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**A Carbon Budget for the Lake District National Park:**

**Progress report, September 2015**

The Lake District National Park Partnership is committed to leading the way on climate change. The Lake District is one of the first local areas to set itself a carbon budget, as part of our Low-carbon Lake District initiative.

The principle behind a carbon budget is simple: like a financial budget, we aim to find out how much carbon the Lake District is responsible for, and then reduce the carbon ‘spend’ year on year.

We aim to reduce the emission of carbon and other greenhouse gases, measured on a consumption basis, by 1% per year, against a baseline of 2.3 million tonnes in 2010. The target tracks the national carbon budget, as set out in the 2008 Climate Change Act.

The baseline was established through a carbon footprint analysis in 2010. This analysis, together with regular updates on progress, is available at [www.lakedistrict.gov.uk/carbonbudget](http://www.lakedistrict.gov.uk/carbonbudget) .

Progress against the Partnership’s Climate Change Action Plan is monitored regularly by the Climate Change Sub-group of the Partnership. Each year, Small World Consulting undertakes an audit of projects which aim to reduce carbon within the National Park, to assess carbon savings. This informs the revision of the Partnership’s Plan each September.

**Progress since 2014: summary**

Small World Consulting has identified measurable carbon savings of nearly 102,000 tonnes, excluding land management. This represents 4.4% savings compared to the 2010 baseline, against a target of 5%. If savings from land management are included, under an optimistic scenario, savings rise to 120,000 tonnes, or 5.2%. This means that we are about on target this year. However, as explained below, some of this progress is actually a result of better data collection.

The main increase comes from the GoLakes Travel Programme, a three-year government funded project to promote alternatives to car use, which ended in March 2015. The evaluation of the programme estimates a carbon saving of 42000 tonnes over the three-year period. This estimate is explained in the section below on ‘measurement’.

Other significant initiatives resulting in carbon savings within the Lake District are listed at Annex A and include:

* Around 5,000 tonnes of CO2 saved from waste and recycling initiatives, including recycling, food waste, waste prevention and encouraging reuse.
* The Low-carbon Cottages Toolkit, designed by Nurture Lakeland to help owners of self-catering accommodation save energy, resulting in an estimated 184 tonnes of CO2 saved
* The Green Build Festival, and energy advice services run by Cumbria Action for Sustainability, with a saving of approximately 30 tonnes altogether

**A note on measurement**

We continue to improve the way that we collect data on carbon savings. In particular:

a) GoLakes Travel Programme: A full evaluation of this three-year project was carried out, based on surveys of visitors to the Lake District before and after the Programme. This revealed estimated carbon savings of 42000 tonnes as a result of the Programme.

b) Renewable Energy Installations: In 2014 we undertook a comprehensive survey of renewable energy installations in the National Park, resulting in a much better understanding and reporting of carbon savings from renewable energy. We updated the figures for 2015, showing a slight increase. The development management team at the National Park now routinely collect information about planning applications for renewables installations (including, for example, buildings that incorporate renewable heat or electricity generation in their design), which will help to improve reporting in future years.

c) Carbon saving from land management: In 2014 we significantly improved the way that we measure carbon savings from woodland creation, and will look to make similar improvements to the way we measure savings from peatland restoration in future years. See Annex B for the assumptions behind these calculations. In 2015 we have not updated these figures due to time constraints.

It should be noted that, in addition to these savings, there are actions which will result in carbon savings, but can’t be easily estimated. For example, the switch to superfast broadband may result in reduced business travel, but we don’t have a good way of estimating savings. There may also be actions which increase carbon emissions, such as new construction or increased traffic, which we have not been able to measure.

**Progress against the target**

We have seen an increase in carbon savings, due in large part to the success of the GoLakes Travel Project. As a result we are nearly meeting our target. We are saving 102,000 tonnes under a mid-range assessment, or 4.4% of the baseline, nearly meeting the target of 115,000 tonnes, or 5% savings after five years. Note that this figure does not include carbon savings from land management.

The graph below shows our performance against the target, using ‘optimistic’ and ‘mid-range’ assumptions.

***Progress towards year 5 reduction target of 115,000 tonnes CO2e, not including land management***

If land management (carbon savings from woodland creation, and restoration of peatland) is included, and we take an optimistic scenario, our target is exceeded. The total savings are nearly 120,000 tonnes, or 5.2% of the 2010 baseline.

