

October 2005



**Friends of
the Earth**

Briefing

Tackling climate change in England's regions

the role of regional spatial strategies

“Climate change is the most severe problem we are facing today”

Sir David King, UK Government Chief Scientific Adviser, 2004

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Tackling climate change in England's regions

Introduction

There is a wide ranging scientific consensus that our climate is changing and that these changes will intensify with potentially catastrophic implications for economies, human societies and natural environments all over the world. While the science is well documented, and both actual and potential climate change impacts are increasingly well understood, there are significant gaps in the perceptions of the general public and policy makers as to the urgency required to address this crisis.

Spatial planning has a major and positive contribution to make in meeting this challenge by promoting policies which reduce the threat of climate change by:

- promoting the highest standards of resource and energy efficiency in new development so as to reduce carbon dioxide (CO₂) emissions arising from construction and use
- requiring land-use patterns that reduced the need and the propensity to travel by car
- vigorously promoting small and large scale renewable energy projects
- restricting development which has a major negative impact on CO₂ emissions
- adapting to the harmful impacts of climate change.

The Government's response to climate change

The government has set or agreed a number of targets to reduce releases of greenhouse gases. They include:

- Reduce the UK's carbon dioxide emissions by 20% from a 1990 baseline by the year 2010.
- Reduce carbon dioxide emissions 'by some 60 per cent by about 2050 with real progress by 2020', as recommended by the Royal Commission on Environmental Pollution (The Energy White Paper 2003).
- As part of the Kyoto Protocol, the UK has also agreed to reduce greenhouse gas emissions by 12.5% below 1990 levels by 2008-2012.
- In March 2005 EU Heads of State agreed greenhouse gases must be reduced by 15-30 per cent by 2020 from 1990 levels¹.
- Produce 10 per cent of energy from renewable sources by 2010 and 15 per cent by 2015, with an aspiration of 20 per cent by 2020.
- Provide 10,000 MW of combined heat and power by 2010.

(Note: Chapter 4 of the UK Sustainable Development Strategy (Defra 2005) reproduces the full range of the UK Government's international and domestic CO₂ reduction and renewable energy generation targets)

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Some of the emissions reduction targets are for all greenhouse gases, while some are for CO₂ only. While our target under the Kyoto Protocol relates to the reduction in emissions of the six main greenhouse gases – carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) - the UK Government decided to set national goals for just one of these gases, carbon dioxide. This is because carbon dioxide is by far the most important of the six gases, and will be responsible for about two thirds of the expected future climate change. It is also one of the more difficult gases to control. [UK Sustainable Development Strategy, Chapter 4]

As well as setting targets, the Government has sought to address climate change through a number of policy initiatives. In planning guidance, tackling climate change is identified as a priority in Planning Policy Statement (PPS) 1: Delivering Sustainable Development; with further reference in PPS 7: Sustainable Development in Rural Areas; PPS 9: Biodiversity and Geological Conservation; PPS 11: Regional Spatial Strategies; PPS 22: Renewable Energy; PPS 23: Planning and Pollution Control; and forthcoming PPS 25: Development and Flood Risk.

PPS 1 makes clear that 'Regional Planning Bodies and local planning authorities should ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change' (paragraph 13 ii).

In addition to the general requirement in PPS 1 for planning bodies to deal with climate change the government also gives standing to the UK Sustainable Development Strategy as material to the planning process. Paragraph 13 (i) of PPS 1 states, 'Development plans should ensure that sustainable development is pursued in an integrated manner, in line with the principles for sustainable development set out in the UK strategy.' In understanding the implications of sustainable development for strategic planning, Regional Planning Bodies must fully consider the UK strategy which in turn reflects our international and national treaty and policy obligations on climate.

