



How-to Guide: Developing a Carbon Budget

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Summary

The UK is the first country to commit to a statutory national carbon budget, setting a long-term trajectory for emissions reductions. Some carbon savings will come from national policy, and some will come from action at the local level. Significant economic and social benefits can be gained from action on climate change within a local area.

This project therefore aimed to establish a carbon budget for a local area, to contribute to the national carbon reduction targets.

A consumption-based carbon footprint of the local area was drawn up, to establish a comprehensive picture of local emissions. This has been shared by a partnership of local organisations, and forms the basis of a collaborative carbon reduction strategy.

Although the data and process used was specific to the Lake District National Park, the method has been developed in a transparent way, and can be replicated by other local areas. We would be happy to offer advice to others contemplating a similar approach.

All the reports from this project are at www.lakedistrict.gov.uk/lowcarbonlakedistrict

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Background: why set a carbon budget?

The UK has committed to meeting a national carbon budget. Through the Climate Change Act, passed in 2008 with cross-party support, the UK committed to reducing carbon by 80% (from a 1990 baseline) by 2050, and at least 34% by 2020. The Committee on Climate Change advises government on setting the budget, and on measures to meet it.

Some of this budget can be met through policy and incentives put into place by national government and the EU – such as decarbonising electricity through renewables, carbon capture and nuclear power; tougher emissions standards for vehicles; carbon trading and so on. However, the budget will not be met unless local areas act too, putting the right incentives, infrastructure and advice in place at a local level, to enable everyone to play their part in reducing carbon emissions.

Local areas need, therefore, to assess the extent of their own carbon emissions – in other words, they need to measure their carbon footprint. They then need to work out how they can reduce it, in line with the national carbon budget. The Local Carbon Frameworks programme within the Department for Energy and Climate Change is supporting local areas who are taking the lead on climate change,

Developing a carbon budget allows a local area to see where the biggest amounts of carbon are being emitted – and what can be done to tackle emissions. Often, there are lots of well-meaning carbon reduction initiatives and projects taking place within a local area, which help to raise awareness and engage people. But the total carbon savings amassing from these projects may be very small. In the Lake District, for example, carbon savings from small-scale renewables projects are tiny compared to the carbon emitted by transport. Drawing up a carbon budget allows local areas to develop a sense of scale – developing a feel for carbon and carbon budgeting, like the way that we understand money and financial budgeting.

The Lake District National Park Partnership, a partnership of twenty-three organisations, has collectively agreed to develop a local carbon budget. The Partnership's Plan, The Management Plan for the Lake District National Park, commits to creating a budget, managed collectively through the Partnership. This is why we applied to CLASP for funding to develop the data necessary to underpin the budget, as part of the project.

Aims

This project aimed to:

- Develop a data resource and generic methodology for local areas who would like to develop a carbon budget, trialling the approach in the Lake District National Park;
- Agree a target of 2% carbon reductions per year (1% from local action, 1% from national action – see below)
- Work with the members of the Lake District National Park Partnership¹ to establish a climate change action plan, to achieve the budget;
- Engage other local areas across the North West and more widely, to use and improve the model; and input into the development of national policy and practice (through the CLG Local Carbon Frameworks initiative).

Funding

A £6000 grant from CLASP was received to enable us to commission an external consultant, Small World Consulting (Mike Berners-Lee), to develop the data resource and methodology. The rest of

¹ Members of the Partnership include: Action with Communities in Cumbria (ACT); Environment Agency; Allerdale Borough Council; Forestry Commission; Copeland Borough Council; Friends of the Lake District; Country Land and Business Association; Government Office North West; Cumbria Association of Local Councils; Lake District National Park Authority; Cumbria County Council; National Farmers' Union; Cumbria Tourism; National Trust; Cumbria Vision; Natural England; Cumbria Wildlife Trust; North West Development Agency; Eden District Council; RSPB; English Heritage; South Lakeland District Council.

the work has been funded by the Lake District National Park Authority, on behalf of the Partnership. Most Partnership members have nominated an individual to join a climate change group with responsibility for taking the budget forward – so there is quite a lot of time being invested in this project from across partner organisations.

Process and outputs

The process undertaken was as follows:

April – June 2010: Development of new Management Plan for the National Park, including commitment to setting a carbon budget; application to CLASP to fund the work.

