

Date: 27 November 2007

Report: SUSTAINABILITY:
THE AUTHORITY'S OWN ENVIRONMENTAL FOOTPRINT

Purpose of report

1. To ensure that the Authority operates in as sustainable manner as possible, and in particular that it works towards a '**zero carbon footprint**'.

Strategic Planning Framework

2. The information and recommendations contained in this report are consistent with the Authority's statutory purposes and its approved strategic planning framework.
 - BVPP: To identify and put in place cost-effective arrangements for monitoring the Authority's environmental performance.
 - NPA Report: July 2007 - 'The role of the YDNPA in tackling Climate Change'.

Background

3. The Authority (as opposed to the National Park) has now signed up to, and (because it is a public body) has become subject to a range of measures or targets that relate to its own environmental performance (see paragraph 8).
4. These targets don't relate solely to carbon emissions (currently used as a cipher for climate change), but cover the wider sustainability agenda, including procurement, recycling and efficiency. This paper does not argue that anything as complex or formal as a strategy is needed to address these issues (although if we were to pursue a certification model, that would be necessary), but instead proposes an action plan approach to managing the Authority's environmental impact. This approach follows that adopted by the NPA, when considering this matter, at its meeting in July 2007.
5. It is helpful to set out a general definition of sustainability for the Authority, and it is **recommended** that the Authority applies the Brundtland definition be adopted, as quoted below; further information on the Brundtland Commission* is contained in the glossary (**Appendix 1**; other items in this report with a glossary definition are also identified by an asterisk)

Brundtland report (1987): "*Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs*"

6. This wider definition of sustainability mirrors the approach being adopted by central government, whose Sustainable Procurement Action Plan, launched in March 2007, is described as '*a package of actions to deliver the step change needed to ensure that supply chains and public services will be increasingly low carbon, low waste and water efficient, respect biodiversity and deliver wider sustainable development goals*'.

7. By extending the approach to sustainability beyond the relatively narrow issue of carbon emissions, the Authority will be moving in a direction that is in tune with the previously expressed view of officers, members and, volunteers. Everyone has a real enthusiasm for practical work in this area, believing as they do that an organisation with a conservation-linked purpose should itself be as sustainable as possible. Undertaking the work within the Action Plan is likely to have a positive effect on morale in all groups: doing nothing is likely to have the opposite effect.

Targets

8. A number of external targets now impact on the Authority. These have either been adopted or imposed. The list in the box below may not be exhaustive, and will no doubt be added to over time. Several of the targets overlap, and there are particular problems with understanding what some of them mean. For example, in the definitions of certain terms, and in the formulation of measurements and monitoring.

Current sustainability targets

- Kyoto protocol*: UK target of green house gas emission reductions by 12.5% by 2008-12
- Local Area Agreement: A 5% reduction in buildings-related energy usage by 2009/10, with 2005/06 as the base year
- Nottingham declaration*: unspecified target for Carbon Dioxide reduction by 2010; monitor action and publish the result.
- Draft climate Change bill (final bill expected autumn 2007). Targets include a 20% reduction in emissions by 2020 and 60% by 2050
- All English National Park Authorities are committed to becoming carbon neutral by 2012 (ENPAA, November 2006)
- Local Authorities will in the future be assessed on their 'green' / sustainability efforts, including reducing carbon emissions, and the Audit Commission plan to incorporate sustainability into the post-2008 inspection regime
- From April 2008, all large public buildings with a floor area of 1000m² or more, such as council offices and libraries, will have to display Energy Performance Certificates which will rate the buildings energy efficiency level and display energy certificates that show the actual energy usage. This will apply to Yoredale, and probably Colvend and DCM
- Procurement: the government's sustainable procurement national action plan, 'Procuring the Future' set a target that all public sector organisations to reach level 1 (or above) of the flexible framework by end April 2007.

9. As mentioned above, definitions and measurement processes are not standard across these targets, and even within them (for example, the ENPAA target), there is no standard definition of what should be included, and very little analysis of what the real impact of the targets will be. Because of this uncertainty we believe it is helpful to adopt in the action plan:
- (i) that, in measuring environmental impact, we will obtain the best 'base' data that we can. For example, in terms of energy use in buildings, this is a direct and detailed measure of energy used. The calculation for converting that measure into Carbon Dioxide (CO₂) emissions may, however, be subject to change and complication, but the base data should allow us to recalibrate our performance if that happens. Some of the calculations referred to in this paper (buildings energy emissions, travel emissions) are based on formulae used by reputable 'green' organisations, and there appears to be an emerging acceptance that they are the right measures. But these are not yet enshrined in any legislation or other more formal structure targets;

- (ii) wherever possible (and this means in most cases), the actions proposed have a 'dual' benefit. For example, actions to achieve reductions in carbon emissions also help to save money and biodiversity-related actions also support the Authority's public relations message, including the 'leading by example' requirement of the Nottingham Declaration. This approach should help to future-proof the Authority's approach to the changing sustainability agenda. For example, if a reduction in the Authority's carbon emissions were to have no appreciable effect because of a future rise in global emissions, we will still have saved money on energy to spend on a more useful activity.

10. As this area of work continues to evolve, we will take an active part in the debates, particularly over definition and measurement. The linkages between NPAs provided through ENPAA will at some point establish a set of common targets, and officers are now working within the LAA framework and with NYCC to identify any areas where common approaches could yield additional benefits.

Previous and current approaches to sustainability

- 11. At the risk of stating the obvious, the Authority is no newcomer to sustainability issues, and has long had approaches to recycling and to reducing the use of energy use and other resources.
- 12. Up until 2003, there was an active officer working group that looked at 'green' issues, and their work identified many of the practices that have since become embedded within the organisation. The work of that group effectively ended when the more straightforward proposals were implemented. Over the same period, work was also undertaken on a Green Travel Plan for the Authority, with particular reference to officer travel, but this work faltered, principally because the methodology of such travel plans at the time tended to focus on the use of public transport (a shortage of which is a problem in the Park) and also tended to work against the 'work/life balance' opportunities offered by flexible working.
- 13. Many of the outcomes of the above work, alongside other suggestions made by officers working in their particular area of responsibility, have become standard working practise for the Authority. The Action Plan includes something of an audit of current practice by highlighting these areas, and shows just how much has already been achieved. This sets the Authority a particular challenge: in relation to the targets set over the past year, it is not starting out on its journey towards sustainability (or carbon neutrality, for that matter) from a 'zero' base. Many sustainability opportunities have already been taken, and the performance we are being measured against is based on 2005/06 figures (being the last complete year's data available when this work started), i.e. after many of the 'easy' things have been done.
- 14. The current stage of sustainability work has been developed by a Sustainability Working Group, with a cross departmental membership that also includes the Corporate & Democratic Core Member Champion. Proposals within the action plan (see paragraph 42) have come from this group and from a lively internet discussion which all staff were invited to participate in.

