

# **TIME *TO CHANGE*:** **ONE YEAR ON**

**FIRST YEAR REVIEW OF THE  
SWANSEA ENVIRONMENT STRATEGY  
AND ACTION PLAN**

PMDevelopments  
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(revised)

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## INTRODUCTION

### Purpose, Scope and Approach of the Review

*Time to Change*, Swansea's first Environment Strategy, was published by Swansea Environmental Forum (SEF) in September 2006 together with an accompanying action plan and a strategy summary booklet. The strategy was developed through extensive collaboration over an eighteen month period with a large number of professionals across a wide range of environmental fields and beyond. There was also an open public consultation and a number of consultation events. The final documents were well-received both in Swansea and beyond.

The strategy (and action plan) is constructed around five environmental themes; each with a vision and a series of priorities. The strategy also includes indicators related to the priorities to assist in monitoring and assessing progress. The action plan lists actions and milestones under each priority and also includes additional (secondary) indicators that were identified during the action planning process, after the completion of the strategy text.

The strategy included a section on *Monitoring Performance and Reporting Progress* which outlined SEF's intention to monitor the strategy's content and relevance and amend or update it as and when necessary. It was agreed that monitoring of the strategy would take place on an annual basis and that a formal progress report would be produced and published every two years. It was also suggested that after two years SEF would review the monitoring and reporting procedures and consider whether ecological footprinting could be the main measure for monitoring progress.

This review has been undertaken by PMDevelopments (Philip McDonnell) which had also been contracted to prepare the strategy and action plan, between October and December 2007. An environment strategy subgroup of SEF's Executive Committee has been overseeing the contract and process. It was agreed that this first year review would include the following:

1. Changes and developments that may impact on the strategy and action plan in global, national and local contexts
2. Progress in achieving milestones, targets, actions in action plan, by theme and priority
3. Progress in collecting data for indicators and suggestions for future monitoring / reporting
4. Baseline data for indicator set and comparison to previous year (where available)
5. Comments by stakeholders on effectiveness, use and impact of strategy and action plan
6. Proposals for 2nd edition of action plan and for extending involvement / contributions
7. Research / proposals on footprinting and alternative monitoring and evaluation systems

The focus of the review was largely based around the action plan and its contributors each of who were approached either in person, by telephone or by email to discuss progress. In most cases, this was done using a prepared questionnaire (see Appendix 1). Representatives of other partnerships and relevant organisations, such as the Welsh Assembly Government, were also approached to describe progress on their activities and strategies and to share their experience with indicators, footprinting and other monitoring techniques. In total, approximately 40 organisations / service units and 80 individuals have provided information for this report.

It should be noted that this report contains information that was correct at the time of interviews. Changes may have occurred during and subsequent to the writing of the report.

### Structure and Content of Report

This report comprises three main sections; an introduction and summary, which outlines key findings and provides a list of recommendations; followed by a more detailed account of the findings, looking at the context, progress made under each theme, conclusions regarding the indicators and research on ecological footprinting and other methods of assessing environmental impact; and finally, the appendices which contain full research notes on each action, milestone and indicator.

This structure enables readers to get a quick overview and / or to follow themes or issues of particular interest at the level of detail that they feel most appropriate to them.

## SUMMARY OF FINDINGS

### Context Changes and Influences

Over the past year or two, public, political and media interest in the environment has been increasing significantly, particularly regarding certain concerns such as climate change. Barely a day goes by without some news report or political announcement relating to an environmental issue. This has naturally influenced public concern and there has clearly been an increased public awareness of environmental concepts such as carbon footprinting and food miles, which have been featured or referenced not only on news and documentary programmes but also on entertainment programmes such as Blue Peter, Coronation Street and The Archers. In 2007, a reality series, *Dumped*, was based on a group of individuals living off a landfill site and learning about waste and recycling.

There has been an increasing amount of environmental legislation and policy introduced at national and local level, mainly in response to international directives and agreements. For example, over the past few years, several pieces of UK legislation have come into force related to the EU Landfill Directive and the UK may soon become the first country in the world to introduce laws relating to the reduction of carbon emissions, in response to the Kyoto Protocol.

Through much of 2007, the Welsh Assembly has been gripped by elections and negotiations towards a coalition government but the new Welsh Assembly Government's *One Wales* plan affirmed the importance of a sustainable environment, stating that "*Climate change is the greatest threat facing humanity*" and that Wales' "*rich and diverse environment... needs to be protected and enhanced for people now and for generations to come.*"

Regional planning has had an increasing influence on local authorities and other organisations with the further development of the Spatial Plans across Wales and the clear indication that the new European Social funds – Convergence Funding - will be geared towards larger initiatives. At a local level, SEF has continued to contribute to and influence the community planning process, which has also encompassed the new Local Service Board (LSB) initiative.

### Impact of Strategy and Action Plan

Many of those consulted during the review process suggested that it was too early to assess the impact of the strategy and action plan. Some said that after the initial impact of the launch of the publications, the interest has lullled. Some said that it provided a focus and brought together organisations to share a vision but that the impact was not really known. Some said that they had already started to refer to the strategy in both external and internal meetings and in partnership meetings whilst others said that it could prove useful in the future but currently doesn't come to mind in developing briefs etc. One organisation said that the strategy helps with internal prioritisation of work. Some said that the action plan primarily replicated what was already planned but has pulled things together. The council SDU said that the strategy was referred to in developers guide and energy action plan and that the CCS integration appraisal tool was partly based on it.

In order to improve or ensure the impact, some suggested that more resources were necessary and perhaps more support from WAG for local environment strategies in general. Others referred to the role that leaders in organisations could play in 'pushing' the strategy. Another suggestion was that indicator measures should be written into monitoring plans for associated projects and organisations.

### Progress on Actions and Milestones

Progress has understandably been mixed with some actions clearly achieved on or ahead of time but with others, no progress has been made, mainly because of funding restriction and changes in staff. Many of the actions have target dates in 2008 or beyond and the stated dates remain feasible.

Detailed information on progress under each theme is provided from page 12 and in the appendices.

## Viability and Use of Indicators

The Environment Strategy was published with a set of 33 indicators which, it was felt, would be used as the main mechanism for monitoring performance. While developing the action plan, a further 25 indicators were identified which could provide useful information in addition to (or in some cases more affectively than) the existing indicators. For identification purposes, the latter were referred to as secondary indicators and the first set as primary indicators.

An evaluation of all these indicators, and the collection of baseline data, was an important aspect of this review. During the review, a further 15 indicators were suggested. Taking into account the availability of data and usefulness of each indicator as a measure of progress, proposals for a new single set of indicators is given on pages 17–19. It is proposed that these are further considered by key partnerships and officers during the development of the second edition of the action plan.

During the review a number of alternative approaches were mentioned - ecological footprinting, carbon footprinting, whole-life costing, and using a set of key lifestyle measures. It was also suggested that a charter for sustainability could be produced, as in Carmarthenshire, which organisations / individuals could sign up to. Some of these are considered further from page 20.

## Content and Structure of Future Action Plans

One problem encountered in developing the first action plan was trying to get consistency in the form and level of actions and milestones included when these were coming from a wide range of contributors. It has been suggested that actions need to be SMARTer (specific, measurable, attainable, realistic and timely). It has also been suggested that there needs to be greater clarity about the lead and partner organisations; the roles or responsibilities they have in respect of the agreed actions. These issues could certainly be addressed in the second edition.

It has also been recommended that the Swansea strategy action plan reflects the content and structure of the national strategy action plan. Though the structure does differ a little, the content and approach is pretty much the same with actions, milestones, leads and references to outcomes (labelled “priorities” in the Swansea strategy). However, the national strategy refers to actions being “specific” and “additional” whereas in the Swansea strategy, many actions were not additional and some were less than specific. This is again something that clearly needs to be addressed.

## Extending Participation in the Action Plan

The SEF Executive Committee had proposed that future action plans should be widened to include the activities and contributions of many more organisations. However, only a few specific suggestions were made during the review: DEIN (now DET) – because of their involvement with contaminated land and developments; local businesses and the Local Health Board – because of their involvement in procurement; the council’s parks department – because of their involvement green flags; and the Black Environment Network, Swansea Interfaith, Communities First and community development or regeneration trusts – because of their environmental awareness and action work with communities.

The experience of trying to obtain progress updates from contributors to the current action plan would however suggest that widening the range of contributors may make the job of compiling the next progress report even more difficult. Engaging key partnerships and forums more fully in identifying, delivering and monitoring large sections of the action plan will make this task easier. These partnerships and forums could play a greater role in identifying, encouraging and supporting actions undertaken by a wider range of organisations. The key partnerships, forums and organisations that are already, or could be, responsible for themes are as follows:

- Natural Environment and Biodiversity: SBP / Swansea Access Group / Gower Countryside Forum
- Built Environment and Energy Use: Swansea Buildings Forum / *Swansea Heritage Group*\*
- Water, Land and Waste Management: CCS Pollution Control\*\* / EAW\*\* / Swansea Waste Forum
- Sustainable Transport and Air Quality: Swansea Transport Forum / CCS Pollution Control
- Environmental Awareness and Action: SEEF / Sustainable Swansea / Environment Centre

\* While preparing the first action plan, representatives of CCS, GGAT and Swansea Civic Society met to agree actions and indicators for priority BE4, and have agreed to meet again.

\*\* A new water management partnership between EAW, CCS and Dwr Cymru Welsh Water could be engaged.

## LIST OF RECOMMENDATIONS

1. Keep the priorities as they are in the Environment Strategy (with the exception of a slight amendment to the wording of WM6).
2. Retain the current structure of the action plan for the second edition but ensure that the actions and, particularly, the milestones / targets are specific and additional.
3. Engage key partnerships and forums (not just officers) more fully in the development of actions, milestones, targets for the second edition of the action plan.
4. Extend involvement in the development of the action plan to include community regeneration groups and the other key community plan partnerships.
5. Agree a new indicator set following further discussion with relevant partnerships, forums and officers.
6. Promote and support the development of a set of indicators for the community plan and agree four or five key environmental indicators that could be part of this set.
7. Reject the notion of ecological footprinting as a suitable performance measure for the environment strategy.
8. Promote the adoption of the ecological footprint as an overarching indicator and the use of REACT by the CCS and BSP as a method of prioritising actions and monitoring progress.
9. Organise a conference event or series of seminars, for interested members and partners, with a focus on the four or five environmental outcomes submitted for the 'Big List'. Explore and expand on these and produce a plan of action plan for each.
10. Explore the potential for using a sustainability charter to rally support across the BSP and the community plan partnerships for the principles of sustainability and commitment to practical actions towards a more sustainable Swansea.
11. Seek agreement with CCS and other key organisations to ensure that the Environment Strategy is included in the list of documents that must be considered in all major strategies, development plans, feasibilities and consultations.
12. Continue to engage with environmental partnerships in neighbouring counties working towards greater synergy in strategies and exploring opportunities for collaboration.
13. Issue a press release to show how the strategy review has highlighted positive progress made over the past year.

## LOCAL PARTNERSHIPS AND STRATEGIES

### Better Swansea Partnership and Local Service Board

Swansea's community strategy, *Ambition is Critical*, was launched in 2004 and an update document has been published each subsequent year. The community strategy is overseen by the Better Swansea Partnership (BSP), a group of 15-20 leading officers of key organisations, and is focussed around five key themes each with a recognised lead partnership and strategy. There are also a number of cross-cutting themes, including sustainable development, and cross-cutting partnerships, such as the Network 50+ and the Young People's Partnership, that are also involved in the process of developing and implementing the community plan.

The Better Swansea Policy Task Group brings together officers linked to the main partnerships and strategies to work on ideas on behalf of and put forward recommendations to the BSP. A much wider group, known as the Better Swansea Stakeholder Forum and made up of councillors, community councillors and representatives of key organisations and partnerships, meets three times a year to enable the council to engage on policy issues. The Better Swansea Alliance, made up of over 100 participants, has met annually at an *Our Ambitions Conference* to discuss progress and ensure wider participation in the development of the community plan. It has been suggested that the Stakeholder Forum will now effectively taken over from the Alliance – it is unclear if this may result in some that have previously been involved through the Alliance now being excluded from the process.

The 2007 community strategy update contains quite comprehensive information on the recent work and plans of the key partnerships and plans for the BSP and Local Service Board (LSB). The BSP is keen for Swansea to have an LSB in place from April 2008. The concept of LSBs is part of the *Making the Connections* programme in Wales (see below for more on this) and are designed to strengthen local public service leadership by working on critical issues, where progress depends on partnership working and integrated service delivery that respond more effectively to citizens' needs. In most current pilot LSB schemes, community strategy partnerships have evolved into LSBs. However, the Swansea community planning team are looking at alternative models. The LSB will focus on a limited number of priorities identified from and adding value to the community strategy.

Recently, the community planning team asked the key strategic and cross-cutting partnerships to submit 4-5 priority outcomes each towards a 'Big List' of 15-20 that would become the focus for the BSP and 2008 community strategy. Two or three of these would become the focus for the LSB. The outcomes submitted by SEF were:

- reduce car use in Swansea by 20% by 2020
- achieve and maintain Blue Flag status for Swansea Bay
- maintain wildlife diversity in Swansea
- reduce Swansea's CO2 emissions by 30% and prepare for climate change by 2020

A fifth idea around "*encouraging and promoting community or civic pride*" was also put forward. Subsequently, these have been amended by the community planning team or combined with suggestions from other partnerships and further discussion is needed before the Big List is agreed.