June 2010: meeting of Partnership representatives to agree a carbon budget and brief for CLASP-funded element

July – September 2010: research into available data sources; drawing up of 'compendium' of available data; development of a measurement method; application to the Lake District; research report produced (available at www.lakedistrict.gov.uk/lowcarbonlakedistrict)

October 2010: presentation of research to the climate change group of the Partnership, at workshop (workshop report at www.lakedistrict.gov.uk/lowcarbonlakedistrict)

October 2010 – February 2011: Development of carbon budget action plan, by Partnership members. Further work by Small World Consulting on measurement of carbon savings resulting from action plan.

October 2010 onwards: Dissemination to other local areas, particularly but not exclusively in the North West (through email & web portal; the NW Climate Change Partnership; the Local Improvement Advisers network and the National Park network).

December 2010: final report and evaluation for CLASP-funded work.

February 2011: Agreement on action plan by the full Partnership.

All outputs from this work are available at www.lakedistrict.gov.uk/lowcarbonlakedistrict

Details of the methodology

The work undertaken by Small World Consulting estimates greenhouse gas emissions from the Lake District National Park, using a consumption-based approach. This means that supply chain emissions associated with the production of goods, services consumed by residents and visitors are included wherever those emissions actually take place. For example, emissions from the production and transport of foods eaten in the Park lie within the scope, whereas the 'footprint' of food produced within the Park but exported is not included in this analysis. The adoption of a consumption based approach is particularly important when seeking to understand and manage the impacts of lifestyles and of service economies, since in these cases, supply chain emissions often dwarf the direct emissions that would be included in an assessment of only direct emissions.

The following is within the scope of the study:

- all residents personal travel and visitor travel to, from and around the park,
- fuel and electricity consumed in homes and places to stay,
- emissions from food and drink and other purchased items,
- the supply chains of all the above (e.g. fuel supply chains and embodied emissions)

The work did not include estimates of carbon emissions from land management (forestry, agriculture and other land management / land use) as there are separate projects in place to look at these

emissions. However, land management actions will be included within the carbon budget Action Plan.

The study followed the reporting principles of the '*GHG Protocol*' (GGP) published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI).

The approach to estimating emissions was to derive a 'first impression' using a 'top down' input output model and to refine this estimate by substituting impact estimates in key areas, using a mix of national and sub-national datasets, nationally recognised emissions factors, local data and a few defensible algorithms for linking the available data to estimates of consumption.

Details of the data sources and methodology used are included in an appendix to the report.

Applying the method in other local areas

The work was carried out in such a way as to make the process both repeatable elsewhere and improvable, building upon the work done for the Lake District. A guide to doing this is included as an appendix to the report.

We would like to encourage others to trial the method, and would be happy to advise others if they would like to take a similar approach. We have already had discussions with a number of other Local Authorities, and with DECC. Please contact us if you would like to know more.

Lessons learned

This work is still ongoing, but our lessons learned so far include:

- Consumption-based accounting reveals the 'hidden' carbon, which is rarely included in conventional measurements. For example, more than half of the greenhouse gas impact of hotels, pubs and catering comes from embedded emissions in food and drink. Less than 20% comes from direct energy use (heat and electricity). Action on climate change should therefore encompass these hidden emissions.
- It is relatively easy to draw up a good-enough picture of carbon emissions, to reveal roughly what the main sources of emissions are, from a consumption perspective. However, it is much harder to be precise – data is patchy and estimates vary, so it would be very difficult to get a more accurate picture.
- It is crucial to draw up a carbon budget in a collaborative way, using the data as a way of motivating partners, and allowing them to see where carbon reduction links to other objectives. For example, there are a range of actions to reduce visitor emissions which would enhance the visitor experience in the Lake District – from encouraging people to explore what's on their doorstep through walking or cycling, to drinking local beer.
- To succeed with carbon reduction, partner organisations need to use carbon footprint information to influence their overall strategy, not just to instigate specific carbon reduction projects. For example, car travel is a major source of emissions, and needs to be tackled through planning policy, transport policy and other actions as well as projects to encourage alternatives like walking and cycling.

Contact details for further information

To discuss this project, please contact Rebecca Willis, email becky.willis@lakedistrict.gov.uk, tel 07764 586 221

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December 2010.