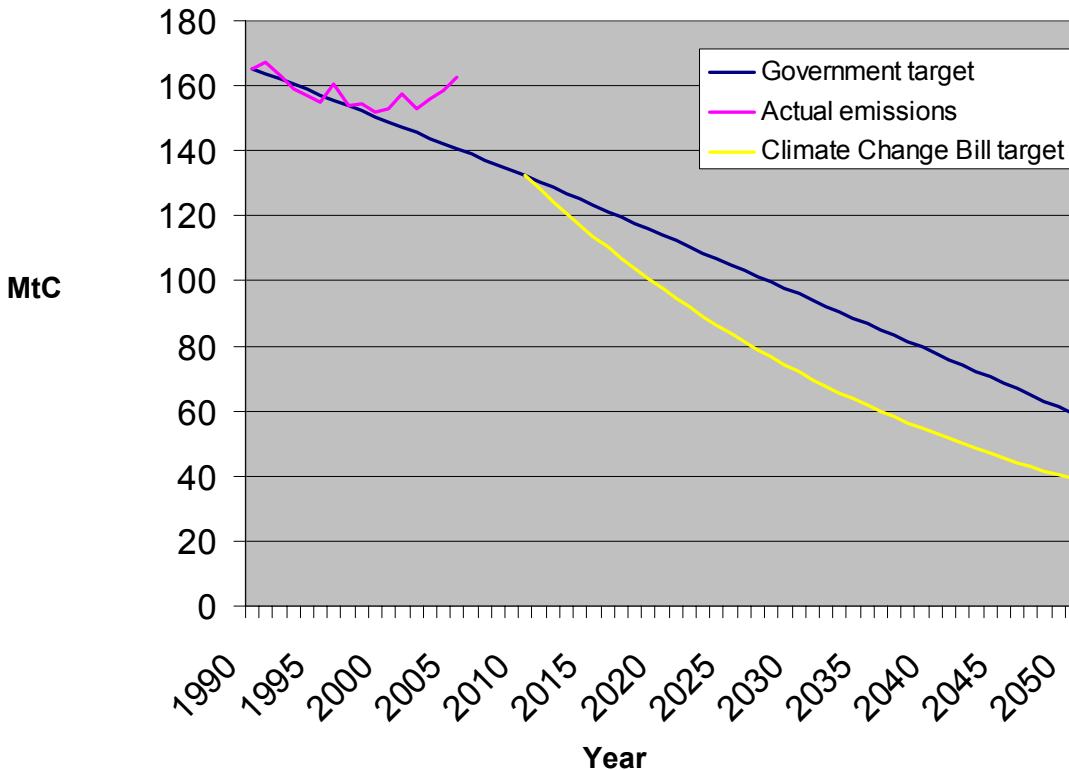
Despite these clear intentions, current national and regional spatial policy is failing to deal effectively with climate change because:

- There is a failure at regional and local level to recognise that climate change is a 'special' consideration for the planning system which may often need to take a pre-eminent place in regional and local policy and in development control decisions. In this sense climate change is the 'first amongst equals' of considerations in the planning system.
- There has been an over-emphasis in regional planning policy on adaptation rather than avoidance and reduction. Spatial policy must ensure that while proper measures are taken to deal with adaptation the first priority must be to avoid worsening climate change, by making decisions which reduce carbon dioxide emissions. While there is a series of detailed adaptation measures which RSS should address the focus of this briefing is on avoidance.
- There has also been a false assumption that distant targets for reducing carbon dioxide emissions will be enough to avoid the most damaging impacts of climate

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change, and can be dealt with at some undefined point in the future – the “Not in My Term of Office” syndrome. Thus all three main political parties have supported targets for a 60% cut in carbon dioxide on 1990 levels by 2050; yet in recent years we have not only made no progress towards this target, we have gone backwards – emissions have risen significantly since 1997 and are still rising (see ‘actual emissions’ line on graph below).

Graph 1 – Possible carbon reduction pathways



This graph shows the actual emissions from the UK, compared to the line of reduction required to meet Government targets (if we take a linear approach), compared to the suggested reduction pathway of Friends of the Earth under the Climate Change Bill.

Although unsustainable trends are often acknowledged in strategic planning, the will to tackle them is often weak, and at best, targets are set to slow the trend before reversing it at some future date.

With CO₂ emissions and climate change, such an approach is wholly inadequate. The problem is not merely that we might miss the 2050 target, but that the pathway we take to it could mean that even meeting it was not enough. Carbon dioxide persists in the atmosphere for many years, and so the climate impact felt in 2050 will be determined far less by the level of emissions *in* 2050 than by the cumulative level of emissions *up to* 2050. If we carry on with emissions as usual – or worse, rising emissions – in the hope

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that a new innovation or invention will magically cut emissions in 2049 to the level required to meet the target, we will not have succeeded in stopping dangerous climate change, but will have emitted way beyond prudent limits of what the climate can take well before we are anywhere near that target date.

This also means that unless we start making cuts in the near future, cuts further ahead will have to be far more severe. Using data from the International Panel on Climate Change, Friends of the Earth has calculated that if the UK is to make its fair share of reductions to prevent atmospheric concentrations of carbon dioxide reaching dangerous levels, we will need to cut emissions **by 3% every year to 2050**.

In strategic planning terms, 2050 is not that far away. The current round of Regional Spatial Strategies are to cover the period from 2005/6 to about 2026, requiring them to take us beyond real progress by 2020, and **halfway** to the required cut of 60% by 2050. Delay is inexcusable: there are no rational grounds to suppose that cuts will be cheaper, easier or more politically palatable to deliver in future decades than they are now. Indeed the opposite may be the case: it is the path taken **between** now and 2050 that has the greater influence in determining the severity of future climate change impacts than does the actual level of cut achieved **by** 2050. So the more action is delayed now, the more stringent will be the action required in future.