### Swansea Strategic Partnerships

The 2008-2011 draft *Health, Social Care and Well Being Strategy*, developed by the Health Challenge Swansea partnership, is currently open for consultation. It has two key priority areas – "*preventing ill health and reducing inequalities*", which makes an interesting link between economic prosperity and health, and "*delivering better, more accessible services*". The Swansea Learning Partnership has produced its policy and strategy document which is based around four main aims one of which is "*to support sustainable development*" with strong references to SEF, the environment strategy, SEEF and the Environment Centre. Clearly further collaboration is needed between SLP and SEF in order to ensure that the strong policy on sustainability is translated into action and that environmental sustainability is also incorporated into linked strategies and plans.

Swansea's economic regeneration strategy, Swansea 2020, was launched by the Swansea Economic Regeneration Partnership (SERP) in February 2007. This has references to sustainability and includes a proposed project called C<sub>12</sub> which aims to enable "Swansea to become a 'carbon neutral' economy". It is unclear how SERP intend to progress this but collaboration with SEF would certainly be appropriate. There have been no significant developments with Safer Swansea though in 2007 there has been a particular focus on improving the City Centre and High Street areas.

### **Carmarthenshire Environmental Partnership**

This body was established to support the implementation of one of five themes in the county's community plan. The full partnership consists of about 15 member organisations that meet on a quarterly basis. The executive group comprises four partners plus a partnership co-ordinator, appointed in 2007 and based with CAVS – the county's voluntary service organisation.

The environment section of the community plan covers four themes (based around the issues of waste, transport, conservation and protection) and sets out a plan of action for each. A partnership subgroup has been formed to progress each of these themes and the partnership also recently agreed to adopt sustainability as a fifth theme and to accept the task of championing sustainable development across the community plan partnerships and the LSB. Linked to this, the environmental partnership developed a sustainability "declaration of intent" to which leading organisations in the Carmarthenshire Partnership (the community planning partnership) have signed up to. Carmarthenshire is one of the pilots for the LSB programme and has agreed that sustainability is one of its two priority areas.

It had been proposed that an environment strategy for the county may be developed but this may now only consist of a vision and an action plan for the environment partnership. A set of indicators may also be developed though in the quality of life indicators established by the county several years ago (see later section on footprinting and indicators) included five related to the environment (four similar to indicators in Swansea's strategy plus traffic on major roads – which may be worth exploring).

### **Neath Port Talbot Environmental Partnerships**

There are two environmental partnerships in Neath Port Talbot: NPT Voluntary Sector Environmental Forum (run by NPTCVS with about 25 members) and the council-led Neath Port Talbot Environmental Forum (with over 80 members but soon to be streamlined to about 20). A working group of the second forum, with about 6 members, includes two representatives from the voluntary sector forum, and is administered by a council officer. This group oversaw the development of the Gnoll Environment Centre and it has been suggested could act as an executive of the forum.

The Neath Port Talbot Agenda 21 Strategy, published in 2001, was produced through extensive public consultation with meetings in each of the 29 community council areas across the county borough. This established a strong foundation for future environmental strategic planning. Working Together for Better Communities, Neath Port Talbot's Community Plan 2005-2015, comprises seven main themes each with greater detailed information than in the equivalent document in Swansea. The environment section includes a 3 point vision, 16 aims (similar to the priorities in the Swansea strategy) and 28 specific targets (similar to the actions and milestones in the Swansea action plan). This section was developed and is the responsibility of the NPT Environmental Forum, which was initially set-up for this purpose. The voluntary sector forum also contributes to the community plan process and implementation.

An environment strategy for Neath Port Talbot council is currently in draft form and expected to be published early in 2008. This covers a number of themes and provides information on what the council intends to do and how others can contribute. This is clearly a council document written in consultation with and assistance from the NPT Environmental Forum but centred on the council's activities and responsibilities. An accompanying action plan is also being produced which will include specific actions, with targets and lead officers, and cross-references to other documents, including the Wales Environment Strategy.

## **Rhondda Cynon Taf Environmental Improvement Strategy**

*Our Living Space*, the environmental improvement strategy for RCT, was named after one of the five themes for action within RCT's community plan and was developed by the Environmental Improvement Partnership which involves the 22 lead organisations. The strategy was launched and adopted by the council and other partners in 2005.

The strategy is structured around 7 themes (or 8 if education and awareness raising is included) with 10 aims (or aspirations) and 41 outcomes spread across the themes. It included 5-8 actions per theme (65 in total) which were allocated to action groups to progress. Of these, 12 were subsequently chosen as the key actions to focus on. However, not many actions were completed and the groups no longer function. It was felt that the actions may have been too aspirational, involving work beyond statutory requirements or existing work plans.

The Environmental Improvement Partnership continues to meet every three months to agree joint responses to consultation documents and to network. The strategy and the actions are no longer a feature of these meetings. A recent review of the community plan partnerships in RCT, conducted by the council's improvements team, concluded that the strategy was not being implemented and that the environment partnership effectively did not exist. No formal review of the strategy and action plan has ever been conducted by the Partnership itself.

22 indicators were identified in the Environmental Improvement Strategy. These were kept separate from the specific themes but cross-references were made to how each might be associated with two or more themes. Some of these have never been measured and no reassessment of their viability has been undertaken or progress report been produced.

The strategy document suggested that the action plans would be reviewed annually, the indicators would be reported on annually and a review of the strategy would take place after 3 years – this has clearly not been the case.

## **Kent Environment Strategy and Progress Reports**

This strategy inspired some of the content and design ideas used in the Swansea strategy *Time to Change*. The Kent strategy was launched in 2003 and comprehensive progress reports have been published in 2005 and 2007 in line with the intension outlined in the strategy.

The strategy was organised into 11 themes each with a vision and 2-4 outcomes / aims, each in turn with 1-5 actions. Each theme also has 1, 2 or 3 indicators (25 in total labelled A-Y) and baseline data in most cases was provided within the strategy. The progress reports retained most of the structure and all the indicators that had featured in the original strategy. The reports also served as consultation documents for new proposed actions. The new actions were presented under each theme but not linked to the specific aims under the themes.

For both of the strategy progress reports, a separate four-page summary was produced featuring a large table showing progress under each theme and related to each indicator using traffic-light code, which mainly appeared red and orange with few green areas (though better in 2007 than 2005).

The 2007 report concludes that though the planned actions have in many cases been achieved and that the indicators show progress has been made on the particular areas being monitored, the ultimate objectives and vision are far from being realised. It makes reference to the unsustainable ecological footprint of Kent and points to climate change and associated issues (causes and effects) as being the aspects that are not being effectively addressed. Following consideration of the second review, it is proposed that the strategy itself will be revised in 2008.

## NATIONAL INITIATIVES

### Wales Environment Strategy

The Environment Strategy for Wales was launched in May 2006 following comprehensive consultation across the country. The document is arranged around 6 main themes which can be summarised as climate change, resource use, natural environment, local environments and environmental hazards. The approach is outcome-based with 39 outcomes (similar in pitch to the priorities in the Swansea strategy) spread across the main themes and sub-themes. For each outcome, an attempt is made to identify one or more appropriate indicator. In total, 72 indicators are specified but the need is recognised to 'develop' or 'identify' about 25 more where there are no or inadequate existing indicators. The accompanying action plan lists 62 actions with reference to the outcome(s) that each action relates to and one or more target and lead body.

A one-year review of the strategy and action plan has been undertaken and an update report is due to be published in early 2008 which will look at progress on the outcomes, indicators and actions. The draft report takes each outcome in turn and outlines progress made using the indicators. In many cases, the report is providing what will be the baseline data for measuring progress in the future but in some cases no data is available or the indicators are still to be determined so no progress is reported. Outcome 2 relates to the achievement of the strategy itself and suggests that “...of the ninety-seven indicators relating to the thirty-nine outcomes, twenty-one indicate improvement over recent years and eight show no detectable trend. Four indicators demonstrate that there is a decline...A further thirty-six indicators have either not yet been developed or there are no data available in time for publication.” Perhaps surprisingly, three of the four indicators that demonstrate decline are related to waste management, one area that many people would consider to have progressed well over recent years with the sharp increase in recycling and composting.

The draft document reports on progress with each of the actions in the action plan but there is no section that presents recommendation or future plans. It has separately been suggested however that a new action plan is also being developed which is expected to include a smaller number of actions which will relate to the most significant and long-term issues.

### Making the Connections and Spatial Planning

In July 2006, the Beecham review into public services in Wales published their report *Beyond Boundaries: Citizen-Centred Local Services for Wales* which pointed to the need for more citizen engagement, better delivery of services and stronger leadership and joint working. The Welsh Assembly Government responded to the review with the *Making the Connections* programme and in particular the action planning document *Delivering Beyond Boundaries: Transforming Public Services in Wales* which sets out a five year plan for taking forward the transformation of public services with four main principles: putting citizens first, better public engagement, more co-ordinated working between service providers, and value for money.

Spatial planning is about what will happen where and the interaction of different policies and practice across a region. *People, Places, Futures - The Wales Spatial Plan*, published in 2004, is a 20 year plan for the sustainable development of Wales with five guiding, cross-cutting themes: building sustainable communities, promoting a sustainable economy, valuing our environment, achieving sustainable accessibility and respecting distinctiveness. It has been developed around six regions including *Swansea Bay – Waterfront and Western Valleys* which takes in an area from Carmarthenshire to Bridgend. An update is to be published in 2008 following a long consultation period. The draft update reflects developments in important areas such as climate change and affordable housing.

## **Convergence Funding and Sub-Regional Collaboration**

Convergence Funding is the successor to the Objective 1 programme and will provide £1.27bn to the West Wales & the Valleys area in 2007-2013. The programme's emphasis will be on activities that promote sustainable jobs and growth through the European Regional Development Fund (the knowledge economy, regeneration, sites and premises, community development, ICT support, business finance etc.) and the European Social Fund (employment skills, economic inactivity, capacity in public administration). Application mechanisms and documentation is still being finalised but expressions of interest and projects proposals can be put forward via an openly accessible website. As it is intended that much fewer, larger projects will be supported this time round, it is expected that most will have a regional or national focus.

The environmental partnerships within Swansea, Carmarthenshire, Neath Port Talbot, Bridgend and Ceredigion have initiated meetings to share good practice and consider potential collaboration on joint funding bids at a sub-regional level (loosely based around the Swansea Bay Spatial Plan region). Though the benefits of sharing good practice seem clear, it is as yet uncertain whether the inherent differences between the structures and aims of the different partnerships can be overcome to enable a successful joint project to be undertaken.

## **Rural Development Plans and Valleys Regional Park Initiative**

The Rural Development Plan for Wales will draw down £1.3billion of European funding over the next five years to promote the economic regeneration of rural areas. The aim is to assist communities and help boost their local economy by supporting local businesses, improving basic services, village enhancement schemes, improving skills through training, and improving public and community transport.

The Swansea Rural Development Partnership was established in order to prepare and submit a business plan to the Welsh Assembly. The initial focus is on the promotion of walking and cycling, tourism, and local food and crafts, and the funding will be shared between eight rural areas - Gower, Penclawdd, Pennard, Bishopston, Fairwood, Mawr, Pontarddulais, and Llangyfelach. The Swansea Rural Development Partnership feeds into the Swansea Economic Regeneration Partnership, and through that to the Better Swansea partnership and the Community Plan, but it would also be appropriate to forge close ties with Swansea Environmental Forum and the environment strategy. A Rural Swansea Local Action Group has also been set up in order to facilitate a new approach to rural development and deliver partnership activities.

Another notable initiative that seeks to support rural development in Swansea is the *Valleys Regional Park* initiative which is a green space and recreation regeneration concept. Though this was initially based around the valleys east of Swansea, the remit was widened in the middle of 2007 to include the northern part of the City and County of Swansea and also parts of Carmarthenshire. A draft framework and master plan was produced in July 2007 with a project outline and action plan. There are clear links between the Swansea Environment Strategy and the proposals in this action plan e.g. litter and fly tipping initiatives, improving sustainable transport, extending outdoor education opportunities for local schools, etc. It is crucial that SEF is involved with the development and implementation of the proposals and tries to accommodate the proposals in its future strategy action plans. The initiative co-ordinator has been invited to give a presentation to the SEF Executive.

## DEVELOPMENTS BY THEME

### Natural Environment and Biodiversity

This theme is primarily the responsibility of the Swansea Biodiversity Partnership and strongly reflects the *Swansea Biodiversity Action Plan*. Notable developments in the past year include the completed mapping of all Priority Habitats and green spaces across the county, the start of a major Cyd Coed woodland project and the setting-up of four SBP subgroups that will focus on wetlands, woodlands, grasslands & heathlands, and coastal & marine habitats.

Progress has undoubtedly been affected by the changes and loss of staff within the CCS Nature Conservation Team. Further work is still needed on geological, archaeological and landscape mapping, updating management plans for LNRs, developing a funding plan for the natural environment, and the adoption of proposed SINCs. Though some species survey work continues to be undertaken by various organisations, the mechanism for sharing data through SEWBREC (South East Wales Biodiversity Records Centre) still needs to become fully established and utilised. The developers design guide, due to be published in January 2008, goes some way towards providing ecological guidance for developers. It has been suggested that a local demonstration of good ecologically-friendly design would be useful. The *Natural Environment and Rural Communities (NERC) Act* came into being in 2006 and guidance on the “biodiversity duty” under Section 40 of the Act was published in May 2007. This duty affects all public bodies including local authorities, emergency services, health bodies, museums, etc. which must have consideration for biodiversity conservation when doing their work. It is yet to be seen how public bodies will respond and what impact this has on the activities of the SBP and SEF.

Bishops Wood LNR lost its Green Flag status and Mumbles Hill again failed to gain it. Clearly greater staff resources and prioritisation are needed if the aim of Green Flag status for each LNR is to be realised. Management of the Tir Gofal scheme was transferred from CCW to the Welsh Assembly in October 2006 and the current suite of agri-environment schemes is currently being reviewed with a new system expected by 2010.