Measuring environmental impact

- 15. The most straightforward model for monitoring environmental impact is that introduced by Defra. This involves measurement of emissions in their widest sense and is based on 22 Key Performance Indicators (KPIs) that can be selected to our needs. Large companies are now required to report on these KPIs in their annual Business Review but although the

Authority is exempt from such reporting, six of these KPIS (shaded, below) are directly useful for us to adopt and report on, both in terms of base-line data and to enable us to monitor progress. It is **recommended** that we adopt these specific indicators.

| |
|--|
| Emissions to air |
| 1. Greenhouse Gases |
| 2. Acid Rain, Eutrophication and Smog Precursors |
| 3. Dust and Particles |
| 4. Ozone Depleting Substances |
| 5. Volatile Organic Compounds |
| 6. Metal emissions to air |
| Emissions to water |
| 7. Nutrients and Organic Pollutants |
| 8. Metal emissions to water |
| Emissions to land |
| 9. Pesticides and Fertilisers |
| 10. Metal emissions to land |
| 11. Acids and Organic Pollutants |

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| 12. Waste (Landfill, Incinerated and Recycled) |
| 13. Radioactive Waste |
| Resource use |
| 14. Water Use and Abstraction |
| 15. Natural Gas |
| 16. Oil |
| 17. Metals |
| 18. Coal |
| 19. Minerals |
| 20. Aggregates |
| 21. Forestry |
| 22. Agriculture |

16. To date, the only one of these KPIs for which we have started data collection is 'Greenhouse Gas' emissions, and specifically, direct carbon emissions. The work involved in collecting the data for, and calculating performance against, these indicators should not be underestimated, because the data has to be aggregated across the whole of the Authority's operations.

17. A final question is whether the Authority should adopt an Environmental Management System*, such as ISO 4001 Environment*. Such a system would give external accreditation of the Authority's environmental performance, but would also come at a bureaucratic price. At this stage, it is **recommended** that the Authority apply a relatively straightforward action plan / KPI monitoring process, and move towards adopting an environmental management system at a later date, if a particular model emerges that is applicable to, and adopted by, our sector.

Carbon Emissions and Energy Usage

18. The calculation of carbon emissions* itself is a relatively straightforward process. At this stage of reporting, carbon emissions measurement for the Authority encompasses **energy use in buildings** and emissions from **business travelling**.

19. It is theoretically possible to calculate the carbon emissions involved in manufacturing the products we buy (say, in relation to stationary or contracting) but (a) its very time consuming, and (b) the impact is a magnitude or so smaller than that of energy use and travel. Instead, it is **recommended** that, at this stage, sustainability of such spending is managed by sustainable procurement: arguably, the carbon emissions involved in manufacture of the products we use do not 'belong' to the purchaser, whose only control is to seek those products with better environmental credentials.

20. Better sustainability, in terms of bought-in products, is also supported by the more widespread adoption of recycling, or more specifically, the 'reduce / reuse / repair / recycle' process; the Authority is currently working with Recycling Action Yorkshire (RAY) on this agenda. If the measurement models evolve to include consumables, we can of course re-state our emissions and targets on that new basis.

(i) Energy Use in buildings

21. Buildings' carbon emissions were 442 tonnes in 2005/06, and **366 tonnes in 2006/07**, as measured on the basis of bills paid. The figures are slightly understated because they exclude accommodation costs for Reeth and Sedbergh wherein the energy cost is wrapped up within a recharge. Nonetheless, these figures represent a fall of approximately 17% in first year, so meeting the LAA target for 2009/10 two years early.
22. The reason for the change is mainly a move to more sustainable energy use at Yoredale, an energy efficient building that uses self-generated heating, removing the need for oil and also rationalising occupation of three buildings into one. However, there may be other factors that have contributed to the reduction, such as the milder winter of 2006/07, and the fact that energy payments are recorded when made (rather than accrued for). Measurement of 2007/08 results will confirm the accuracy of this measurement. Notwithstanding the cautionary note, energy reduction appears to have been considerable.

(ii) Business travelling

23. In 2006/07 the authority paid for approximately 627,000 miles of officer, volunteer and member travel. This total excludes home-to-work travel by staff, and was made up as follows:
- Officers: 413,154, based on a three month sample of expense claims: Essential Users 170,018, Casual Users 32,071, Training event attendance 8,165; leased car mileage for the year: pool cars 43,900, landrovers 159,000 including 58,000 home-to-work...figures calculated for year ending 3 June 2007 for three Grassington vehicles, and 31 March 2007 for Bainbridge pool car; Landrover figures calculated for year ended March 2007).
 - Volunteers: 178,900 (figure based on total sum claimed divided by standard mileage rate; may be slightly overstated, as car share trips qualify for a higher mileage rate)
 - Members: 35,052 (exact figure, as only one rate applies)
24. In carbon emission terms, 627,000 miles represents **225 tonnes** of Carbon Dioxide emissions.
25. Apart from the carbon emissions and financial cost, the time taken up by this travel was considerable, and is estimated – based on average staff costs – to be the equivalent of just over four Full-Time Equivalent staff. Staff 'home to work' travel is not included in these figures, since this activity is not paid for or controlled by the Authority.
26. Based on the above two categories for measuring carbon emissions, the total sum for the Authority is **591 tonnes**, based on **2006/07** figures; this is the Authority's current Carbon Footprint*. This measure would increase very slightly if carbon emissions from rail and air travel were calculated, as is recommended, though that work hasn't been undertaken yet; when it has been, the base figure will be restated.
27. Note that, assuming a similar level of business travel in **2005/06**, the carbon footprint for that year, prior to the energy savings permitted by the move to Yoredale, would have been **667 tonnes** of carbon emissions.