A spatial policy to avoid dangerous climate change

Consistent policy measures are required across all sectors to ensure we deliver effective action on climate change. ***The only high level statutory policy mechanism which can deliver across the country and across sectors is Regional Spatial Strategy (RSS)***. As such RSS is the key spatial response to climate change. The RSS should contain an overarching policy for the abatement of further impacts through CO₂ reduction policies. Spatial policy at regional and local level should also acknowledge the cross cutting impact of climate change, affecting specific areas such as housing, energy, transport, agriculture, forestry and waste. RSS must make sure that LDFs prioritise action to reduce the threat of climate change in line with paragraph 13 (ii) of PPS 1 by ensuring that policies:

'reduce energy use, reduce emissions (for example, by encouraging patterns of development which reduce the need to travel by private car, or reduce the impact of moving freight), promote the development of renewable energy resources, and take climate change impacts into account in the location and design of development' (PPS 1 section 13 (ii) ODPM 2005)

The development of detailed RSS climate change avoidance policy should proceed through the logical sequence of:

- (i) establishing robust baseline data on greenhouse gas emissions
- (ii) detailed analysis of the potential impacts of new policy options assessed against baseline conditions

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(iii) policy action to reduce emissions in line with reduction targets

(iv) policy action to adapt to the consequences of climate change.

An emissions inventory is essential to climate action planning. It should audit or model past and present CO₂ emissions by sector as well as future projected emissions. Without all these data the trajectory of change will be unclear and it will be impossible to determine priorities for action.

Strategic Environmental Assessment (SEA) and climate change

SEA has a crucial role to play in providing comprehensive baseline information and in understanding the range of potential climate change impacts that arise from strategic development options. In view of its overriding importance (and in case of doubt on this point, see the quote from the government's chief scientist at the head of this briefing), the process of sustainability appraisal which incorporates SEA ***must explicitly identify climate change as the single most important issue in the scoping process***. This will often require the collection of new primary data on greenhouse gas emissions. The SEA directive requires detailed and robust analysis of all significant environmental impacts of strategic plans; clearly climate change impacts will be foremost among those. More detail on the SEA directive can be found from the resource section of our planning web pages at www.YourPlanningRights.co.uk

Core policy principles for avoidance

Effective climate change avoidance policy has three components:

- regional carbon reduction targets
- low or zero emission development principles
- restricting climate damaging development.

1. Regional carbon reduction targets:

RSS must contain targets which assist in the delivery of the necessary reductions required to prevent dangerous climate change. As we argue above, existing targets are not enough to prevent dangerous climate change; by concentrating solely on an emissions target in a single year, they fail to address the cumulative emissions that will determine the extent of climate change. We propose the Government should set a legally-binding target for annual reductions in carbon dioxide emissions of 3% per year. Even if the precise quantification of these reductions remains disputed, it would be ridiculous if RSS was not at least consistent with both the UK's international treaty obligations and national climate reduction policy. These obligations should be regarded as an absolute minimum policy floor and not a policy ceiling.

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There are two significant developments in planning policy which reinforces the requirement to deliver on national and international climate change obligations:

- Firstly the Strategic Environmental Assessment (SEA) Directive requires in Article 5 and Annex 1 that environmental objectives established at international, community or national level which are relevant to the plan (i.e. the RSS) are taken into account during the preparation of policy. There can be no doubt that the Kyoto Protocol and the UK's own national targets fall firmly inside this category and must be considered as key objectives in the plan making process.
- Secondly, as already cited, PPS1 requires Regional Planning Bodies to "...ensure that sustainable development is pursued in an integrated manner, in line with the principles for sustainable development set out in the UK strategy".

Consequently RSS must enshrine an explicit climate change reduction target which at the very least delivers on the UK's national and international policy and treaty obligations, and should assist in following a reduction pathway that ensures the UK makes its fair share of cuts in order to keep climate change below critical thresholds.

Establishing a regionally specific CO₂ reduction target

In order to meet the short term government target of a 20 per cent CO₂ reduction by the year 2010 urgent action is required. We recognise that there may be specific regional issues which might influence effective target-setting: for example some regions are net exporters of energy. Reduction targets should therefore be based on the model established in the adopted Yorkshire and the Humber RSS. These are based on energy consumption and reflect a fairer and more realistic basis for action than targets based on energy production. Friends of the Earth strongly supports the approach of target setting in the Yorkshire and the Humber, which has been accepted by ODPM in adopting that RSS, and which should be used as the template for all RSS documents.

Box 1 - Yorkshire and the Humber RSS climate change policy

Policy S5 Climate change

Local and regional authorities and agencies and others should:

- a) Include policies and proposals in their development plans, local transport plans, strategies and investment programmes to help reduce the Region's greenhouse gas emissions by at least 20% below 1990 levels by 2010 and by at least 25% below 1990 levels by 2015**
- b) Take into account the land use implications of the predicted impacts of climate change on their area and plan for both the successful adaptation to the resulting effects and maximisation of potential economic, environmental and social opportunities in land use terms.**

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It is important to note that the figures contained within the Yorkshire and the Humber policy would not deliver the 3% annual CO₂ reduction which Friends of the Earth believe is essential (see Graph 1). We therefore propose a 30% reduction by 2015 as the appropriate target. This would also fully meet the target as agreed by the EU Heads of State in March 2005.