An interpretation strategy for the Gower AONB is being progressed as part of the implementation of the Gower Management Plan but as yet, further consideration of an application for a European Charter for Sustainable Tourism for the Gower AONB has not been made. The Rights of Way Improvement Plan has been completed and recent condition assessments of RoW in the county show continued improvements.

Of the eight primary indicators identified for this theme in the strategy, only two proved to be currently usable. Of the secondary indicators included in the action plan and the additional indicators suggested during the review, only one has so far proved viable. This is clearly an area that requires much further discussion with the SBP and key partners.

### Built Environment and Energy

The Swansea Buildings Forum has agreed to continue to meet and take an overview of most of this section of the strategy and action plan. In a recent meeting of the group, it was suggested that the two priorities BE2 and BE3 should be brought together i.e. all social housing should be sustainable and involve the efficient use of energy. There should also be greater links between house building, community regeneration and energy efficiency. It was suggested that in BE2, actions relating to BREEAM and Ecohomes should be separated. It may be best to retain the current structure and wording of the priorities under this theme but, through the buildings forum, ensure ever closer collaboration between those involved in different aspects of the built environment and housing.

Major developments in and around the city centre continue and the launch of a new City Centre framework in March 2007 pointed to further developments in the pipeline. There appears to be greater consideration of environmental impacts with developments in SA1 with biomass facilities being considered, BREAM or Ecohomes standards being applied, and greater integration of shops, services and bus routes; and the redevelopment of the riverside corridor has begun.

The developers design guide was delayed due to SDU staffing issues but has now been finalised and will be published in January 2008. The residents design guide is being distributed with all domestic planning application forms. The LAMMAS community project is being developed in Pembrokeshire and a suitable site still needs to be found in Swansea for an exemplar housing development.

There are currently only 5 properties in Swansea with BREEAM certification and no certified Ecohomes, though with greater support, both nationally and locally, it looks like these figures will increase significantly in the future. The UK government has set a target of 2016 for all new housing to be carbon neutral and WAG has suggested a target of 2011. In December 2006, the Code for Sustainable Homes was launched and became operational from April 2007 replacing the Ecohomes scheme in England. This code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home and sets minimum standards for energy and water use at each level. Ecohomes remains in Wales but WAG may decide to adopt the new code. Since September 2007, all RSLs have to meet Ecohomes (excellent) in their new developments.

A new programme has been adopted for measuring SAP rating and this has provided a new Swansea local authority SAP rating of 79 and an Swansea owner occupier sector SAP rating of 61. Energy Performance Certificates are now part of the Home Information Pack for properties of 3 bedrooms or more. The European Energy Performance of Buildings Directive will drive the development of an Energy Performance Certification Scheme for commercial properties. In 2006/7 there was a reduction in the owner occupier tenure installing loft and cavity wall insulation under the 'Able to Pay' discounts, mainly because the EEC discount for this sector have been reduced. It is hoped that with new EEC 3 funding due to start next April 08, the 'Able to Pay' discounts will improve.

A draft Swansea Energy Action Plan, which will set out strategic objectives and specific actions for reducing our carbon emissions, is due to go out for consultation at the beginning of 2008. The council's target of a 6% reduction for CO<sub>2</sub> emissions in its properties in 2006/7 was reached and a new target for 2007/8 of 7% is expected to be achieved. All regularly-accessed public buildings will from April 2008 have to display an annually-reviewed display energy certificate (DEC), based on modelling anticipated energy use from the design. The government is expected to extend this to all commercial buildings in the future. Also from April 2008, all newly-built commercial properties (including public buildings) will have to have an energy performance certificate (EPC) using an A-G banding system. This will also apply to commercial properties that are sold or leased, from October 2008. However, there are some limits and exceptions e.g. places of worship, temporary buildings and very small buildings. Energy building performance certificate and display performance certificate bandings could be included in the new action plan .

One notable failure in the year was the Solar City Project which folded when Energytec, the co-ordinating organisation, ran into financial difficulties, affecting several installers and an energy information officer based at the Environment Centre. Another significant occurrence was the overwhelming vote against the transfer of CCS housing stock to a new housing mutual. A new Local Housing Strategy was launched in September 2007 but with no alternative plan in place for meeting the WHQS, a new plan of action will have to be developed. There have already been significant amendments to the WHQS to accommodate the new Housing Health and Safety rating. The new UDP, expected to be adopted in 2008, proposes greater requirements for the provision of affordable housing and the housing department is looking at software packages to help calculate affordability levels. It has been suggested that an indicator on affordable housing could be explored.

There has been little progress in the area of protecting and promoting historic buildings and heritage sites; a 'Buildings at Risk' register has not yet been established and an audit of Conservation Area appraisals is still to take place. However, a working group has been established for the City Centre Enhancement Programme which will look at key buildings and buildings of local importance within the city centre. The *Swansea City Centre Heritage Trail* booklet was published in early 2007 and the Open House event in September was larger and more successful than in previous years.

It was possible to access data for most of the identified primary indicators and it should be quite possible to agree a suitable set to help monitor progress across the breadth of this theme.

## Water, Land and Waste Management

This theme can clearly be separated into four subsections: water, flooding, land and waste. Though there is a degree of overlap between some of these, particularly in terms of the organisations responsible for the actions and indicators, I will address each issue separately.

### Water

A key development in the past year is that the three key organisations responsible for water quality, CCS, EAW and Dwr Cymru Welsh Water, have initiated a programme of meetings and are even considering a move towards a more formal partnership that may share resources and agree priorities to address water quality issues in the Swansea Bay area. Some progress has been made on improving river quality and tackling diffuse pollution, which is supported through greater collaboration. The Catchment Abstraction Management Strategy (CAMS) for the Tawe, Loughor and Gower has been published by EAW following a stakeholder consultation process. No specific progress has been made by CCS regarding the monitoring and improvement of private water supplies in the area.

For the first time, Swansea Bay met the guideline standard for bathing water quality at the designated sample point. A new model for monitoring water quality in Swansea Bay is being developed to help direct further improvement schemes.

Two key EU directives are influencing the direction in which water quality improvements are being made: the *Bathing Water Directive* requires the identification of popular bathing areas and monitoring of water quality throughout the bathing season at these places; the *Water Framework Directive* requires all inland and coastal waters to reach new, high standards and ecological targets. UK regulations relating to these directives are expected soon.

The indicators available for water quality seem viable though there may be some changes in wording once the new regulations and standards come in to use. It may then also be difficult to make a comparison between new and old standards.

### Flooding

EAW aims to increase the flood warning service availability to 80% of properties at risk of flooding by 2010 and is currently on the way towards meeting the 2007/8 target of 53%, in the Swansea area. The service will be changing from an "opt in" to an "opt out" service from February 2008 which is expected to markedly increase the participation rate. With the significant and unrelenting building development across Swansea, there is clearly some concern about future development on flood plains in some areas e.g. Swansea Vale. Just one of the two proposed indicators seems suitable.

### Land

Though progress is being made on restoring contaminated land through developments in various parts of Swansea, there is still a need for greater joined-up thinking between different departments or sections in the council and other organisations. The contaminated sites map continues to be developed. The proposed indicators for contaminated land are far from adequate and require further consideration.

### Waste

The trial kitchen waste collection was introduced into the kerbside scheme as planned and it is expected that the green garden waste and kitchen waste collections will be extended throughout Swansea in 2008. There has been an increase in the range of materials collected at amenity sites including plastics, cooking oil and Tetra packs at some sites. The kerbside scheme hit the press in the past year when a resident was fined for persistently putting the wrong materials in green bags. However, this does not seem to have adversely affected participation.

The overall 2006/7 recycling and composting target was exceeded but the specific target for composting was not. It is expected to become increasingly difficult to increase the recycling and composting rates, and meet the next set of targets. The CCS recycling team was reviewed in 2007 and some concern was expressed about how the recycling service could be extended to meet the

ever increasing targets without additional resources from WAG. The SRS funded project in Swansea is due to end in 2008 and partners are discussing how to develop a project that could attract Convergence Funding. A project officer has recently been appointed to develop SCRAP and facilitate the Swansea Waste Forum. EAW has also secured funding for a Pride in Our Communities (PIOC) officer for Swansea.

It has been proposed that the wording for the priority WM6 *'Identify suitable sites and sustainable technologies for dealing with waste'* be amended to *'Identify and maintain suitable sites and sustainable technologies for dealing with waste'* or *'Provide suitable sites and sustainable technologies for dealing with waste'* and that an important action to be included in the next action plan should be *"Minimising the impact of existing and new waste management facilities"* reflecting an aspect of work undertaken by EAW.

Waste legislation is pushing changes in waste management practices and the Landfill Tax is continuing to make recycling a more cost-effective option to landfill. The new waste strategy for England setting a 50% recycling target for 2020 may influence the review of targets in Wales - a WAG minister has proposed a target of 70%. A new waste strategy for Wales is expected in 2008.

There is a lot of data available relating to waste management and a choice of useful indicators from which to choose.

## **Sustainable Transport and Air Quality**

The CCS transport services have won a number of awards in recent years for initiatives such as the Gower Explorer, the park and ride facilities and travel plan work, all of which continue to develop. The infrastructure to support the new Metro system is continuing with the Kingsway and Orchard Street section complete and the West Way phase well underway. WAG has not been supporting transport grant bids from local authorities in recent years and Swansea is one of few that have existing resources to undertake major projects. It is still unclear if and when support for the development of the bus station will be secured. It has been suggested that there needs to be greater integration of transport needs and land use planning and greater integration of modes of transport.

*SWITCH* has used accessibility software to produce regional maps illustrating access to key facilities relating to health, education, retail, leisure and employment by public transport, but further work is required to develop a localised accessibility index that could be used as an indicator for the environment strategy.

There has been no progress on developing SPG for travel plans but this is becoming an expected aspect of major developments in Swansea. Some new cycle routes have been created on the Eastside, in Loughor and in Clydach, and local surveys suggest that cycling is on the increase. There have been some initiatives to promote local procurement but more work is needed in this area, including engaging with businesses and organisations other than the council.

The 2007 Air Quality Progress Report confirmed Hafod still fails to comply with national targets. This may continue for some time and may be worsened by proposed developments around Morfa Road. There have been delays in the development and implementation of Nowcaster and a roadside messaging system. Swansea's air quality data website, re-launched in June 2007, won a UK award. A personal pollution alerting system is ready and available but not yet publicised. The first PM2.5 monitor in the UK was set-up in Swansea in January 2007.

The Climate Change Strategic Framework is likely to impact on both transport policy and air quality. A UK programme related to CAFE (Clean Air for Europe) is imminent and may impact on the actions and indicators in the action plan. A new system for measuring PM10s was introduced from the start of 2007 making comparisons to earlier data difficult.

## Environmental Awareness and Action

Though good progress has been made with the promotion of ESDGC and sustainable practices, the strategic priority of promoting active citizenship has not moved forward.

There continues to be an increase in schools participating in the Eco-Schools programme. Gors Primary became one of the first schools in Wales to attain the new Platinum level. Nearly all schools in Swansea now participate in the local recycling scheme, run by the Environment Centre in partnership with the CCS Recycling Team, and there has been tremendous response to the new resources (water and energy) scheme with almost half the schools in Swansea already participating. The SEEF schools subgroup is now looking at developing a wider sustainability scheme which will incorporate and replace the recycling and water and energy schemes. Over the past eighteen months, SEEF has had a particular focus on outdoor education provision for schools and undertook an audit of existing provision resulting in the publication of a directory on 'Using Sites for Studying the Natural Environment in and Around Swansea'. This was launched at a very successful outdoor education conference for Swansea teachers in March 2007 together with a teachers guide to the Sustainability Trail. The focus has now turned to supporting school grounds development and use.

A number of new courses have been developed over the past year - a Foundation Certificate in Sustainability has been developed through the Community participation Project at DACE; an ESOL course on recycling has been developed through a partnership between CCS lifelong learning, CCS recycling and BEN, and SD training materials related to land-based industries have been prepared and piloted by a PP4SD project in Swansea University.

2007 was a very successful year for Sustainable Swansea, most notably for the *Earth from the Air* exhibition and associated programme of events which engaged an estimated 100,000 people. The *Breathing Cities Springwatch* event – a partnership between BBC, CCS and SEEF attracted about 17,000. The *sustainableswansea* website is being totally updated to make the online Green Map more interactive. Plaques have been distributed to Green Map sites and work has begun in partnership with Swansea Faiths Forum to develop a Swansea Faiths Green Map. A two month programme involving approx. 40 events was also organised by Sustainable Swansea, with the Environment Centre, in Jan/Feb 2007 many based at Sustainable Trail projects. There was also a successful summer youth project, Trailblazers, which involved young people in activities at Trail sites. It was decided that the SD awards would run on a biannual rather than annual basis and plans are underway for the 2008 awards.

The three-year Green Dragon programme for SMEs officially finished in March 2007 but continuation funding was made available to March 2008. 23 new awards were issued in Swansea during 2006/7 and by the end of March 2007, 63 Green Dragon Awards at level 2 or above were in place (some earlier awards having lapsed).

SEF secured some core funding in 2007 from the EAW to help with administration and capacity building, and a grant through CCW (via CCS) has also supported further work on the environment strategy, including this review. It has been agreed that from 2008/9, CCW grant support for strategy work will be provided directly to SEF rather than via CCS. The Environment Centre has continued to develop and improve its underlying financial security with additional projects and staff – though it has all be easy going as some of the partnership projects it is involved in have suffered from funding and cashflow complications.

No progress has been made in providing SD training for councillors or council staff. Also, a review of volunteering and employment of an environmental youth worker are actions that have not progressed in 2007.

Indicators for the schools-sector are suitable but further work needs to be done to develop indicators for other sectors in this section.