***Progress towards year 5 reduction target of 115,000 tonnes CO2e, including land management***

The graph below, of cumulative carbon savings, shows our progress against the target. The blue line shows our target of 1% savings per year, rising to 5% in year 5. The red line shows the actual savings, with the dotted line as a projection for future years. The steep increase in actual savings shown is in part a result of better measurement, as explained above. Therefore we would not expect savings to continue at this rate, unless significant breakthroughs are achieved in carbon management.

***Cumulative carbon savings over five years: target vs actual***

**Further actions**

The Lake District National Park Partnership’s Climate Change sub-group has carried out its annual review and refresh of the Partnership’s Climate Change Action Plan, to continue working towards the target of an additional 1% savings.

This includes further action on all the areas listed above, such as sustainable tourism; support to businesses; home energy efficiency and sustainable transport. However, some of these actions are dependent on external funding, for example from European funds.

**Becky Willis September 2015**

**Annex A: Summary of carbon saving actions in the Lake District National Park**

This table shows the carbon saving actions identified across the National Park, and a mid-range estimate of savings from each action. A more detailed list, the full calculations and an explanation of assumptions made are available.

|  |  |  |  |
| --- | --- | --- | --- |
| **Action** | **Partners** | **Comments** | **Mid range CO2e saving (Tonnes)** |
|
| **Accommodation, food & drink** | | | |
| Carbon Calculator for Tourism Businesses; Pilot scheme and now available on website | CT | Past action, but assumed that savings continue | 102 |
| Green Workshops for Tourism Businesses during 2010. | CT | Past action, but assumed that savings continue | 413 |
| Promotion of green accreditation schemes to the industry | CT / Nurture Lakeland | Past action, but assumed that savings continue | 28 |
| Taste Cumbria Programme 2010-13. | CT | Past action, but assumed that savings continue | 683 |
| Cumbria Food and Drink Summit | CT | Past action, but assumed that savings continue | 40 |
| Tourism Connect Grant Scheme | CT | Past action, but assumed that savings continue | 186 |
| Low Carbon Beacon area | Nurture Lakeland/LDNPA | Past action, but assumed that savings continue | 355 |
| Enworks | CBEN / CREA | Past action, but assumed that savings continue | 2,126 |
| Enworks toolkit | CREA | Past action, but assumed that savings continue | 156 |
| Enworks toolkit | CREA | Past action, but assumed that savings continue | 309 |
| Enworks toolkit | CREA | Past action, but assumed that savings continue | 1,078 |
| Reduced flow showerheads; blog and mailing list | Nurture Lakeland | Past action, but assumed that savings continue | 82 |
| Laundry cards | Nurture Lakeland | Past action, but assumed that savings continue | 26 |
| Water saving events | Nurture Lakeland | Past action, but assumed that savings continue | 11 |
| Embleton spa Hotel heating | CREA | Past action, but assumed that savings continue | 153 |
| Assisting businesses with eco-installations | CREA/LDNPA | Past action, but assumed that savings continue | 225 |
| Assisting businesses with eco-installations | NL | Past action, but assumed that savings continue | 60 |
| Reduced oil consumption in cottages | NT | Achieved savings for reporting period (figures from NT). | 10 |
| Love your Lakes campaign to reduce water use and improve water quality | NL | for assumptions see full dataset | 1 |
| Love your Lakes campaign to reduce water use and improve water quality | NL | for assumptions see full dataset | 6 |
| Low Carbon Cottages - supporting owners to make energy savings | NL | for assumptions see full dataset | 1 |
| Low carbon cottages toolkit for sustainable retrofit | NL | for assumptions see full dataset | 184 |
|  |  |  | **6,233** |
| **Home energy** | | | |
| Warm Homes Project; CERT funded project to offer energy efficiency surveys to Cumbrian households | LDNPA | Past action, but assumed that savings continue | 11,200 |
| Seeing the Stars; engaging people on energy efficiency | FLD / EST | Past action, but assumed that savings continue | 47 |
| Green Ways to Work programme | Impact Housing/CAfS etc | Past action, but assumed that savings continue | 294 |
| SENS project | Cafs | Past action, but assumed that savings continue | 181 |
| Green Deal Festival | Cafs |  | 9 |
| Green Build events | Cafs | for assumptions see full dataset | 5 |
| Green Open Homes | Cafs | for assumptions see full dataset | 6 |
| Green Build Festival | Cafs | for assumptions see full dataset | 1 |
| Draughtproofing of homes | Cafs | for assumptions see full dataset | 3 |
| Draughtproofing training | Cafs | for assumptions see full dataset | 2 |
| One-to-one energy advice | Cafs | for assumptions see full dataset | 1 |
| Training of frontline workers in energy efficiency | Cafs | for assumptions see full dataset | 1 |
| Energy audit of school in Bootle | Cafs | for assumptions see full dataset | 2 |
|  |  |  | **11,751** |
| **Public sector** | | | |
| Waste Recycling | CCC | for assumptions see full dataset | 4,432 |
| Sale of food waste digesters | CCC | for assumptions see full dataset | 11 |
| Sale of compost converters | CCC | for assumptions see full dataset | 3 |
| Waste prevention events | CCC | for assumptions see full dataset | 3 |
| Reduction of operational footprint (unspecified actions, but relating to buildings, fleet and pumping) | EA | for assumptions see full dataset | 225 |
| Freegle reuse | Freegle | for assumptions see full dataset | 1 |
|  |  |  | **4,675** |
| **Renewable energy** | | | |
| Renewable installations across LDNP | many | Figure based on LDPNA research and includes installations by Cumbria Wildlife Trust, Environment Agency, National Trust and others, including businesses and households. See separate report. | 38,857 |
|  |  |  | **38,857** |
| **Travel** | | | |
| Smarter driving advice (direct to people) | EST (tadea) | Past action, but assumed that savings continue | 258 |
| Smarter driving advice (surrounding publicity and ripple effect) | EST (tadea) | Past action, but assumed that savings continue | 59 |
| Core Strategy planning | LNDPA | These are planning policies that aim to reduce car milage resulting from new build activities. Remains in place, savings assumed similar to previous year | 454 |
| Go Lakes Travel Project |  | Now the project has finished and the carbon savings evaluated, the project has been found to have saved 42,000t over the project lifetime. The total savings already allocated to previous years is 2590t (162+874+1554). The difference (39,410tCO2) has therefore been added onto this year's savings | 39,409 |
| Sustainable Organised Recreational Events | Nurture Lakeland | Past action, but assumed that savings continue | 8 |
| Reduction of mileage (unspecified actions) | EA | for assumptions see full dataset | 14 |
|  |  |  | **40,203** |
| **Land management** | | | |
| Woodland creation | see Annex B | | 1,687 |
| Peatland restoration | 13,878 |
|  |  |  | **15,565** |
| **Total** |  |  | **117,284** |

