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Date: 28th October 2015

Dear Sir/Madam,

A meeting of the **Sustainable Development Advisory Panel** will be held in the **Sirhowy Room, Penallta House, Tredomen, Ystrad Mynach** on **Thursday, 5th November, 2015** at **4.00 pm** to consider the matters contained in the following agenda.

Yours faithfully,

A handwritten signature in blue ink that reads 'Chris Burns'.

Chris Burns
INTERIM CHIEF EXECUTIVE

A G E N D A

	Pages
1 To receive apologies for absence.	
2 Declarations of interest. Councillors and Officers are reminded of their personal responsibility to declare any personal and/or prejudicial interest(s) in respect of any item of business on this agenda in accordance with the Local Government Act 2000, the Council's Constitution and the Code of Conduct for both Councillors and Officers.	
To approve and sign the following minutes: -	
3 Sustainable Development Advisory Panel Meeting held on the 28th May 2015.	1 - 4
To receive and consider the following reports/presentations: -	

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4	Sustainable Development & Living Environment Team Annual Report 2014/15 and Presentation.	5 - 72
5	Local Climate Impacts Profile.	73 - 120

Circulation:

Councillors M.A. Adams, H.A. Andrews, Mrs A. Blackman, K. Dawson, C. Elsbury, D. Havard (Vice Chair), K. James (Chair), S. Kent, Ms P. Leonard, C.P. Mann and J.A. Pritchard

And Appropriate Officers



SUSTAINABLE DEVELOPMENT ADVISORY PANEL

**MINUTES OF THE MEETING HELD AT PENALLTA HOUSE, TREDOMEN,
ON THURSDAY, 28TH MAY 2015 AT 5.00 P.M.**

PRESENT:

Councillor D. Havard - Vice Chair (Presiding)

Councillors:

M. Adams, H.A. Andrews, C. Elsbury, S. Kent, C.P. Mann.

Together with:

P. Cooke (Team Leader, Sustainable Development & Living Environment),
S.M. Kauczok (Committee Services Officer).

1. APOLOGIES FOR ABSENCE

Apologies for absence had been received from Councillors Mrs A. Blackman, K. James and J.A. Pritchard.

2. DECLARATIONS OF INTEREST

There were no declarations of interest made at the beginning or during the course of the meeting.

3. MINUTES

The minutes of the Sustainable Development Advisory Panel meeting held on 26th February 2015 were approved and signed as a correct record.

4. VOLUNTEERING IN CAERPHILLY COUNTY BOROUGH

The Chair welcomed Keri Williams, Caerphilly Volunteering Information Officer, GAVO, to the meeting.

Keri began by providing a brief background to GAVO and her role as a Volunteering Information Officer. Members were informed that GAVO is committed to strengthening the effectiveness of the voluntary and community sector across Blaenau Gwent, Caerphilly, Newport and Monmouthshire. It is the oldest voluntary council in Wales with four voluntary centres. GAVO supports the voluntary sector across Gwent through information, training and advice and encourages voluntary and statutory organisations to work together in planning new services.

Working with individuals and community groups as well as the public and private sector, GAVO supports the community through: -

- The provision of information, advocacy and support to communities and groups.
- Recruiting volunteers and providing a comprehensive volunteer service to individuals and host organisations.
- Promoting opportunities for voluntary organisations to work together through participation.
- Encouraging voluntary and statutory organisations to work together in planning new services.
- A community transport service which operates within Blaenau Gwent and Monmouthshire.
- Community training for both individuals and groups
- Responding to the needs of the community by identifying unmet needs and developing new services.
- Representation and partnership with government and local authority.

The COMPACT works with organisations including the Voluntary Sector Liaison Committee, Caerphilly CBC, South Wales Fire and Rescue, ABUHB etc and responds to the needs of the community by identifying unmet needs, improving services and bringing about quality of life improvements with local people. Last year GAVO placed 266 people into volunteering placements and the organisation is well on its way to beating its target this year.

Potential volunteers are invited to contact the GAVO Volunteer Centres or access the WCVA Volunteer Wales website. GAVO can arrange informal meetings to discuss local volunteering opportunities and will guide and support the volunteer to determine the most appropriate voluntary work to meet their needs. On-going support is given to enable the volunteer to fully benefit and enjoy their volunteering experience and confidentiality is respected and maintained at all stages of the volunteer's involvement with the Centre.

There are lots of volunteering opportunities, including working with children and families, young people, people with learning difficulties/health problems etc. For people who prefer to work outdoors, there are conservation, environmental and heritage schemes. Some people are looking for a chance to learn new skills, make new friends, give something back to the community or just have fun. Gwirvol, a Wales-wide initiative led by the views of young people to encourage more young people in Wales to get involved with their communities through volunteering, offers youth led grants administered by GAVO.

GAVO's successful bid through the Big Lottery fund for the Sunflower Project, which is embedded in Ysbyty Ystrad Fawr and Ysbyty Aneurin Bevan Hospitals, has seen it go from strength to strength since its inception in January 2014. The volunteers befriend patients and on occasion organise activities in the Day Rooms. The volunteers receive comprehensive induction in a range of training, including infection control, dementia awareness, manual handling and POVA. The Project works in partnership with various departments of ABUHB and other voluntary sector organisations and is looking to expand.

Members were advised that GAVO can liaise with organisations to identify suitable volunteering opportunities including one off schemes that they might use to offer their employees possible team building activities. During the course of the discussion, it was agreed that Paul Cooke would pursue the proposal that a promotional day be held at Penallta House, during Volunteers Week if possible, to raise awareness of the volunteering opportunities that exist in the community.

5. SUSTAINABLE DEVELOPMENT STAFF SURVEY

Paul Cooke, Team Leader Sustainable Development and Living Environment, introduced the report which informed Members of the findings of the Sustainable Development, Health and Wellbeing, staff survey which was undertaken between November 2014 and January 2015.

In total 1,014 people responded to the survey. Of those 7% were school based and 51% mostly office based. As part of the survey, questions were included to obtain data on 4 SD indicators i.e. level of understanding of sustainable development; the percentage of staff that drive to work in a car on their own; the percentage of staff who take 30 minutes or more of exercise 5 or more times per week and the percentage of staff who engage in voluntary activity in their local area.

Overall the average level of understanding of sustainable development from the 14/15 survey was 2.37%. This was down from 2.5 in 2008 and further down from 2.6 in October 2007. In terms of the second indicator, 78% of respondents said that they travelled to work in a car on their own. This compares to 66.9% in 2008 and 79% in 2007. 7% car share compared to 10.4% in 2008 and 7.2% in October 2007. 12% walk to work compared to 17% in 2008 and 10% in October 2007.

In terms of exercise, only 3% of respondents in 2014/15 said that they took part in 30 minutes or more of vigorous physical activity at least 5 times per week. 10% said that they took part in moderate physical activity at least 5 times each week. In 2008 22.5% of respondents took part in 30 minutes or more of exercise 5 or more times per week which was up from 18% in 2007. In 2014/15, 60% never took part in any vigorous physical activity. 44% never took part in moderate physical activity and 16% never took part in light physical activity. Of those surveyed in 2014/15, 65% felt that they were physically active.

With regard to the percentage of staff who engage in voluntary activity in their local area, in 2014/15 8% of respondents engaged in voluntary activity between 1 and 3 hours per month compared to 10% in 2008. 5% volunteered more than 10 hours per month compared to 9% in 2008 and 69% never volunteered compared to 67% in 2008.

The Panel discussed the findings and expressed surprise that the average level of understanding of SD across the Authority was 2.37%. Discussion ensued on the possibility of re-introducing the SD workshops that had been held for staff in the past. Reference was also made to the potential benefits of promoting volunteering amongst staff, which Paul confirmed he would be pleased to pursue.

As it had been a combined questionnaire, it was proposed that members of the Employee Health and Wellbeing Group be invited to present the findings relating to that section to a future meeting of the Panel. In the meantime, officers would undertake a detailed analysis of the results of the survey and present their recommendations in due course.

The Panel noted the findings of the survey set out in the report and endorsed the proposed course of action.

6. CLIMATE CHANGE ADAPTATION PLAN REPORT APRIL 2015

Paul Cooke, Team Leader Sustainable Development and Living Environment, presented the report, which informed Members of progress by the Authority on the work on climate change adaptation as required under the Climate Change Act 2008.

The Welsh Government's guidance on climate adaptation follows a 5-stage management-system styled approach, the details of which are set out under paragraphs 4.4 to 4.8 of the report. The guidance identifies that undertaking a Local Climate Impact Profile (LCLIP) is a useful step in developing a Climate Change Adaptation approach. The main aim of the LCLIP is to ascertain whether weather events over the study period have had a serious impact on Council activities. The LCLIP findings should assist the Council in forecasting and planning for future disruptions to their activities resulting from future, possibly more severe, weather events (potentially linked to climate change).

The first stage of the process consisted of researching media sources in order to identify occurrences of extreme weather events between 2003 and 2013 which impacted on life in Caerphilly and therefore on Caerphilly Council operations. The study identified 89 events of extreme weather.

The next step was to ascertain the “real” relationship between the media reported events and their impacts. A series of meetings was undertaken with senior officers from each of the Authority’s services. The interviews were used to identify specific impacts of the extreme weather events on the service, how the service has responded and to identify the most significant events and impacts in order to prioritise and focus future actions. A total of 128 impacts were identified of which 33 were rated as “high” priority.

The work has identified that there is a good understanding of climate change issues across the Authority. Services are aware that the climate is changing and are considering and planning to adapt to the changes they are seeing. Climate change adaptation issues are being factored into the overall change process that the Authority is currently going through.

The completion and approval of the LCLIP will mean that Part 1 of the statutory guidance will be complete. The next step, set out in Part 2, is for those impacts identified as being high priority to go forward for further investigation, vulnerability assessment and risk assessment.

The Panel noted the progress being made on Climate Change Adaptation within the Authority.

The meeting closed at 6.32 pm.

Approved and signed as a correct record subject to any amendments being recorded in the minutes of the next meeting.

CHAIR



SUSTAINABLE DEVELOPMENT ADVISORY PANEL – 5TH NOVEMBER 2015

**SUBJECT: SUSTAINABLE DEVELOPMENT & LIVING ENVIRONMENT TEAM
ANNUAL REPORT 2014/15**

REPORT BY: CORPORATE DIRECTOR - COMMUNITIES

1. PURPOSE OF REPORT

- 1.1 To make Members of the Sustainable Development Advisory Panel aware of the progress achieved by the Sustainable Development & Living Environment Team against the priorities for 2014/15.

2. SUMMARY

- 2.1 The Sustainable Development & Living Environment (SD & LE) Team continues to raise awareness of the key sustainable development issues, which affect the Authority, and to implement projects designed to improve the sustainability of the Authority. This report summarises some of the main achievements, the full Annual Report is attached as Appendix 1.
- 2.2 The Team continues to co-ordinate the work of the Greener Caerphilly Outcome Group to ensure that we maximise the benefits of working in partnership on environmental issues. In 2014/15 this has included co-ordinating the work funded by the Authority's Community Scheme Funded, Greener Caerphilly Small Grants programme.
- 2.3 The Team continued to deliver the Sustainable Energy element of the Rural Development Plan (RDP) up until 31st December when the programme closed. Work completed up until this time included raising awareness of sustainable energy and climate change issues with farms and rural businesses in the eligible rural wards.
- 2.4 Some specific achievements in 2014/15 include:
- Assessing the Authority's ability to adapt to climate change which involved interviews and consultation with 43 senior officers from across all 18 of the Authority's Services.
 - 71% of our schools have achieved a Green Flag (the highest award) under the Eco Schools programme. Ten schools have achieved their second Eco School green flag award, with twenty-two schools also achieving their third flag and working towards their platinum award. Sixteen schools have achieved the coveted Eco Schools Platinum Award.
 - Sustainable Energy advice was given to 51 farms and rural businesses in 2014/15
 - The SD & LE Team secured a total of £126,037 of funding for projects in 2014/15.

3. LINKS TO STRATEGY

3.1 The work of the SD & LE Team supports the following strategies:

- Living Better, Using Less, the Sustainable Development Strategy (2008).
- Caerphilly Delivers - Caerphilly Single Integrated Plan, 2013 - 2017
- CCBC Corporate Plan
- Education for Sustainable Development & Global Citizenship Strategy, 2009
- One Wales, One Planet (2009), the Sustainable Development Strategy for Wales.
- Carbon Reduction Strategy
- Waste Management Strategy
- Corporate Travel Plan.

4. THE REPORT

4.1 The SD & LE Team Annual Report highlights the work of Team, including the work in partnership with the Sustainable Development Core Group, the Sustainable Development Advisory Panel (SDAP), and the Greener Caerphilly Outcome Group. It should be noted that this report does not seek to identify all sustainable projects throughout the Authority, but identifies areas where the SD & LE Team, Core Group or SDAP have been involved. It is part of the role of these 3 groups to provide support, and to promote a culture where sustainable projects can develop with or without their direct involvement.

4.2 The Annual Report is structured to reflect the 4 areas of work of the Team:

- Sustainable Council
- Education for Sustainable Development
- Greener Caerphilly
- Rural Development Programme, Sustainable Energy

Sustainable Council

4.3 The Council has had a long commitment to sustainability and approved its first sustainable development policy in 1997. It has successively built on this foundation. In 2008 the Council published its Sustainable Development Strategy, *Living Better, Using Less*, which sets out the approach that the Authority is taking to sustainable development and our vision for a sustainable county borough. It sets out our strategy for tackling the issues and explains how we will manage and monitor the process and how we will report on progress.

4.4 2014/15 was an important year for sustainable development in Wales with the preparation and consultation on legislation to require public bodies in Wales, including local authorities, to make decisions that leave a positive legacy for our children, and children's children, and to report on how we are complying with the Duty from 2015/16. The SD & LE Team has been heavily involved in contributing to the development of the Bill and assessing the implications on the Authority.

Staff SD, health and wellbeing survey

4.5 A staff SD, health and wellbeing survey was developed by the SD and Health Improvement Teams to update indicators that both teams use to monitor understanding and progress in their areas. Questionnaires were sent electronically to all staff with access to the intranet. Additional work was done to ensure that employees in depots, canteens and in service where they did not have access to the intranet were engaged in the process. In total 1,014 responses to the 2014/15 survey were received.

4.6 Overall the average level of understanding of sustainable development from the 14/15 survey was 2.37. This was down from 2.5 in 2008 and further down from 2.6 in October 2007.

Sustainable Travel

- 4.7 Six events promoting sustainable travel, and highlighting the support and initiatives available to staff to enable them to travel more sustainably were run in 2014/15. Cycle to work salary sacrifice road shows were held at the main council offices throughout the year and a selection of events were held to promote National Bike Week.
- 4.8 In line with our commitment to reducing CO₂ emissions from vehicles, the Council has established a Salary Sacrifice Car Scheme as part of a government-sponsored initiative to provide a leasing arrangement for low emission cars. During 2014/15, 116 cars were delivered with a further 46 awaiting delivery. This gives a total of 303 cars delivered since the scheme began. They cover a wide range of manufacturers. The CO₂ emissions for the vehicles being replaced by the lease cars has resulted in an average saving of 35%. The best individual saving is 62%.

Pedometer Challenge

- 4.9 The SD Team worked with Let's Walk Cymru to help them develop the Let's Walk Cymru Pedometer Challenge Wales website, which is now free for any organisation or individual in Wales to use as part of their own pedometer challenge. The team provided advice and feedback on the website using evaluation data from previous CCBC Pedometer Challenge events. The Let's Walk Cymru Pedometer Challenge Wales website was then used as part of the 2015 CCBC Pedometer Challenge, which enabled us to provide additional feedback during the challenge period.
- 4.10 CCBC's 4th Annual Pedometer Challenge was held over 4 weeks from February 2nd to 28th 2015, catering for all CCBC employees.. The challenge attracted 45 teams. Teams consisted of between 1 and 25 people, with a total of 338 people participating in the challenge.

Supporting Services

- 4.11 A key element of the work of the SD & LE Team is to support individual services within the Authority to address sustainability issues. In 2014/15 specific projects were undertaken with five services on sustainable development looking at their individual service areas and how they could influence others.

The SD & LE Team has been working closely with the ICT Services, Energy Management Team and Carbon Reduction Group in reviewing sustainability issues with regard to the use of ICT equipment, and looking at the ways in which ICT can support the sustainability agenda.

Climate Change Adaptation

- 4.12 The SD & LE Team has completed the process of producing a Local Climate Impact Profile (LCLIP) for Caerphilly county borough. A database of extreme weather events, between 2003 and 2013, has been collated by reviewing local media reports and interviewing key stakeholders.
- 4.13 Meetings were undertaken with 43 senior officers covering each of the 18 Service within the Authority. One hundred and twenty eight impacts were identified, of which 33 were rated as a high priority for further assessment.

Education for Sustainable Development

- 4.14 Education for sustainable development (ESD) has been a priority within the Authority since October 2004, when a dedicated ESD Officer was appointed to drive forward the agenda in the county borough. Embedding an understanding of sustainable development within schools, early years settings and young people is seen as a vital element of achieving a sustainable county borough. The ESD Officer role is currently split 60/40 (ESD/ SD) to

support the areas of work covered by the SD Team.