## REVISED INDICATOR SET

Each of the indicators that had been included in the environment strategy and subsequently identified either during the development of the action plan or during the review, were checked for viability – which organisations, if any, were collecting data to support the indicator; how easily, if at all, could data be obtained; when, how and by whom was data being collected; is data available for previous years; how useful would the data and indicator be in demonstrating positive or negative change.

The following lists show which indicators seem viable, which require further consideration by relevant partners and which should perhaps be rejected at this time. Appendix 3 provides more detailed notes on the findings (though in the time available, it was not possible to check the viability of a few indicators and resolve all queries or obtain past and current data for all potentially viable indicators).

### Natural Environment and Biodiversity

#### Proposed for Revised Indicator Set

- Number of Green Flags and Green Pennants [amended]
- Area of land managed under agri-environment schemes
- Length of easy-to-use footpaths and other rights of way

#### Needing Further Consideration

- Percentage of SSSI features in or recovering towards favourable condition
- Percentage loss of important habitats
- Total area of LNRs, AONB and SINCs
- Percentage area of green space managed for biodiversity
- Number of species surveys undertaken
- Number of wildlife sites with information or publicity leaflets
- Salmon numbers in local rivers

#### Proposed for Rejection

- Percentage of habitats mapped
- Number of events in or about the natural environment
- Number of environmental volunteers

### Built Environment and Energy Use

#### Proposed for Revised Indicator Set

- Percentage cleanliness at high standard
- Percentage of public satisfaction with their local area
- SAP rating for housing in Swansea [amended]
- Number of developments meeting Ecohomes or BREEAM standards [amended]
- Proportion of social housing meeting WHQS
- Proportion of private housing left vacant (amended)
- Number of buildings taken off / remaining on 'Buildings at Risk' register
- Number of venues and visitors in 'Open House' events

#### Needing Further Consideration

- Percentage of brownfield sites / disused buildings remaining
- Number of homes brought back into use / number of problem buildings demolished or renovated
- Average energy rating for public buildings
- CO<sub>2</sub> emissions in CCS corporate buildings
- Percentage of new housing that is affordable
- Number of private housing properties with category 1 housing H&S rating
- Number of historic buildings and heritage sites interpreted

### Proposed for Rejection

- Number of FNPs issued for dog fouling and littering
- Number / proportion of zero carbon homes
- Number of litter pick-up requests given
- Percent of total new build that meets BREEAM
- Number of Conservation Area appraisals completed

## **Water, Land and Waste Management**

### Proposed for Revised Indicator Set

- Percentage of watercourses achieving good status
- Percentage of coastal waters at guideline standard for bathing water
- Number of properties at high risk of flooding
- Percentage of municipal waste recycled or composted
- Number of Blue Flags / Green Coast Awards
- Percentage trade waste recycled
- Number of fly tipping incidents [amended]
- Percentage of waste at civic amenity sites that is recycled

### Needing Further Consideration

- Area of contaminated land remaining in Swansea
- Average household waste arising
- Number of sites of potential concern in land contamination terms
- Municipal waste arisings

### Proposed for Rejection

- Number of residents and businesses on flood warning system
- Number of sites with sufficient contamination information
- Number of notices issues for fly tipping
- Microbiological tests for river / bathing waters
- Percentage of total recycling rate contributed from civic amenity sites

## **Sustainable Transport and Air Quality**

### Proposed for Revised Indicator Set

- Modal split on key routes into Swansea
- Number using park and ride facilities
- Number of days when air pollution is moderate or higher
- Number of days when PM10s and PM2.5s exceed limits [amended]
- Number of cyclists using Celtic Trail
- Number of Safe Routes to School schemes

### Needing Further Consideration

- Number of travel plans produced for public buildings and schools
- Accessibility index for Swansea

### Proposed for Rejection

- Number of park and ride facilities
- Number of matched trips on swwitch2share

## **Environmental Awareness and Action**

### Proposed for Revised Indicator Set

- Percentage of schools with Eco-School Green Flag [amended]
- Percentage of schools at other Eco-School levels [amended]
- Percentage of schools in local award schemes [amended]
- Number of supported schools visits to key sites and facilities
- Number of ESDGC training sessions for school staff [amended]
- Number of school staff attending ESDGC training sessions [amended]
- Number of hits on Sustainable Swansea and EC websites

### Needing Further Consideration

- Number of SD course attendees
- Number of participants in training workshops
- Number of Green Dragon Awards (level 2+) or other EMS [amended]

### Proposed for Rejection

- Number attending environmental events
- Number of volunteer hours in environmental projects
- Number of SD courses in directory
- Number of schools with SD policy

## FOOTPRINTING AND OTHER PERFORMANCE MEASURES

### Ecological Footprinting

Ecological footprinting is a technique for measuring the environmental impact of a population - whether an individual, a household, an organisation, a region, a country or the whole human race. It is a form of resource accounting, not dissimilar to life cycle analysis (LCA), where the consumption of food, energy, building materials, water and other resources are converted into a measure of land area, expressed in global hectares (gha). As such, it can illustrate the human demand for resources against nature's available supply and ability to cope (biocapacity).

The approach, purpose, range of data used and application of the findings does vary, for example, most ecological footprint schemes focus on the consumption of natural resources and the disposal of by-products created by that consumption but an alternative approach is to measure a community's or nation's production as well as or rather than its consumption. Footprinting can also, like LCA, be used to measure the impact of a product rather than a population, though it is generally used to calculate how much land and sea is required for everything that an individual or population consumes in a year. The two main methods employed to calculate this are the *compound approach*, which takes total international data to derive regional or national footprints and the *component approach*, which builds up a picture from local consumption data. Methodologies have been refined and adapted over the past decade or so but in all methods there remains a time lag between being able to accessing data and present a footprint e.g. a footprint announced in 2008 may well be based on 2003 data.

Footprinting can be beneficial in a number of ways - a) enabling a comparison to be made of the environmental impact of different communities, b) monitoring the change in environmental impact of a particular community over time, c) identifying the lifestyle practices that place greatest pressure on the environment, d) testing the effect that changes to specific activities may have on our impact, and e) raising awareness of the impacts of behaviour on the environment in a relatively simple way.

A footprint is often also compared to the earthshare - the measure of what is available if the total bio-productive land and sea on the planet is divided by the total human population. In most footprinting programmes, a percentage of productive land and sea (usually about 12%) is set aside for other species before the earthshare is calculated. Data is often then presented in terms of how many planet Earths would be required to provide the resources needed if everyone on the planet had a footprint similar to the population being studied. For example, in 2004, WWF calculated the earthshare as 1.89 gha per person so an ecological footprint of 3.78 gha could be presented as being equivalent to two planet Earths. In actual fact, many experts in this field believe that humanity's footprint has been exceeding the planet's biocapacity since the mid-eighties (known as overshoot), and is currently estimated at 2.2 gha. The total impact of the human footprint can be summarised in the formula:  $impact = population \times level\ of\ consumption$ . As resources become scarcer and human population grows, the earthshare reduces and, unless action is taken, the overshoot will increase.

The concept of ecological footprinting was first developed in the early 1990s in Canada by Mathis Wackernagel and William Rees. The former went on to work with Redefining Progress, which has become the leading American think tank working on sustainability and economics and using footprinting and other techniques for measuring quality of life e.g. Redefining Progress was responsible for developing the GPI (Genuine Progress Indicator) as an alternative to GDP. Another leading light in this field is the Stockholm Environment Institute set up in Sweden in 1989 with research centres in five countries including the UK (York and Oxford). SEI is one of the main research bodies currently undertaking footprinting in the UK as is the Oxford-based *Best Foot Forward* (BFF), founded in 1997 by Nicky Chambers and Craig Simmons who published the influential book *Sharing Nature's Interest* in 2000 with Mathis Wackernagel. The *Global Footprint Network* (GFN), set-up in 2003, has established a set of international standards and guidelines for footprinting. GFN manages the *National Footprint Accounts* (NFA) which provides the biocapacity and ecological footprint of 150 countries. Several different organisations now offer on-line footprinting calculators of varying levels of complexity and for different contexts, including GFN, BFF, WWF and the UN.

## Carbon Footprints and Emissions Accounts

In simple terms, a carbon footprint is a measure of the impact human activities have on the environment in terms of the amount of carbon dioxide (and sometimes other greenhouse gases) produced and is measured in units of carbon dioxide (tonnes or kilograms). As such, it is not really a footprint as it doesn't measure in terms of land area. The ecological footprint includes a measure of the amount of land and sea required to absorb carbon emissions, as well as the land area needed to support consumption and waste disposal so carbon footprinting can be regarded as a subset of ecological footprinting converted to units of mass.

As with ecological footprints, the carbon footprint is usually related only to consumption rather than production e.g. just the CO<sub>2</sub> emissions that Wales' residents are responsible for, rather than all those coming from within Wales' boundaries. In other words, a Wales carbon footprint counts the direct carbon emissions for energy consumption such as heating, cooking, lighting and travel plus the indirect emissions from transportation and production of products consumed in Wales but does not count the carbon produced by others outside Wales using products exported from Wales e.g. electricity from Welsh power stations. This is however included in what is termed the carbon emissions account which includes the actual direct emissions of CO<sub>2</sub> within a country's boundaries - production from direct consumption and for export.

The increased interest in carbon footprints and carbon emissions accounts reflects the increased concern about climate change and in particular the significant impact of carbon use in modern developed lifestyles. However, some concern has been expressed that too great a focus on reducing carbon emissions will result in other issues related to consumption of natural resources and land-use being ignored e.g. with the development of biofuels or energy to waste schemes.

## Footprinting in the UK

In 2004, DEFRA commissioned a comprehensive study of ecological footprinting in the UK: *Sustainable Consumption and Production - Development of an Evidence Base Study of Ecological Footprinting* (2005), which reviewed the seventeen UK ecological footprint studies that had been completed by the end of November 2004. These studies provided ecological footprints for different cities or regions across the UK and were undertaken by various organisations or consultants using different methods e.g. Best Foot Forward using their Stepwise programme or SEI using Input-Output Analysis. The report also includes a critique of footprinting, including the assumptions made in methodologies, interpretation and use of the results. It also considers the links of SD indicators.

In 2007, a follow-up report was produced to pick-up more recent developments, including the extensive work in Wales within the WWF-led *Reducing Wales' Ecological Footprint* project and the development of the *Resources and Energy Analysis Programme (REAP)* and the *Ecological Budget UK* project (see below). This second report, entitled *A Review of Recent Developments in, and the Practical Use of, Ecological Footprinting Methodologies* (2007), included the results of a consultation with local authorities on their use of footprinting but also clearly has a particular focus on identifying an indicator for 'sustainable consumption and production' (SCP). The report concludes with the recommendation that "the UK Government does not adopt the ecological footprint as a sustainability indicator at this stage" but instead looks to improve the SD and SCP indicator sets.

The *Ecological Budget UK* project is a partnership between SEI, WWF and the Centre for Urban and Regional Economy (CURE) and seeks to provide comparable ecological footprint data at the UK, devolved administration and regional level by applying the input-output analysis approach to the national UK ecological footprint calculated by the *National Footprint Accounts* – so bringing together some of the benefits of both the *compound approach* and *component approach*. The project created *REAP*, a new sophisticated footprint analysis and integrated resource modelling tool developed to help local authorities make decisions, based on reducing their footprint. Footprinting data on every county in the UK is now available from SEI through the *Ecological Budget UK* project. The project's 2006 report *Counting Consumption* put the average ecological footprint in the UK, as 5.4 gha and that of Wales as 5.2 gha (the lowest footprint of all the devolved administrations and English regions).

## Footprinting in Wales

The first ecological footprint study of Wales was undertaken by Best Foot Forward in partnership with WWF Cymru and WAG and published in 2002 in the report *The Footprint of Wales*. It reported the total ecological footprint of Wales to be 15,468,887 gha or 5.25 gha per person (based on 2000 data) and compared this to a UK footprint of 6.00 gha per person. The report suggested that the biggest contributors were products and waste (41%), food consumption (34%) and transport (11%). It found that in a year Wales generated 15 million tonnes of CO<sub>2</sub> in total or 5 tonnes per person. In 2002, the Welsh Assembly Government also became the first (and possibly is still the only) government in the world to adopt the ecological footprint as a headline indicator of sustainable resource use.

In 2005, a second footprint study was published in Wales, which was the first in the UK to measure the footprint of a country alongside that of two local authorities - Cardiff and Gwynedd. It was a two-year project led by WWF and involving not only WAG, the two local authorities and their local universities (Cardiff and Bangor), but the support of over a dozen organisations in Wales. The SEI in York gathered and analysed the data in detail for each area and whilst the Wales footprint was calculated in a different way to the BFF study, it actually had the same value – 5.25 gha per person.

WAG are currently organising a series of *REAP* training workshops across Wales to encourage local authorities to make greater use of the tool. WAG are also currently reviewing their use of footprinting and looking at ways to simplify the way that the national footprinting is calculated. It is expected that they will only calculate the Wales footprint every 4-5 years, perhaps associated with the terms of office of the devolved government.

The latest *REAP* figures suggest a footprint of 5.11 gha and carbon footprint of 11.07 tonnes for Swansea citizens (compared to 5.18 gha / 11.31 tonnes for Carmarthenshire and 4.89 gha / 10.56 tonnes for Neath Port Talbot). There is currently a 5-6 year delay between the data that SEI use in this system and when they are able to produce a footprint calculation e.g. the latest figures just released at the end of 2007 are based on data from 2001.

## Use of Sustainable Development Indicators

The assessment of human impact on the environment is also measured and monitored through the use of quality of life or sustainable development indicator sets. The most notable set of indicators developed and used in the UK were first introduced in the *Quality of Life Counts* publication in 1999 which followed the UK government's sustainable development strategy – *A Better Quality of Life*. A set of 150 indicators were initially identified across a range of environmental, economic, health and social issues with 15 chosen as 'headline' indicators.