Cross sectoral action

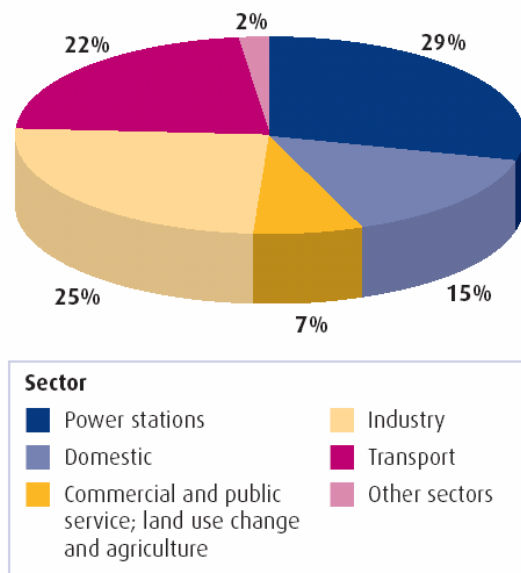
RSS should examine the translation of the headline target into individual targets for specific sectors. The UK Sustainable Development Strategy indicates that 'Policies to reduce emissions fall under six broad sectors:

- the energy supply industry
- business
- transport
- households
- agriculture, forestry and land-use
- the public sector.'

(Sustainable development strategy p 79)

RSS should promote CO₂ reduction policies across all these sectors and consider the adoption of a separate Climate Change Action Plan which draws together strategic policy, partnership working and funding mechanisms which can help deliver effective change.

Figure 1: CO₂ emissions by source, 2004⁷



Source: UK Sustainable Development Commission

We note that action in some of these sectors implies policy which goes beyond narrow land use issues. However, RSS now has a broader 'spatial' scope and should, for example, set out long-term strategic policy on energy generation and consumption which reflects the aspirations of the Energy White Paper in relation to CO₂ reduction.

In order to achieve the overarching regional CO₂ reduction targets RSS should establish specific sectoral targets to reduce emissions over the plan period.

Box 2 - The Yorkshire and the Humber Climate Action Plan

Regions should consider the adoption of a Climate Change Action Plan, as is being undertaken in Yorkshire and the Humber. This aims to: *"provide the region with the framework to respond to the threat of climate change. It will utilise and expand our knowledge of the regional impacts of climate change and develop strategies to cope with these impacts. Concurrently, it will work towards long-term reductions in greenhouse gas emissions from the region to reduce our impact on a global problem... By taking this approach, this plan will enable significant steps to be made over the next 3-5 years towards ensuring the region is both prepared for the likely impacts of climate change and to achieve 60% greenhouse gas reductions by 2050."*

Monitoring and review

RSS must contain a commitment to regular monitoring and reviews of climate reduction policy. This is because enhanced scientific knowledge, and/or international obligations, may lead to revision of existing targets, and more stringent (or even, though it is extremely unlikely, less stringent) annual reductions will be required.

Regional Planning Bodies need therefore to be alive to the potential that additional and tougher targets may be required to be met in the short – medium term. For example, increasingly scientists are warning that carbon dioxide concentrations need to be kept below 450 parts per million by volume (ppmV) or even 400 ppmV as opposed to the 550 ppmV modelled by the Royal Commission. These lower concentrations would require greater reductions in carbon dioxide (see Box 3).

When drawing up Regional Spatial Strategies, regional bodies also need to recognise that climate change policy is fluid at present. The government is due to publish its new climate change programme in November 2005; the government may also require year on year reductions as a response to parliamentary pressure and a Climate Change Bill which demand cuts of 3 per cent per annum.

Box 3 - The 2 °C stabilisation target

Based on current understanding of 'steady' and 'rapid' impacts, organisations such as the International Climate Change Taskforce suggest a long-term target to prevent global average temperatures rising more than 2°C above the pre-industrial level. While some impacts are expected below this level, above it impacts on ecosystems, water, and food may rise dramatically. To inform policy, targets must be translated into emissions reductions but science can not link these precisely. The 2°C target has guided EU policy since 1996, when it was linked to a CO₂ level stabilised at 550 ppmV. The UK's domestic 2050 [target] is consistent with that calculated as the UK's contribution to the overall global emissions reductions required to stabilise at 550 ppmV.

Recent evidence indicates that CO₂ levels need to be kept below 400 ppmV to be fairly certain of limiting warming to 2°C. As the CO₂ level is now nearing 380 ppmV and rising at over 1.5 ppmV per year, this cannot be done without urgent, vigorous global action to cut emissions. The UK would have to cut CO₂ emissions to over 80% below 1990 levels by 2050.

Parliamentary Office on Science and Technology: Postnote on Rapid Climate Change, July 2005, number 245

2. Promoting low and zero carbon development principles

In order to assist in the achievement of carbon reduction targets RSS should promote a range of policy measures to ensure that new development does not add to the atmospheric burden of CO₂ over its life-cycle. Much of the building stock that exists today has poor energy and resource efficiency, yet will still be in use in 2050 and beyond. New build therefore has to be of a high enough standard to compensate for this deficiency. Measures should however also be considered to promote the retrofit of the existing building stock whenever possible. Policy should focus on energy and resource efficiency and on promoting renewable energy capacity.