Eco Schools

- 4.15 All 90 schools in the Caerphilly county borough have achieved an Eco School award, these are broken down into 7 bronze, 19 silver and 64 green flag awards. The schools holding a green flag award are currently working towards their 2nd, 3rd and 4th green flag awards. Support has been provided to schools on Eco Schools and ESDGC via individual support visits, training days, developing relevant resources and undertaking green flag assessments.

Solar Schools

- 4.16 In partnership with United Welsh Housing Association, solar photovoltaic panels have been installed on 16 schools and 1 education centre in the Heads of the Valley area through the Solar Schools Project, supporting the energy efficiency topic of the eco school programme, as well as supporting the authority's commitment to reducing carbon emissions.

Literacy & Numeracy Framework

- 4.17 To support schools embedding the requirements of the new Literacy and Numeracy Framework within their curriculum planning, ESDGC/ LNF resources have been developed to help teachers include ESDGC as a theme for classroom teaching. The resources cater for years 2, 6 and 9 but include activities, lesson plans and resources that can also be tweaked for other year groups.

Greener Caerphilly

- 4.18 The Sustainable Development & Living Environment Team co-ordinate the "Greener Caerphilly" outcome theme of the Caerphilly Single Integrated Plan. The work is based on the 3 themes:
- G1: Improve local environmental quality
 - G2: Reduce the causes and adapting to the effects of climate change
 - G3: Maximise the use of the environment for health benefits
- 4.19 The Greener Caerphilly Group was successful in securing an allocation of funding from the Authority's Community Schemes Fund for the Group to undertake priority projects during 2014/15. The Group operates a small grants scheme, which requires at least a £1 for £1 match funding to encourage maximum partner input. In 2014/15 the Community Scheme provided funding worth £12,431 to support 6 projects.

Rural Development Plan (RDP)

- 4.20 In 2011 two Sustainable Energy Officers joined the SD & LE Team. They are funded through the RDP programme to deliver the sustainable energy element of the programme. The main aim of their project is to engage with farm households and rural businesses to reduce energy use, promote the uptake of renewable energy, and help them to adapt to climate change. RDP funding came to an end at the end of December 2014.

The officers provided 3 levels of support. Level 1 covers information and advice, and includes:

- Telephone and email advice on energy efficiency and renewable energy
- Information on grants/loans, signposting to external organisations
- Desktop solar power assessments
- Factsheets

The factsheets cover the different renewable energy technologies, including biomass, heat pumps, micro hydro, solar photovoltaic, solar thermal and wind. The factsheets are aimed specifically at rural businesses.

Energy Surveys

- 4.21 Level 2 included surveys and support. As part of the process of promoting energy efficiency and renewable energy to businesses, the RDP Sustainable Energy Team were able to offer free energy surveys to businesses whose bills are under £30,000 per year. The energy survey included a site visit, during which a questionnaire is completed. Following this a report is generated that provides advice and recommendations on how the owner can improve the energy efficiency of the site, look at suitable renewable energy technologies (if any) and provide approximate costs and paybacks.

Maes Yr Onn Off Grid Farmhouse

- 4.22 Level 3 support included mentoring and exemplar projects. The first exemplar is the development of a new farmhouse in a completely off grid setting, near Manmoel. The design is inspired by the traditional Welsh longhouse and compliments the upland setting of the rural area. Maes Yr Onn Farm lacks mains connection of electricity, gas, water or sewage services. This provided some difficult challenges in integrating and balancing energy production and use within the property, but also some opportunities to promote sustainable solutions to energy/resource use and energy generation issues. A partnership between the RDP Sustainable Energy team, Building Research Establishment (BRE), SSE and Constructing Excellence in Wales (CEW) worked with the Davies family to provide a solution that balances resource efficiency with renewable technologies.

Monitoring and Measuring Progress

- 4.23 The SD & LE Team reports to a number of groups and against the indicators in several strategies within the Authority. The table below highlights progress against selected indicators:

Indicator	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Actual	2013/14 Actual	2014/15 Target	2014/15 Actual
Number of Services supported	4	5	5	7	5	5	5	5
The number of staff on the 'Cycle to Work Scheme'	New PI	New PI	104	221	291	360	375	390
The percentage of schools with a Green Flag award under the Eco Schools programme	32%	39.5%	51.6%	58%	62%	67%	70%	71%
The number of education for sustainable development training with schools	New PI	New PI	128	102	89	89	100	91
Number of staff on our "Car share database"	New PI	New PI	293	321	342	354	380	384
Number of sustainable travel events held	New PI	New PI	10	13	11	9	9	6
Number of Climate Change Woodlands created	New PI	New PI	1	3	3	5	2	1

Farms and rural businesses advised on sustainable energy issues	New PI	New PI	New PI	28	28	37	40	51
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Funding

4.24 The Sustainable Development & Living Environment Team secured an additional £126,037 to contribute to our work in 2014/15.

5. EQUALITIES IMPLICATIONS

5.1 This report is for information purposes only.

6. FINANCIAL IMPLICATIONS

6.1 There are no financial implications associated with this report.

7. PERSONNEL IMPLICATIONS

7.1 There are no personnel implications.

8. CONSULTATIONS

8.1 See list below.

9. RECOMMENDATIONS

9.1 That the Panel notes the achievements against the priorities set for 2014/15.

10. REASONS FOR THE RECOMMENDATIONS

10.1 For the reasons set out in the report.

11. STATUTORY POWER

11.1 There are no statutory powers.

Author: Paul Cooke – Team Leader, Sustainable Development & Living Environment
Tracy Evans – Education for Sustainable Development Officer

Consultees: Cllr Ken James - Cabinet Member for Regeneration, Planning and Sustainable Development
Cllr Derek Havard - Vice Chair, Sustainable Development Advisory Panel
Chris Burns – Interim Chief Executive
Christina Harry Corporate Director - Communities
Pauline Elliott – Head of Regeneration & Planning
Paul Rossiter – Energy & Water Conservation Officer
Alison Palmer – Community Planning Co-ordinator
Natasha Ford, – Supplier Relationship Officer
Wayne Turner – Network Development Officer.
Steve Martin - Principal Contracts Officer (Energy)

Appendices:
Appendix 1: SD&LE Team Annual Report 2014/15

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Sustainable Development & Living Environment Team Annual Report 2014 - 2015



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Introduction

Sustainable development is one of the central principles guiding the work of Caerphilly County Borough Council. The Single Integrated Plan provides the overarching vision of a sustainable county borough, with the Authority's commitment and contribution to this shared partnership vision set out in "Living Better, Using Less", the Authority's Sustainable Development Strategy.

This report highlights the work of the Sustainable Development & Living Environment (SD & LE) Team in 2014/15.

The team works in partnership with the Sustainable Development Advisory Panel (Members Panel), Sustainable Development Core Group (Officers & Members Group), Rural Development Plan Team and the Greener Caerphilly Outcome Group. It should be noted that this report does not seek to identify all sustainable projects throughout the Authority, but identifies areas where the SD & LE Team, Core Group, Sustainable Development Advisory Panel (SDAP) or Greener Caerphilly Outcome Group have been involved. It is part of the role of these 4 groups to provide support and to promote a culture where sustainable projects can develop with or without their direct support.

The Sustainable Development & Living Environment Team contributes to the objectives set out in the following Council strategies:

- Corporate Improvement Plan
- "Living Better, Using Less", the Council's Sustainable Development Strategy 2008
- Carbon Reduction Strategy
- Corporate Travel Plan
- Regeneration & Planning Division Service Improvement Plan

The work also contributes to the objectives set out in the following partnership strategies:

- Caerphilly County Borough Single Integrated Plan
- Caerphilly County Borough Education for Sustainable Development & Global Citizenship (ESDGC) Strategy
- Rural Development Plan

The work of the Team is divided under the following four headings:

- Sustainable Council
- Education for Sustainable Development
- Greener Caerphilly
- Rural Development Programme, Sustainable Energy

This Annual Report is structured to reflect these areas of work.



Executive Summary

2014/15 was an important year for sustainable development in Wales with the Well-Being of Future Generations (Wales) Act achieving Royal Assent. From April 2016 the Act will place a duty on public bodies in Wales, including local authorities, to make decisions that leave a positive legacy for our children, and children's children. Members of the Sustainable Development & Living Environment (SD & LE) Team have been involved in various working groups to develop the legislation and guidance, and to identify what the Authority will need to do to comply with the duty.

The SD & LE Team continues to raise awareness of the key sustainable development issues that affect the Authority, and to implement projects designed to demonstrate the principles of sustainable development and to improve the sustainability of the Authority. However a staff questionnaire, completed by over 1,000 employees, has identified that levels of understanding of sustainable development are falling.

The Education for Sustainable Development work continues to go from strength to strength, demonstrating the benefit of employing a dedicated ESD Officer.

During 2014/15 the Team has undertaken joint projects and given specific support to Services including Planning, ICT, Procurement, Property and Housing.

The Team co-ordinated the transition of the Living Environment Partnership of the Community Strategy into the Greener Caerphilly Outcome Group of the Caerphilly Single Integrated Plan. The Team also continues to co-ordinate the work of the Greener Caerphilly Outcome Group to ensure that we maximise the benefits of working in partnership on environmental issues. In 2014/15 this has included co-ordinating the work funded by the Authority's Community Scheme Funded, Local Environmental Quality Small Grants programme.

The Team continued to deliver the Sustainable Energy element of the Rural Development Plan (RDP) up until 31st December when the programme closed. Work completed up until this time included raising awareness of sustainable energy and climate change issues with farms and rural businesses in the eligible rural wards.

Some key achievements in 2014/15 include:

- Assessing the Authority's ability to adapt to climate change which involved interviews and consultation with 43 senior officers from across all 18 of the Authority's Services.
- 71% of our schools have achieved a Green Flag (the highest award) under the Eco Schools programme. Ten schools have achieved their second Eco School green flag award, with twenty-two schools also achieving their third flag and working towards their platinum award. Sixteen schools have achieved the coveted Eco Schools Platinum Award.
- Sustainable Energy advice was given to 51 farms and rural businesses in 2014/15
- The SD & LE Team secured a total of £126,037 of funding for projects in 2014/15.



Sustainable Council

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Sustainable Council

The Council has had a long commitment to sustainability and approved its first sustainable development policy in 1997. It has successively built on this foundation. In 2008 the Council published its **Sustainable Development Strategy, “Living Better, Using Less”**, which sets out the approach that the Authority is taking to sustainable development and our vision for a sustainable county borough. It sets out our strategy for tackling the issues and explains how we will manage and monitor the process and how we will report on progress.

2015 was an important year for sustainable development in Wales with the preparation and consultation on legislation to require public bodies in Wales, including local authorities, to make decisions that leave a positive legacy for our children, and children’s children, and to report on how we are complying with the Bill from 2015/16.

The Well-Being of Future Generations (Wales) Act

The Bill was tabled in July 2014, as the start of its legislative journey through the National Assembly.

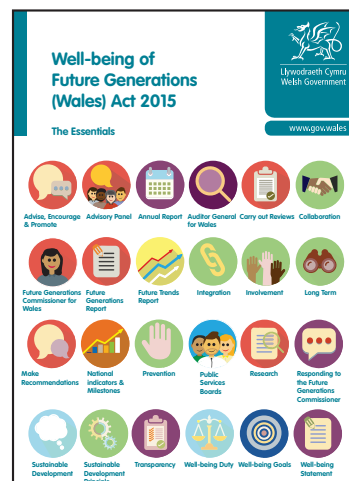
The Act is in 4 parts:

- Part 1: Introduction and Key Concepts
- Part 2: Overview of the main provisions
- Part 3: Establishes the office of Future Generations Commissioner for Wales
- Part 4: Establishes a Public Services Board for each local authority in Wales

The general purpose of the Act is to ensure that the governance arrangements of public bodies, including local authorities, for improving the well-being of Wales take the needs of future generations into account. The aim is for public bodies to improve the economic, social and environmental well-being of Wales in accordance with the sustainable development principles

The Act sets out 7 well-being goals against which all public bodies must set and publish well-being objectives that are designed to maximise their contribution to the achievement of these well-being goals. These are:

1. A prosperous Wales
2. A resilient Wales
3. A healthier Wales
4. A more equal Wales
5. A Wales of cohesive communities
6. A Wales of vibrant culture and thriving Welsh language
7. A globally responsible Wales



Sustainable Development Principle.

In applying the sustainable development principle the Act requires that public bodies take into account:

- The importance of balancing short-term needs with the need to safeguard the ability to meet long-term needs.
- The benefits of taking an integrated approach by considering how: an objective may impact upon each of the well-being goals and the social, economic and environmental aspects and; the impact of the body's objectives on each other and upon other public bodies' objectives.
- The importance of involving those with an interest in the objectives, seeking views and taking them into account.
- How collaborating with any other person could assist the body to meet its objectives, or assist another body to meet its objectives.
- How deploying resources to prevent problems occurring or getting worse may contribute to meeting the body's objective, or another body's objectives

Reporting

National Indicators and Annual Well-Being Report. The Welsh Ministers must publish national indicators that may be applied to measuring progress towards the achievement of well-being goals. They must then also report annually on progress towards the goals by reference to the indicators.

Future Trends Report. The Welsh Ministers must, within 12 months after the general election, publish a report that contains predictions of likely trends in the economic, social and environmental well-being of Wales; and any related analytical data and information that the Welsh Ministers consider appropriate

Annual Reports by other public bodies. Public bodies covered by the act, including local authorities, are required to publish annual reports of the progress they have made in meeting their well-being objectives. At the same time the public body must review its well-being objectives, and if they are no longer considered appropriate they must amend them and include an explanation of reasons for any amendment.

In April 2015 the Bill received formal Royal Assent and became the Well-Being of Future Generations (Wales) Act.

WLGA Early Adopters programme

As the Well-Being of Future Generations (Wales) Act will require local authorities to report on how they are complying with the duty from April 2016, the WLGA developed an "early adopters" programme for local authorities to start to work towards the requirements of the Bill.

On the 21st August 2014, the Corporate Management Team approved a recommendation for Caerphilly to join the WLGA early adopters programme. Caerphilly being one of eleven local authorities and three national parks that joined the programme.

The aim of the support provided by the WLGA was to help participants to take some initial steps to position their authority to respond to the Bill's requirements. Over time, it is anticipated that this should help authorities to develop new ways of working that maximise the benefits of an SD approach.

The following support was provided by the WLGA:

- a diagnostic self-assessment tool to help an authority establish its current position and priorities in relation to requirements of the Bill and the 'building blocks'



- participation in a webinar series to develop in-house expertise in vital areas (e.g. foresighting and the production of ward-based scenarios; integrated reporting; building SD into the budget setting process)
- links to working groups on integrated reporting and indicator development
- invitations to free events on policy specific issues such as climate change adaptation and flood and water issues
- networking with other early adopters to share best practice and offer peer-to-peer assistance
- access to a wide range of support materials via the WLGA website, which is currently being revamped to provide additional resources

Importantly, early adopters were given an opportunity to help shape the guidance to support implementation of the Bill. This included an opportunity for local authorities to engage with the WG, WAO and WLGA to shape the guidance covering the reporting, monitoring and requirements of the Bill.

The first part of the programme involved senior officers from the authority completing an on line

diagnostic questionnaire to establish the starting point for each of the early adopter authorities. The self-assessment questionnaire was structured around the ten building blocks that WLGA believe need to be in place to respond effectively to the new legislation. Twelve senior officers were nominated by CMT to complete the questionnaire.

The responses to the questionnaire were analysed by the WLGA and a report produced that identified the current situation and potential areas for action.



Corporate Sustainable Development Annual Report

In January 2014, the Sustainable Development Advisory Panel endorsed a recommendation to produce a Corporate Sustainable Development

Annual Report each year, starting with a report for 2013/14. The preparation of this report is seen as an important step by the Authority in preparation for the introduction of the “Future Generations Bill” by Welsh Government in the summer of 2014. However without the specific details of the reporting requirements to comply with the Act, this work has been put on hold.

Service Plan, Sustainable Development Statement

Each year, every service within the Authority produces a Service Plan, which sets out what they will achieve and how they will deliver their services. The Service Plan process has a key role to play in ensuring that services are considering economic, social and environmental issues related to their service delivery.

Since 2004/05 each service has been required to complete the SD Integration Tool as part of the Service Plan process. The Integration Tool was a simple self-assessment form for services to complete before writing their Service Improvement Plan. It enabled them to assess their contribution to the 28 objectives of the Community Strategy. The 28 objectives taken together are an expression of sustainable development in Caerphilly county borough, therefore by completing the tool services



were assessing their contribution to the overarching principles of sustainable development and equalities.

In 2006/07 the Integration Tool was updated to require evidence in support of scores, partly in response to the new Wales Programme for Improvement requirements.

For 2013/14 reporting, the previous SD Integration Tool was replaced with a new SD Statement for services to complete. This was for 3 main reasons:

1. The previous tool asked services to score their contribution to the 28 objectives of the Community Strategy. From March 2013 the Community Strategy was replaced by a Single Integrated Plan, which contains 6 outcome areas for improving and reporting.
2. The Welsh Government will introduce their "Future Generations Bill" in 2014 which will require local authorities to make SD their central organising principle, and to evidence how they are doing this. The SD Statement will provide key evidence that this is being done.
3. The Welsh Government has issued statutory guidance on the requirements for reporting under the Climate Change Act 2008. Local

authorities are required to report annually on achievements and progress on climate change adaptation. The climate adaptation section of the SD Statement will provide the information required to compile a corporate climate adaptation report.