Working towards carbon neutrality

(i) The problem of definition

28. There is a fundamental question as to what exactly 'carbon neutral'* means, or rather is taken to mean in the context of the targets listed in paragraph 15: does the term mean:
- 'Zero carbon*' with either nil carbon emissions, or where any carbon emissions are cancelled out by carbon sequestration* (i.e. removed), or...
 - that carbon emissions are 'balanced' by a process involving use of green energy*, carbon offsetting* and sequestration etc; this does not result in net zero emissions, but, at its most straightforward, means that an entity would be using half the carbon-generated power it had previously, with the equivalent 'balancing' amount of energy coming from green power and any imbalance made up of some form of carbon offsetting
29. The first definition is the most logical, and is probably the common expectation of what carbon neutrality means. However, the second is the easiest to achieve (and appears to be the definition being applied by Defra). Two arguments are relevant here:
30. First, at present it is only possible to achieve a 'zero carbon' state by offsetting: this is because all types of green power currently have some degree of carbon emissions themselves, and we have little control over certain activities which require use of fossil fuels (for example, helicopters powered by electricity are not likely to be introduced in the near future). Whilst energy reduction and saving can move towards a lower carbon state, getting to a zero carbon position would require an extremely drastic curtailment of activity, which is not practicable, and / or a programme of buying offsets beyond the activities of the organisation. If we were to buy offsets outside the remit of the Authority (apart from creating problems with our Grant Memorandum and purposes), that would be an admission that our predominantly-conservation-based activities overall had a negative impact on the environment, which would be ridiculous.
31. Secondly, the term 'Carbon Neutral' is actually a trademark of the CarbonNeutral Company; their definition is a balance of emissions against non-emissions, with – perhaps unsurprisingly – the balance supported by commercial offsetting by programmes across the globe which that organisation facilitates. Unfortunately, It has not yet been possible to get to a definitive answer to this question, a surprising 'lack of result' given that a number of organisations were asked for their view, including through the York and North Yorkshire Business Environmental Forum (YNYBEF), contacts within the field of advisers linked to Sustainable Development Fund activity, NYCC's sustainability team and much website research. The example in the box (below) illustrates the current position graphically.

If we were to replace the oil-based heating systems at Colvend and the Dales Countryside Museum with wood-fuelled boilers, this would save an estimated 99 tonnes of carbon emissions a year. This would reduce our carbon footprint from 591 tonnes to 492 tonnes. However, the 'balancing' equation would show the 492 tonnes on one side, and the 99 tonnes saved on the other, so that the 'imbalance' to remove before becoming carbon neutral was $(492-99)$ 393 tonnes. Calculating carbon neutrality in this way was how the advisers to the SDF energy projects understood carbon neutrality (despite the fact that, mathematically, this is double counting),

32. At some future point, a clearer understanding of what carbon neutral means, in the context of national targets, should emerge. In the meantime, we know what our energy-based carbon footprint is, and it is **recommended** that the Authority works to reduce this as far as possible to a zero carbon position (i.e. without 'double counting'), and then offset the rest through **activity that meets the operational objectives of the Authority**.

(ii) Carbon Offsetting

33. All 'carbon reduction' equations, of whatever definition, apply a threefold scheme to emissions reduction:
- Reduce energy use,
 - buy as much as possible of the remainder as green power, and
 - offset the remainder.
34. For a number of commercial and environmental (sometimes, quasi-environmental) reasons, offsetting has taken the lead in this scheme, and has spawned a major new industry. Many commentators now have real concerns over the sustainability of the offsetting industry, which – perhaps because it is unregulated – has no uniform standard for calculating its offsetting impact. Furthermore, the projects which the industry invests in, and particularly those in developing countries, may be damaging to the environment, and there have been a small number of well-publicised instances of this over the past year.
35. So in a wider context, commercial offsetting is not attractive as an option for the Authority. However, there are some opportunities that meet the 'duality' test, having the potential to assist with other objectives as well as deliver carbon offsetting.
36. Before agreeing opportunities for offsetting, the issue of additionality needs to be dealt with, alongside the issue of how much 'ownership' of a particular offset 'belongs' to the instigator. Three examples illustrate the point:
- (a) **Green Energy projects.** These are a major part of the offsetting industry's portfolio. The Authority has funded a number of such projects through its Sustainable Development Fund, which will generate carbon savings. However, the SDF activity is part of the Authority's operational brief: it is obliged to spend SDF money on projects of that nature, and there is therefore arguably **no additionality** in this area (although the situation could change if the SDF was 'absorbed' into the overall National Park Grant, and no longer hypothecated to sustainable development projects; in this circumstance, the Authority could choose to allocate general grant to green energy schemes, and a side effect would be an offset).
- (b) **Woodland creation.** The Forestry Commission's carbon footprint is the energy used in its activities, and this is arguably not offset by its tree planting work, which is its primary purpose. For the Authority, however, which does not have a statutory purpose to create woodland (though it has adopted shared woodland creation targets in the National Park Management Plan), any tree planting it paid for **could** count as an offset.
- (c) **Travel to work mileage.** This travel is part of individual's carbon footprints, rather than the Authority's. However, by changing working practices to allow more home working, the Authority would be achieving a reduction in those individual's carbon footprints that **could** be counted as an offset (since it would only be enabled by the Authority's actions).
37. Clearly, there are arguments for and against use of offsets as described above. But members need to understand that offsetting **will be necessary** to attain carbon neutrality under either of the latter's possible definitions, and especially if 'zero carbon' is pursued. It would seem far better that such offsetting delivers further outcomes for the Authority than, say, simply buying potentially unsustainable offsets commercially.

38. The two offsets **recommended** are therefore:

- **Tree planting.** In 2006/07 and 2007/08, the Authority paid £77k to the Yorkshire Dales Millennium Trust (YDMT) to fund their woodlands creation scheme. YDMT have leveraged into this scheme a range of external funding, including a donor-based 'plant a tree scheme' that encourages people to use a web-based carbon calculator to work out how many trees an individual should donate if they wanted to cancel out their carbon footprint. Applying that calculator to the Authority's energy use, this would require a contribution of around £26k a year to achieve the 'zero carbon' status. So for these two years, the Authority is already 'zero carbon', as there would seem no reason why a voluntary contribution from an individual and a voluntary (in the sense that it was optional) contribution from a National Park Authority should warrant different treatment.

Continuing to use woodland creation as an offset tool adds support to continuing to allocate budget to this area: the draft budget contains allocations of £45k to each of the next three years, and it should be possible to identify how many trees are planted as a result of this spending, since this is clearly linked to a 'woodland creation' target. It would seem likely that the money involved will offset our carbon emissions.