These headline indicators were presented in DEFRA's *Sustainable Development Indicators in Your Pocket 2004* using a traffic light assessment system to compare with data from 1970, 1990 and 1999 (or the nearest to it). But following the UK government's 2005 sustainable development strategy – *Securing the Future* – a set of 68 indicators (made up from 127 measures) were adopted and used in the equivalent 'in your pocket' publications for 2005, 2006 and 2007. However, a collated summary is also given in these publications of the 20 UK framework indicators agreed with the devolved nations in *One Future-Different Paths*. These are as follows (with those reliant on environmental data marked in bold):

### **Greenhouse gas emissions**

Resource use

### **Waste**

### **Bird populations**

### **Fish stocks**

### **Ecological impacts of air pollution**

### **River quality**

Economic growth

Active community participation

Crime

Employment

Workless households

Childhood poverty

Pensioner poverty

Education

Health inequality

### **Mobility**

Social justice

### **Environmental equality**

Wellbeing

**Ecological Footprint** (only in Wales)

In Wales, following wide consultation, a set of 12 'headline' indicators was chosen in 2001, nine of which were in the UK list. The three additions to the Welsh list related to the Welsh language, renewable energy (a core but not headline indicator in UK list) and the introduction of the Ecological Footprint. A statistical bulletin based on the 12 Welsh indicators has been published annually since 2001 though the number of indicators has more recently changed. In 2005, Wales adopted the UK Framework indicators and so extended those published in the 2006 bulletin to 21 (including ecological footprinting, which Wales alone had committed to using). Then in 2006, after further consultation, a wider set of 28 indicators were agreed and published in the 2007 bulletin.

Carmarthenshire have been using a set of 21 quality of life or SD indicators since 2001 when they were introduced as part of their Agenda 21. These were more recently adopted as the community planning indicators and reorganised to align with the five community planning themes and, though it is felt that they have not been fully taken on by the five strategic partnerships, the indicators are now used in annual reports of the community planning partnership. The traffic light system is again employed and the indicators have remained pretty much the same with only two amendments and one addition. It had been hoped that WAG would provide some guidance on indicators that the county would follow but as yet none has materialised. A full review of the indicators is now expected to take place in 2008, as part of the work of the LSB, and it is anticipated that this will result in a very different set.

### **Sustainability Indicators in Swansea**

In 2004, an attempt was made by Swansea' Community Planning Team to introduce a set of indicators that would link to the Swansea Community Plan and 'illustrate progress towards this shared vision'. *Vital Signs* pulled together 27 statistics related to the five community plan themes. Though it used existing data, the processes innovatively involved mapping it on recognisable community areas across Swansea. It was only a one-year funded project and though it had been hoped at the time that it would be mainstreamed within the Council's research team, it was not continued.

In 2006, work did begin on identifying a set of indicators for the community strategy drawn from the key theme strategies but this was set aside as ideas around the LSB and Big List were developed. It is still the intention to develop this indicator set which would be different to and separate from the outcome-focussed Big List. The officer responsible for progressing this matter stated that *"We still need to give the whole issue of shared indicators proper thought for the community plan 2008 although this would be different to the big list (this deals with issues as exceptions rather than with an overview) and I can't imagine it doing anything other than bringing together indicators from our main strategies. One idea would be to present a 'balanced scorecard' of environmental, economic, social (health) and CYP indicators."*

### **Conclusions**

It would not seem appropriate for SEF to use ecological footprinting as a performance measure for the environment strategy as there are considerable associated costs and a significant delay in the availability of data. Instead, it may be beneficial to encourage the BSP and CCS to adopt the ecological footprint as an overarching indicator for the community plan and to use this via the REACT system to help in the prioritising of actions as well as monitoring of progress. SEF should also promote and support the development of a wider set of indicators, perhaps reflecting the UK framework indicators and with four or five environmental indicators, which can be used for monitoring the community plan and sustainability in Swansea.

## **APPENDIX 1: STRATEGY REVIEW QUESTIONS**

The following set of questions was used as a basis for discussion with most of those interviewed as part of the strategy review, particularly key partners and major contributors to the action plan:

### **1. Achieving the specific milestones and targets set in the Action Plan 2006-8**

- a. What progress has been made on the agreed milestones / targets / actions?
- b. What has affected progress on achieving these – enabled, increased or delayed progress?
- c. What would help to improve progress?
- d. Do you think that the targets set were too ambitious, too conservative or about right?

### **2. Measuring progress – use of indicators**

- a. How often, if at all, is data being measured / collected for the agreed indicators?
- b. Is baseline data available for the end of 2006?
- c. What is the latest figure(s)?
- d. Are there projected figures / targets for the end of 2007 and 2008?
- e. Are there any alternative or additional indicators that should be considered?
- f. Can you suggest alternative approaches to monitoring, evaluating and reporting progress?

### **3. Extending actions and widening partnerships**

- a. Can you suggest additional actions / milestones that could help towards achieving the agreed priorities (not necessarily ones that you can deliver)?
- b. Can you suggest additional partners / stakeholders that could contribute to the Action Plan?

### **4. The strategy and wider issues**

- a. What impact, if any, do you think the Strategy and Action Plan have had?
- b. What new circumstances, issues, policies, etc. need to be taken into account when developing the next edition of the Action Plan?
- c. Do you think the priorities identified in the Strategy need to be amended or added to?
- d. What do you think is the most important priority overall?
- e. Do you have any other comments or suggestions that may help in developing the next edition of the Action Plan or progressing the priorities in the Strategy?

## APPENDIX 2: DETAILED PROGRESS ON ACTIONS

### THE NATURAL ENVIRONMENT AND BIODIVERSITY

#### **NE1:** Establish and maintain data on the natural environment and monitor change

- a) i) All Priority Habitats were mapped by the summer 2007. Some species survey work has also been undertaken by CCS and other SBP partners including Himalayan balsam in the AONB (conducted by CCS and volunteers), rhododendron in all leisure parks (DEFRA), annual bat surveys at Dunvant Brickworks and on Mumbles Hill (CCS and Bat Group) and a barn owl survey with nest box installation. Surveys have or are also commencing for dormice and tree sparrows.
- a) ii) A habitats map was produced by summer 2007.
- b) i) A start has been made on collecting geological sites data.
- b) ii) The collection of data on archaeological sites is not completed and unlikely to be by March 2008.
- b) iii) Landscape mapping is about to start and still expected to be completed by March 2008.
- c) SEWBREC is still becoming established and there have been staffing issues and some concerns about accessing information from them. CCS and CCW have started to send information to in but other SBP members need to be persuaded to start doing so, so that their survey results can be added to the audit.
- d) i) All green spaces have been mapped and categorised but greater detail is required on use, condition, etc. Further progress is expected this year using the CCW Green Toolkit.
- d) ii) A plan cannot really be prepared until further progress is made on the above work. It may be more appropriate to produce a 'Green Map'-style leaflet on accessible green spaces and a strategy for improving access and use of green spaces, rather than a plan.
- e) i) Work on the Japanese Knotweed survey has continued but progress has been restricted because of staff constraints and higher priorities.
- e) ii) Work on the website has begun and it looks likely that it will be in place by the end of 2007/8.

#### **NE2:** Protect and safeguard our valued natural assets and halt loss of biodiversity

- a) i) There is a need for further consideration of how to increase the number of LNRs. The extension of the Gower AONB has not been prioritised and CCW are still considering the appropriate method for reviewing the boundaries of AONBs in Wales.
- a) ii) The adoption of SINC as SPG needs further consideration.
- b) CCWs SSSI Rapid Review Monitoring exercise of 2003 gave 24 out of the 49 features on Swansea's 23 SSSI as unfavourable. This SSSI assessment is only undertaken by CCW on a 6 year cycle so the usefulness of the related indicator for two-yearly reports may be questionable. There may also be a change to the way this is assessed, moving from condition of SSSI features to whether there is appropriate conservation management on site.
- c) The developers design guide (BE2 a i) has a non-technical biodiversity section which highlights the need to include biodiversity in developments. A separate more technical ecological guide may be required or developers could be redirected to the Town and Country Planning Association's *Biodiversity by Design*. GLAMBAG have produced planners guidance that could be applied locally and customised to meet local needs. The NERC duty is a driver for progress to be made on this. One issue is the lack of resources to manage a local system. Also, it was noted during the development of the developers design guide, that there is a lack of best practice case studies in Wales or the UK which offers the opportunity for providing one in Swansea.
- d) The Gower AONB Management Plan is being implemented and a monitoring report, detailing progress on specific actions and prepared for the Gower Countryside Forum, is available.

#### **NE3:** Maintain and enhance the quality and diversity of the natural environment

- a) Some work has been done on updating management plans for the Mumbles LNR, Bishops Wood LNR and also for Clyne Country Park. Mini plans (brief outlines) have been prepared for the 18 sites in the Cyd Coed scheme.
- b) SBP has now been reorganised into four subgroups covering wetlands, woodlands, grasslands & heathlands, and coastal & marine habitats. Some groups have already been meeting on a frequent basis but others are still becoming established. Some are also looking to extend their membership.

- c) i) Bishops Wood LNR lost its Green Flag status and Mumbles Hill again failed to gain it. Loss of certain staff in the previous year may have had an effect on this.
- c) ii) The Green Pennant for Rosehill Quarry was maintained once again.
- c) iii) More effort will need to be applied if Green Flag status for LNRs is to be achieved and also careful consideration of the feedback on previous failed applications.
- d) Management of the Tir Gofal scheme was transferred from CCW to the Welsh Assembly in October 2006. The suite of agri-environment schemes is currently being reviewed to ensure that they take into account present needs and priorities such as the effects of climate change. Consultation process on proposals will take place in early 2008 and it is intended that a revamped scheme will be in place by 2010. It may prove useful to have area of land managed under Tir Cynnal, Tir Gofal and the Organic Farming Scheme as an indicator.
- e) Staffing constraints have made progress on developing a funding plan for Swansea's natural environment impossible in 2007.

#### **NE4: Promote awareness, access and enjoyment of the natural environment**

- a), b) See under EA1b and EA3b
- c) i) An interpretation strategy for the Gower AONB is being progressed by the CCS AONB team in partnership with the Gower Countryside Forum's Interpretation sub-group.
- c) ii) The SBP coastal & marine habitats subgroup is working on a leaflet which should be published early in 2008.
- d) An application for a European Charter for Sustainable Tourism has not been progressed. This action is not due to be achieved until 2009 and will need some preparation, training and awareness-raising beforehand, which is being considered.
- e) i) The RoW Improvement Plan has been completed and is about to be published.
- e) ii) An assessment of condition of RoW is made in May and November of each year. The total percentage in the 'easy-to-use' category at end of 2006/7 was 47% and the assessment in May 2007 shows that positive progress is continuing, perhaps due to the application of appropriate resources.

## **THE BUILT ENVIRONMENT AND ENERGY**

### **BE1: Improve the quality and attractiveness of the city centre, other settlements, neighbourhoods and streetscapes**

- a) i) The City Centre framework was launched in March 2007 and both a management team and board established. The first major scheme within the framework will be the redevelopment of the St. David's Centre and Quadrant area which has already been marketed. The upgrading of the public realm in the pedestrianised area around Oxford Street is underway and work has begun on the redevelopment of the former David Evans store which is due to be completed by the end of 2008.
- a) ii) The UDP is currently with the national inspector but is still expected to be formally adopted in Spring 2008. Work will then begin on the Local Development Plan which will eventually take its place. The LDP development is likely to take two or three years.
- a) iii) A generic design guide for residential development was prepared by the Welsh Assembly and the CCS planning department is looking to develop and adapt this for local use. A draft guide for small developments is expected to go out for consultation early 2008 and it is anticipated that a guide for larger developments will be in place by the end of 2008. Development of a design guide for the Gower AONB is still at early stage with the brief is still being prepared.
- a) iv) The Lord Mayor's Architectural Awards ran in Nov 2006 and will again in Dec 2007. There have been noticeably less entries this year but this may be mainly due to the development cycle. It has been proposed that the awards will become biannual.
- b) i) Redevelopment of the SA1 site is continuing with a greater extent of environmental consideration: biomass facilities are being considered for both individual residential developments and wider site use, new developments are expected to meet BREEM or Ecohomes standards and there is a move towards greater integration of shops, services and bus routes. The Ethos project is soon to be completed on the riverside providing a move-on facility for businesses nurtured through Technium I and II. The river frontage walkways will now be improved in the 2008.

- b) ii) Redevelopment of the riverside corridor has begun with housing almost complete on the former Addis site and work about to start on clearance of the Upper Bank site. Plans for the Morfa Road developments have been prepared and CCS is working with individual units to explore redevelopment opportunities. A draft brief is also being prepared for the Hafod Copperworks site.
- c) i) When reviewed, it was unclear what was meant by this action.
- c) ii) A county-wide fixed penalty notice scheme was introduced in June 2007 with two enforcement officers. It is proposed that PCSOs (of which there are 70 across the county) will soon be issuing FPNs too. In addition, an incentive competition for the use of litter bins was introduced.
- c) iii) The new zone street cleaning system has been delayed due to union negotiations but is expected to be introduced in 2008. An additional project that contributes to street and neighbourhood cleanliness has been introduced: NEAT (Neighbourhood Environment Action Team) is a partnership with the Social Services department and involves 4 teams, primarily adults with learning difficulties, working from ward to ward (twice in each year) undertaking clearance jobs identified by the ward councillors. The project involves training leading to the employment of those involved.
- d) A public art piece is soon to be commissioned for the top of Princess Way funded partly through the % for art principle with planning gain from the David Evans site redevelopment, and work is underway on a public arts framework for SA1. There is perhaps still need for a wider strategic plan for public art across the City and County.