**Annex B: Estimating carbon savings from land management**

It has been difficult to estimate carbon savings from land management, due to its complexity. However, research continues and last year we significantly improved how we measure our savings from woodland creation.

The basis for the estimates is as follows:

**Carbon savings from woodland creation:**

We have significantly improved how we measure new woodland creation within the Lake District, using information from funding provided by the Forestry Commission; Natural England through Higher Level Stewardship and Windermere Reflections through Save our Soils. Since 2010, and up to April 2014 there has been 320ha of new woodland created, saving 3703 tonnes.

Using the figures from the report ‘[A carbon account for the woodlands in the Lake District National Park (2012)’](http://www.lakedistrict.gov.uk/__data/assets/pdf_file/0007/277585/A-Carbon-Account-for-the-Woodlands-in-the-Lake-District-National-ParkFINAL.pdf) (using calculations from the Woodland Carbon Code), a typical new Lake District broadleaf woodland will save a net 441.5 tonnes of CO2e over 100 years. Although emissions are usually greater than sequestration in the first few years after planting, for the purpose of the carbon budget it is easiest to assume a linear uptake of carbon.

**Carbon savings from peatland:**

This is a provisional figure based on the 2013 calculation and we expect it to change when we have more accurate information available next year.

* There are 91,451 ha of peatland in the National Park.
* Degraded peat bogs in the Lake District National Park have been estimated to emit 31,984 tonnes CO2e per year (which on average equates to approximately 0.35 tonnes CO2e per ha per year).
* 39,650.8 ha of peatland within the National Park have been identified as subject to restoration management (estimate drawn up by the LDNPA following contributions from partners, and is available separately).
* If the peatland under restoration management is no longer emitting CO2e (but is not yet sequestering), the savings will be 13,878 tonnes each year. Over two years, the saving will be 27,756 tonnes.
* In further years additional savings are expected as these sites recover and start to sequester carbon.

**Inclusion of land use in the carbon budget:**

Note that these savings cannot be directly compared to savings from other areas (eg transport, energy use etc) because land management is not included in the baseline calculations. They are included in the graph to help measure the effectiveness of carbon savings from land use compared to other actions. It should be highlighted though that these actions are equally as valid. Some are included in the national greenhouse gas inventory.