therefore welcome government commitments to revise planning guidance on green infrastructure (as made in the new strategy for improving quality of place: 'World Class Places'), and also to review the Climate Change Planning Policy Statement:

- New national Planning Policy Statements should draw together the following:
 - » The supplement to PPS1 on planning and climate change
 - » PPG17 on open space, sport and recreation



- » PPS9 on biodiversity and geological conservation
 - » PPS25 on development and flood risk
 - » PPG13 on transport planning in order to promote urban green ways for cycling and walking.
- The Landscape Institute has recommended that every Local Planning Authority area should adopt a green infrastructure strategy as a Supplementary Planning Document. This should enable implementation across administrative boundaries e.g., at a sub-regional level where appropriate.
 - Local authorities should be required to adopt Natural England's 'Accessible Natural Greenspace Standard'. This states that people living in towns and cities should have an accessible natural green space less than 300 metres (5 minutes walk) from home.

Funding programmes

Funding will be required to provide for the creation and particularly the long-term maintenance of extensive green infrastructure. Without adequate investment, the multiple benefits it can provide will not be realised:

- As the Landscape Institute maintains, green infrastructure should be given a level of recognition and investment comparable with that of 'grey' infrastructure. To achieve this, government should develop a national funding stream for strategic green infrastructure investments through the Comprehensive Spending Review and annual Budgets.
- Government should increase its investment in green jobs as part of its economic stimulus package, prioritising support for adaptation as well as mitigation activity. The Sustainable Development Commission¹² has urged the Government to commit 50% of the total funding provided for economic recovery plans on green measures, up to £30 billion a year for the next three years.
- Through the Future Jobs Fund, for example, it is proposed that at least 10,000 of the 150,000 jobs it

aims to create will be green jobs. The DWP should ensure that adaptation activity is supported through this investment.

We also support CABE's proposals for:

- CLG and DECC to co-create a sustainable neighbourhoods scheme to be delivered by local authorities and the voluntary sector. This could create ownership of the adaptation agenda through collective action at a neighbourhood level.
- Defra to run a competitive funding programme to promote urban green ways. CABE has proposed that the Queen's Jubilee in 2012 should be marked with the opening of hundreds of new greenways in every major conurbation across the country.

8. Groundwork action

Groundwork has an important role to play in the task ahead to adapt our towns and cities for climate change. We are committing our own resources to help ensure we can play that role for the benefit of communities across the UK.

Capacity building:

Groundwork is now up-skilling its staff to apply our experience of working with communities in the creation and improvement of green infrastructure to the task of adapting to climate change. Training programmes for our landscape architects, community development workers and business services have been developed.

Planning:

Groundwork will support Regional Climate Change Partnerships and local authorities in the development of Climate Change Action Plans and adaptation studies – making links to local/regional regeneration strategies.

Delivery:

Groundwork will support the implementation of local and regional adaptation plans, and seek to develop adaptation-focused employment and community programmes with a range of partners including the private sector e.g., utility companies. Support on adaptation will also be integrated into the work of our Environmental Business Services.



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