**BE2: Promote sustainable buildings and more efficient use of energy**

- a) i) The developers design guide has been finalised and is going for CCS Cabinet approval before publication – expected by the end of 2007. It was delayed due to staffing issues in the SDU.
- a) ii) The residents design guide is being distributed by Planning with planning application forms. The scheme has not been evaluated and such an evaluation may not be cost effective. There has been an increase in renewable but it is not clear if the guide has impacted on this.
- a) iii) The LAMMAS project is being developed in Pembrokeshire where planning policy has been adapted to facilitate the project. The SDU are exploring a couple of proposed sites / projects for an exemplar private housing development in Swansea.
- b) i) For a number of years the average SAP rating for Swansea was slowly moving from 50 to 52, but the programme being used to make the calculation was clearly unable to cope with the amount of data being provided and was thought to be underscoring. After some investigation earlier this year, a new programme was adopted and provided a new local authority SAP rating of 79 (based on a 100% stock size of 13,755 properties) and an owner occupier sector SAP rating of 61 (based on a sample of 4,485 properties).
- b) ii) Currently there are only 5 properties in Swansea with BREEAM certification (1 school and 4 commercial properties) and there are no certified Ecohomes, though there are a further 12 registrations with BRE of which 3 are for Ecohomes. BREEAM and Ecohomes are being driven in Wales by WAG and the WHQS. All future social housing developments must now meet *very good* Ecohomes standard. Some progress has been made with private developments in areas such as SA1 where BREEAM standards are now becoming a requirement for building developments. There also seems to be an informal expectation on the part of council officers that all new major developments in Swansea will have to meet this standard.
- b) iii) The 6% reduction target for CO<sub>2</sub> emissions from CCS properties (below figures for 2003/4) was reached at the end of 2006/7 and a target of 7% has been set for the end of 2007/8.
- c) i) The energy action plan is due to be complete by the end of 2007 and will go out for consultation at the beginning of 2008. The action plan will set out strategic objectives and specific actions that should be taken but will not include specific figures and targets as it is considered to be difficult currently to set local targets within national guidelines.
- c) ii) SPG for energy has started to be drafted and is being prioritised following the Planning for Climate Change policy statement.
- c) iii) The Solar City Project ran into financial difficulties resulting in Energytec going into liquidation. However, the project involved the establishment and use of several installers and installation companies some of which are continuing to provide a service, despite suffering financial losses from the collapse of Energytec and its Solar City Project. It has not been possible to find out how many solar hot water systems were fitted by Energytec and partners in the scheme.

c) iv) A part-time information officer was employed by the Environment centre as part of the Solar City Project but as this project collapsed, then the officer was only in post for ten months. In this time, however, he prepared materials on energy issues and delivered talks to community groups and schools. He also supported the development of the schools energy award and dealt with approx. 4-6 enquiries per week.

**BE3: Ensure the supply of high-quality, affordable and social housing within mixed, settled and inclusive communities**

a) Council tenants were balloted in March 2007 on the proposed stock transfer and overwhelmingly voted against (73% with over 50% turnout). There was no alternative plan in place so a team has been set-up to develop a strategy for meeting the WHQS. There have been significant amendments to the WHQS to accommodate the new Housing Health and Safety rating.

b) The new UDP, expected to be adopted in 2008, proposes a lowering of the threshold at which planners have to consult the housing department on the inclusion of affordable housing in housing development proposals (from 40 units or 1.5 hectares to 25 units or 1 hectare). The current policy is to seek approx. average of 30% affordable housing in developments (or 221 affordable homes per year). This is outlined in the new Local Housing Strategy launched in September 2007. The housing department are also looking at software packages to help determine what might be considered affordable. An indicator could be developed around affordable housing.

c) During 2006/7, 7 empty properties were brought back into use and 2 were demolished but these figures do not fully reflect the amount of work put in to dealing with empty properties. The level of empty properties in Swansea has been falling in recent years and is consistent with the average figure for Wales. CCS is currently trialling an enforced sales procedure for empty properties and developing a protocol. A scheme is now also in place where owners are offered refurbishment grants on condition that the property is used to house nominated tenants for an agreed period.

d) i) The *HMSO Licensing Scheme* was launched in June 2006 and a council policy on this was adopted in September 2006.

d) ii) A report on selective licensing for single household properties has been prepared and will go to council early 2008.

d) iii) The *Housing Health and Safety Rating Scheme* was implemented in June 2006. Baseline data will be established in 2008 as part of the *Living in Wales Survey* being carried out by WAG. This may provide a useful indicator.

e) i) Work on the Hafod Renewal programme is continuing and must be completed by 2011. 443 homes have been refurbished so far with a target of 101 for 2007/8, which will leave approx. 400 further homes to work on.

e) ii) Early next year, an investigation will be undertaken on how best to decide which areas will be targeted for renewal after 2011. This may include further research as the last Housing Condition Survey was undertaken many years ago and new housing condition schemes have been introduced. A review on renewal areas across Wales is currently being carried out for WAG.

e) iii) Renovation and repair grants have been replaced by property appreciation loans.

e) iv) Care and Repair schemes are ongoing with no specific progress reported.

**BE4: Protect and promote historic buildings and heritage sites**

a) i) The establishment of a 'Buildings at Risk' register has been delayed but with the help of a grant from Cadw, it is expected that the register will be in place by the end of March 2008.

a) ii) A design guide for development within the Gower AONB is still at early stage with the brief is still being prepared.

a) iii) It is expected that an audit of the current status of Conservation Area appraisals will take place soon followed by the prioritisation of what needs to be done first.

a) iv) A working group has been established for the City Centre Enhancement Programme which will involve looking at key buildings and buildings of local importance within the city centre.

b) i) The Swansea city Centre Heritage Trail was published early in 2007 with a focus on Wind Street and the High Street. It has been well received and is available on the CCS and BBC websites, as well as in hard copy format.

b) ii) Interpretation and access within the Tawe Riverside Corridor continue to be researched but a single strategic document has not yet been developed.

- b) iii) No progress has been made on the development of archaeological trail leaflets.
- b) iv) The 2007 Open House event was larger and more successful than the previous three and funding is being sought to make next year's even bigger again with a permanent exhibition of local architecture too.

## **WATER, LAND AND WASTE MANAGEMENT**

### **WM1: Protect and improve river and ground water**

- a) EAW suggest that some progress has been made with the quality of river water but figures may not show this as there has been a change in descriptive categories.
- b) i) A number of meetings have now taken place between key partners (EAW / CCS / DCWW) with responsibility for improving river water quality and bathing water quality in the Swansea Bay area. Work has begun in identifying key areas to start joint work. It is proposed that the partnership will be formalised with terms of reference, a partnership name and joint financing of projects.
- b) ii) Some progress has been made on addressing diffuse pollution issues primarily with Clyne.
- c) Some progress has been made targeting sites in Limeslade and Hafod Industrial Estate.
- d) There were no specific actions on water efficiency but EAW continue to promote this and SEEF have developed an award scheme for schools which includes water efficiency.
- e) Advice is given on SUDS (sustainable drainage systems) by EAW as part of the planning process.
- f) i), ii) The CAMS was published in September 2007 following a consultation process involving a stakeholder group, an awareness raising leaflet and consultation meetings.

### **WM2: Maintain and improve bathing and drinking water quality**

- a) A new model for Swansea Bay is being developed by Welsh Water but has not yet been validated by CCS or EAW.
- b) ii) Swansea Bay met the guideline standard for bathing water quality at the designated sample point this year. This is an essential part of the requirements for achieving Blue Flag status.
- c) No specific progress has been made regarding private water supplies.

### **WM3: Restrict development on flood plains, reduce flood risk and improve flood awareness**

- a) EAW officers provide technical advice on flooding risk to CCS planners on development plans and planning applications and it seems that advice is generally upheld, though it is not clear if any EAW recommendations have been overruled as information on this has not always been provided to the EAW. There is clearly some concern about the drive for future development on flood plains in some areas e.g. Swansea Vale.
- b) The Environment Agency Wales aims to increase the flood warning service availability to 80% of properties at risk of flooding from main rivers and the sea by 2010. The target for 2007/8 is 53% and is on course to be achieved in the Swansea area. It also aims to increase take-up of the service to 70% within serviced flood warning areas. In order to achieve this, the Agency will be changing from an "opt in" to an "opt out" service from February 2008.

### **WM4: Restore contaminated land ensuring minimum risks to the environment and public health**

- a) The map of contaminated sites is continuing to be developed.
- b) Good progress is being made on restoring contaminated land through developments in the Lower Swansea Valley and docks area, but also on sites in Pontardulais and Gorseinon. Progress could be improved if there was better joined-up thinking.

### **WM5: Reduce waste going to landfill and increase reuse, recycling and composting**

- a) An incentive scheme has been in place since July 2007. There have been some instances of enforcement for putting the wrong materials in green bags or putting bags out before the collection days. One of these received unwarranted publicity but does not seem to have had a detrimental effect on recycling rates. CCS has made efforts to provide clear information on the kerbside scheme on the website and with a new booklet.
- b) i) The kitchen waste scheme was introduced as planned.

- b) ii) CCS has planned to extend the green waste and kitchen waste collection schemes throughout Swansea in 2008.
- b) iii) The overall target for recycling and composting by March 2007 was exceeded but the composting aspect was lower than required. There is some concern about the medium- to long-term resourcing of the recycling service and it is expected to get increasingly difficult to increase the recycling and composting rates without additional WAG funding.
- b) iv) A project officer has been appointed to develop SCRAP; to help secure funding and raise the partnership's profile, and also to facilitate the Swansea Waste Forum. An administrator has been employed to support the SRS scheme which is due to end in March 2008. Continuation funding is being sought, possibly through Convergence.
- b) v) There has been an increase in the range of materials collected amenity sites including plastics, cooking oil and Tetra packs at some sites.
- c) i) EAW has recently been successful in securing funding from the Local Environmental Quality fund for the appointment of a Pride in Our Communities (PIOC) officer for Swansea. A number of potential partners have met to discuss the project and the officer will be in post initially until the end of 2008 with a focus in the Blaenymaes, Penplas, Penlan and Townhill areas.
- c) ii) CCS started recording fly-tipping information in April 2004 and continue to submit monthly figures to the Environment Agency for monitoring through the FLYCAPTURE system.

**WM6: Identify suitable sites and sustainable technologies for dealing with waste**

- a) i) The in-vessel composter was up and running from November 2006.
- a) ii) Progress on an integrated waste management solution was delayed as discussions on a joint venture with Carmarthenshire did not prove fruitful. An alternative proposal is being considered by CCS.
- a) iii) A draft report on hazardous waste planning went out for consultation in June/July 2007 and a draft of the reviewed Regional Waste Plan for the South West Wales is expected to be out for consultation in September/October 2007.
- b) Developers do approach CCS Waste Management directly for advice on waste management and recycling facilities and the team is exploring mechanisms for informing new tenants and occupants of new developments about the schemes and provisions that are available.

**SUSTAINABLE TRANSPORT AND AIR QUALITY**

**ST1: Promote more sustainable forms of travel and transport**

- a) i) The CCS continues to support non-commercial services by subsidising some routes. There has been continued increase in patronage of the Gower Explorer and Lliw Valley services. The CCS transport services have won a number of awards for this project and other initiatives.
- a) ii) The Metro infrastructure is progressing to schedule with the first stage (Kingsway and Orchard St.) completed in March 2007 and the second stage (West Way to County Hall) due for completion in early 2008. Some work has also been undertaken in the northern stretch. It is still expected that the Metro will begin service in early 2009 depending on funding priorities.
- a) iii) Funding bids for the bus station have to date been unsuccessful as WAG are now expecting CCS to secure an element of private sector and EU funding. It is still hoped that work will be undertaken in 2009/10.
- b) i), ii) Work on the Celtic Trail has continued with some lengths of new cycle routes on the Eastside being finished and stretches in Loughor and Clydach expected to be completed by the end of 2007.
- b) iii) CCS bid to WAG for four new schemes in the last year but only successfully secured funding for two. The CCS bid for 2008/9 will be for nine (smaller) schemes. The council's Road Safety Team also work with a wider number of schools, beyond this formal scheme, promoting safer travel. The Safe Routes to Schools scheme has recently been re-styled nationally as 'Safe Routes to Communities' and some initial work in Swansea is currently being explored in Penderry, Caemawr and Clase in readiness for bids for funding in 2009/10.
- c) i) The third park and ride facility was opened in November 2006 (Fforestfach) though work is still ongoing to provide a ticketing office similar to those at the other sites. Numbers of users at each site continues to grow.

- c) ii) Some sites are being considered for a fourth park and ride facility on the west of the city.
- d) SWWITCH and the council continue to promote *swwitch2share* with specific events held at local employers - Virgin Media, DVLA, NHS, CCS, Swansea West Industrial Estate - plus HE freshers fayres and through the *In Town Without My Car* day. The information required to provide an exact figure regarding those using the scheme in Swansea is not available, but it is estimated that 1,300 signed up in the SWWITCH region with approximately 500 in the Swansea region of which, approximately 1/3 (160) have been matched.
- e) The CCS transportation have been able to progress the promotion of local procurement and sustainable distribution. However, there are examples of some local developments, for example, the CCS CPU, in collaboration with the SDU, is updating the section on environment and sustainability in the council's internal procurement guide. Also, SA1 Sourcing initiative has been established to maximise the benefits for the local business community by liaising with the individual developers in the SA1 area and encouraging them to buy locally.