For 2015/16 the SD Statement element of the Single Plan has been removed. This will be reviewed when the details of the requirements of the Well-Being of Future Generations Act are published.



Regeneration & Planning Division's Service Improvement Plan

The work of the SD & LE Team contributes to the Regeneration & Planning Division's own Service Improvement Plan (SIP). The Team is responsible for 4 objectives within the SIP:

1. To take the lead on sustainability issues within the Council and to promote a better awareness and understanding of sustainable development amongst staff, Members and residents of the county borough.
2. To drive the Eco Schools programme in Caerphilly County Borough and to support all schools to enable them to achieve an Eco Schools award.
3. To support the Living Environment Partnership and its Working Groups, to enable them to deliver against their respective Community Strategy Objectives, and to support collaborative working with the other thematic Partnerships wherever practicable.
4. To lead on the Living Environment Partnership's work on Climate Change, developing a delivery mechanism for the Caerphilly Climate Change Strategy and the roll-out of the Climate Change Commitment.

Sustainable Development Advisory Panel

The Sustainable Development Advisory Panel (SDAP) was set up in February 2002. It consists of 11 elected members across all political parties. In 2014/15 the Panel was chaired by the Cabinet Member with responsibility for Sustainable Development. SDAP has a remit to look at any aspect of sustainable development within the Council, or within the wider county borough, and makes recommendations direct to Cabinet. It is responsible for raising the profile and understanding of sustainable development with Members and officers, to the point that it becomes an automatic part of mainstream decision-making and action.

In 2014/15 SDAP met 4 times and received reports on a variety of topics including:



- Well-Being of Future Generations (Wales) Bill
- Nant y Cwm Farm, One Planet Development
- Maes Yr Onn Farm – how is it performing?
- Cyd Cymru Collective Energy Switching Scheme

Sustainable Development Core Group

The Sustainable Development Core Group was established in 2000 to implement SD initiatives within the authority. Following the establishment of SDAP it provides support to SDAP, and together the 2 groups co-ordinate the mainstreaming of sustainable development in the Council and in the wider county borough.

The Core Group is made up of officers from different services across the authority. It is chaired by the Chair of SDAP to provide a link and to ensure the effective working relationship of the two groups.

Sustainable Development Charter

In July 2011 Caerphilly County Borough Council signed the Welsh Government's Sustainable Development Charter. The aim of the Charter is to contribute to making Wales a sustainable nation by encouraging organisations to work with the Welsh Government to deliver sustainable development objectives.

By signing the charter, we have committed to make sustainable development our central guiding principle, and will promote and deliver wellbeing through our decisions and operations by:

- ensuring that all decisions promote long term, sustainable wellbeing of people (including employees) and communities;
- ensuring that all decisions take full account of, and where possible fully integrate, the various social, economic and environmental outcomes that are being sought;
- engaging with, and involving, the people and communities that will be affected by these decisions, so that working in partnership for sustainable development becomes part and parcel of the way we work.

We report annually on our work on sustainable development and progress towards achieving our commitments under the SD Charter.

More information on the Welsh Government's Sustainable Development Charter can be found at:



[Click to download the Welsh Government Sustainable Development Charter](#)

Sustainable Development Strategy 2008, “Living Better, Using Less”

“Living better, using less” sets out the approach that the Authority is taking to sustainable development and our vision for a sustainable county borough.

The objectives are:

Objective 1.

To promote longer healthier lives, with a target of ensuring an average life expectancy for a resident, wherever they live in the county borough, of at least the UK National average by 2030.

Objective 2.

To promote fulfilled and satisfied lives, with a target of ensuring an average life satisfaction rating for a resident of the county borough of at least the UK national average by 2030.

Objective 3.

To consume less resources, with a target of ensuring that the average ecological footprint for a resident of the county borough is 2.87 global hectares by 2030 (Based on a target of “one planet living” by 2050)

Caerphilly Sustainability Index

The complex interaction of these three objectives is at the heart of what the strategy aims to achieve.

This interaction can be expressed by the following equation:

$$\text{Living better using less} = \frac{\text{Long, Healthy Lives x Satisfied Lives}}{\text{Resources Consumed}}$$

Calculated as:

$$\frac{\text{Life expectancy X Life satisfaction}}{\text{Ecological Footprint}}$$

The equation calculates the resource efficiency with which long, healthy and satisfied lives are delivered.

Whilst we need to improve well-being and quality of life (top of the equation) we must do it in a way that reduces the amount of resources we consume (bottom of the equation) to reduce the demand we place on the environment and natural resources.

As part of both the process of explaining and monitoring of the strategy we developed a Caerphilly Sustainability Index (CSI) in 2008,

which allows individuals to calculate their own sustainability score. By answering some simple questions individuals are given a score for each of the 3 elements of the equation as well as their overall sustainability score. The on-line version generates a report for each person who completes it, providing tips and sources of further advice, based on their answers. This work, developed in partnership with the New Economics Foundation (NEF) will hopefully result in action and behaviour change. For further information Visit: www.sustainablecaerphilly.co.uk

Sustainable Development Website

The Sustainable Caerphilly website encourages people to live a more sustainable lifestyle by Living Better and Using Less. The website has been revamped and the new version went live in February 2015. It has five sections focusing on sustainable living, sustainable schools & ESDGC, the Rural Development Programme, a Greener Caerphilly and a sustainable council. The website also continues to feature the online questionnaire, the Caerphilly Sustainability Index, which allows people to find out how sustainable they really are.

The website provides lots of useful information for schools, businesses, residents and staff to help them adapt to a more sustainable lifestyle by reducing

costs, carbon emissions and their impact on the environment. The website will be updated as and when required to ensure the information provided is relevant to users.

For further information visit: <http://your.caerphilly.gov.uk/sustainablecaerphilly/>

Sustainable CCBC Intranet Site

The Sustainable CCBC Intranet site has been designed to encourage staff to live and work more sustainably. The site has six sections focussing on Energy & Water, Health & Lifestyle, Travel and Transport, Procurement, Waste Minimisation and the Green Teams. The site also promotes the authority's salary sacrifice schemes, which include the "cycle to work" and "green car" schemes. The intranet site is updated as and when required to ensure staff are aware of new initiatives.



Staff SD, health and wellbeing survey

A staff SD, health and wellbeing survey was developed by the SD and Health Improvement Teams to update indicators that both teams use to monitor understanding and progress in their areas. It was agreed that a combined questionnaire providing information for the Employee Health & Wellbeing Group would be the best use of resources and provide the best response rate. Questionnaires were sent electronically to all staff with access to the intranet. Additional work was done to ensure that employees in depots, canteens and in service where they did not have access to the intranet were engaged in the process. This was done by using the team meeting structures or by visiting depots to talk directly to staff.

In total 1,014 responses to the 2014/15 survey were received. Of the respondent 7% were school based and 51% mostly office based.

In comparison, the staff survey undertaken in November 2008 was sent out in the post to the homes of 1,000 staff randomly selected using the payroll system. 248 responses were received to that survey with 52.8% of respondents based within a school, and 25.7% mostly office based.

The staff survey undertaken in October 2007 was sent out to all staff using the payroll system. Out of the 9,000 employees, 8.6% of staff (777 employees) completed and returned the survey. Of these 23% were based within a school and 55% mostly office based.

Since reorganisation of Services leisure Services have moved from Education to Community & Leisure, and Corporate Services and Chief Executives have combined. This difference in the break down of the groups of respondents from the 3 surveys may mean that it is difficult to draw meaningful conclusions from direct comparisons of responses. The changes to the structure make it difficult to compare the results from the 3 surveys by Directorate.

Sustainable Development Indicators.

As part of the survey, questions were included to obtain data on 4 SD indicators.

Level of understanding of sustainable development

To assess levels of understanding of SD, respondents were asked to identify their level (1 – 5) using a flow chart. The higher the level the greater the understanding. Level 1 indicates that they have

never heard of the term sustainable development, whereas Level 5 indicates that the respondent understands the term, and the implication on their life.

Overall the average level of understanding of sustainable development from the 14/15 survey was 2.37. This was down from 2.5 in 2008 and further down from 2.6 in October 2007.

Levels of understanding by Directorate

Responses to the 2014/15 survey show that there has been a slight decrease in the percentage of staff driving to work on their own since the 2007 staff survey. Car share percentage has decreased, but the

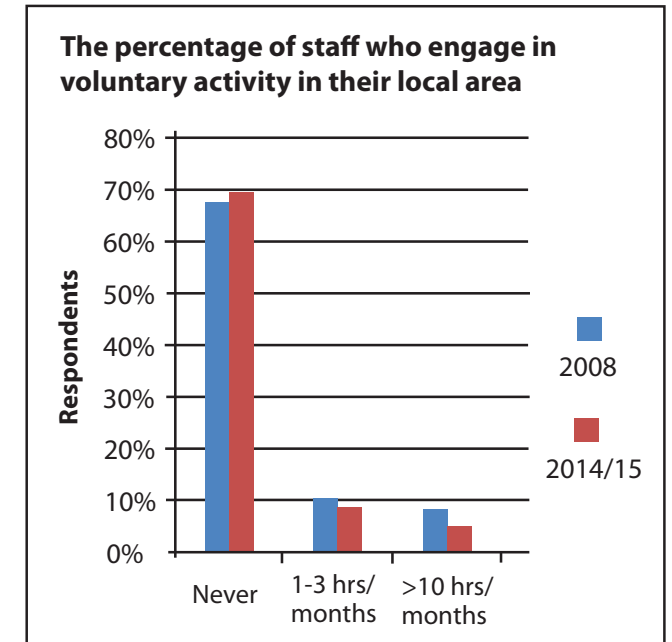
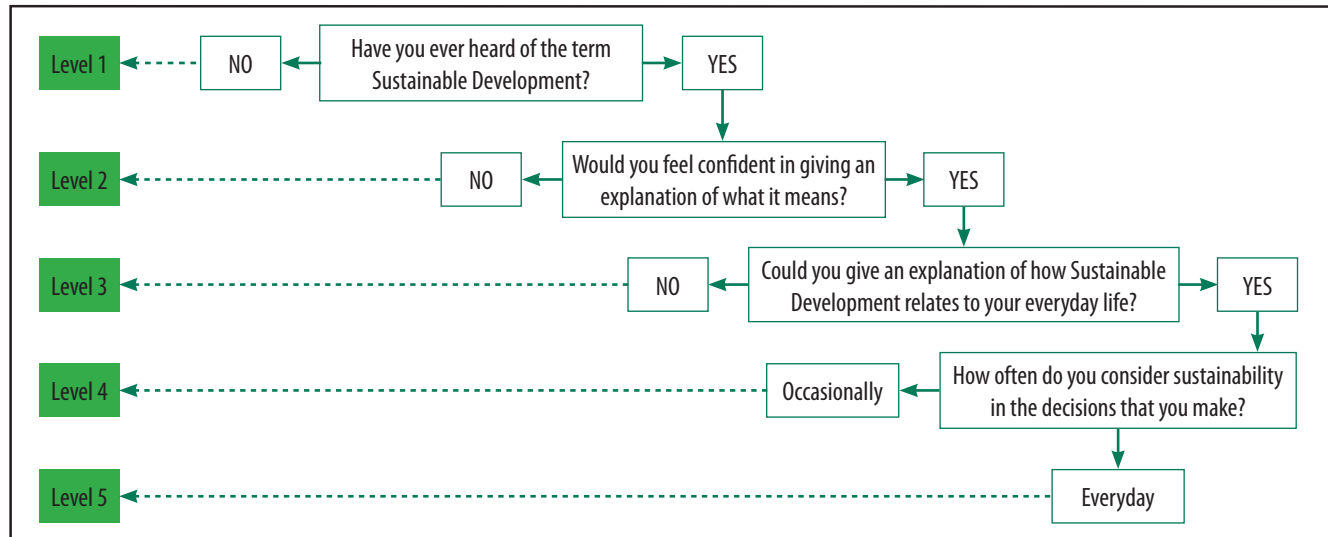
percentage of staff walking to work has increased.

Directorate	Number of responses	Average level of understanding of SD
Corporate Services	269	2.61
Education & Lifelong Learning	198	1.98
Social Services	160	2.11
The Environment	293	2.59
Caerphilly County Borough Council	920	2.37

Thirty minutes of exercise 5 times per week is the recommended minimum amount of exercise to remain fit and healthy. Vigorous (e.g. sport, running, cycling) physical activity is more beneficial. The 2014/15 staff survey shows that the percentage of staff completing 30 minutes of vigorous exercise at least five times a week has decreased drastically since the 2008 staff survey. Just over a quarter of respondents do not take part in any light physical activity, however, 65% of respondents felt that they were physically active.

Levels of staff who undertake voluntary activity has decreased slightly since the 2008 staff survey.

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Sustainable Travel

Travel and transport account for 16% of the UK's emissions of CO₂. The Sustainable Development Advisory Panel has identified travel and transport as a key sustainability issue for the Authority to address. The SD & LE Team has been involved in events and projects to raise awareness of the issues and to begin to take practical action to address their impact.

Sustainable Travel Events

Six events promoting sustainable travel, and highlighting the support and initiatives available to staff to enable them to travel more sustainably were run in 2014/15. Cycle to work salary sacrifice road shows were held at the main council offices throughout the year and a selection of events were held to promote National Bike Week.

National Bike Week

Caerphilly County Borough Council staff got on their bikes to celebrate National Bike Week 2014. The annual event took place between Saturday 14 and Sunday 22 June and saw staff ditch the car in favour of a healthier mode of transport.

We encouraged staff to swap their daily drive to work for a more leisurely bike ride, improving their fitness, reducing petrol costs and lowering their impact on the environment at the same time. A number of lunchtime bike rides were also arranged to demonstrate the fantastic cycle routes and country parks situated throughout the county borough which are perfect for a casual afternoon ride, or a more challenging adventure.

There was the chance for staff to give their family's bikes a check-up at a number of 'Dr Bike' sessions. An expert mechanic was on hand to perform safety checks, make minor repairs and recommend any major work required in order to ensure everybody was safe on the road.



The twenty-five staff that cycled to work also received a free breakfast or lunch. This was also run at Bedwas High School offering both staff and pupils a free breakfast for cycling to school.

A bike calculator was also promoted during the week to show people how much money they could save and how many calories they could burn by cycling to work.

Cycle to Work Salary Sacrifice Scheme

The Cycle to Work Salary Sacrifice Scheme was re-launched in September 2014 with a new provider, Cyclescheme, and the work continues to encourage staff to cycle to work. The tax efficient scheme has been promoted to staff via pay slip flyers, all users email and promotional events held at the main council buildings during 2014/15. A total of 390 bikes have been purchased through the scheme since it started.

Pontllanfraith Pool Bike Scheme

Pontllanfraith House has 15 pool bikes (7 mountain bikes, 3 hybrid bikes and 5 electric bikes) available for staff to use for leisure purposes during the lunchtime period and after work and to cycle to and from work. Staff can also use the pool bikes for work related journeys for distances within a 4-mile radius of their office, subject to manager's approval.

Penallta House Pool Bike Scheme

Penallta House has 6 bikes (3 mountain bikes and 3 hybrid bikes) available for staff to use for leisure purposes during the lunchtime period and after work/ during weekends, and to cycle to and from work. Staff can also use the pool bikes for work related journeys for distances within a 4-mile radius of their office, subject to manager's approval. Lockers have also been installed at Penallta House to support staff cycling to and from work or during the lunchtime period.

Mileage Allowance for Bikes

In order to promote the use of cycles in line with the council's health and wellbeing and sustainable development initiatives, a cycle mileage allowance can be claimed where employees use their own bike to undertake their duties. This rate is paid at the prevailing HMRC rate, which is currently 20p per mile.

Pontllanfraith Staff Mountain Bike Club

A staff lunchtime mountain bike club has been established to encourage staff based at the Pontllanfraith council offices to improve their health and fitness. The mountain bike club meets regularly for a local cycle. Cycle routes vary to accommodate new and existing members.



Carshare scheme

The SD & LE Team continues to promote the carshare scheme and associated walk budi and cycle budi schemes. A total of 42 dedicated car share spaces have been designated at the 6 main sites. To date 384 members of staff have registered on the car share scheme.

In order to help the council meet its sustainable development agenda, a car share mileage payment has been introduced for employee's car sharing with other CCBC employees. A payment of £0.05p per mile per passenger, up to the maximum of the seating capacity of the car will be paid for employees using their cars on council business.

Green Autos Salary Sacrifice Scheme (GASS)

In line with its commitment of reducing CO₂ output from vehicles used on business mileage and in commuting to work, the council has established a Salary Sacrifice Car Scheme as part of a government sponsored initiative to provide a leasing arrangement for low emission cars. The Council believes this is a good way to support employees during these tough economic times and the scheme will also help reduce carbon emissions in line with the authority's sustainability agenda.

This scheme enables staff to be provided with a new low emission car (CO₂ rating of 120g/km or below) of their choice, fully maintained and insured by the provider. Staff pay for the car under salary sacrifice arrangements through a monthly gross salary deduction, which results in a saving in tax, NI and pension contributions for any employee using the scheme. The Council also makes a contribution of £70 per month to each employee taking part where they are part of the LGPS.