Energy and resource efficiency

Development Plans offer a significant opportunity to promote the development of resource efficient homes through the inclusion of policies which specify acceptable levels of resource efficiency for all new developments. The Energy Performance of Buildings Directive (EPDB) requires the setting of minimum standards of energy performance for new-build and buildings undergoing major renovation. The Government is committed to implement this Directive by 2006.ⁱⁱ While aspects of this agenda are dealt with under Part L of the new Building Regulations, RSS has a major role in setting strategic policy and driving up standards. Energy and resource efficiency must become key considerations in permitting new development or the re-use of existing buildings.

The London Borough of Merton has shown how local authorities can take the lead on tackling climate change through the planning system. The Borough intends to include the following text in its forthcoming Local Development Framework:

The Council will require all developments, either new build or conversion, with a floor-space of 500 m², or one or more residential unit, to incorporate on-site renewable energy equipment to reduce predicted CO₂ emissions by at least 10%.

This approach is supported by PPS22 and should be promoted for all local authorities by its adoption in RSS

The zero net carbon standard

The aim however must be to **reduce** greenhouse emissions in the region. So, whilst the aims of the Merton policy above are laudable, it is clear that they do not go far enough - because new developments will continue to add to the overall carbon dioxide emissions. If we are to reduce the region's overall emissions, new build should achieve a zero net carbon standard, meaning that new development does not add any net carbon dioxide emissions during its lifetime. Indeed, where possible development should incorporate renewable energy generation so that it has a net positive energy output after construction.

To aim for a zero net carbon standard may be regarded as a radical step, but the policy is technically achievable, falls inside the remit of spatial planning and is the clear and logical extension of the Government's national policy and international obligations on climate change.

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Such development can be achieved by using a range of existing, well-recognised standards which are outlined in more detail in Box 4. These tried and tested standards, together with on-site renewable generation, offer a 'toolkit' of options from which developers can select their preference to achieve the zero net carbon standard. As the Local Government Association has noted:

*'There is no technical reason why all new housing built in the UK should not achieve a zero net carbon standard within a few years. There are already examples of housing in the UK which achieve zero net carbon emissions through combinations of higher energy efficiency and renewable sources for the remaining power.'*ⁱⁱⁱ

3. Restricting climate damaging development

The promotion of development which delivers zero net carbon emissions will only be effective if there is strong and explicit control over proposals which will be major net producers of carbon. RSS must deal with how development such as a major new transport infrastructure will impact on carbon reduction targets. Aviation provides a stark example of this challenge. Annex 1 contains a detailed analysis of the implications of regional airport expansion for RSS climate change policy.

While the necessity of meeting the overall climate change reduction target does allow some opportunity for flexibility between sectors it will require a new and rigorous policy test for development which may increase climate change emissions. Friends of the Earth recommends the following policy be incorporated into RSS:

LDFs should seek to ensure that all new development, either new build or conversion, will be required to demonstrate that it does not add any net carbon dioxide emissions over the life-cycle of its operation. Developers may adopt a range of technological approaches to achieve this objective, including:

- **A zero waste, zero carbon standard (based on the Z-squared standard) for any large scale housing development.**
- **A minimum of EcoHomes 'Excellent' or future equivalent standard for any housing development of one unit or more.**
- **A minimum of BREEAM 'Excellent' for any commercial development.**
- **The development of on-site renewable energy generation capacity.**

It will be for the developer to decide which approach is the most appropriate to deliver a zero net carbon standard in their specific proposal. The applicant must demonstrate, through a development appraisal, if the adoption of such an approach results in an undue burden on the viability of the scheme.

In addition, there will be a presumption against any development which results in a significant net increase in carbon dioxide emissions.

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Box 4 - An explanation of the standards:

Z-squared standard:

BioRegional, who have been involved with the BedZED community in Sutton, South London, teamed up with WWF on a One Planet Living project. Their planned development in the Thames Gateway will take a zero carbon zero waste approach, so called 'Z-squared'. Friends of the Earth believes that pioneering development projects of this kind must move into the mainstream.

BRE Eco Homes Standard:

The Buildings Research Establishment (BRE) have an environmental impact assessment method for new and existing domestic buildings called EcoHomes. Whilst not perfect, EcoHomes does provide a nationally recognised standard on best practice in environmental design. Because it is nationally recognised the EcoHomes standard can be used by planners to specify the sustainability performance of buildings.

These are both proven standards. A WWF study compared the impacts of developing 200,000 homes to different building standards, including those outlined above, and found that:

"EcoHomes 'Very Good' standard produced a 32 per cent reduction in CO₂ emissions, a 39 per cent saving in water use and up to a 25 per cent reduction in household waste sent to landfill, compared to current building regulations. Z squared standard could achieve a 99 per cent reduction in CO₂, a 65 per cent reduction in water use and 76 per cent reduction in household waste sent to landfill."