**ST2: Improve access to services, workplaces and community facilities**

- a) i) The accessibility software, *Accession*, has been utilised by SWWITCH, for the Regional Transport Plan and the maps produced illustrate levels of access to key facilities relating to health, education, retail, leisure and employment by public transport. This work has been done on a regional basis which although providing some indication of accessibility in and around Swansea requires further work to develop a localised accessibility index. CCS are looking into the possibility of purchasing a license for *Accession* which will open the possibility of developing localised studies. Some work has also been carried by SWWITCH on the number of journeys between Swansea and other key settlements in South West Wales. However, the index uses Swansea's regional accessibility as its baseline so is limited in providing a local accessibility index for future comparison. The possibility of using the data / techniques from these two studies to develop an indicator on accessibility in Swansea will be investigated further.
- a) ii) Access to work places is considered in the Spatial Plan and is being encouraged in the context of strategic employment sites. No specific progress was reported with Swansea Vale.
- b) The development of SPG on travel plans has not progressed. However, it has become more widely accepted and is an expectation with developments in SA1 where there is a travel plan coordinator working in partnership with CCS and where one residential development is incorporating a car club (only the 3<sup>rd</sup> in Wales and 2<sup>nd</sup> Swansea). The CCS travel plan coordinator won the top UK award in the field this year and is assisting in the development of travels plans with a range of public bodies, schools and businesses.

**ST3: Improve air quality and reduce air pollution**

- a) The Air Quality Progress Report was completed in July 2007 and confirmed that it may take some time for Hafod to comply with national targets. The failure to comply may be confounded by proposed developments around Morfa Road and delays in the development of Nowcaster.
- b) The development of Nowcaster and a roadside messaging system have been delayed.

**ST4: Improve air quality monitoring and reporting mechanisms**

- a) i) Some consideration has been given to indoor air quality monitoring but insufficient resources have limited progress. A new system for measuring PM10s was brought in from January 2007 which may impact on comparisons with earlier figures.
- a) ii) A PM2.5 monitor (the 1<sup>st</sup> in the UK) was set-up in January in the monitoring station at the junction of Carmarthen Road and Lion Street. After some initial teething problems this is now working well providing continuous monitoring of PM10s and PM2.5s.
- b), c) The personal pollution alerting system is ready and available but not yet publicised. There have also been improvements to the Swansea air quality data website, which was re-launched in June 2007 and won best UK air quality website award.

## ENVIRONMENTAL AWARENESS AND ACTION

### EA1: Encourage and support good practice in ESGC in local education establishments

a) i) There has been an increase in the number of schools participating in Eco-Schools and Gors Primary become one of the first schools to attain the new Platinum level. Though the SDU have been less involved in promoting the scheme locally, due to staffing issues, KWT have taken on additional staff including an officer to support the scheme in south-west Wales.

a) ii), iii) There is nearly 100% participation in the recycling scheme and almost half the schools in Swansea have joined the water and energy scheme. The SEEF schools subgroup is now looking at developing the scheme to encompass wider environmental issues which will replace the recycling and water and energy schemes. Litter Enforcement Officers have been providing talks at schools about littering and the fines scheme.

b) i) An audit of existing provision took place and a directory of information for schools and colleges on 'Using Sites for Studying the Natural Environment in and Around Swansea' was produced and launched at an outdoor education conference for teachers in March 2007 together with a teachers guide to the Sustainability Trail.

b) ii) A successful training and networking event for providers took place in January 2007.

b) iii) CCS has acquired CCW funding to support school grounds development work in 2007/8. This is being used to conduct an audit of current use and development of and support for school grounds, to undertake pilot projects and to provide or produce resources.

c) i) An INSET programme continues to be published in line with the academic year. The 2006/7 booklet included 8 training events and the 2007/8 booklet includes 7 training events. Additionally, 24 schools have gone through a 2 day travel plan champion training event run by SWWITCH.

c) ii) The green envelope scheme continued as usual going out at the start of each school term with an update of SEEF directory being distributed in January 2007.

c) iii) The frequency and format of SEEF meetings was reviewed in July 2007 and it was decided that there would be a March conference plus one other event each for teachers and lecturers. Full SEEF members meeting will now be annual rather than each term.

d) i) The course directory was last updated in 2006. As WAG is requiring HE establishments to audit their SD provision, SEEF will await the details of this before updating of the directory again.

d) ii) The Foundation Certificate modules and lesson plan outlines were completed early 2007. Additionally, an ESOL course on recycling has been developed in partnership between CCS lifelong learning, CCS recycling and BEN – a course has been run for ESOL tutors. Also, a PP4SD project in Swansea University has developed SD training materials related to land based industries.

d) iii) No progress has been made on identifying or developing alternative indicators for SD in the FE/HE sector(s), partly because few SEEF (HE) meetings have taken place in 2007.

e) i) No mechanism has been put in place to determine whether every school in Swansea has produced an SDGC policy. Every school was recently asked but with poor response. There is a sense that not many schools currently have a policy but that a growing number are seeking help in development one as they recognise the need, particularly when faced with an Estyn inspection.

e) ii) Some progress has been made on developing environmental management systems at both universities and at Swansea College.

e) iii) It has been agreed that extending the schools SD award schemes to the universities will not be appropriate though it may still be relevant to the two further education colleges.

### EA2: Actively promote sustainable living

a) i) The Environment Centre has continued to publish the regular newsletter.

a) ii) The *sustainableswansea* website was launched in 2006 but is now being totally updated so that Sustainable Swansea staff have access to it and can update it, including the interactive Green Map which previously have required costly technical assistance. Plaques have been distributed to most sites on the Green Map. A new updated version of the main Green Map was published in October 2007 and work has begun in partnership with Swansea Faiths Forum to develop a Swansea Faiths Green Map.

- a) iii) Different priorities and the lack of specific resources have meant that the local produce directory has not been updated by Sustainable Swansea and there are no current plans to do this. Swansea Fair Trade Forum has raised sufficient funds to update and print a new version of the Fairtrade directory which is expected to be published in early 2008.
- a) iv) The 2007 environment week went well and included some participation from CCS and hospital staff. There was an environmental presence at the fresher's fairs in both SIHE and Swansea College and at the Module fair in Swansea University, though the pressure for space at such events does not make securing a presence easy.
- b) i) The annual environmental events leaflet was produced for March to December 2007 and included nearly 350 events (about 250 events in 2006 and 2005). A further training and events directory for Jan/Feb 2007 was produced by Sustainable Swansea which involved approx. 40 events and nearly 4,000 attendances.
- b) ii) The *Earth from the Air* exhibition and associated programme of events was organised by Sustainable Swansea with great success. An estimated 100,000 visited the exhibition. The *Breathing Cities Springwatch* event – a partnership between BBC, CCS and SEEF attracted about 17,000. The annual Ecozone, because of commitment of resources and staff to the above, was more modest than in previous years but was still successful.
- b) iii) The *Sustainable Living* exhibition was in the Centre for two months in early 2007 but did not tour.
- c) i) The course directory was last updated in 2006 and is likely to be renewed in 2008 after local HE establishments have carried out an audit of their SD provision.
- c) ii) A two month programme involving approx. 40 events was organised by Sustainable Swansea and the Environment Centre in Jan/Feb 2007 with about 30 of these being described as workshops with over 400 attendees. The Environment Centre's community education officer delivered over 70 talks / workshops to nearly 2,000 people in the year from September 2006 to August 2007. Also, DACEs Community Progression Project has funded a series of awareness-raising talks to staff and volunteers at community education centres across four counties as part of the promotion of the new Foundation Certificate in Sustainability. In Swansea, this has included community development staff from the Blaenymaes area including the ARC and drop-in centre.

**EA3: Promote active citizenship and increased participation in decision-making processes**

- a) i) No progress has been made by the SDU on SD training for councillors as it is felt that this should follow on from the integration appraisal work currently being done on SD and the council.
- a) ii) SD training has not yet been organised for community regeneration workers but is part of Sustainable Swansea's plans for the future. Also, DACE's CPP scheme has involved some awareness raising work with community development staff in Blaenymaes.
- a) iii) Community participation training for ESDGC practitioners has not yet been organised by SEEF but Dynamix, a local play training organisation, do offer training on participation techniques.
- b) i), ii) Neither a review of volunteering or the resourcing of environmental youth work have been progressed.
- c) i) The SEEF coordinator / administrator post has continued to be part-funded by CCS Education Department and additional funding has been received through the DFID / Cyfanfyd Enabling Effective Support grant to enable activities to take place including a teachers conference (January), developments in outdoor education provision and also schools EftA workshops. The schools subgroup has continued to meet regularly in 2007, the working group a little less than usual, the adult subgroup more intermittently and the youth subgroup not at all.
- c) ii) SEF secured some core funding in 2007 from the EAW to help with administration and capacity building. A grant through CCW (via CCS) has also supported further work on the environment strategy, including this review. This is part of a three-year grant commitment made by CCW to CCS. As the funding was being fully redirected to SEF, CCW agreed to raise the contribution level from 50% to 75% in 2007/8 and all parties have agreed that from 2008/9, the grant support will be provided directly to SEF rather than via CCS. It is intended that an forward plan and action plan will be prepared in order to identify additional sources of funding for SEF and ensure that its structure, procedures and capacity are appropriate for the responsibilities it has.

c) iii) The Environment Centre has continued to develop and improve its underlying financial security. Additional staff positions have been created over the past eighteen months though many of these are project-based and subject to securing future funding. One positive factor has been the Centre's increasing involvement in partnership projects, often as the coordinating or administrative body e.g. SCRAP SRS, Cyd Coed, Solar City, Sustainable Swansea, More Green and SEEF. Occasionally, difficulties with European funded schemes have impacted on the Centre e.g. the collapse of the Solar City project and problems with the flow of SRS funding (problems experienced throughout Wales, not just Swansea).

**EA4: Encourage good environmental practice amongst organisations and businesses**

a) The three-year Green Dragon programme for SMEs officially finished in March 2007 but continuation funding was made available to March 2008. A total of 95 Swansea companies have participated in the scheme since its inception and 23 new awards were issued in 2006/7. At the end of March 2007, 63 Green Dragon Awards at level 2 or above were in place. The targets for the scheme were reached by March 2007, and even surpassed in Swansea, so the focus in this financial year has been on Priority Industrial sites to target the greatest waste and energy savings. However, momentum with Green Dragon is still continuing and it is expected that a similar number of new awards will be issued this year. The future of the scheme from April 2008, in terms of resources and priorities, is still uncertain.

b) i) SD training for council staff has not been progressed by the SDU as it is felt that this should follow on from work currently being done on mainstreaming SD through a new SD Framework for the council.

b) ii) SD training continues to be part of induction in SIHE but has not yet been incorporated consistently in Swansea University CPD or induction, though some training is currently being proposed for DACE staff.

c) i) The Sustainability Trail now consists of 24 sites and interpretative panels have been erected at all of them. A Trail guide has been produced and a new leaflet outlining the Trail has been produced in the same format as the Green Map. A teachers' education pack on the Trail has been produced and was launched in March. Representatives from the Trail sites have begun to meet.

c) ii) It was decided that the SD awards would run on a biannual rather than annual basis. Plans are underway for the 2008 awards.

### APPENDIX 3: FULL ANALYSIS OF INDICATORS

PRIMARY INDICATORS	data collection	baseline data	notes	
<b>Natural Environment and Biodiversity</b>				
Percentage of habitats mapped	-	-	Reached 100% so no longer an effective indicator	✘
Percentage loss of important habitats	-	-	There is currently no mechanism in place for this to be measured and it is likely to require a significant amount of additional work. It could be considered for the future.	?
Total area of LNRs, AONB and SINCs	CCS / continuous	200 sq.km (2007) (excluding SINCs)	The 6 LNRs cover an area of approx. 90 hectares. The AONB area has remained the same since its designation, with 188sq.km (188,000 hectares) but includes four of the LNRs. SINCs have not yet been agreed so it is not possible to state their area. This indicator may not be very useful as it is unlikely to increase very often or significantly and there will be overlap with ' <i>Percentage area of green space managed for biodiversity</i> '.	?
Percentage of SSSI features in or recovering towards favourable condition	CCW	-	If this is only available on a six-yearly basis, it may not prove that valuable in annual or bi-annual reports.	?
Percentage area of green space managed for biodiversity	CCS	-	Green spaces have been mapped but to work out which are currently managed for biodiversity will require much further work.	?
Number of Green Flags, Green Pennants and Green Coast Awards	Civic Trust, KWT / annual	8 (2007)	Includes Green Flags for Victoria Park, Clyne Gardens and Singleton Botanical Gardens, a Green Pennant for Rosehill Quarry; Green Coast Awards for Pwll Du, Mewslade Bay, Rhossili Bay and Tor Bay.	✓

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Number of events in or about the natural environment	-	-	This may prove too difficult to assess (see points below for <i>Number attending environmental events</i> ).	✘
Length of easy-to-use footpaths and other rights of way	CCS / annual (financial year)	47% (2006/7)	Assessments are made in May and November each year then combined and reported on by financial year.	✓
<b>Built Environment and Energy Use</b>				
Percentage of brownfield sites / disused buildings remaining	-	-	It was not established during the review how this could be measured.	?
Percentage cleanliness at high standard (LEAMS)	KWT / annual	89.5% (2007)	Assessment made in September 2007. It may be better to use Cleanliness Index measured by KWT (63.6% for 2007) plus bi-monthly measurements made by CCS, in addition to or instead of LEAMS figure.	✓
Percentage of public satisfaction with their local area	CCS / every two-years	91% good (2007)	This data is from the Swansea Voices survey which includes generally set questions on public satisfaction every two years. The main question asked is <i>How good or poor is your neighbourhood as a place to live?</i> The results included 36% very good, 55% fairly good which are combined for this indicator. Swansea Voices involves 1,250 people with a 65% response rate. Data from previous surveys may be available.	✓
SAP rating for City and County of Swansea	CCS / six-monthly (annual)	79 LA SAP / 61 owner occupier SAP (2007)	Based on a 100% local authority housing stock and a sample of 4,485 owner occupier properties	✓
Number of EcoHomes and buildings with BREEAM standard	BRE / continuous (annual)	5 BREEAM certified (2007)	These include 1 school, 2 offices, an industrial unit and a bespoke property. All but one was certified in 2007. Ecohomes is awarded to housing developments rather than individual homes so perhaps indicator should be rephrased to <i>Number of</i>	✓