The SD Team has worked with HR & Payroll to ensure that systems are in place to capture information on the CO₂ savings achieved by the scheme



During 2014/15, 116 cars were delivered with a further 46 awaiting delivery. This gives a total of 303 cars delivered since the scheme began. They cover a wide range of manufacturers. The CO₂ emissions for the vehicles being replaced by the lease cars has resulted in an average saving of 35%. The best individual saving is 62%.

Pedometer Challenge

The SD Team worked with Let's Walk Cymru to utilise the Let's Walk Cymru Pedometer Challenge Wales website, for the CCBC Pedometer Challenge, which is free for any organisation or individual in Wales to use as part of their own pedometer challenge.

The CCBC Pedometer Challenge was held over 4 weeks from February 2nd to 28th 2015, catering for all CCBC employees.

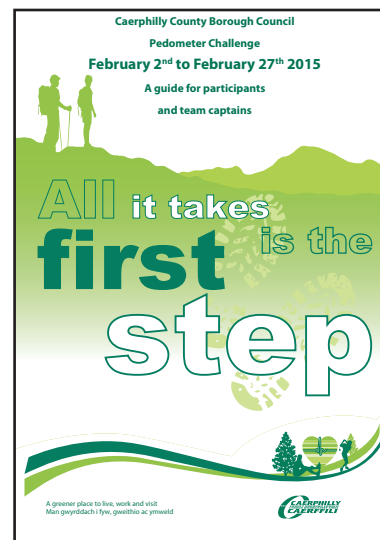
The aims of the challenge were:

- To increase participation in walking
- Educate staff on how many steps they currently undertake on a daily basis
- Promote physical activity and encourage people to be more active, to improve their health and well-being

- Promote the recommended daily steps for an average healthy person, which is 10,000 steps a day, as recommended by the British Heart Foundation

The challenge was a huge success attracting 45 teams. Teams consisted of between 1 and 25 people, with a total of 338 people participating in the challenge.

As well as promoting walking, staff were also encouraged to participate in other forms of exercise, including running, aerobics, cycling, tennis, gardening and housework. To support this the estimated equivalent steps for a variety of activities were included in the pedometer challenge user guide.



The challenge highlighted some key facts including:

- The total distance walked by participants during the four weeks of the challenge was 27,225 miles, just over one time around the world.
- The majority of participants do less than the recommended 10,000 steps per day.
- Members of the winning team walked an average of 1,214 miles over the four weeks of the challenge.
- The top individual of the challenge walked 148 miles over the four weeks of the challenge.

Following the success of the fourth CCBC Pedometer Challenge the aim is for the SD Team to run an annual challenge to continue to raise awareness and understanding of the health benefits associated with walking as well as exercise in general to staff.

Cycle Maps Project

A strategic cycle map has been developed as a partnership project with Sustrans to help promote sustainable travel within the Caerphilly County Borough.

The project involved producing a user-friendly map highlighting details of the cycle routes across the county borough. This includes a plan of routes that will give those living, working and visiting the county borough details of routes they can access for walking and cycling, as well as to link to other facilities.

The map will help encourage more journeys to be made by walking & cycling, thereby helping reduce car use in & around the Caerphilly County Borough.

The map has been designed so it can be downloaded and printed directly from the website, with approximately 10,000 being printed to be distributed to residents and visitors as and when required. The tourism section has supported the cycle map project, printing additional maps to distribute to residents and visitors from venues within the county borough.

Supporting Services

A key element of the work of the SD & LE Team is to support individual services within the Authority to address sustainability issues. In 2014/15 specific projects were undertaken with five services on sustainable development looking at their individual service areas and how they could influence others. Some examples of this work are outlined below.

Planning

The SD & LE Team is based within the Authority's Regeneration and Planning Division. It has close links with the Planning Teams and also provides support and advice to local people making planning applications to enable them to make their developments more sustainable.

Review of the Local Development Plan (LDP)

Caerphilly County Borough Council was the first Council in Wales to adopt an LDP in November 2010. The LDP identifies where new developments such as housing, employment, community facilities, and roads, will go. It provides a framework for local decision-making and brings together both development and conservation interests to ensure that any changes in the use of land are coherent and provides maximum benefits to the community. The SD & LE Team was heavily involved in the process, in particular contributing to the Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) of the plan. The Team Leader was also a member of the high level LDP Focus Group.

The Annual Monitoring Report undertaken in 2013 identified that due to the change in the economic climate the number of houses being constructed in Caerphilly had declined, and thus general housing

targets are not being met and Affordable Housing targets were not being achieved. Further to this, the 5-year land supply that is required is not being attained and the supply currently stands at 3.5 years.

On this basis, it was agreed that a review of the LDP would be undertaken. The SD & LE Team has again been heavily involved in the SA/SEA work and contributed to the LDP Focus Group.



ICT Services

The SD & LE Team continues to work closely with ICT Services, the Energy Management Team and the Carbon Reduction Group on ICT related initiatives.

ICT currently represents about 2% of CCBC's total CO₂ emissions. Within that 2%, 39% can be attributed to PCs and monitors, 23% to servers and

cooling, 15% to fixed-line telecom, 9% to mobile telecom, 7% to LAN and office telecom, and 6% to printers.

Multi Function Printers

To date 270 Multi-Function Printers (MFPs) have been deployed across the Authority.

An average of 330,000 sides of paper were printed per week, 73% in mono and 27% in colour. The duplex rate of 60% has saved just over 25 million pages (equivalent to over 3,000 trees or 126 tonnes of paper) since MFPs were introduced in 2008. This equates to approximately 90,000 pages per week at present. The centralisation of paper and toner processes has led to a reduction in ordering and invoicing for the Authority and a reduction in photocopier leases and contract management.

These changes have ensured a huge reduction in the amount of transport needed to deliver printing consumables to this Authority.

The ICT Team had been working closely with Welsh Government’s (WG) Chief Information Officers Team on testing out a revolutionary toner saving software product called “PretonSaver” and drafting a print strategy report for the public sector in

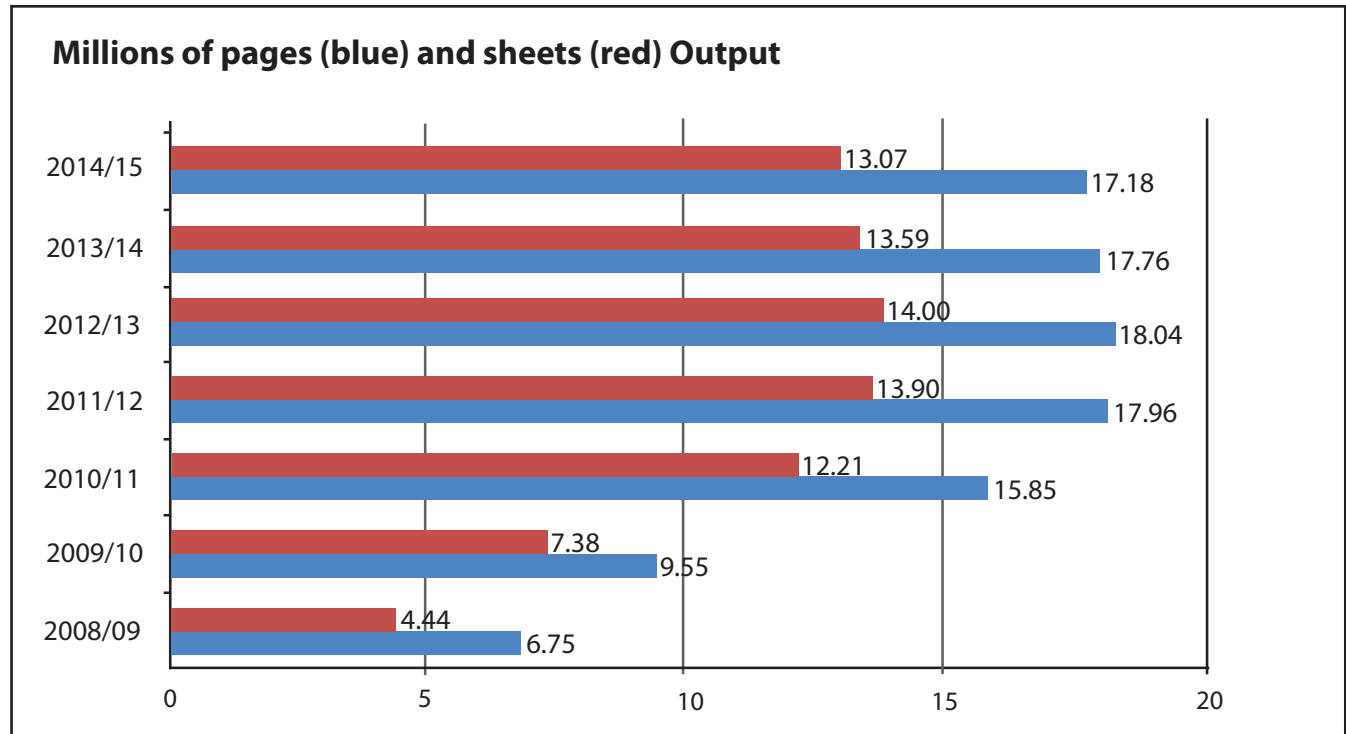
Wales. Following visits to several public sector organisations, Officers from WG had been highly impressed with the level of management and analysis of data that CCBC had developed as part of its print strategy.

The ICT Team are constantly looking at more efficient, sustainable practices and working with Procurement Services to reduce contract prices on printing consumables.

The re-use and secure disposal of ICT equipment

ICT Services still ensure re-use of equipment that is no longer required but is still serviceable.

Corporate PCs that are replaced as part of the PC Replacement Programme are donated back into CCBC Schools. Corporate PC donations to schools are raising the technology levels of equipment, which are more power efficient.



PCs and Monitors that are not reusable are disposed of using ECO Systems IT Disposals, a third party supplier accredited to the highest disposal and security standards, as part of the WEEE Legislation.

ICT equipment disposed in 2014/15

Base Unit	1534
Laptop	219
Monitor	61
Printer	76

Remote Control and Desktop Support to reduce travelling

ICT Services continue to utilise Desktop Remote Control Software to assist with user's helpdesk calls. This allows the engineer to take control of a user's mouse and keyboard as if they are actually sat with the user. This has achieved a dramatic reduction in travelling and fuel costs. Our engineers are also allocated to zones, split North, South, East and West, which further reduces the need to travel large distances.

The ICT Services Engineers have also introduced a mobile application and new phones which allow them to pick up and resolve calls during the working day. This should also reduce travelling and improve performance.



IGEL Thin Clients and PCs

The Authority is moving from PCs to IGel thin clients, where applicable, to reduce the support costs and also the power consumption. With this new technology the devices run on approximately 12 watts of electricity rather than the 50-60 watts used by a standard PC.

The intention is to move to approximately 2000 IGels and 1000 PCs and this will dramatically reduce the power consumption of the Authority.

Work will continue to ensure efficient power schemes are used on the PCs and Multi-Function printers, and that they are shut down every night to ensure maximum savings on power.

CRT Replacements with Flat Panel Monitors in Schools

We are working with the Energy Team to review the current status of CRT monitors compared to TFT monitors in schools. There is potential to save approximately 60% of the electricity used by the device by swapping the technology.

There are approximately 10,000 monitors in schools so the potential savings could be large.

The Salix finance scheme is being used to fund these replacement programmes. See 'Invest to save', page 19 for further information.

CRT Replacements in schools

	Disposed	Donated
Base Unit	413	58
Laptop	225	56
Monitor	386	35
Printer	163	2

Procurement Services

Procurement Services are constantly striving to embed sustainability into their procurement processes and working practises. This includes

incorporating their Sustainability Policy in tender documentation and undertaking Sustainability Risk Assessments (SRA) at the initial stages of all appropriate procurement processes.

The inclusion of Community Benefits (or social requirements) in public sector Procurement is widely recognised as a means of ensuring that wider social and economic issues are taken into account when undertaking procurement exercises. As such, Welsh Government (WG) has included Community Benefits in its Procurement Policy Statement, aspiring to ensure that all those involved in spending public money get the maximum value for every pound spent.



The Council has adopted the WG Procurement Policy and most notably has produced a Caerphilly CBC specific 'Community Benefits Guide'. The guide

demonstrates the value of including Community Benefit initiatives within appropriate projects and without doubt assists the Council with achieving the following objectives:-

- Social & Economic Regeneration;
- Delivery of wider local community and social benefits; &
- Delivery of local and national sustainable development strategies.

The Council spends in the region of £170 million with third parties for goods, works and services and therefore considers that elements of this third party spend will afford an ideal opportunity for the Council together with contractors to enhance employment prospects and skills through the recruitment of local people, training and retention of "long-term" economically inactive people.

Contractors will be expected to work with representatives of the Council to maximise the potential of any Community Benefits that can be delivered through procurement processes and this will include (amongst other initiatives):

- Ensure that social and environmental matters detailed within the procurement documentation, are fully delivered;

- Jobs, training and skills opportunities (through Targeted Recruitment and Training) for local people;
- Maximising supply chain opportunities for SMEs: It is envisaged that successful contractors will work with the representatives of the Council to open up opportunities for SMEs, including social enterprises, to bid for 2nd and 3rd tier supply chain opportunities as they arising. It is expected that this will include advertising sub-contracting opportunities on Sell2Wales;
- Secure other positive outcomes that would benefit the community they operate in, with for example, working with local schools and colleges in providing work experience/work placements; and
- Contributing to community regeneration schemes throughout the county borough.

The Procurement team endeavours to keep up to date on various initiatives linked to Community Benefits and Sustainability. Officers attend various workshops and events in order to gain an understanding on latest developments. This can be demonstrated by attendance at recent events

such as the CIPS Future Generation Bill – Impact on Procurement and Welsh Government’s SRA training course.

To demonstrate the professionalism and commitment of the procurement function, the team recently achieved the Outstanding Contribution Award at the Welsh National Procurement Awards 2015. The team were praised highly for their hard work and received excellent feedback from the judges: “The examples of best practice demonstrated by ‘Team Caerphilly’ could be lifted into any procurement organisation to help ‘raise the bar’ and elevate procurement from the back office to the top table for decision making”.

Carbon Reduction Strategy

The SD & LE Team works closely with the Energy & Water Team, and the Corporate Carbon Management Group to promote energy reduction initiatives and to install renewable energy systems. The Authority, working with the Carbon Trust, developed a long-term carbon reduction strategy in 2009. The ambitious but achievable target of a 45% reduction in CO₂ emissions by 2019 was agreed. It is anticipated that this target will be met by a mixture of:

- good housekeeping (10%)
- invest to save energy efficiency projects (20%)
- good design and asset management (10%)
- renewable energy (5%)

The authority’s energy management team, over the last decade, has instigated and registered impressive carbon and energy savings. This has resulted in annual carbon emissions being 2,621 tonnes lower than where they would otherwise have been.

Good Housekeeping

The authority is seeking to raise awareness and provide training on good practice methods, such as switching off equipment after use, heating/cooling controls, and ensuring there are proper time settings on controls. These are no-cost and low-cost approaches, which result in energy savings.

This element involves behaviour change, ensuring staff are aware that their actions contribute to carbon emissions and encouraging them to turn off lights, computers, or other equipment. These are simple changes that can be made immediately. It is supported by having good benchmarks and data for all buildings.

There have been awareness-training events to school head teachers, caretakers and governors in 2014/15.

Invest to save

The Authority is actively pursuing energy savings that can be achieved by installing energy saving technology such as insulation to prevent heat loss and control equipment such as movement detectors on lighting or voltage optimisation equipment.

Caerphilly aims to change street light lamps from 90 watt Sods to a more energy efficient format called Light Emitting Diodes (LED’s) which run at 19 watts. This will result in significant carbon reductions. Other standard technologies installed include Building Energy Management Systems, insulation, lighting upgrades and controls on equipment. Caerphilly CBC has a proven track record with this approach and compare favourably against other public sector organisations across the UK.

The Authority has been utilising the Salix invest to save scheme since Sept 2004. Salix provide £200k government funding and CCBC has provided £500k. This funding mechanism is used as a loan system across all non-domestic properties to implement energy efficient technologies. This scheme has saved 2,621 annual tonnes of carbon off its current consumption levels. This has also provided lifetime savings of £4.5 million. Savings generated by the scheme are then invested into new projects. Since the programme began over 220 projects have been



implemented using this funding. In 2014/15 this has included the replacement of the oil boiler at Ty Clyd with a gas boiler.

Design and Asset management

The Authority is actively managing its assets to reduce energy use and costs. A programme of replacing old inefficient buildings with new buildings is ongoing.

Choosing the correct buildings to retain or dispose of can have a significant bearing on carbon emissions and constructing energy efficient buildings, which generate less carbon than the buildings being replaced, also makes a significant contribution.

Under occupation of buildings results in increased carbon, this is highlighted where schools heat the whole school for one rooms worth of community evening class.

The Authority's new schools have many energy efficient properties, including up rated insulation levels beyond building regulation requirements. They also include energy efficient lighting and controls, and sophisticated Building Energy Management Systems.



Renewable technology

There is currently no budget for renewable technology. The Authority's approach is to implement good housekeeping, invest to save and asset management before looking to incorporate renewable technology. The authority has however, installed some renewables already, and is proposing to install a photovoltaic system on the Islwyn Indoor Bowls Centre.