The EcoHomes and Z-squared standards are also economically viable. The WWF report, *"One Planet Living in the Thames Gateway"*, shows that: *"...in terms of capital costs and personal expenditure related to the building, purchase and running of a home, the cost of developing to EcoHomes 'Very Good' and Z squared standards would be comparable to, or even cheaper than, the cost of developing to current building regulations... Savings on residents' energy and water bills would offset any increase in mortgage repayments. In fact, if all household expenditure were considered, living in sustainable homes would be cheaper for residents as well as offering significant environmental benefits."*¹

Annex 1

Airport expansion – a serious threat to regional climate policies

Spatial planning can make a major and positive contribution to meeting the challenge of climate change by adopting policies to reduce emissions of greenhouse gases (GHG) and supporting measures to adapt to the consequences of climate change. The Regional Spatial Strategy (RSS) is the most powerful of these planning tools. Friends of the Earth argues that the policies in the RSS must promote the reduction of greenhouse gas emissions in line with government policy.

But the 2004 Planning Act says that RSS must be in conformity with the policies of the Government's 2003 Aviation White Paper (AWP)^{iv} on airport development^v. The rapid and large scale expansion of aviation across Britain proposed in the AWP is in direct conflict with other Government policies on reducing greenhouse gas emissions that cause climate change.

This analysis draws on the findings of two recent reports by the respected and independent Tyndall Centre for Climate Change Research. These reports show that all householders, motorists and businesses will have to reduce their carbon dioxide pollution to zero if the growing aviation industry is to be incorporated into Government climate change targets for 2050. It is clear that aviation expansion of the magnitude proposed in the AWP will have profound consequences for other sectors of the UK economy.

This presents regional planners and decision makers with the impossible task of meeting their obligations to tackle climate change while allowing airport expansion to proceed on the scale proposed by the Government in its Aviation White Paper.

Aviation emissions

Aviation is the fastest growing source of climate changing emissions both internationally and in the UK. Emissions from aircraft are especially potent because of complex chemical reactions that take place at altitude. The Intergovernmental Panel on Climate Change (IPCC) estimates that this gives them 2.7 times more global warming impact than carbon dioxide alone^{vi}.

Greenhouse gas (GHG) emissions from international flights are not part of the Kyoto protocol, the key international agreement to reduce GHG emissions around the world. Domestic flights are included, but they form a relatively minor component of the UK's aviation emissions with international flights responsible for 97% of UK aviation emissions^{vii}.

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Although there is currently no agreement on who is responsible for emissions from international flights, the UK Government accepts the principle that the UK should be responsible for 50% of these, and they are included in official CO₂ emissions statistics. Environment Minister Elliot Morley was recently quoted as saying “it is ludicrous that aviation is completely outside any of the international agreements and other measures relating to emissions control, and it can't go on”^{viii}. We believe that in due course it is therefore inevitable that the regions will become responsible for at least 50% of international aviation emissions.

Regional planning and the Aviation White Paper

The AWP plans a virtual 3-fold increase in air passengers by 2030 with a doubling of CO₂ emissions as a result. It supports the provision of 4 new runways and other new airport infrastructure to accommodate this projected growth.

The Government claims that expansion of aviation is essential as a major source of economic growth. Naturally, aviation creates jobs like any economic activity but the rapid growth of low cost leisure flights is literally flying money out of regional economies^{ix} and is not necessarily providing more jobs^x. The passenger growth predictions in the AWP are based upon the assumptions that air fares will fall by 1% per year and that the price of oil will remain constant at \$25 per barrel – a highly questionable assumption^{xi}.

In order to force support for this growth agenda, the 2004 Planning Act says that Regional Spatial Strategies (RSSs) must be in conformity with the policies of the AWP on airport development. Crucially and unhelpfully, it does not detail how regions can support aviation expansion, growth in populations, jobs and housing and reduce GHG emissions to meet climate change targets at the same time.

There is growing concern in England's regions about the consequences of aviation expansion. The East of England Regional Assembly (EERA) in the draft East of England Plan, has withheld its support for a new second runway at Stansted although it is accepting the increase of passengers up to 40 million passengers per annum (mppa), the theoretical limit of the existing single runway, from the current ceiling of 25 mppa. The unsustainable nature of the proposed increases for the East of England region is made clear in the accompanying Sustainability Appraisal/Strategic Environmental Assessment of the Plan, it says:

“..The environmental caveats and conditions, and limitation to existing runway capacity at Luton and Stansted are welcome. But the acceptance of growth at all, and the reference to an ‘acceptable balance’ between economic benefits and environmental and other considerations, still fails to grasp the point that **further growth in air travel provision is environmentally unsustainable**”(our emphasis)^{xii}

In a separate report the South East England Regional Assembly (SEERA) said of the AWP that:

“..its assumption of very substantial increases in air traffic over the Plan period is inherently unsustainable and conflicts with other aspects of Government policy;”^{xiii}