- Home to work travel, which comprised an estimated 900,000 miles (or **324 tonnes** of carbon dioxide) **in 2006/07**. With the introduction and expansion of IT facilities to allow working at home, and the roll-out of flexible working policies, the Authority has started to reduce individual's carbon footprints, as measured by mileage. It is proposed to calculate this saving, and offset it against the 'travel' carbon footprint. This approach creates a benefit for the Authority in permitting home working which, apart from any benefits it may have on individual's work/life balance (a morale issue), otherwise has little direct benefit for the Authority. The proposal to use this particular offset has been discussed with various advisers in the sustainability / carbon management field, and the response was that the approach was reasonable.

39. There may be other areas of the Authority's current or proposed activities that would generate offsets (for example, proposals to support woodland-based projects such as Yorwoods, for which draft budgets propose £7k per annum over the next three years), though no other examples have yet been identified that yield such straightforward or large scale offsets. It is **recommended** that future project proposals identify any offsetting potential that could be available to the Authority, a necessity given that, for example, offsetting by tree planting has a finite limit.

(iii) Carbon Trading*

40. This issue is potentially something for the future. Were the Authority to participate in a carbon trading scheme, and to have its net carbon footprint verified which – as a result of offsetting – currently appears to be 'carbon positive' (saving more than we're using), we could have a tradeable asset.

41. There are voluntary schemes which local authorities can join, which have the aim of assisting organisations to manage down their carbon emissions and which also create trading opportunities. These will be investigated as the definitions and measurement issues around this whole field are resolved.

Action Planning and detailed Targets

42. The Action Plan itself (**Appendix 2**), which is **recommended** to members, is divided into the four areas:

- **Buildings & Premises** (owned sites). What we can do to reduce the carbon footprints of our buildings, from making them more energy efficient to looking at renewable energy options. Also includes conserving water resources and addressing effluent.
- **Working Practices**: about the way we work e.g. switching things off, reducing consumption of stuff, recycling, green procurement, electronic working, home working and influencing visitors to our buildings.
- **Travel**: the issue of travel as a whole, from commuting through to work related travel.
- **Ecology**: Reducing our (negative) impact on and enhancing biodiversity.

43. There is also a section on Communication. The plan is very detailed, reflecting the input from a large number of contributors, and contains actions of varying difficulty: 'quick wins' are identified as such, as are those items where more development is needed to establish their viability. The table also identifies areas where some degree of action has already been taken.

44. Many of the actions relate directly or indirectly to greater energy efficiency, and it is **recommended** that overall targets for 2008/09 are set in these areas as follows:

- Buildings energy efficiency: a 5% reduction in energy use in 2008/09 compared with the full year for 2007/08
- Business Travel: a 5% reduction in mileage incurred.
- Home to work travel (as an offset): a 5% reduction in mileage incurred. Since 2005/06, the Authority has already approved some flexible working and less formal working arrangements that will contribute materially towards this target, as will business journeys which end at an employees' residence (rather than work base), so a target set at 5% will not require a fundamental shift to home working.

45. Significant reductions in carbon emissions will also be achieved through the planned use of biodiesel in the Authority's vehicle fleet and, subject to funding, major reductions in emissions may be achieved by a change from oil-fired to wood-fuelled heating in two of the Authority's main premises. The sum of these proposals is contained in paragraph 52.

46. In relation to travel reductions, it should be noted that there are already certain factors which should produce small decreases in overall business travel this year, including the reduction in membership of the Authority, and the further use of Yoredale for committee meetings (saving staff travel costs), although most of the latter savings were actually first recorded in 2006/07, and so are within that year's base-line.

47. The third element of the emissions reduction model, changing to a 'renewable' energy source, has not been emphasised in the action plan. At the moment, we buy the majority of our electricity through a central contract managed by NYCC, and this offers material savings over previous arrangements. Instead, it is proposed to Lobby NYCC to include green tariff within centrally negotiated electricity contract, and they have already stated their intention to follow this direction when the central contract is renegotiated. A renegotiated central contract with a green energy component should offer real emissions savings at the point it is introduced.

48. At this stage, it is not possible to quantify the impact of the detailed proposals in this paper: many of them offer smallish environmental gains, and the impact will therefore be a collective one. So the overall targets set above are reasonably ambitious, and their achievement (or otherwise) will inform the targets for 2009/10. Future targets are also likely to present further refinements, such as the fuel efficiency of the vehicles we use.

Communicating

49. Good communication about our work in this area will be critical. From an internal point of view we need to ensure that officers, members and volunteers are well informed about and 'on board' with the Authority's plans and targets, particularly given that many of them may, over time, involve quite fundamental changes to our working culture. From an external point of view we need to make sure that we are clearly telling people about our targets, our ongoing activities, our achievements and our plans for the future. Key audiences will be residents, visitors and partner organisations. We hope to demonstrate good practice and thereby influence the behaviour of others in a positive way.

50. There are obviously many ways in which to achieve these communication aims – for example, presentations at internal meetings, internal and external campaigns throughout the year with associated publicity, information on our website and in our other communications materials such as Dales and The Visitor. It is therefore suggested that once this action plan has been approved, a separate communications plan is drawn up for the next three years. Actions can then be built into officer work programmes as appropriate.

Monitoring and reporting

51. Calculating and monitoring of carbon emissions will be undertaken centrally, with the exception of leased vehicle fleet, which will be undertaken by Park Management staff; gathering the data and converting it first to energy usage and then to carbon emissions is a time consuming process.

52. Progress towards fulfilling the action plan will be monitored by the Senior Management Team, and it is proposed that an annual monitoring report be prepared for the Finance & Resources Committee at its meeting in May each year. This will report KPI performance, and overall performance towards reducing the Authority's carbon footprint.