It is also proposed to install a PV system in the region of 72kW at the planned Islwyn West Comprehensive School in Oakdale. This would provide carbon savings in the region of 34 tonnes per year.

Corporate Improvement Objective

The Authority has included to "reduce our carbon footprint", one of its 5 Improvement Objectives for 2015/16. The Improvement Objective is structured on the 4 headings in the Carbon Reduction Strategy

Housing

Housing accounts for more than a quarter of energy use and carbon dioxide emissions in the UK. The rising cost of energy has resulted in an increase in Caerphilly residents being driven into fuel poverty. Working with Housing Services, housing associations and residents to address energy issues was identified as a priority for the SD & LE Team in 2013/14 and has continued into 2014-15

The Authority's Housing Services have an on-going programme involving retrofitting homes with innovative measures including, external wall insulation. They also have a programme replacing old boilers with new condensing versions.

In 2012 Council tenants voted to stay with the Council. As a result a programme of work has been put in place to achieve the Welsh Housing Quality Standard for our council homes by 2019/20



Work is ongoing to actively seek to secure funding to enable us to continue to undertake energy efficiency improvements to properties in the county borough such as working with the Heads of the Valleys programme to address homes off the mains gas network.

Arbed Programme.

Arbed is the Welsh Government's Strategic Energy Performance Investment Programme. It was introduced in 2009 to bring social, environmental and economical benefits to Wales and co-ordinate investment into the energy performance of Welsh homes.

In previous years the SD & LE Team contributed to the successful bids for Arbed projects at Fochriw and Hollybush. Recently Caerphilly CBC has also been successful in a bid for Phillipstown, New Tredegar for the Arbed year 3 programme. Once again the works are being project managed and delivered by Melin Homes the appointed management agent for the Arbed programme in South Wales.

Melin anticipates providing measures to approximately 400 homes within Phillipstown. External wall insulation is being applied to nearly 300 homes, and other energy efficiency measures e.g. loft insulation, heating upgrades or fuel

switching and voltage optimisers) will be provided to further properties.

Within the community Melin Homes identified a number of community projects which included

- Funding for Christmas meals for community groups and the youth club.
- Providing EWI at no cost to the community centre.
- Contacting the local school in order to work with them in various ECO, behaviour and education projects.

The project is due for completion in June 2015.



Cyd Cymru

Cyd Cymru is a collective energy switching scheme developed to offer people in Wales an opportunity to save money by coming together to buy fuel "in bulk". The scheme has been developed by Cardiff Council and the Vale of Glamorgan Council, with support from the Welsh Government's "Regional Collaboration Fund".

It was developed in the Autumn of 2013 and two switches have taken place between January and March 2014. 6,800 households across Wales registered. Over 1,500 households switched saving an average of £185 per household.

The scheme is being delivered in partnership with the Energy Saving Trust Wales. In September 2013, a tender for a switching agent was run on Sell2Wales and the winning bidder was the 'energy helpline'. This contract is currently in place until March 2015.



Organisations wishing to get involved in the scheme can do so by signing a Charter, which includes the following pledges:

- Promote collective energy efficiency switching through Cyd Cymru
- Take action to help alleviate fuel poverty which currently affects 30% of Welsh households
- Help households to improve their energy use and increase their knowledge of how to save energy in the home
- Promote the scheme via local press and media, partner networks and engagement events to local residents to encourage registration
- Share local marketing plans (or list of planned activity) with the Cyd Cymru project team
- Share the proposals of the community fund allocated to the council with a locally agreed charity

For each household that switches supplier a fee is paid by the energy provider into a community fund. This fund is redistributed to local authorities across Wales based on the number of fuel switches in each area; this fund should be donated to local charities.

A further report will be presented to Cabinet following the end of the financial year to determine which local charities these funds are to be donated to.

Climate Change Adaptation Report

The Climate Change Act 2008 gave Welsh Ministers the power to issue guidance on climate change impacts and adaptation. It also gave them the power to issue a direction requesting bodies with public functions to prepare an adaptation report. Local authorities are included as 'reporting authorities' as are the Health Boards, Fire Services and others.

In January 2012 the Minister for Environment & Sustainable Development published new statutory guidance, setting out what is required of us. The guidance is in 5 parts.

Part 1: Starting

Sets out what is meant by 'preparing for a changing climate', and showing why it's important and worthwhile. It highlights some linkages with other work, for example with sustainable development, and suggests what good preparation might look like. It also involves learning about how the climate has already changed, how an organisation has been affected by weather in the past, and what we are already doing that counts as preparing for climate change.

Part 2: Investigating

This involves refining the climate change impacts identified in Part 1, and identifying levels of sensitivity and adaptive capacity. It also includes a climate change risk assessment that explores the likelihood and consequence of each impact and provides your organisation with a list of prioritised impacts to develop actions for in Part 3.

Part 3: Planning

This stage leads to an adaptation plan using information generated by previous investigations carried out in Part 2. It includes setting aims and objectives, identifying and prioritising adaptation options, and establishing baseline data and indicators, which help with monitoring and reviewing in Part 5.

Part 4: Implementing

Part 4 discusses implementation of the adaptation plan produced in Part 3. It also addresses the need to build the adaptive capacity of the organisation and partners through training and communication, as well as delivering and managing `adaptation actions.



Part 5. Reviewing

The principal goal of Part 5 is to determine whether the aims and objectives set out in your adaptation plan are being achieved. Reviewing allows for new climate information and any lessons learned to be captured and fed into the process, which should be seen as ongoing.

The guidance recommends the development of a Local Climate Impacts Profile (LCLIP). An LCLIP is one of a suite of tools created by UKCIP to help organisations adapt to climate change.

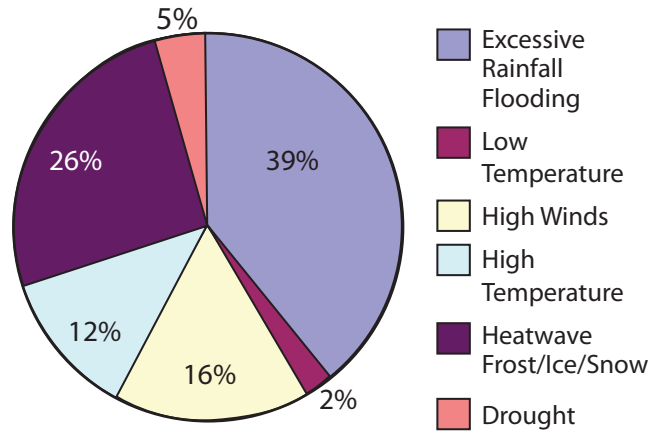
The D & LE Team began the process of producing an LCLIP for Caerphilly County Borough by developing a database of extreme weather events between 2003 and 2013. This was collated by reviewing local media reports. The next stage was to verify the finding through interviews with key stakeholders.

The study identified 89 events of severe weather:

- 35 excessive rainfall/flooding events
- 23 frost/ice/snow events
- 14 storm/high wind events
- 11 Events of high temperatures/heatwave

- 4 Events of drought
- 2 Events of low temperatures/cold spells

Proportion of Weather Types by Media Source



Meetings were undertaken with 43 senior officers covering each of the 18 Service within the Authority. One hundred and twenty eight impacts were identified, of which 33 were rated as a high priority for further assessment.

The interviews and follow up work was compiled into individual reports for each Service which identified the main impacts and implications of

extreme weather events for that Service. All of these reports have been completed in draft and are being agreed with the relevant service area. Once agreed these Service reports will then contribute to the overall Local Climate Impact Profile (LCLIP) report which will provide a picture across the whole Authority.

Across the Authority existing systems are in place which compliment and enable adaptation work. These systems include Business Continuity, Emergency Planning, Corporate Risk Assessment, as well as the individual Service Plans.



	All weather	Excessive rainfall	Frost Ice Snow	Storm high winds	High temperature	Total
Total impacts identified	2	43	32	21	30	128
Rated as high priority	0	13	4	4	12	33

The completed work identified that there is a good understanding of climate change issues across the Authority. Services are aware that the climate is changing, and are considering and/or planning to adapt to the changes they are seeing.

The study also identified that the Authority is subject to numerous changes being driven by a combination of the current financial climate and new legislation. These are driving changes at a quicker rate than the natural adaptation of the organisation to climate change. Many of the potential changes also provide an opportunity to make the organisation more resilient to climate change. The rationalisation of buildings, changes to HR policies to enable more flexible or home working all have the potential to enable us to deal better with severe weather events. Climate change adaptation issues are being factored into the overall change process that the Authority is currently going through.

The completion and approval of the LCLIP will mean that Part 1 of the statutory guidance will be complete. The next step, set out in Part 2, is for those impacts identified as being high priority, to go forward for further investigation, vulnerability assessment and risk assessment. This work will commence when the LCLIP report has been agreed and approved.

Groundwork

The SD & LE Team continues to have close links with Groundwork, with the Team Leader for SD & LE acting as an advisor to the Groundwork Board. Support has been provided in 2014/15 to improve links between Groundwork and Services within the Authority, and to promote their work.

During 2014/15 Groundwork Wales merged with Groundwork Caerphilly. The new trust called Groundwork Wales has a remit to operate across South Wales and is based in Groundwork Caerphilly's offices.



Education for Sustainable Development & Global Citizenship



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Education for Sustainable Development & Global Citizenship

Education for sustainable development (ESD) has been a priority within the Authority since October 2004, when a dedicated ESD Officer was appointed to drive forward the agenda in the county borough. Embedding an understanding of sustainable development within schools and young people is seen as a vital element of achieving a sustainable county borough.

Over the years the role has been expanded to support other services including the youth service, adult education and more recently the early years sector.

Education for Sustainable Development & Global Citizenship Communication

School Communication

Education for Sustainable Development & Global Citizenship (ESDGC) support, communication and delivery has been communicated across the county borough through the Green Links e-newsletter, the ESDGC Practitioner network, education e-bulletins and school updates. The Sustainable Caerphilly website has a specific section providing on-line information and resources for schools, which is updated regularly.

Work has been undertaken to ensure that strong links were made with principal advisors within

Learning, Education and Inclusion to raise awareness and understanding of ESDGC and the work currently being undertaken in the county borough.



Youth Service

Work is on-going to support the youth service to raise awareness and understanding of ESDGC and provide guidance to incorporate ESDGC into the youth work curriculum. Work undertaken to date includes:

- Developed a youth ESDGC Toolkit to support youth workers incorporating ESDGC into the youth work programme. This is being trialled with a number of youth groups in the Caerphilly County Borough, with two groups achieving the bronze award and one group achieving the silver award.

- ESDGC has been incorporated into all aspects of the youth service through their comprehensive ESDGC Action Plan.
- ESDGC web pages developed on the new Sustainable Caerphilly website for the youth sector.
- ESDGC training provided for youth workers on the ESDGC Youth Award Scheme as part of the Youth Service Training Week.
- Supporting youth groups working on the ESDGC Youth Award Scheme.
- Supported the Youth Service Staff Conference to promote the ESDGC youth award scheme and raise awareness of sustainable activities available for youth clubs to participate in.
- Developed ESDGC Youth Award Scheme

ESDGC Youth Award Scheme

The ESDGC Youth Award Scheme has been developed to support youth groups working on environmental and sustainable projects as part of the youth work curriculum.

The ESDGC Award Scheme, the first of its kind in Wales, was developed as a partnership project between Caerphilly CBC and Bridgend CBC Sustainable Development teams and youth services in 2012. It was developed using features from other sustainable award schemes to support youth groups delivering ESDGC action as part of the Estyn inspection process.

There are three levels to the award (bronze leaf, silver twig and gold tree), which is suitable for youth groups of any size. It is expected that each award level will take approximately 12 months to complete.

The ESDGC Youth Award Scheme was launched in February 2012 at Penallta House to promote the scheme to youth clubs and other organisations and was trailed with five youth clubs within the Caerphilly county borough over an 18-month period.

Following the success of the trial, the award scheme will be rolled out to all youth clubs in the Caerphilly County Borough during 2015.

Adult Education

Work is on-going to support adult education to raise awareness and understanding of ESDGC to adult education centre managers and tutors. Work undertaken to date includes:

- An adult community learning ESDGC toolkit, to support tutors incorporating ESDGC into their curriculum areas.
- ESDGC web pages developed on the new Sustainable Caerphilly website for adult community learning.

Education for Sustainable Development & Global Citizenship work with Teachers

Eco School Training

Eco School training was held for 29 primary and secondary school teachers over four sessions to support schools working on the eco schools programme. The training was promoted to schools in the Caerphilly County Borough, to support them progressing through the Eco Schools programme.

The training covered the whole Eco School process to provide additional support for schools holding the Bronze and Silver awards, working towards their Green flag award. The training also looked at the Platinum criteria for schools working towards their Platinum award. Follow up sessions were then held to monitor the progress of the schools going for their awards and to provide additional support if required.

ESD & GC Resource Boxes

The twenty two resource boxes, developed to support schools and youth groups to incorporate ESDGC into the curriculum and youth work programmes have been reviewed and updated with additional lesson plans and curriculum links. The resource boxes contain books, CD's, artefacts, curriculum links and lesson plans and are loaned free to schools on a half term basis. The majority of the resource boxes have been booked every term, with schools and early years settings benefiting from the resources.

ESDGC Education for Sustainable Development & Global Citizenship work with Governors

ESDGC Governor Toolkit

An ESDGC Toolkit for school governors was developed in 2014 as a partnership project with Bridgend County Borough Council.

The toolkit was developed to provide guidance to governors to enable them to support their schools on ESDGC and to support the delivery of sustainable projects and work towards the various award schemes.

The toolkit contains information on ESDGC, sustainable award schemes, activities to run with governors, teachers and pupils and guidance on the Estyn inspection framework and the evidence required for ESDGC.

The toolkit was launched via governor networks and through the Governors Wales network and was presented to CCBC Governors in February 2014, prior to being circulated to all CCBC School Governors. It was also circulated to other ESD officers throughout Wales via the All Wales ESDGC Officers group.

The toolkit has been circulated again in 2015 to schools via the governor networks and Eco School coordinators to ensure all new school governors are aware of the support available to them on ESDGC.

Education for Sustainable Development & Global Citizenship work with Pupils

Early Years

Eco Award Scheme for Early Years Settings

The Eco Early Years Award Scheme has been developed to support early years settings working on environmental and sustainable projects as part of the settings development plan. The emphasis is

on a commitment to environmental awareness and sustainable development within the setting and the wider community



There are 3 levels to the award scheme, bronze, silver and gold, with each award level taking approximately 12 months to complete. The award scheme has been designed to compliment the Healthy Early Years (HEY) Scheme. Settings who complete phase 3 of the HEY scheme, which contains the environment section, will also achieve the bronze Eco Early Years Award. The scheme also complements the Eco School award scheme to

ensure there is continuity when the children move from early years settings to a school setting.

Training has also been provided to support settings working towards the Eco Early Years Award Scheme, via group training sessions and individual support meetings.

Healthy Early Years Award Scheme (Environment Section)

The Caerphilly Healthy Early Years (HEY) Scheme was initiated in 2008 to further support early years and childcare settings to promote the health and wellbeing of the whole setting community including children, parents/carers, and staff members. The ESD Officer supported the development of the Phase 3 Environment section.

The HEY Scheme runs for 3 years with one phase completed each year. The phases contain the following topic areas:

- Phase 1 (nutrition, oral health and play)
- Phase 2 (a safe stimulating environment, emotional health and wellbeing)
- Phase 3 (a health promoting workplace and the environment)

Eco Schools Programme

Eco Schools

We achieved 100% participation in March 2009 with 91 schools in the Caerphilly County Borough working towards the Eco Schools Programme. During 2014/15 schools have received support to help them achieve their bronze and silver eco school awards and progress through the programme to work towards the prestigious green flag awards and platinum awards.

By 31st March 2015, all 90 schools had achieved an Eco School award. Out of the 90 schools with an award, these are broken down into 7 Bronze, 19 silver and 64 Green Flag awards (including 10 second green flag awards and 22 third green flag awards). To date an amazing 71% of our schools hold the Eco School green flag award.