The Tyndall Reports

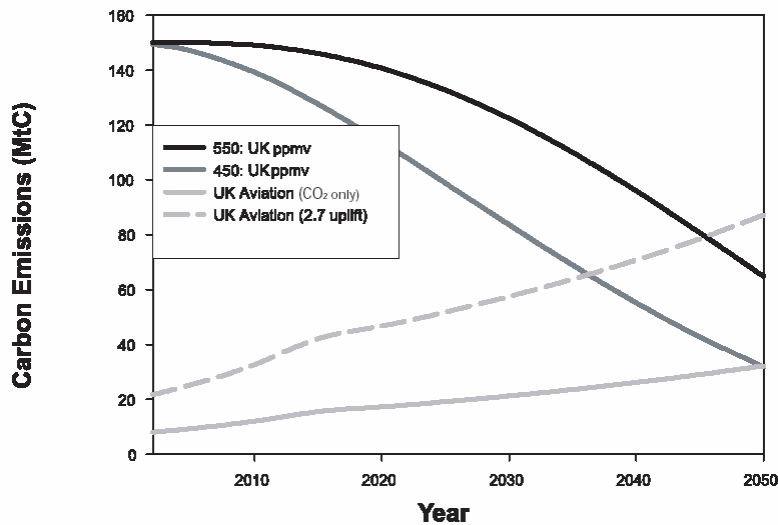
The growing concern of England's Regional Assemblies over aviation expansion has recently been given further credence with the publication of two reports by the renowned Tyndall Centre for Climate Change Research, one of the world's leading independent climate research bodies. The first report, 'Growth scenarios for EU and UK aviation – contradictions with climate policy' (June 2005)^{xiv} looked at aviation expansion in the context of EU and UK climate policy and also other UK sectors.

The Tyndall Centre investigated aviation growth trends and calculated that emissions from the sector will rise rapidly between now and 2050, assuming these trends continue. It took account of the way in which air transport markets mature and assumed that significant improvements in fuel efficiencies would be achieved. It also assumed that each country would take responsibility for 50 per cent of the emissions from international flights to and from its airports. The report then compared this emissions growth with the profiles of declining total emissions under a contraction and convergence climate policy – a policy increasingly recommended for avoiding the worst impacts of climate change. "Under contraction and convergence, all nations work together to achieve collectively an annual contraction in emissions. Furthermore, nations converge over time towards equal per-capita allocation of emissions."^{xv}

Tyndall concluded that if aviation growth continues at the rate proposed, it could take up the entire emissions allowance for all sectors of the UK economy by 2037, based on an atmospheric stabilisation target of 450 parts per million by volume (ppmV) and assuming a radiative forcing multiplier (uplift factor - see 'Aviation emissions' above) of 2.7 is used. The atmospheric stabilisation target is the concentration of CO₂ in the atmosphere at which the world's leading climate scientists believe catastrophic climate change will be avoided. The UK government target for CO₂ emission reductions is designed to not exceed 550 ppmV, but climate scientists now believe the target should be 450 ppmV. **This would mean that after 2037 only aircraft would be allowed to emit CO₂.**

Moreover, between 2010 and 2020 (which covers most of the timespans of the RSSs being drawn up in England's regions), UK aviation emissions could already be equivalent to the entire 2050 target. This growth could only be allowed at the expense of other sectors which would have to cut their emissions far more severely than they otherwise would.

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Graph 2

To show the conflict between rising aviation emissions and the falling total carbon emissions curves necessary to meet carbon dioxide reduction targets.

Tyndall states:

“This report demonstrates severe consequences for...the UK ...in terms of meeting their obligations to reduce carbon dioxide emissions under a contraction and convergence regime, if European governments continue to permit, or indeed promote, historically high levels of aviation growth.”

Friends of the Earth concludes that forecast aviation growth will make it virtually impossible for the Government to meet its 60 per cent CO₂ reduction by 2050 target. Therefore, the Government must withdraw its Aviation White Paper and introduce economic measures and sector targets to achieve stabilisation of CO₂ at 450ppm by 2050.

Tyndall's second and more recent work 'Decarbonising the UK – Energy for a Climate Conscious Future' (Sept, 2005)^{xvi} looked in more detail at the ability of all UK sectors to reduce their carbon emissions. It concluded that all other sectors would have to become carbon neutral, i.e. emit no CO₂, in order to accommodate the expanding aviation sector within climate targets.

Tyndall commented: “An unequivocal and dominating conclusion in relation to carbon emissions is that growth in aviation must be dramatically curtailed from both its current level and historic trend”.

Where does this leave regional decision makers?

Clearly it is not possible to accommodate aviation growth on the scale projected and take the necessary action to tackle climate change.

Right now, decision makers in England's regions are left with a fundamental conflict between the demands of the Government's Aviation White Paper and the requirement to urgently tackle climate change laid down in Planning Policy Statement 1 (PPS1), "by addressing the causes... of climate change".

So which should take precedence?

- The demands of the current Government to design regional strategies that include new airport infrastructure to accommodate projected growth mainly in leisure flights, with questionable economic benefits,
- or
- The necessity to act quickly and decisively and develop regional strategies that address the challenge of tackling climate change?