Conclusions

53. The targets set out in this paper (which covers the period to March 2009) should have the overall impact on carbon emissions as follows:

| Description | Carbon emissions, tonnes |
|---|---------------------------------|
| Carbon Footprint, 2005/06 | 667 |
| Reductions re: Yoredale | (76) |
| Measured Carbon Footprint, 2006/07 | 591 |
| Margin of error (indirect energy use at Reeth and Sedbergh, emissions from public transport and air travel), 2% | 12 |
| Estimated 'actual' carbon footprint for 2006/07 | 603 |
| 2008/09 savings | |
| Biofuels in lease fleet (20% ratio, but reduced to 15% based on carbon footprint of fuel production) | (11) |
| 5% reduction in travel | (11) |

| Description | Carbon emissions, tonnes |
|---|---------------------------------|
| 5% reduction in buildings energy use | (18) |
| Carbon Footprint at end of 2008/09 | 563 |
| Potential installation of wood-fuelled heating (if <u>all</u> achieved) | 99 |
| Potential carbon footprint at end of 2008/09 (likely to be achieved later, depending on time of project implementation) | 464 |
| Offsetting | |
| Tree planting (£45pa; very roughly £26k of trees = 600 tonnes of emissions) | (1038) |
| Home to work travel credit (5% of 900,000 miles) | (16) |
| Planned net carbon footprint at end 2007/08 | (590) = carbon 'positive' |

54. The likely **carbon footprint**, ignoring offsetting, at the end of 2008/09, assuming targets are achieved, is 563 tonnes of emissions, a 15% drop in emissions since 2005/06; this excludes the use of wood-fuelled heating. In future years, targets will be added to further reductions, but it is not proposed to set these at this stage, either because the targets set this year may be too challenging, which is hopefully not the case, or – more probably – because we will overperform in reductions and so the base line for future years would otherwise be set too low.

55. The **carbon neutral** position is less clear, because of the definitions issue described in paragraph 28. With current offsetting, we are clearly already carbon neutral, but this will continue only as long as we continue to buy at least £24k-worth of tree planting a year. Ignoring offsetting, we are not carbon neutral, but will project either a 'carbon negative' position of 563 tonnes for end 2008/09 (if carbon neutral = zero carbon) or one of 487 tonnes if the savings made in relation to Yoredale are put into the balance. If wood-fuelled power is introduced, the figures become 464 tonnes or 365 tonnes, respectively.

56. As will be obvious from this paper, many of the definitions of terms, ways of measurement, offsetting approaches and so on are very likely to change or at the very least, become clearer, over the next few years.

RECOMMENDATIONS

57. That members agree the following:

- (i) That the Brundtland definition of sustainability is appropriate for this Authority (Paragraph 5).
- (ii) The adoption of Key performance Indicators for environmental performance (paragraph 15).
- (iii) That the Authority does not seek to implement an environmental Management system at this stage (paragraph 17).
- (iv) That carbon emissions at this stage comprise buildings and travel sources, but exclude the carbon footprint of products purchased (paragraph 19).
- (v) That the interpretation and target of 'Carbon Neutral' that the Authority should pursue is 'Zero Carbon' (paragraph 32)
- (vi) That tree planting and home-to-work travel offsets are adopted within the Authority's model for achieving carbon neutrality (paragraph 38).
- (vii) That future project proposals should consider any carbon offsetting potential that they might offer (paragraph 39)
- (viii) That the Action Plan as described is adopted (paragraph 42).
- (ix) That specific targets for reducing energy use on buildings and business travel, and a target for reducing home-to-work travel, be adopted (paragraph 44).

- (x) That the management reporting process proposed is acceptable (paragraph 51).

Acknowledgements

58. Although this paper has the Head of Finance & Resources as 'author', the structure and ideas are based on the work of the Sustainability Working Group (Kath Taylor, Richard Graham, Matt Neal, Iain Mann, Kevin Lancaster, Paul Drake, Moya Turrell, Gillian Kleine, Sam Parfitt, Miranda Sugden and Richard Burnett). The items within the action plan include suggestions from another 22 officers.

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13 November 2007

Background documents: NPA Report: July 2007 - 'The role of the YDNPA in tackling Climate Change'.

Glossary of terms used in this report

Brundtland Commission. The UN created this commission to address growing concern “about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development”. The Brundtland report, published in 1987, deals with sustainable development and the change of politics needed for achieving that; the definition of this term in the report is reasonably well known and often cited.

Carbon emissions. This refers to the emission of carbon dioxide, not carbon itself. Burning pure carbon (chemical symbol ‘C’) in air gives carbon dioxide (CO₂). The carbon atoms are oxidised, each atom bonding with two oxygen atoms, a process which generates heat which can then be used to generate power. Because each carbon atom has an atomic weight 12, and oxygen has an atomic weight of 16, the weight of one molecule of CO₂ is (12 + 2x 16) 44. So burning 1 kg of pure carbon will generate approximately 3.7kg of carbon dioxide.

That carbon dioxide doesn’t appear to have any weight (slightly confusing when the talk is all about ‘tonnes of carbon dioxide’) is an effect of the atmosphere already having a weight (comprised of all the various gases it’s composed of) and exerting pressure. So the weights referred to are of the carbon dioxide if it were to be weighed in a vacuum, with no other gases present to ‘buoy’ it up.

The carbon emissions of different fuels weight per weight vary because of their different levels of carbon ‘purity’. Anthracite, the nearest coal to pure carbon, has a very high ratio of fuel weight to carbon dioxide, but natural gases such as methane (formula CH₄, being one carbon atom bonded to four hydrogen ones...hydrogen has an atomic weight of 1) don’t produce as much CO₂ as anthracite, weight for weight: the carbon in methane forms CO₂, with the hydrogen oxidising to form water (H₂O), which is not considered to be a greenhouse gas in the common understanding.

However, more complex organic fuels, such as heavy mineral oils, have chemical formulas that typically include nitrogen and sulphur, together with some oxygen already. Combustion of such fuels can be incomplete, and they generate less carbon dioxide (in relation to their overall carbon content) but proportionately less energy. The residual ‘unburnt’ parts of these compounds, typical small bits of chemical ‘chains’ are left as particulate pollution, or as pollutants such as nitrous oxide or sulphur dioxide, and other greenhouse gases.

Carbon Footprint. The amount of carbon dioxide, typically measured in tonnes, generated by an organisation or individual activity.

Carbon neutral. An activity that has no net carbon dioxide output. Burning wood in a boiler emits just that amount of CO₂ which has been previously absorbed by the atmosphere from photosynthesis, though that needs to be seen in the context of the same wood acting as a carbon sink or reservoir: burning wood sourced from a non-renewed forest is not carbon neutral.

In practical terms, becoming carbon neutral involves three phases: limiting the energy use and emissions from transportation, buildings, equipment and processes; obtaining power from renewable sources; offsetting the remaining emissions in a responsible carbon project or by buying carbon credits.