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			<i>developments meeting Ecohomes or BREEAM standards.</i> There are currently 12 additional developments registered for inspection including 3 for Ecohomes and 3 registrations that are over two years old.	
Proportion of social housing meeting WHQS	CCS, RSLs	-	Not yet measurable. Should perhaps just be based on figures for CCS and main four RSLs in Swansea (not smaller 5 or 6).	✓
Proportion of properties vacant	CCS / annual (financial year)	3.4% (2006/7)	The wording should perhaps reflect that this includes private housing vacant for at least 6 months. Figures for previous years are available e.g. 2005/6: 4.4%, 2004/5: 4.6%.	✓
Number of historic buildings and heritage sites interpreted	-	-	It was not established during the review how this could be measured or by whom.	?
<b>Water, Land and Waste Management</b>				
Percentage of watercourses achieving good status	EAW / annual	81% chemical / 97% biological (2006)	Data available from 1990 onwards.	✓
Percentage of coastal waters at guideline standard for bathing water	EAW / annual	100% (2007)	Figures for previous years available.	✓
Number of properties at high risk of flooding	EAW	4,429 (2005)	This figure was reported in 2006 but relates to data from 2005. A more recent figure appears to be approximately 4,700. The figures can be affected both by new building and changes in flood risk mapping. It may be more appropriate to use a percentage of properties in county on floodplain (4.1%).	✓
Number of residents and businesses on flood warning system	EAW	8% (2007)	This figure only relates to the River Tawe between Morriston and Hafod with 695 properties at risk from a 1 in 100 year flood, though the overall take-up across Swansea is estimated at 8-10%. EAW is	✗

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			moving from an opt-in to an opt-out scheme in February so figures will change significantly and prove less than useful.	
Area of contaminated land remaining in Swansea	CCS	2172 hectares (2007)	This is only potentially contaminated and is based on the areas of 290 historically-contaminated sites where the existence or extent of contamination remains unclear. Change is not expected to be rapid as most are not desirable for redevelopment.	?
Average household waste arising	CCS / annual (financial year)	118,600 tonnes total (2006/7)	Unable to find number of households and so determine average household arising.	?
Percentage of municipal waste recycled or composted	CCS / annual (financial year)	29% (2006/7)	21% recycling / 8% composting. Figures available for previous years too.	✓
<b>Sustainable Transport and Air Quality</b>				
Modal split on key routes into Swansea	CCS / annual	83% car, 17% bus. (2005)	The figures are an overall average of the 2005 survey which was carried out at 7 locations at two times of day. (The 2006 survey only took place at one point.)	✓
Number using park and ride facilities	CCS / six monthly (annual)	255,500 (2006)	This figure is the total patronage at all sites. Figures are available to Jan 2002.	✓
Number of travel plans produced for public buildings and schools	-	-	Though some information on travel plans was provided by CCS, further work is needed to clarify the data available.	?
Number of days when air pollution is moderate or higher	CCS / continuous (annual)	137 days (2006)	This comprises 133 moderate and 4 high. Data can be accessed from a comprehensive website.	✓
Level of PM10s	CCS / continuous (annual)	-	This should be changed to <i>Number of days when PM10s exceed limits</i> . A new data collection system began in Jan07 so the total for 2007 or 2007/8 would be the most appropriate baseline figure. There were 28 exceedences in the 12 months to 21/11/07 measured at the three static stations. A figure for PM2.5s could also be included.	✓

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<b>Environmental Awareness and Action</b>				
Number of Eco-School Green Flags	KWT / continuous (academic year)	25 (2007)	Would be appropriate to include Platinum Awards and perhaps use percentage of schools (26%)	✓
Number of SD course attendees	SEEF (HE) / annual (academic year)	(data not received)	This could be based on accredited courses run by the two HE institutions excluding undergraduate and postgraduate courses.	?
Number attending environmental events	-	-	This may prove too difficult to measure as it is difficult to determine what constitutes an environmental event and not all organisations count attendees at their events. Major events such as those associated with the Earth from the Air exhibition would distort annual figures significantly. It may be possible to request all those contributing to the annual environmental events leaflet to calculate attendance but many events take place in addition to those in this leaflet.	✗
Number of volunteer hours in environmental projects	-	-	Currently no mechanism for measuring this. Perhaps it could be based on data from a number of key organizations e.g. EC, BTCV, Community Farm, etc. but this has not yet been attempted.	✗
Number of Green Dragon Awards (level 2+) or other EMS	Arena Network / continuous (financial year)	63 (2006/7)	Organisations that are awarded Green Dragon must renew their commitment periodically so the figure represents the total number of awards still in place at the given time. The total number in Swansea awarded up to March 2007 was 95. There is no system in place for establishing the number of other EMS in place.	✓

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<b>SECONDARY INDICATORS</b>	<b>data collection</b>	<b>baseline data</b>	<b>notes</b>	
<b>Natural Environment and Biodiversity</b>				
Number of environmental volunteers	-	-	Currently no mechanism for measuring this. Perhaps base it on a number of key organizations e.g. EC, BTCV, Community Farm, etc.	✘
Number of wildlife sites with information or publicity leaflets	SBP	(data not received)	Information was sought from CCS, CCW, WTSWW, but not fully received. Should this include all green spaces e.g. parks?	?
<b>Built Environment and Energy Use</b>				
Number of FNPs issued for dog fouling and littering	CCS / continuous (annual)	Dog Fouling 4. Street Litter 11 (2007)	This may not prove a particularly useful indicator as it does not reflect the positive work carried out in promoting good practice.	✘
CO <sub>2</sub> emissions in CCS corporate buildings (tonnes per m <sup>2</sup> )	CCS	-	Recent changes to a new energy monitoring system have delayed the availability of figures for 2006/7 but these should become available soon.	?
Number of homes brought back into use and number of problem buildings demolished or renovated	CCS / continuous (financial year)	9 (2006/7)	This includes 7 brought back into use and 2 demolished. The small figures involved and using a specific period do not clearly reflect the work that is required to progress these actions. May be better to have a cumulative tally from a given point such as year 2000.	?
Number of buildings taken off / remaining on 'Buildings at Risk' register	CCS	-	Register still to be established.	✓
Number of Conservation Area appraisals completed	CCS	0 (2007)	Work has not begun on appraisals and the indicator may not prove very significant.	✘
Number of venues and visitors in 'Open House' events	Sylfaen Cynefin / annual	31 venues / 1,000 visitors (2007)	Visitor figures include multiple visits. Data may also be available for previous 3 years.	✓

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<b>Water, Land and Waste Management</b>				
Number of Blue Flags / Green Coast Awards	KWT / annual	5 Blue Flags / 4 Green Coast Awards (2007)	Data available for previous years. Another indicator includes Green Coast – but perhaps it is more appropriate here.	✓
Number of sites with sufficient contamination information	-	-	Not now thought to be a viable indicator.	✗
Number of sites of potential concern in land contamination terms	CCS / continuous (annual)	290 sites (2007)	Figure is not based on a definitive assessment process but is subjective.	?
Percentage trade waste recycled	CCS / annual (financial year)	15% (2006/7)	Relates only to trade waste collected by CCS. Figures for previous years available.	✓
Number of notices issues for fly tipping	-	-	Not now thought to be a viable indicator.	✗
Number of incidents reported on Fly Capture	EA / monthly (financial year)	7416 (2006/7)	Data is collected by CCS and submitted to EA every month. The EA also collect data on incidents it deals with in a separate system but these figures can be combined. Figures are available from April 2004.	✓
<b>Sustainable Transport and Air Quality</b>				
Number of cyclists using Celtic Trail	Sustrans (annual)	142,000 (2006)	The figure is based on an annual Sustrans survey at Blackpill converted to annual estimates. These are backed-up by automated counts made by CCS at 15 points across Swansea and surveys are sometimes taken at other sites.	✓
Number of Safe Routes to School schemes	CCS / continuous (financial year)	18 schools (2006/7)	Could perhaps be extended to include community schemes and other work with schools outside the formal SRS schemes.	✓
Number of park and ride facilities	CCS	3 facilities (2007)	Has limited value – only likely to increase to 4 – perhaps patronage would be better.	✗
Number of matched trips on sswitch2share	SWWITCH	-	The Central database, <i>Liftshare</i> , won't allow specific information to be obtained so only estimates can be provided. This may therefore be unsuitable as an indicator.	✗

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Accessibility index for Swansea	CCS, SWWITCH	-	No suitable measurement method has yet been developed to support this indicator but the potential of using data / techniques from two recent studies is to be investigated.	?
<b>Environmental Awareness and Action</b>				
Number of Eco-School other levels	KWT / continuous (academic year)	98 registered / 50 bronze / 37 silver (2006/7)	May be useful to use percentage of schools (92%, 47% and 35%) to allow for school reorganisation.	✓
Number of schools participating in local schemes	SEEF / continuous (academic year)	105 recycling / 47 water and energy (2006/7)	May be better to use percentage of schools - 2006/7 - 95% recycling and 43% water and energy (based on 110 schools).	✓
Number of supported schools visits to key sites and facilities	SEEF / continuous (academic year)	137 visits (2006/7)	Based on a selection of SEEF partners (EC, Bishops Wood, Community Farm, WWT, Forest School and Sustainability Trail) but includes repeat visits.	✓
Number of INSETs and ADDs sessions provided on SDGC issues	SEEF / continuous (academic year)	11 sessions (2006/7)	Based on SEEF booklet INSETs plus additional INSETs and SEEF teachers evenings and conferences. ADDs sessions may be difficult to monitor. Perhaps this should be worded 'training sessions'.	✓
Number of SD courses in directory	-	-	This may not be an effective indicator as the level of SD content in courses listed in the directory varies considerably and so the figures would be meaningless alone.	✗
Number of schools with SD policy	CCS	-	It has not been possible to obtain a baseline figure for this. Every school was recently asked if they had an ESDGC policy but the response was very poor.	?
Number of hits on Sustainable Swansea and EC websites	Sustainable Swansea, EC / continuous (financial year)	35,200 (2006/7)	Hit figures for Sustainable Swansea website date back to Jan 06 and for the Environment Centre to Sep 05. There has been a clear increase from 2006 (25,100) and further increases in 2007 (39,600 -	✓

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			incomplete). These include multiple hits by the same individuals so it may also be useful to record individual visits too.	
Number of participants in training workshops	-	-	Though some data was collected from some organisations, it was possible to establish how this could be measured.	?

<b>ADDITIONAL INDICATORS</b>	<b>data collection</b>	<b>baseline data</b>	<b>notes</b>	
<b>Natural Environment and Biodiversity</b>				
Number of species surveys undertaken	-	-	This will require further consideration as some surveys are repeated annually and several organisations are involved. Would this be an annual figure or cumulative? Perhaps a selection of regular annual surveys could provide an indicator.	?
Salmon numbers in local rivers	EA	(data not received)	This could be obtained through the Regional Juvenile Salmon Measurement Programme.	?
Area of land managed under agri-environment schemes	WAG / continuous (annual)	5,483ha (2007)	Based on Tir Cynnal (1,842ha), Tir Gofal (3,298ha) and Organic Farming Scheme agreements - converting to (213ha) and fully organic (130ha). There may be overlap between some schemes and some and may stretch across county boundaries. Schemes may also change within a couple of years. Number of agreements may also be a useful indicator (2007 total: 118)	✓
<b>Built Environment and Energy Use</b>				
Number of litter pick-up requests given	-	-	CCS does not currently record the number of formal requests and various other bodies (police / community groups) also make informal requests that couldn't be measured. May not be useful indicator.	✗

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Number / proportion of zero carbon homes	-	-	May be a useful indicator once zero carbon homes start to be built. A clear definition of the term would be needed.	?
Percent of total new build that meets BREEAM	-	-	May prove too difficult to simultaneously track planning approval, building completion and BREEAM certification.	✘
Average energy rating for public buildings	-	-	This will only become possible once the new rating scheme is up and running.	?
Percentage of new housing that is affordable	CCS	-	This is not currently measured but needs further consideration.	?
Number of private housing properties with category 1 housing H&S rating	CCS, WAG	-	May become useful if a mechanism is established to measure or calculate this.	?
<b>Water, Land and Waste Management</b>				
Microbiological tests for river / bathing waters	-	-	Suggested as a more valuable measure but not currently being done.	✘
Municipal waste arisings	CCS / annual (financial year)	141,100 tonnes (2006/7)	Municipal waste used for Wales targets rather than household waste. This would seem an easier figure to obtain but does not take account of population increases. Figures for previous years available.	?
Percentage of waste at civic amenity sites that is recycled	CCS / annual (financial year)	31% (2006/7)	This could be a useful secondary indicator. Figures for previous years available.	✓
Percentage of total recycling rate contributed from civic amenity sites	CCS / annual (financial year)	8% (2007)	Not sure that this would provide significant or valuable information.	✘
<b>Sustainable Transport and Air Quality</b>				
Number of days that PM2.5 exceed limits	CCS / continuous (annual)	-	Data started to be collected in January 2007 so the total figure for 2007 or 2007/8 would provide a suitable baseline figure.	✓
<b>Environmental Awareness and Action</b>				
Number of school staff attending INSET sessions on SDGC issues	SEEF / continuous (academic year)	237 (2006/7)	Could be based on SEEF INSET booklet plus any SEEF teacher conferences and any further sessions by SEEF members. Would include multiple attendances.	✓