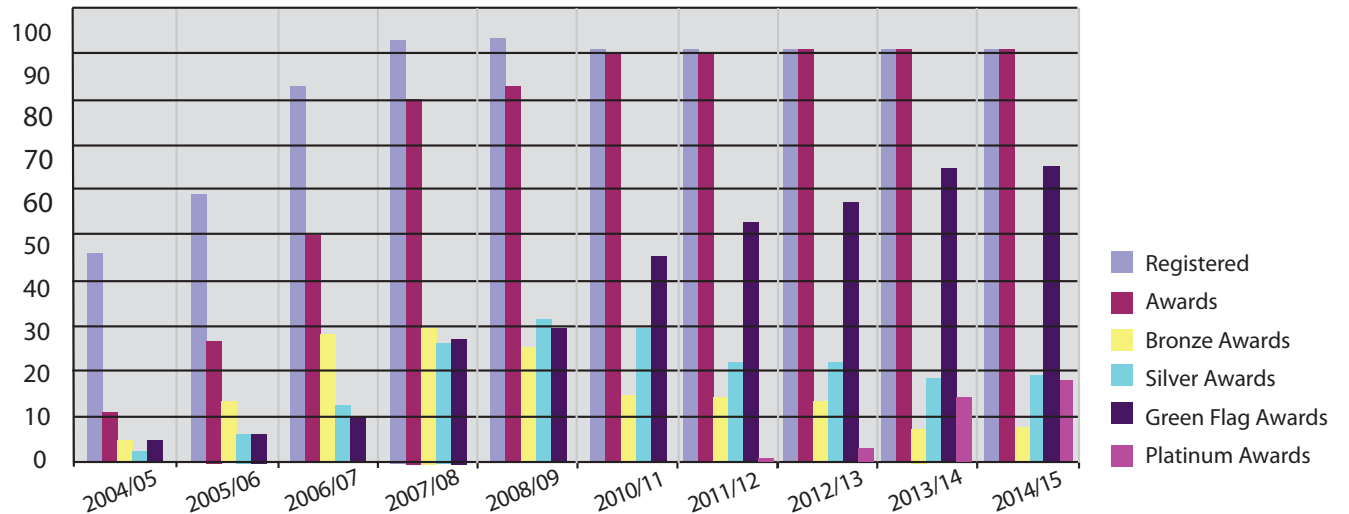
Sixteen schools in the county borough have also achieved the prestigious Eco School Platinum award (4th Green Flag) to date, these are:

- St Gwladys Bargoed School
- Llanfabon Infants School
- Ysgol Gynradd Gymraeg Caerffilli
- Cwrt Rawlin Primary School
- Bedwas High School
- Tyn Y Wern Primary School
- Plasyfelin Primary School
- Gilfach Fargoed Primary School
- Markham Primary School
- Llancaeath Junior School
- Cwmaber Junior School
- Blackwood Primary School

- Ynysddu Primary School
- Hendredenny Park Primary School
- Ty Isaf Infants School
- St Helens Primary School



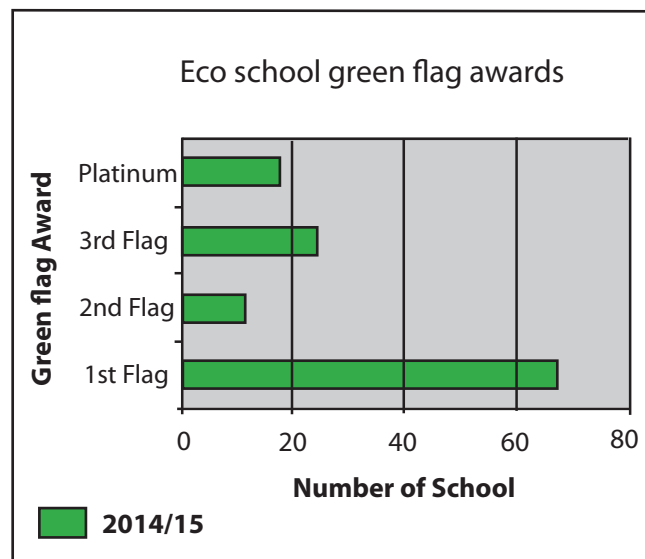
This is a huge achievement with only approximately 110 schools in Wales achieving the Platinum award.



Eco School Support

Considerable support has been provided to primary and secondary schools in the county borough working towards the Eco School programme over the past year, including

- 45 individual school visits made to support schools working through the Eco School programme.
- 4 Eco School Green Flag assessments undertaken for neighbouring authorities.
- 8 Eco School Pre Green Flag assessments undertaken for schools in the Caerphilly County Borough.



- Supported 8 schools renewing their Eco School Green Flag status to ensure that they don't lose their Green Flag status, in line with the new Eco Schools Green Flag two year Renewal Policy.
- Eco School training was run over four sessions supporting 29 schools working towards the Eco School Green flag award and/or Platinum award. The training covered the whole Eco School process to provide additional support for schools holding the Bronze and Silver awards, working towards their Green flag award. The training also looked at the Platinum criteria for schools working towards their Platinum award. Follow up sessions were then held to monitor the progress of the schools going for their awards and to provide additional support if required.
- Promoted 'Green Grin O Meter' to schools. The Green Grin O Meter is a sustainable index designed to encourage children to calculate how sustainable they are. The index, aimed at children aged 8 to 12, will calculate their ecological footprint, health and happiness and provide tips on how to be more sustainable. The index allows children to monitor their sustainability, which supports the schools Eco School work programme.
- An Eco School Celebration event was held at Bedwas High School to congratulate the 64

schools for achieving the Eco School Green Flag award and/or Platinum award. 80 pupils attended the event along with teachers, headteachers, councillors and officers to celebrate their achievements and take part in a unique 'World of Ogs' workshop. Through storytelling and creative eco art and craft everyone had the chance to express their creativity by turning old clothes in to unique and quirky Og characters.



Fairtrade

Fairtrade School Training

10 schools have participated in Fairtrade School training sessions, which have been run to support schools working towards achieving Fairtrade School Status. The training has been run over four twilight sessions giving teachers the opportunity to work through the scheme whilst attending the training.



Fairtrade resources have also been provided to the schools participating in the training to support them incorporating Fairtrade into the curriculum.

To date fourteen schools in Caerphilly County Borough has achieved Fairtrade School status, with the remaining schools working towards becoming a Fairtrade School as part of their Eco School programme.

Fairtrade School Workshops

Five Fairtrade school workshops were held during 2014/15 to provide additional support to schools working towards the Fairtrade Schools Scheme as part of the Fairtrade School Training sessions. The

workshops, which looked at Fairtrade and Reduce, Reuse, Recycle were delivered to a range of primary school pupils.

Schools were also given Fairtrade Organic cotton bags to give out to local residents as part of their school Fairtrade coffee mornings to raise awareness of Fairtrade and sustainable development to the whole school and local community.

Education for Sustainable Development & Global Citizenship Projects

Pride in Your Place Awards

The SD & LE Team once again supported the Pride in Your Place Awards, an initiative that acknowledges the endeavour, innovation and commitment of those who have helped to make our area cleaner, safer and greener and a better place to live and work. The award scheme is open to all residents, schools, businesses and community groups within the county borough.

The SD Team supported the development of the 2015 awards event and managed the Environmental Education category. This included promoting the award scheme to schools and youth groups, developing judging criteria, judging applications and supporting the awards evening.

ESDGC – Literacy & Numeracy Framework Resources

The ESD Officer has worked with the All Wales ESD Officer Group to map ESDGC against the new Literacy and Numeracy Framework, to identify how these areas can be taught using ESDGC. ESDGC has been mapped against the Literacy and Numeracy Framework for year's 2, 6 and 9, with suggested activities, website links and resources identified for each of the elements within the framework. These documents will support schools embedding the requirements of the new Literacy and Numeracy Framework within their curriculum planning and include ESDGC as a theme for classroom teaching.

Printed versions of the documents have been sent to every school in Caerphilly County Borough.

ESDGC/ Literacy & Numeracy Framework Training for Schools

Training has been provided to schools on 'delivering the new Literacy and Numeracy Framework using the Outdoors' and linking to ESDGC. The training, delivered by Natural Resources Wales, was run over two days, catering for 32 primary school teachers. The training sessions were very successful and popular with positive feedback from all participants. The teachers also had the opportunity to observe a

KS2 class undertaking some of the activities covered on the course, so that they could see the benefits of using the outdoors to deliver the new Literacy and Numeracy Framework.

Funding was secured from the CCBC CEQ fund to deliver the project, along with match funding support from Natural Resources Wales and Eco Schools Wales. The funding also covered the cost of the printing of the ESDGC/LNF Resources, which were distributed to every school in Caerphilly County Borough.

Plant a Patch for Pollinators Project

Schools were encouraged to create a wildflower meadow patch within their school grounds for pollinators, such as bees. The project involved the schools having a free talk/workshop on pollinators and receiving free wildflower seeds for the creation of a wildflower patch.

The Plant a Patch for Pollinators project was a partnership project between CCBC and Pollen8 Cymru, with funding from the National Botanic Gardens and the CCBC CEQ fund.

Twenty-seven schools have received a free talk to date, with every school in the county borough receiving free seeds for a 1m² pollinator patch, with

some schools planting wild flower meadow's up to 10m².

Green Grins Index – School Sustainability Index

As part of the process of raising awareness and understanding of ESDGC to schools the SD team developed the Green Grin-o-meter, a children's version of the Caerphilly Sustainability Index to enable young people to calculate their own sustainability score in October 2010.



Both the English and Welsh version of the Green Grin-o-meter are being promoted to primary schools in the county borough.

The index, aimed at children aged 8 to 12, will calculate their ecological footprint, health and

happiness and provide tips on how to be more sustainable. The index allows children to monitor their sustainability, which supports the schools Eco School work programme.

Visit www.greengrin.co.uk or www.cymraeg.greengrin.co.uk to view the Green Grin o meter and find out how sustainable you are.

Global Games Resource

A global games resource pack has been developed in partnership with Eco Schools Wales and the CCBC Healthy Schools Team. The resource includes 20 detailed games (including instructions on how to play each game) from various countries around the world, plus other relevant information on the country including cultural and environmental information.

The aim is that children can use the resource to play the games during playtime and after school while the teachers can use the games as part of the curriculum, linking to the other information provided as a starting point for specific projects.

The resource, launched in June 2014, is suitable for primary schools and the lower year groups of secondary schools.

SSE (Swalec) School Project

A partnership project has been established with SSE (Swalec) to provide educational visits for schools six times a year. Participating schools visit the SSE site in Treforest for a 2-hour interactive tour with workshops to learn about renewable technology and energy efficiency. Three schools have undertaken visits to date, with a further six planned.

Healthy Colleges Scheme

The ESD Officer has been supporting Ystrad Mynach College with their work on the Healthy Colleges Scheme. They are currently working on the 'environment' section of the scheme, which involves promoting sustainable development to staff and students and implementing projects to improve the college grounds and facilities.

Children & Young People's Partnership

Supporting the Children and Young People's Partnership to develop the Local Participation Action Plan and deliver the actions detailed within the plan.

A review of the Participation Strategy for Children and Young People in 2012 identified areas to be developed over the following years as well as

recognising Participation as the underpinning priority for the Children and Young People's Plan 2011/14.

Following this review a focus group was established consisting of officers that work with or on behalf of children and young people to work together to develop the Local Participation Action Plan, as required by Welsh Government, ensuring that all relevant areas are included. The group meet twice yearly for review meetings and reporting purposes

The ESDGC work was presented to Welsh Government representatives during the October 2014 monitoring visit, to highlight the ESDGC work undertaken with the young people. Report cards and case studies have also been completed to feedback on ESDGC progress with schools and youth groups.

Caerphilly Solar Schools Project – Phase 2

In partnership with United Welsh Housing Association an additional £71,000 was secured to continue to install solar photovoltaic panels on the remaining schools in the Heads of the Valley area.

As part of Phase 2 we installed solar PV systems on the following schools and education centre:

- Park Primary School
- Deri Primary School
- St Gwladys Bargoed
- Aberbargoed Primary School
- Gilfach Fargoed Primary School
- Phillipstown Primary School
- YG Gilfach Fargoed
- Aberbargoed Education Centre

The Solar Schools project supports the authority's work towards the Carbon Reduction Strategy by reducing the schools energy usage and carbon dioxide emissions as well as acting as a prominent reminder to each community of the urgent need to tackle climate change.



Remote monitoring equipment is fitted to all seventeen installations to allow the schools to monitor their data and use it as part of their curriculum work.

Caerphilly Solar Schools Education Resource Pack

The Caerphilly Solar Schools Education Resource Pack, which was developed in 2011 as part of the Caerphilly Solar Schools Phase 1 project, is being promoted to schools to support their eco school activities and to help them incorporate renewable energy and energy efficiency into the curriculum. The resource pack has been distributed to every school in the county borough, with solar kits available for schools to borrow.

The education resource pack caters for primary and secondary schools, containing classroom and after school activities, lesson plans for each key stage, resources to support the activities and a list of useful websites and contacts throughout Wales.

ESDGC Schools Network

The ESD Officer supports the ESDGC Schools Network, working to promote the take up and understanding of ESDGC in Caerphilly, Merthyr, Bridgend, RCT and the Vale of Glamorgan. Projects

undertaken in 2014/15 include governor training, Mapping ESDGC against the LNF Framework, global citizenship links for primary and secondary schools and investigating different methods to assess pupils understanding of ESDGC.

ESD & GC Partnership Support

Support has been received from external partners to support various events run by the SD Team, including Groundwork Caerphilly, Keep Wales Tidy, Eco Schools Wales, Dwr Cymru Welsh Water and the Wales Fairtrade Forum.

WAGE – Wales Alliance for Global Education

The Wales Alliance for Global Education group has been established to support Education for Sustainable Development & Global Citizenship in schools in Wales, and to advocate a future of global learning.

The group brings together members of Wales International Development Hub and providers who support schools on ESDGC, who respond collaboratively to issues and reports that could have an effect on ESDGC delivery.

The group have secured funding from the European DEEEP Project (building capacity of education), to support some of the activities planned between April and September 2015, detailed in the group's action plan, which include a national seminar and capacity building.



Greener Caerphilly



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Greener Caerphilly

The Sustainable Development & Living Environment Team co-ordinated the Living Environment Partnership, which was one of the 4 thematic partnerships of Caerphilly's Community Strategy. In April 2013, the Caerphilly Local Service Board (LSB) and partners in the county borough approved "Caerphilly Delivers" – the LSB Single Integrated Plan (SIP) for the county borough.

Caerphilly Delivers, sets out a partnership vision for Caerphilly, of "sustainable communities, supported by actions that enhance the quality of life for all".

This means people who:

- Are healthy, fulfilled and feel safe
- Are well qualified and skilled
- Are within a vibrant economy
- Live, work or visit in a greener living environment

To realise our long-term vision the strategy identified five key outcomes:

1. A Prosperous Caerphilly
2. A Safer Caerphilly
3. A Learning Caerphilly

4. A Healthier Caerphilly

5. A Greener Caerphilly

A key focus of the work of the SD & LE Team in 2014/15 has been to ensure the integration of sustainable development and living environment issues into the Single Integrated Plan for the county borough.

The "Greener Caerphilly" section was based on the priority environmental issues identified and consulted on by the Living Environment Partnership. The box on the right contains the summary of the aims and priority areas identified in the "Greener Caerphilly" section. Further work has been undertaken to ensure that SD and environmental issues are incorporated into the 4 other themes of the Single Integrated Plan.

A full copy of the document can be found at:

<http://your.caerphilly.gov.uk/communityplanning/content/single-plan>

Greener Caerphilly

A Greener Caerphilly aims to:

- Safeguard and, where necessary, enhance the living environment in the Caerphilly County Borough for its own sake
- Secure quality of life for local people and visitors now and in the future.

Based on the findings from the Caerphilly Unified Needs Assessment, the Single Integrated Plan development days, and the work of the Living Environment Partnership, three priority areas for working towards a Greener Caerphilly have been identified; these are:

G1:

Improve local environmental quality

G2:

Reduce the causes and adapting to the effects of climate change

G3:

Maximise the use of the environment for health benefits



PRIORITY G1: Improve local environmental quality

Caerphilly County Borough covers an area of 27,750 hectares, 80% of which has been identified as countryside (i.e. land outside settlement boundaries and used for agriculture, recreation and forestry). The majority of its settlements are located in the valleys of the rivers Ebbw, Sirhowy and Rhymney.

Within Priority G1, two areas were identified for action:

- 1) Fly-tipping
- 2) Biodiversity

Fly-tipping

Fly-tipping is the illegal dumping of waste on to land. It can pollute the environment, be harmful to human health and spoil our enjoyment of our towns and countryside.



In the county borough there is a genuine multi-agency partnership approach to tackling fly-tipping. This is based on education programmes, including targeted work with key sectors, media, radio and bus advertising, as well as a strong approach to prosecuting those found to be responsible for fly-tipping. GPS mapping to identify and target hotspots for fly tipping is proving successful, as are targeted clean-up campaigns supported by educational and support programmes.

Biodiversity

The biodiversity of the borough is declining and this reflects the losses being experienced in other parts of the UK and across the world. In Caerphilly there are 110 species listed in the Caerphilly Biodiversity Action Plan as being in need of conservation action, and an additional 87 species are listed in the Species of Principal Importance in Wales (Section 42 species). Of these species at least 5 have disappeared from the borough and have not been recorded for at least 10 years, and many other species have declined in their numbers and distribution. In order to provide an indication of the health of Caerphilly's biodiversity, 26 species have been selected as indicators of the state of Caerphilly's biodiversity and will be monitored annually.

The borough supports a range of sites designated for their wildlife value, including a recently designated National Nature Reserve, which is also a site of European importance, designated for its population of marsh fritillary butterflies and purple moorgrass habitat. In addition, there are 11 Sites of Special Scientific Interest (SSSI) designated for their national nature conservation or earth science importance, four Local Nature Reserves (LNRs) & 190 Sites of Importance for Nature Conservation (SINCs).

Community Schemes Programme - Caerphilly Environment Quality Small Grants Fund 2014/15

Each year the Council makes a budget available for community orientated projects that maintain or enhance 'community assets'. This includes the type of work carried out by the Community Response Team such as the repair of seats, the replacement of vandalised street furniture and hard landscaping and other small items of maintenance work.