A way forward – recommendations

Regional bodies and leaders now have a critical role here. Friends of the Earth recommends that they must:-

- Resist the incorporation of plans for new airport infrastructure in their RSS on the grounds that to do so conflicts with the urgent necessity to address the causes of climate change and will unfairly impact upon all other sectors of regional economies, including households and small businesses, and
- Use every available opportunity to point out to central Government the total incompatibility of the conflicting demands that they face.

Further Reading

Friends of the Earth Documents

Planning Policy Statement 1: Creating Sustainable Communities - A Summary

Friends of the Earth, March 2005

http://www.foe.co.uk/resource/briefings/pps1_a_summary.pdf

Government Documents

Planning Policy Statement 1: Delivering Sustainable Development

Office of the Deputy Prime Minister, 2005

http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_035506.hcsp

Planning Policy Statement 22: Renewable Energy

Office of the Deputy Prime Minister, August 2004

http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_030334.hcsp

The Planning Response to Climate Change. Advice on Better Practice

CAG Consultants, on behalf of the Office of the Deputy Prime Minister, Sept 2004

http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_032088.pdf

The Planning System – General Principles

Office of the Deputy Prime Minister, 2005

http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/page/odpm_plan_035507.hcsp

Securing the Future – delivering the UK's sustainable development strategy HM

Government, March 2005

<http://www.sustainable-development.gov.uk/publications/uk-strategy/uk-strategy-2005.htm>

Other Organisation Documents

WWF

One Million Sustainable Homes reports

<http://www.wwf.org.uk/sustainablehomes/reports.asp>

Bioregional

This site gives more information on Bioregional's Z-squared initiative

http://www.bioregional.com/programme_projects/opl_prog/zsquared/bz_zsquared.htm

Climate Change Strategy

Woking Borough Council, March 2003

<http://www.woking.gov.uk/environment/climatechangestrategy/climatechange.pdf>

BREEAM

Overview webpage

<http://www.breeam.org/>

Local Government Authority, Energy Savings Trust and the Energy Efficiency Partnership for Homes

Leading the way: how local authorities can meet the challenge of climate change

<http://www.lga.gov.uk/Documents/Publication/leadingtheway.pdf>

Climate Change Research

Intergovernmental Panel on Climate Change

The international body of scientists responsible for summarising research into climate change and reporting to the UN Framework Convention on Climate Change. The 2001 summary for policy makers can be found here:

<http://www.ipcc.ch/pub/spm22-01.pdf>

UK Climate Impacts Programme

The UK Climate Impacts programme has many publications, including a breakdown of how climate change will impact on each region. The website is a bit unwieldy, as you have to give your details and then log in, but once that is done, you can search their publications database and download all their reports.

<http://www.ukcip.org.uk/>

Tackling climate change in England's regions

ⁱ Presidency conclusions of the Brussels European Council (22 and 23 March 2005); paragraphs 43-46;
http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/84335.pdf

ⁱⁱ UK Sustainable Development Strategy, Page 87

http://www.sustainable-development.gov.uk/documents/publications/strategy/SecFut_complete.pdf

ⁱⁱⁱ leading the way: how local authorities can meet the challenge of climate change

<http://www.lga.gov.uk/Documents/Publication/leadingtheway.pdf>

^{iv} 'The Future of Air Transport' – Department for Transport, December 2003

^v "The RSS must set out the Secretary of State's policies (however expressed) in relation to the development and use of land within the region" – Planning and Compulsory Purchase Act 2004, chapter 5 part 1

^{vi} 'IPCC Special Report – Aviation and the Global Atmosphere' – Intergovernmental Panel on Climate Change 1999

^{vii} 'The Future of Air Transport' -Department for Transport, December 2003

^{viii} 'Minister says tax could cut airline pollution' – The Guardian, 22nd September 2005

^{ix} In all the English regions except London, UK residents spend at least 3 times more abroad than foreign visitors spend in the UK, an annual deficit to the UK economy of £15billion, see:- "Why Airport Expansion is Bad for Regional Economies" – Friends of the Earth, August 2005, see:-

http://www.foe.co.uk/campaigns/transport/news/regional_economies.html

^x At both Birmingham and Newcastle airports, there has been a decline in direct employment by the airport at the same time that passenger numbers have risen sharply. At Birmingham the number of jobs fell by 1000 between 1994 and 2004, at Newcastle it fell by 1850 between 1999 and 2005. Source (in both cases):- the airport.

^{xi} In September 2005 it has reached \$60+ per barrel

^{xii} 'East of England Plan Sustainability Appraisal Report', Nov. 2004 (incorporating the Report of the Strategic Environmental Assessment), Appendix D

^{xiii} 'The Implications of the Aviation White Paper-for South East England: Understanding the Evidence Base' – Roger Tym & Partners for SEERA, April 2005

^{xiv} Full report and summary available on the Friends of the Earth website at:-

http://www.foe.co.uk/campaigns/transport/news/tyndall_launch.html

^{xv} Decarbonising the UK – Energy for a Climate Conscious Future, 2005, p. 47

^{xvi} Available on the Tyndall website at:- http://tyndall.e-collaboration.co.uk/media/news/latest_news.shtml