The difficulties of deciding on the exact make up of the calculation of carbon neutrality have been discussed in the report. However, the ‘balancing’ equation (rather than the ‘zero carbon’ one) would appear to be that being considered by central government: for example, in March 2007 the Government set a series of sustainable operations targets for the

Government office estate, including a pledge to go carbon neutral by 2012 and to reduce carbon emissions by 30% by 2020....clearly, this target will require significant offsetting and 'balancing' because the 2020 objectives leaves 70% of current carbon emissions 'in the system'.

Carbon Offsetting. Defra states two stages to carbon offsetting: i) calculating the amount of emissions to be offset from the activity carried out and then ii) investing in projects that prevent or remove an equivalent amount of emissions from the atmosphere.

'Buying in' of carbon offsetting is practised by many companies, notably the aviation industry (which has little choice), and mostly involves forest restoration, renewable energy investment, energy efficiency (typically, in developing nations) and investing in new technology. Many organisations now provide this offsetting 'service', though because the market is unregulated and there is no standard in performance terms, not all such offsetting organisations are reputable, and even those who do subject their activity to professional audit (to prove the money has been spent on offsetting schemes) may not be able to demonstrate that such schemes have either been successful or are sustainable, or that they meet an 'additionally' requirement (i.e. whether they would have happened anyway). To quote from Accountancy Age of July 2007 (a magazine that takes a very pragmatic approach to the environmental lobby): "Initially, offsetting was seen as a brilliant panacea. It allowed those in industrial nations to forge head with their consumer lifestyles whilst simultaneously appeasing their consciences with the happy thought that they are building energy efficient villages in remote parts of India".

Defra's Code of Best Practice for the provision of carbon offsetting states that offsetting does not actually reduce the emissions contributing to climate change, which is why it is important that we all reduce and avoid consuming energy. The current consensus among governments and organisations like the Carbon Trust is that carbon offsetting is effective as a final measure, but only after exhausting all other avenues of carbon reduction.

Carbon sequestration. The uptake and storage of carbon, especially by trees and plants that absorb carbon dioxide and release oxygen, storing the carbon in their tissues. However, to provide long term carbon storage, woodland once planted has to be maintained. Peatland regeneration is another biological example, but other processes are being developed around the world, such as underground storage of carbon dioxide, or chemical treatment of emissions.

Carbon sinks. Generally defined as an environmental reservoir that absorbs and stores more carbon than it releases, thereby offsetting greenhouse gas emissions. Forests and oceans are examples of carbon sinks.

Carbon trading and credits. Carbon trading schemes can be seen as a means of disguising the costs to individuals of reducing the reliance on carbon-based fuels, which would otherwise be achieved by taxing such fuels to an extent that would change habits. Instead, the idea is to harness the power of markets to deliver reductions.

The European Union now has in place an Emissions Trading scheme places a price on carbon emissions and then creates a system of emissions permits that can be traded. A tonne of carbon dioxide emissions was trading at about £10 on European markets in July 2007.

Some commentators argue that this system is flawed, because too many permits have been issued at too low a price, but also because the scheme does not involve communities and residents (so the opportunity to transform public attitudes, and particularly energy 'end-users' is absent).

The Governments' Carbon Reduction Commitment scheme was announced in the energy white paper '*Meeting the Challenge*', published in May 2007 which built on the earlier 'Energy Performance commitment' scheme (which targeted intensive energy users such as the chemical industry). The new scheme, to operate from 2010 at the earliest, is aimed at 'mid-tier' energy users (with bills of >£500k a year), and misses the majority of local authorities.

However, some local government organisations have joined the existing emissions scheme. Kirklees MBC joined the original UK emissions scheme three years ago, and by making energy savings in excess of that required by their carbon budget (all of which were audited), achieved cash savings of £53k, which was then reinvested in further reducing energy usage and emissions.

In July 2007, the Local Government Information Unit announced that it was launching a carbon trading scheme. The scheme will be voluntary ('Carbon trading councils'), under which each local authority will have an overall annual carbon budget, for allocation across all its activities just as happens with the financial budget. The size of a council's carbon budget will be based on its existing emissions (from all activities, including housing), adjusted against a good practice standard. Each unit of carbon in the budget will carry a price and will be tradable: budget holders with a surplus can sell the excess to those requiring additional allowances.

The cost of each carbon unit will rise from one year to the next, exerting additional pressure to limit carbon use, and each year the budget will be reduced, encouraging improvements in energy efficiency and development of renewable energy supplied. Local authorities will be encouraged to invite other emitters of greenhouse gases in their area to join the scheme, such as schools, colleges and supermarkets, and even neighbourhoods and individual households may join, provided they accept the basic principles of reducing carbon emissions (i.e. abide by a carbon budget and trade allowances if they generate a shortfall or surplus).

If the scheme as described takes off, this may be a mechanism by which the authority can meet one of its 'Nottingham declaration' objectives, to "Encourage all sectors in our local community to take the opportunity to...reduce their own greenhouse gas emissions..."

Environmental Management Systems. These can be used by organisations to help them reduce their environmental impacts, comply with relevant legislation, and demonstrate that they are managing their environmental risks and liabilities responsibly.

Defra has produced a Position Statement which sets out the Government's policy on EMSs, explains why the Government encourages their wider take up, outlines the main benefits of implementing an EMS and clarifies the role that EMSs can play in stimulating organisations to adopt more sustainable practices as well as improve their environmental performance. The Position Statement identifies the main elements that are required for a good EMS, addresses the role of EMSs in regulation, the role of independent certification and the value of accreditation as well as considering future challenges for EMSs.

Some organisations develop their own in-house systems which may be appropriate for their sector or size but most seek independent certification against the international standard ISO 14001, which specifies all the requirements necessary for a robust environmental management system.

'Green' Energy. Often erroneously referred to as 'zero carbon', in reality all energy sources currently require some carbon-based energy to operate, although some are less carbon intensive than others. Website research suggests that carbon emissions are around 10% of the equivalent carbon-based power. Debate over just how effective some of these forms of energy are, and about their environmental side effects, is ongoing. In its common usage, the term 'green energy' is not applied to nuclear power, which, although it has a very low carbon base, has been known to have some negative environmental effects. However, nuclear power is likely to form part of the available green electricity 'pool'.

ISO 14001 Environment. A standard that specifies a process for controlling and improving an organisation's environmental performance. ISO 14001 is an internationally accepted standard that sets out how you can go about putting in place an effective Environmental Management System (EMS). The standard is designed to address the delicate balance between maintaining profitability and reducing environmental impact, and is applicable to all industry sectors, whether public or private sector.