The SD & LE Team co-ordinates a programme of work to take forward small community focused projects, empowering local community groups, and at the same time adding to the sense of a well kept county borough. In 2014/15 the Community Scheme provided funding worth £12,431 to support 6 projects:

Project name	Total cost	Amount approved
Rural Skills Project	£3,862	£1,931
Delivering Real Improvements via the Literacy and Numeracy Framework	£4,000	£2,000
Go Wild! Pollinators Project	£4,000	£2,500
Healthy Rivers/River Schools	£27,000	£2,000
Access Caerphilly Volunteer Group	£3,000	£1,500
Managing Giant Hogweed	£8,000	£2,500
Total	£49,862.00	£12,431.00

1. Rural Skills Project

The Rural Skills Project was organised by one of the RDP Sustainable Energy Officers based in the SD & LE Team. It was initiated following an issue raised by RDP Agri Network members regarding a lack of rural skills training in the county borough. As a result of this the RDP Officers carried out a survey with the local rural community and a large number responded to see if they could be supported in training that would not only help maintain their site but also have the potential to assist them to diversify into contract work, particularly dry stone walling and hedgelaying.

Traditional skills such as dry stone walling, and hedgelaying have played an important role in

the distinctive and unique landscape that we see around us today. Unfortunately, the change in land management practices over the past century has resulted in many of these features being left neglected and falling into disrepair. Originally used for the purposes of stock control, the skills were once common practice. However, due to the introduction of cheaper and less labour intensive methods of stock control, the traditional forms of land management are now much rarer skills.

The aim of the project was to retain these vital local skills and to encourage local people to maintain, restore and upgrade the rural heritage of the borough. Several attendees indicated that the course could assist their farming businesses with the possibility of diversifying into contract work.



Six one-day taster sessions were held for both of the rural skills. During the dry stone wall taster sessions attendees were taught everything from dismantling, laying foundation stones, throughstones, buildingstone and filling and then laying the copestones on the very top. Approximately 10m of standard 'doubled' dry stone wall was completed over the six days. This is where two independent faces are separated by a core of much smaller stone. During the hedge laying taster sessions attendees were taught how to clear/prepare the hedge, cut and lay the pleachers, fix the stakes and bindings, how to correctly use and maintain hedge laying tools and the benefits of hedge laying for wildlife and landowners. There are many styles of hedge-laying throughout the UK. Here in Caerphilly County Borough the most commonly used is the Welsh Border style and it is this traditional hedge maintenance that was taught on the taster sessions.

2. Delivering Real Improvements via the Literacy and Numeracy Framework

This project was led by the Education for Sustainable Development Officer based in the SD & LE Team with the support and involvement of Natural Resources Wales, Caerphilly Countryside Service, and Eco Schools Wales as partner organisations.

The aim was to provide training for teachers and school staff to show them how to use and develop their school grounds and local community areas to help them deliver the new Literacy and Numeracy Framework, while linking to the outdoors, ESDGC and Eco Schools. With Welsh Government introducing the new Literacy and Numeracy Framework for all key stages, this is a key opportunity to encourage schools to engage in curriculum projects in the local community and to utilise their school grounds.



Sixty teachers attended the training sessions, six from secondary schools and fifty four from primary schools. The training sessions were split with:

- 32 teachers attending the training sessions at the Aberbargoed Education Centre, held on October 22nd 2015 and February 25th 2015, run by Natural Resources Wales
- 28 teachers attending the Eco School training sessions, held at the Welsh Water Education Centre in Cilfynydd, run by Eco Schools Wales

Teachers found the training session very useful, providing a range of activities and good quality resources. The training gave the teachers the confidence to run the outdoor activities covered, plus other outdoor activities in their own setting. The most useful elements of the day included practical activities, lesson ideas, linking to the LNF and seeing the children engage in the activities. Comments included:

- Excellent day full of lovely activities to take outdoors
- Enjoyable day. It was interesting to observe pupils carrying out the activities
- More awareness of carbon footprint and linking to LNF

- Lots of cross curricular lesson ideas/ activities
Good to see how familiar activities can be adapted to incorporate literacy and numeracy
- The training highlighted that the school grounds is a fantastic resource that we should develop and use on a regular basis

3. Go Wild! Pollinators Project

The Go Wild! Pollinators Project 'Plant a Patch for Pollinators' was organised through the Caerphilly County Borough Council, Countryside and Landscape Service section. Project partners included CCBC Sustainable Development Team, Pollen8 Cymru and the National Botanic Gardens.

With Welsh Government introducing the new Pollinator Action Plan, it was a key opportunity to encourage schools to engage in curriculum projects to utilise and enhance their school grounds for pollinators.

All schools within Caerphilly County Borough were offered the opportunity to receive a free pollinator workshop and wildflower seed pack to create a wildflower patch for pollinators, such as bees and butterflies within their schools grounds. Twenty six schools got in touch asking for the workshop session, which was delivered by Pollen8 Cymru, and

wildflower seeds. All the other schools received wildflower seeds to create a pollinator patch. The wildflower patches ranged from 1m² to 10m², depending on the school ground available. A guidance sheet was also created with instructions on how to prepare the patch for the seed and aftercare instructions.



Teachers found the workshop session very useful in providing a range of information on how to help pollinators. It also helped provide them with confidence to run outdoor activities on pollinators.

4. Healthy Rivers/River Schools

The Healthy Rivers and Rivers Schools projects are partnership projects co-ordinated by Groundwork Caerphilly involving the South East Wales Rivers

Trust (SEWRT), Natural Resources Wales (NRW) and CCBC. The projects were established with the aim of removing the barriers to salmon migration up the River Sirhowy, engaging local people, and undertaking environmental improvements to the River Sirhowy to improve its Ecological Status under the Water Frame Work Directive (WFD).

Walkover surveys were undertaken for the whole length of the river. The surveys identified issues that were impacting on fish populations and other aspects of the ecology on the Sirhowy River. The results of these surveys confirmed the presence of barriers to migration, a key constraint on the Sirhowy reaching its full ecological status. It was identified that the removal or modification of these barriers would improve fish passage and would open up large sections of the upper catchment to migratory species.

Fleur de Lis weir and pipe

A Welsh Water sewer pipe crosses the Rhymney River at Fleur de Lis, The pipe is protected by a concrete weir and large boulders have been placed directly below the weir to prevent the falling water causing erosion to the river bed. The height of the weir is 750mm so is a significant barrier to upstream fish migration on the river.

Work was undertaken to allow salmon to pass by building a timber box pool on a flat concrete platform protruding from the weir approximately halfway. Healthy Rivers used timber sleepers mechanically fixed to the concrete platform to create a box pool. A gap was left to create a flow of water from the pool that would attract migrating fish. The box pool creates a deep pool that migrating fish can rest in and use to propel themselves over the remainder of the weir.

Nant Bargoed Culvert

At the confluence of the Nant Bargoed and Rhymney River there is a concrete box section culvert approximately 100meters long. The Nant Bargoed flows through this culvert under the Bargoed viaduct and road junction between Bridge Street, Station Road and Factory Road. The box section design of the culvert means that the water flows over a flat concrete bed therefore it is very shallow and fast flowing. There is a small weir at the downstream end of the culvert and a concrete sill that extends beyond the mouth of the tunnel. Any fish that is able to jump onto the concrete sill would be washed back immediately as the water is too fast and shallow for the fish to swim in.

The method of modification was to create a side channel over the sill and through the length of

the tunnel that would consistently hold a depth of water of 200mm and reduce the flow velocity. This was achieved by using timber sleepers to build a channel through the length of the tunnel. Within the channel a series of timber baffles were installed to reduce the velocity of the flow and to create rest pools. This fish pass allows migrating fish to be able to successfully swim through the tunnel.

Nant Bargoed Weir

The weir on the Nant Bargoed was a major barrier to fish migration. The weir was approximately 1.5 meters high and therefore a very large unachievable jump for migrating fish. Healthy Rivers looked at options to either completely remove or partially remove the weir; however this was not a possibility as this would have destabilised the retaining wall and risked exposing a Welsh Water pipe further upstream.

Work was undertaken with NRW and SEWRT to employ a contractor to install three block stone pre barrages downstream of the weir. The pre barrage weirs have raised the water level below the original weir reducing it's height by half. The fish must now make 4 smaller jumps to get over the pre barrages and weir rather than 1 large unachievable jump. A side channel was also created beside the weir to further help fish migration upstream. The side



channel was created on a section of the weir that had already been eroded away by the river.

Students from Coleg Y Cymoedd planted a variety of native trees along the access track that the contractors had to clear to get to the river. The students replaced the trees that were felled along the track with oaks, willow, hawthorn, blackthorn and beach.

The Nant Bargoed will be monitored in 2015 to assess if the fish passes installed on the weir and culvert are successful.

Salmon in the Classroom

The Healthy Rivers Officer set up a salmon hatchery in the Groundwork Caerphilly classroom. South East Wales Rivers Trust provided some 100 salmon eggs and equipment. The hatchery consisted of a

fish tank, a cooling system to keep the water below 10°C and a filter to aerate the water and remove waste. Local primary schools were invited to the classroom to see the eggs and young salmon and to learn about the lifecycle of the salmon and issues that are affecting the River Sirhowy. Pupils from 7 local primary schools and 1 scout group visited the salmon hatchery. In total 500 children saw the young salmon and learnt about their life cycle.

The pupils that had been involved with the 'Salmon in the Classroom' project had the opportunity to release the young salmon that they had watched develop in to the river. The school pupils released the salmon at various locations along the Sirhowy in July.

The schools also had the opportunity to take part in some river schools activities. For example, children from Markham and Trelyn School visited their local rivers to measure the width, depth and flow of the river and to kick sample for river invertebrates.

The Salmon in the Classroom has proved to be inspirational, with the pupils continuing to do their own research, learning about salmon and making displays in their school.

www.youtube.com/watch?v=oRQm3aXgm7U&safe=active



River Restoration Qualification

Healthy Rivers has been working in partnership with Agored Cymru, NRW and SEWRT to develop and deliver a River Restoration Qualification (Level 1). The course is offered to volunteers to develop their skills in river restoration so that they can make improvements to the south wales rivers in the future. This is a brand new qualification currently being run as a pilot to a small group of volunteers. Once the pilot is completed the course will be open for anyone to take part. The course is being run from the Groundwork offices, with 2 of the current volunteers living in Caerphilly County Borough.

Overall success

The Healthy Rivers and River Schools projects have proved to be a huge success, and this was confirmed

with discovery of salmon nests north of Blackwood. This is the first time that this has occurred in over 100 years.

For the first time, in over 100 years, the whole length of the Sirhowy in Caerphilly County Borough is now navigable for salmon. This has resulted in the Ecological Status of the river being upgraded to "Good" for the first time since the classification was introduced.

The work has generated a large amount of media interest including from BBC Radio Wales who invited the Healthy Rivers Officer to talk about the programme on the radio.

5. Access Caerphilly Volunteer Group

The Council's Countryside and Landscape Service continues to manage, promote and maintain rights of way and country parks within the county borough. Work was undertaken throughout 2014/15 to maintain the network and to ensure that pathways were easily accessible. Maintenance of the network is carried out by a combination of Rights of Way Wardens, contractors and volunteers. In 2014/15, 78% of Rights of Way were classed as easy to use.

The Rights of Way section have carried out the following maintenance and improvement works in 2014/15:

- 25 km of clearance work throughout the borough
- 15 waymarking posts
- 1 km of new all weather surfacing
- 25 gates, 10 stiles and 5 flights of steps
- 1 new bridge and 5 bridge repairs
- 3 new tubular handrails



Funding for equipment and materials was provided through the Greener Caerphilly partnership to support the Rights of Way Volunteer programme. Training is provided to the volunteers in the use of small hand tools, surveying techniques and several have been First Aid trained.

Projects involving Rudry Volunteers, Islwyn Bramble Busters, Youth Offending Service and individual volunteers were undertaken. Work in 2014/15 by the Rights of Way Volunteers includes:

- 5km of clearance work on the PRow network, across the County Borough
- Installing 10 waymarking posts, including fingerposts
- Installing of access furniture, including 5x kissing gates, 10 stiles and a flight
- Surveying approximately 80 km of promoted (leafleted) walks in the borough. This included the popular Rhymney Valley Ridgeway Walk, Machen Forge Trail, Rhymney Riverside and the "Escape to..." series.

6. Managing Giant Hogweed

Managing Giant Hogweed is a project organised by CCBC Countryside and Landscape Services with Groundwork and neighbouring local authorities as partner organisations. It forms a continuation of a previous project awarded grant funding from CEQ funds last year.

The aim of the project was to utilise the use of volunteers trained in the control of invasive species. Members of local fishing clubs, local allotment groups and others interested in biodiversity were trained to apply herbicide and in the use of brush cutters, as methods for controlling invasive species and managing riparian habitats within Caerphilly County Borough. A particular focus for 2014/15 has been the River Sirhowy. Additional funding provided by the Partnership enabled extra work to be done and as part of this work a previously unidentified area containing over 300 Giant Hogweed plants was found and the plants sprayed.

Giant Hogweed can cause significant health problems for humans. The sap, when activated by UV light causes the skin to blister approximately 15-20 hours after original contact. Blistering can often re-occur for many years after initial contact.

Giant hogweed is a successful invasive plant as a result of its prolific seed bank and ability to disperse seeds easily by wind, water, or animal and also human influence. The plant only flowers once in its lifetime but is capable of producing thousands of seeds. It can also postpone flowering for up to twelve years. However, it can be controlled effectively by spraying and the treatment of the plants before flowering and fruit set occurs.

Surveys of invasive species have been undertaken and giant hogweed has been identified as a particular issue within the river catchment areas within the county borough. Giant hogweed is prevalent in the Ebbw catchment, with some occurrences in the Sirhowy catchment. In Newbridge alone approximately 200 plants have been identified, whereas there are currently no occurrences of this invasive species in the Rhymney catchment area.



PRIORITY G2: Reduce the causes and adapt to the effects of climate change

Climate change is widely regarded as one of most important issues facing the world today. It is not simply an environmental problem - there will be major consequences for our society, economy and health. Our future quality of life depends on balanced environmental conditions, including stability of the climate. We are all affecting our climate by causing greenhouse gases to be released into the Earth's atmosphere.

In 2014/15 under Priority G2, the work has focused on 4 topics:

1. Ecological footprint
2. Renewable energy
3. Waste/recycling
4. Eco Schools



Ecological footprint

An ecological footprint provides a calculation of resource use based on the materials used in everyday lives.

Through ongoing partnership work, the council has raised awareness of environmental and climate change issues, and encouraged residents of the borough to reduce their resource consumption, waste production and consequently their ecological footprint.

The Sustainable Development section of the Council's website has been rewritten. It continues to promote the use of the on-line tool, however a reduction in staff resources means that the programme of workshops and events has been reduced

The Caerphilly Sustainability Index can be found at: www.sustainablecaerphilly.co.uk

Renewable energy

Generating energy, both heat and electricity, from fossil fuels releases green house gases, which contribute to global warming and climate change. Energy generated from renewable sources such as wind, water and the sun does not generate green

house gases and therefore does not contribute to climate change.

The generation of electricity and heat from renewable sources is largely driven by national incentives through the Feed in Tariff (FIT) and



Renewable Heat Incentive (RHI). Local advice is provided to individuals and businesses by a range of organisations including the Carbon Trust, Energy Saving Trust, Groundwork Caerphilly, housing associations and the Council.

Renewable energy generation data

In 2014/15, 292 photovoltaic systems with a total capacity of 1.002 MW were registered, with Ofgem, for the Feed in Tariff (FIT) in Caerphilly.

The total capacity of renewable energy systems registered with Ofgem in Caerphilly at the 31st March 2015 was 6.645 MW. This was made up of 1,915 photovoltaic installations and 4 wind turbine installations.

Larger schemes are registered on the Department of Energy & Climate Change (DECC) system.

The partnership project between CCBC and Partnership for Renewable successfully installed 2 wind turbines on Oakdale industrial estate in 2013/14, with a combined generating capacity of 4 Megawatts (MW).

A solar farm was established by a private developer at Hendai Farm, Nelson with a capacity of 13.4 MW. This information when added to the Ofgem

data gives a total installed capacity in the county borough of 31.045MW

Amount Megawatts (MW) installed capacity of electricity generated from renewable sources registered for Feed In Tariff Caerphilly comparison with Wales

	2010/11	2011/12	2012/13	2013/14	2014/15
Caerphilly	0.099	2.075	1.595	0.874	2.002
Caerphilly cumulative total	0.099	2.174	3.769	4.643	6.645
Wales	4.529	51.984	33.416	23.513	10.725

Amount Megawatts (MW) installed capacity of electricity generated from renewable sources registered for Feed In Tariff with Ofgem and DECC

	Pre 2010	2010 - 2011	2011 - 2012	2012 - 2013	2013 - 2014	2014 - 2015
Caerphilly Ofgem registered		0.099	2.075	1.595	0.874	2.002
Caerphilly DECC registered	7.0	-	-	-	4.0	13.4
Caerphilly cumulative total Ofgem and DECC	7.0	7.099	9.174	10.769	15.643	31.045



PRIORITY G3: Maximising the use of the environment for health benefits

With around 80% identified as countryside, the county borough is blessed with some of the most attractive landscapes and valuable environment in Wales. These are, however, next to pockets of some of the worst health in Wales. The aim of this element of a Greener Caerphilly is to maximise the use of the environment for health benefits to residents of the county borough.

Greener Caerphilly partners are working closely with health partners to maximise the health benefits to residents. The Creating an Active Caerphilly Plan brings together work in this area.