ISO 14001 deals with environmental policy, planning implementation and operation, checking and corrective action, and management review.

The process allows an organisation to identify aspects of its business that impact on the environment and to understand those environmental laws that are relevant to its situation. The next step is to produce objectives for improvement and a management programme to achieve them, with regular reviews for continual improvement. The resulting system is assessed for compliance with the ISO 14001 standard.

Kyoto Protocol. Came into force on 16 February 2005, and imposes a legally binding greenhouse gas reduction target on the UK of 12.5% by 2008-12

Nottingham Declaration. A public declaration by which local authorities can show their commitment to tackling climate change in their area and to working with others to reduce emissions countrywide. The Authority signed the declaration in September 2007.

Thin Client Technology. The PC industry globally apparently generates (through production and use) about the same level of global emissions as aviation. In July 2007, the Government announced a public/private 'green shift' task force, led by Manchester City Council, to drive the adoption of thin client technologies, which uses 98% less energy (overall) than standard PCs and 75% fewer resources in production. Thin client technology employs simple workstations that connect to a powerful central computer rather than having lots of individual powerful computers throughout an organisation. The Authority adopted thin client technology in 2005.

Zero carbon. As it says on the packet, and similar to the 'purist' understanding of 'carbon neutral'. The term is increasingly used in connection with house-building (e.g. 'zero carbon homes'). In reality, such houses do have a carbon footprint, but aim to minimise this by sustainable building practices and by minimising energy use once built and by using the most sustainable energy sources, so the term tends to be rather loosely applied to only that part of the 'planning/land use/building/ occupancy' cycle that can be identified as 'zero carbon'.

| (Q= 'quick win') | | | | | |
|---|--|---|---|---|--------------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| Buildings | | | | | |
| Move to 'green' power supplies: | | | | | |
| <ul style="list-style-type: none"> Wood Fired boilers at DCM / Colvend | Initial feasibility study commenced | 99 tonnes CO2 annually | Supports SDF-funded projects to develop wood supplies | £160-£200k plus officer time. First phase covered by 2008/09 budget proposal | 2008 |
| <ul style="list-style-type: none"> Lobby NYCC to include green tariff within centrally negotiated electricity contract | In discussions with NYCC, for 2009 contract | Part of the offsetting / carbon neutral equation | | Increase in cost as tariff more expensive | 2009 |
| <ul style="list-style-type: none"> Change external lighting to low energy (or solar?); Change to energy-efficient light bulbs internally (Q) | | Would reduce energy usage in this area by up to 80% | Reduce energy bills. Incandescent bulbs not available from 2011 | Minimal if only changing bulbs, though may need to change fittings. Solar expensive, long term could be cheaper | 2008 |
| Energy efficiency measures, including: | | | | | |
| <ul style="list-style-type: none"> Energy audits of all buildings. Identify means of moving to 'lower carbon' electricity or gas (compared to oil) | Basic audits of NPCs in April 2007. Now monitoring electricity at main offices | Likely to identify best practice to make savings | Cost reductions – energy/ water bills | Considerable Officer time involved | 2007 onwards |
| <ul style="list-style-type: none"> Buy energy efficient equipment | Thin Client* technology introduced | Dependant on equipment | Reduce energy bills | Part of product cost | 2007 onwards |
| <ul style="list-style-type: none"> Introduce SAVA plugs on fridges (Q); foil-back radiators to increase efficiency; labelling light switches to encourage turning off (Q); | | Reduction | Reduce energy bills | Some staff time and (small) cost | 2008 |

| (Q= 'quick win') | | | | | |
|---|-------------------------|--|---|---|--------------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| introduce Smart plugs on equipment that uses transformers (Q); automatic shutters on doors | | | | | |
| <ul style="list-style-type: none"> Rationalising printers | | Use centralised photocopiers/ printers, reducing carbon emissions by up to 7 tonnes p.a. | Reduced toner, paper, electricity and equipment replacement costs. Lower particle emissions | Research cost of contract as tied in for 3-5 years on lease. Likely to change some printing 'habits', potentially reducing print output. Can password protect for confidentiality | 2008 |
| <ul style="list-style-type: none"> Energy saving practices: e.g. heating at minimum; Review settings to ensure heating is efficient; don't open windows when heating on / obstruct radiators; turn off heating where not necessary (e.g. store rooms); run dishwashers when full and on economy setting. (Q) | | Difficult to measure, but will be some impact | Reduce bills. Make staff more aware of issues | None. | 2007 onwards |
| <ul style="list-style-type: none"> Remove water coolers. (Q) | | 0.25 tonnes CO2 PA | Some cash savings (E £500/year) | 5 days time for removal and cancelling existing agreements | 2008 |
| <ul style="list-style-type: none"> Set computers onto energy saving mode if not in use – shut screen down (Q) | | Yes: monitor uses 60% of PC power | Reduced bills. Maintains confidentiality | IT time involved | 2008 |
| Travel | | | | | |
| Run Vehicle Fleet on Green Fuel | Action already underway | 20% bio-fuel usage, using waste food oil | Reduces landfill | | 2008 |

| (Q= 'quick win') | | | | | |
|--|-----------------------|--|----------------------------------|---|--------------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| Reduce business mileage. Initial target for an annual 5% reduction for <u>each</u> Dept / Volunteers / Members (i.e. individual sub-targets). To include: | | Significant | Some cash and time savings | | 2008 |
| Reduce unnecessary journeys: meeting locations decided on numbers and locations of people attending; restrict usual meetings to same days (e.g. mid week) to encourage car sharing (Q); all public meetings at Yoredale: to assist car sharing, and allow officers to return immediately to work after 'their' items; review whether people are based in the right location for their work. | (✓) | | | Some management time for organising | |
| More efficient Journeys; encourage use of public transport, including making timetables available via intranet ; easier use of pool cars (and vans), including e-booking, keys on front desk etc.; obligation to care share on business journeys; pool cars only to be used by casual users; essential users to use pool cars if available; travel timetable for lift sharing: make e-diaries compulsory to assist; working at one office on any one day (Q) | | | | Some management time for organising; some staff time to put new arrangements in place | |
| Car Sharing, home-to-work travel: Database of opportunities set up (information on staff locations); publicise lift sharing (Q) | ✓ | Carbon savings 'belong' to individuals | Lower travel costs for staff | Some staff time to put new arrangements in place | 2008 |
| Home working: monitor impact and carbon savings | ✓ | Would be a carbon offset | Work/life balance opportunities. | Staff time. | 2007 onwards |

| (Q= 'quick win') | | | | | |
|--|-----------------------|---------------------------|---|-------------------------------------|--------------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| Air Travel: seek to minimise, but directly offset using YDMT's model (and contribute accordingly) (Q) | | Carbon neutral result | Supports YDMT; increases air travel cost, may change decision to use. | Staff time. | 2007 |
| Facilities: could include boot storage, drying, lockers, cycle shelter: to encourage home to work walking / cycling | (✓) | Supports 'greener' travel | Improved working conditions | Staff time and small amount of cost | 2008 |
| Working Practises | | | | | |
| Energy Saving, including: | | | | | |
| <ul style="list-style-type: none"> Turning off lights and equipment when not needed Getting tough on this issue. Not switching on equipment until needed. (Q) Unplug equipment when finished with, and turn microwaves off at wall; turn monitors off. (Q) | (✓) | Reduces energy usage | Reduced energy bills | Should have no cost | 2007 onwards |
| Reusing resources, including: | | | | | |
| <ul style="list-style-type: none"> Computer equipment: rebuild hardware if practicable (e.g. replacing failed power supplies in hard drives), recycling toner cartridges; working out the life of hardware. (Q) | ✓ | Savings already 'banked' | Reduced costs | IT staff time | 2007 |
| Reducing other consumption, including: | | | | | |
| <ul style="list-style-type: none"> Reduce paper and printing usage. Only print when necessary, use draft format, double sided print / reuse envelopes internally; Water | ✓ | Reduction in energy usage | Reduced costs; reduced resource consumption | No impact | 2007 |

| (Q= 'quick win') | | | | | |
|---|-----------------------|---|--|--|-------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| usage : washing up bowls in sinks (Q) | | | | | |
| Recycling, including: | | | | | |
| <ul style="list-style-type: none"> Use recycled stationery wherever possible; investigating coloured paper; waste paper recycling; returning unwanted stationary to Reception; composting and other recycling (tins, glass) bins in all office kitchens where space permits; better signpost waste paper recycling points; review coverage of recycling bins in car parks; work with RAY on paper and stationary products, toilet paper and hand towels, refurbishment materials, aggregates and retail products (Q) | ✓ | General reduction in environmental impact | Some reduced costs; opportunities for positive publicity | Some small additional costs | 2007 |
| Green procurement, including: | | | | | |
| Use of Fair-trade and eco-products (e.g. green cleaning products); use of local suppliers to reduce road miles local produce for food at meetings? (Q) | (✓) | No direct impact | As above | Could be slightly more expensive | 2007 |
| Biodiversity | | | | | |
| Work to implement actions from biodiversity audit on all our premises, but particularly the 'non Local nature reserve' sites. | (✓) | Improved sustainability | Underpins primary purposes | Likely to need additional budget | 2008 |
| Specific actions for improvements, including: Look at mowing regime across all our car parks (and grazing potential); | | As above | As above | Some staff time to implement and maintain; some financial impact | |

| (Q= 'quick win') | | | | | |
|--|------------------------------|---------------------------|--|-------------------------------------|--------------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| bird feeders at all NPA properties; organise staff days or team meetings to include such activities as building and siting bird and bat boxes; Create wildlife pond at Colvend ; put up house martin boxes at Yoredale; make rear yard at Yoredale into wildlife garden to encourage biodiversity, with water butts to collect rainwater; Reduce use of weed killer in car parks; change 'utility' grass at front of Yoredale to meadow / flowerbeds; solar powered can be used to view bat roost at DCM or bird boxes | | | | | |
| Interpretation for main offices: sustainable technologies and grounds management, raise awareness. (Q) | | Communicatin g message | Opportunity for interpretation with a 'take this idea home and try it' | Cost impact in money and staff time | 2008 |
| Communication | | | | | |
| General: promoting achievement and objectives externally; seeking Volunteers input; (Q) presentation to staff meetings (Q) | (✓); Current 'Dales' edition | Supports above actions | Supports above actions | Some staff time | 2007 onwards |
| Promoting sustainable travel: Travel to work week promotion; Signpost staff to opportunities for reducing their own carbon footprint (including travel).(Q) | | As above | As above | As above | 2008 |
| Premises: turn our buildings and facilities into model good practice sites and really promote this (Q) | | As above | As above | As above | 2008 onwards |
| Working practise (Q): one off campaigns, to show how much energy saved; | | As above | As above | As above | 2007 onwards |

| (Q= 'quick win') | | | | | |
|--|-----------------------|--------|---------------------|-----------------|-------|
| Description | Already some activity | Impact | Additional benefits | Costs: time / £ | When? |
| initiatives (stationary amnesty, removing desk bins); include in inductions, appraisals; keep suggestion box going on intranet site; make Home Energy Packages available | | | | | |

Also under investigation:

- Joint working with NYCC/NYMNPA and other NPAs; Environmental certification.
- Various energy possibilities: Photovoltaic panels on existing buildings, lighting on motion or 'daylight' sensors; water boilers to replace kettles; potential for green roofs on our buildings.
- Improve insulation and draft proofing, including water tank lagging, loft insulation (e.g. recycled material, such as 'Warmcel'); install double glazing.
- Review water efficiency of all premises, and investigate 'grey water' opportunities: waterless toilets, rainwater harvesting, flow restrictors etc.
- Potential for biodiesel plant at Colvend, or electric vehicles; operate fleet for longer cycle than '3 yearly' replacement.
- Travel practices: target to increase public transport usage; ensure optimum number of pool cars; encouragement of car sharing; linking relocation allowance to distance travelled; look at cycle to work and cycle purchase schemes; review value of having Green Travel Plan; investigate Web-portal-based group conferencing; teleconferencing: run formal trial of teleconferences for internal meetings; resolving VAT issue re: taking pool cars home.
- Consider travel allowances for low emission / efficient cars; motorcycles and bicycles; car sharing.
- Homeworking: IT system already in place. Develop system of web access (without software download) to use access easier...including logging in from other sites; Investigate phone redirection, to support.
- Review practicality of any additional alternative energy sources available on our sites.
- Investigate recycling of waste plastic.
- Green credit card.
- Move towards all printers being double sided.
- Reduce use of plastic on packaging for publications (either biodegradable, or reduce generally). Include details of how to recycle plastic with publication.