Come Outside!

The Natural Resources Wales co-ordinated 'Come Outside!' programme inspires and enables community, youth and health officers to support less active people to become regularly involved in outdoor activity to enjoy the outdoors, and to experience the benefits, and value and care for the natural environment.

The Come Outside! Team are the catalyst that has brought network members together, to pool their resources and outdoor sites to enable people to get more physically active.

Through recreation, play, volunteering, outdoor learning/skills development and active travel, the Programme will help develop the skills of over 500 young people not in education, employment or training, to increase opportunities to re-enter education, access training and pursue employment opportunities. The programme will also support over 1,300 people to develop a more physically active lifestyle.

Juliet Michael of Natural Resources Wales, Programme Manager of Come Outside!, said: "We see the fantastic environment we have in Wales as the best gym experience you can have. It not only improves the health and wellbeing of people in these areas, but it also does wonders for the self-confidence of people who take part and it inspires and motivates them to make use of the outdoors and develop new skills. It's great when you see people trying out an activity for the first time which brings a smile to their face, and even more satisfying when you meet them weeks later and they've continued to do the activity and are really feeling the benefits of it."

On Thursday 17 July 2014 John Griffiths, Minister for Natural Resources, Culture and Sport, attended the Come Outside! Summer Celebration at Parc Penallta to celebrate the achievements of the programme. People attending had the chance to try out exciting

new activities such as geo-caching and learn bushcraft skills.



To date, the programme has supported over 400 people from Communities First areas to get outside and exercise in their local woodland and green spaces.

It has supported Penybryn walking group in 13 sessions with over 20 participants registered. New routes have been identified, and geocaching, biodiversity and heritage walks completed.

Come Outside has also supported both the Penybryn Walk Group and Hafal Blackwood in participating in healthy walks throughout the borough, with walks including Dark Sky Wales Planetarium viewings and planet geocache and quiz which had 17 participants.



Ten group members are midway through an Agored Cymru Astronomical Module of Learning in partnership with Dark Sky Wales. This will give them the knowledge and experience to recognise patterns in the sky and hopefully encourage the group to walk in the lean, dark winter months. Alongside this, one group member has undertaken Health Leaders Walk Training and will shortly be accessing a Nordic Walking Instructors Course aimed to promote sustainability within the group.

Come Outside are hoping to increase walk distance and understanding/appreciation of the natural environment with Hafal. Further geocache sessions, a hawk walk and local historical walks are in the plan for the future.

Community Pedometer Challenge

Building on the success of the Council and Health Board run pedometer challenges, a Community Pedometer Challenge has been established with partnership work between CCBC, ABUHB, Let's Walk Cymru and local walking groups. Currently over 100 people have signed up.

For details check out www.walespedometerchallenge.org.uk



Greener Caerphilly Annual Report

Each year the SD & LE Team puts together an Annual Report summarising the work carried out as part of the Greener Caerphilly partnership.

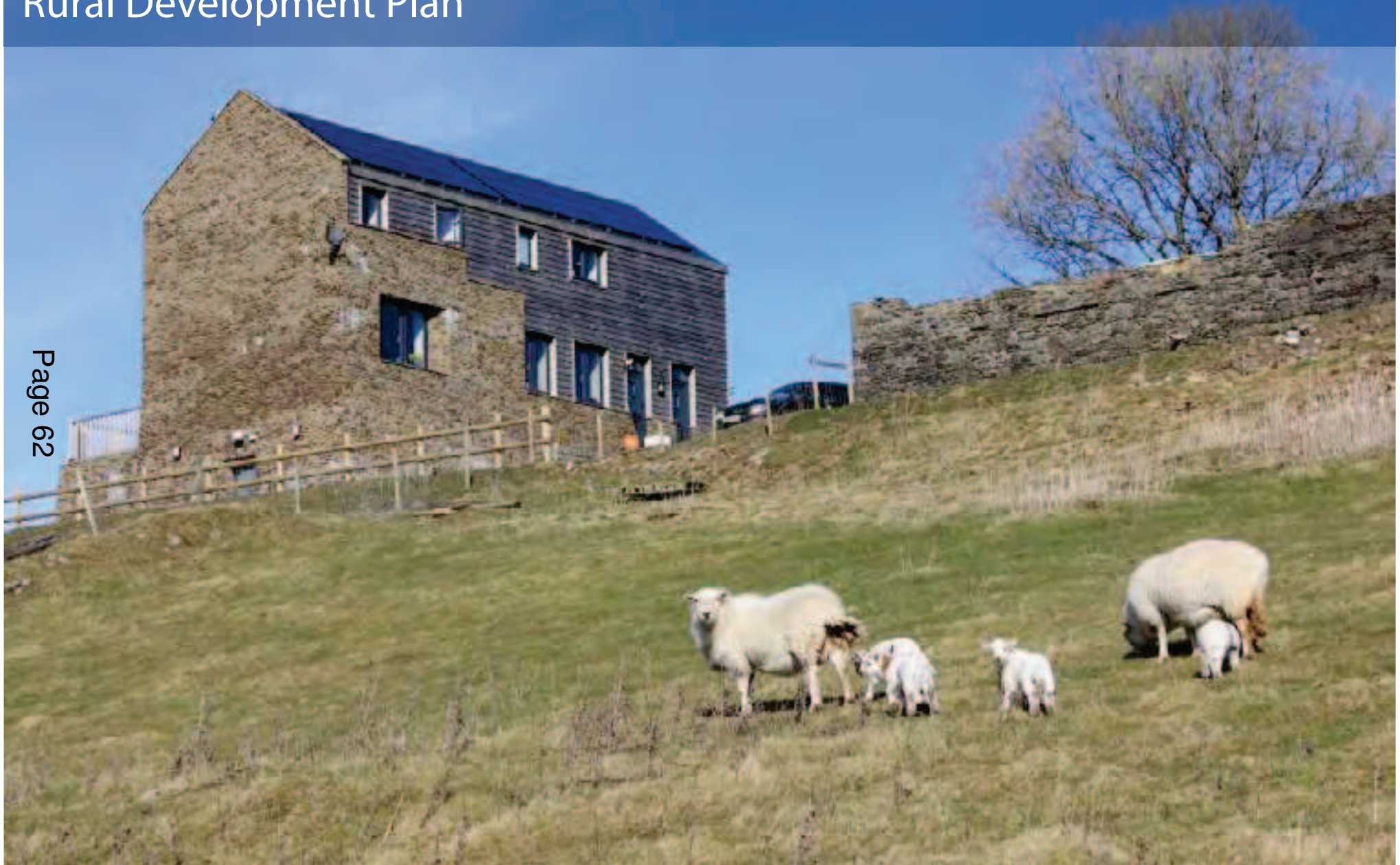
A copy of the reports for 13/14 and 14/15 can be found on the SD website:

<http://your.caerphilly.gov.uk/sustainablecaerphilly/>



Rural Development Plan

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Rural Development Plan

Caerffili Cwm a Mynydd (Caerphilly Hill and Valley) is the name for the Rural Development Plan (RDP) programme in Caerphilly. During 2014/15 it delivered a number of innovative rural projects.

Sustainable Energy Programme

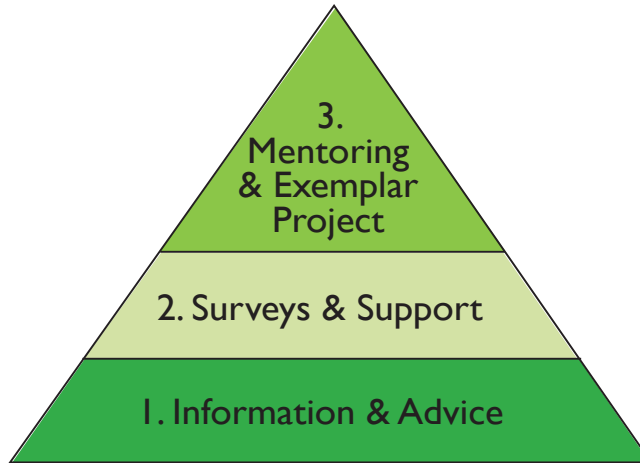
In 2011 two Sustainable Energy Officers joined the SD & LE Team. They were funded through the RDP programme to deliver the sustainable energy element of the programme. The main aim of their project was to engage with farm households and rural businesses to reduce energy use, promote the uptake of renewable energy, and help them adapt to climate change.

Energy costs are rising and energy security is an increasing issue. By promoting sustainable energy solutions the hope was to increase the profitability of farms and rural businesses and to reduce their impact on the environment.

Assistance through the Rural Development Programme is provided in eligible 'Rural Wards' or 'Rural Service Centre Wards':

Help available to eligible farms & businesses

The RDP Sustainable Energy Team provided a 3-tiered system of support for farms and rural businesses.



Level 1. Information and advice

Level 1 support included:

- Telephone and email advice on energy efficiency and renewable energy
- Information on grants/loans, signposting to external organisations
- Desktop solar power and wind turbine assessments
- Factsheets

Factsheets

Although a number of national organisations have produced factsheets on energy efficiency and renewable energy technologies, the RDP Sustainable Energy Officers wanted to aim it at a local, Caerphilly level. The factsheets particularly promoted renewable energy technologies to businesses in rural areas of the county borough, as by installing renewable energy technologies they could add value to their business by countering any rising energy costs, reduce the need for security of supply, and generate an economic benefit.

In total the RDP Sustainable Energy Officers compiled 11 factsheets on a variety of subjects such as biomass, energy efficiency, feed-in tariffs, and solar photovoltaic. They contain a wide range of advice and have been distributed to those attending events, or to those who have made an initial query to the team.

Events 2014/15

The RDP Team were engaged in an entire calendar of events promoting the programme and services it offers. The main events of the year were the Gwent Young Farmers Club Rally, the Bedwellty Agricultural Show, the Machen Agricultural Show, the Nelson Ewe Sales, and a Farming Connect event at Maes Yr Onn Farm.



Level 2. Surveys and support

Energy Surveys

As part of the process of promoting energy efficiency and renewable energy to farms and businesses, the RDP Sustainable Energy Team was able to offer free energy surveys. The aim of these surveys was to offer impartial and independent advice, recommending how to become more energy efficient and provide information on viable renewable energy technologies.

Once a client decided to take up this option, they were asked to gather one year's worth of energy bills prior to a site visit where a questionnaire was completed. The RDP Officer and client then surveyed and photographed the premises, looking



at appliances, controls and metering, behavioural measures, current energy efficiency, consumption, insulation of walls, roof, floor, pipes and cylinder and lighting and glazing. Following the site visit, the RDP Officer compiled a report providing advice and recommendations to improve the energy efficiency of the site. Suitable renewable energy technologies such as biomass, heat pumps, solar thermal and photovoltaic, wind turbines, and micro hydro, along with the Renewable Heat Incentive and Feed-in Tariffs were discussed. The report also provided approximate costs and paybacks and signposted relevant grant information. Following the report, officers were then on hand for further assistance. In 2014/15 one energy survey was completed for a business based in Gelligaer.

Sector support

As part of the programme support was also provided to sectors identified within the overall RDP programme. These included tourism, timber & craft and food.

Links to other support

A key element of the work was to identify links to other programmes and to promote the benefits to farms and rural businesses. Links were made with

Groundwork, the Energy Saving Trust (EST), Carbon Trust, Farming Connect, Nest, Ynni'r Fro, Building Research Establishment, Farmers Union of Wales and National Farmers Union.

Caerphilly Agri Network

The RDP Sustainable Energy team continue to make links with the farming community while awaiting news on funding. This is through being involved with the Agri Network, which had been previously set up by the RDP team, assisting in coordinating meetings. The key aim of the Agri network is to generate added value, engaging with local agricultural people to identify issues and opportunities to be taken forward including projects to reduce costs, increase revenues, improve understanding on key issues, support diversification, improve efficiency, resource and energy use.



Over 20 members of the local agricultural industry attended the last meeting held in March 2015, at Penallta Rugby Club. Speakers included Glyn Davies of 'Farmers Union Wales' who provided an update on the recently mailed Single Application Form packs. Allan Mills 'Farm Watch Coordinator, Gwent Police' spoke on how to reduce farm based crime and Berry Jordan 'Common Land Development Officer' provided an update on Glastir Commons. Environmental Crime Officers from NRW also attended to provide an update on a new rivers project that is being rolled out.

Outcomes from previous meetings have resulted in dry stone walling and hedge laying training and the production of a Rural Directory that helps promote local services to the farming community.

Rural Directory

During an Agri Network meeting there was an expression of interest by members for the RDP Officers to produce a 'rural directory' to help promote local services to the farming community in the borough.

Letters were sent to a number of farms within Caerphilly County Borough describing the intention to produce a directory and asking for assistance to initiate the work by providing information on

the businesses they already use. All businesses mentioned by the farmers were subsequently sent a letter asking if they wanted to be included and all farms and small holdings were also sent a letter.



A total of 70 businesses / organisations / societies declared an interest in participating in the free directory with 42 being located within county. There are 10 sections to the directory: Abattoirs & Meat Processing; Associations; Organisations & Societies; Auctioneers / Livestock Markets; Business Services; Construction, Building & Contractors; Forestry / Woodland; Machinery; Rural Services; Supplies and Vets. Once all completed forms by the businesses / organisations / societies were returned, the RDP

Officers worked with the CCBC Planning Technicians to develop it into a booklet. Once printed a copy was sent to all farms who are located in eligible rural wards and service centres.

Level 3. Mentoring and exemplar projects

The 3rd tier involved detailed support on specific projects from the Sustainable Energy Officers. The aim of the development of exemplar projects was to demonstrate good practice and to showcase sustainable energy projects.

Farm-based Biomass District Heating

Whitehall Farm is situated on the outskirts of the village of Nelson. It is a livestock farm (cattle and sheep) of approximately 180 acres, including 5 acres of woodland. There are two houses located on the holding, both of which are off the mains gas network.

In March 2013 a form was sent to farms within Caerphilly County Borough providing residents with information on the services that the RDP team offer. The owner of Whitehall farm completed and returned the form on which he stated that he was interested in participating in the Farmhouse Energy Challenge, information on an oil purchasing club, the Agri Network and help to access grants to plant



new Woodland. In January 2014 the family began the Farmhouse Energy Challenge and during site visits for the challenge the residents indicated that they were interested in receiving more information on the viability of changing their heating system to biomass as they were receiving conflicting information.

The clients' interest in changing their heating from oil to biomass was to reduce their carbon footprint and to protect themselves against the rising fossil fuel costs that could threaten the viability of the business. The Renewable Heat Incentive payments were an incentive to change their heating fuel sooner rather than later.

As other farmers were also stating interest in biomass it was agreed to undertake a study into the

viability of installing biomass district heat and/or biomass heating systems for isolated farms located off the mains gas network using Whitehall Farm as an example.

RDP Officers drafted up a brief to look into biomass district heating and in June 2014 an email was sent to three consultants stating that CCBC was looking to appoint consultants to complete a study. Briar Associates were the consultants that were appointed following their submission of a proposal.

A project inception meeting (telephone based) first took place to discuss the information required and the site. Officers then provided over a years worth of fuel consumption information from Whitehall Farm for the two buildings to enable the appointed consultant within Briar Associates to carry out a pre-visit review of fuel data. A site survey took place on 1 August 2014 to look at the two houses and other agricultural buildings on site that could potentially be used as a fuel and boiler store.

Following the site visit a feasibility study was completed detailing technical and economic case for biomass district heating system for Whitehall Farm. Guidance material suitable for Caerphilly farmers interested in considering biomass heat/ biomass district heating was also completed.

Maes Yr Onn - Off Grid Living

In May 2011 the Davies family gained planning permission to construct a farmhouse on the former site at Maes Yr Onn Farm, Manmoel, which burnt down in 1976. The site is completely off grid, with no access to mains electricity, gas, water or sewerage services. This provided the owners with difficult challenges integrating and balancing energy production and use within the property and ensuring compliance with all appropriate regulations.



In late 2011 Caerphilly County Borough Council's RDP Sustainable Energy Team stepped in by putting together a partnership with the Davies family, Building Research Establishment (BRE) and SSE to design and deliver a modern farmhouse and family home that resolves the challenges of an off grid location.

BRE were first commissioned to carry out a feasibility study of the building, taking in to account occupation, usage and power requirements. All building design work was also undertaken by Andrew Sutton, at the time Associate Director BRE South West & President, Royal Society of Architects in Wales.

A major requirement for the property was to minimise heat loss from every part of the building fabric, so the envelope of the building was designed as a super-insulated home. SSE's Contracting division installed all the power, heating and water supply technologies. These included:

- 20kW biomass boiler
- a 3.9kW solar photovoltaic array linked to a battery system with a small diesel generator as backup, and
- rainwater-harvesting technology with a 5500 litre tank located in the basement plant room.

Living off grid means that the family needs to be constantly aware of their consumption to ensure that there is no wasteful use of lights and appliances. Over the past two years, Constructing Excellence in Wales and the Wales School of

Architecture, at Cardiff University, have been busy monitoring the family's use of the various renewable energy technologies and the overall energy and water consumption.

During the first year of monitoring the Davies family's water consumption averaged around 63 litres of water per person per day. This compares extremely well against the national average as reported by Dŵr Cymru Welsh Water as 157 l/pp/d.

Original reports suggested that the electrical energy used at the farm would be around 7kWh per day. The actual average daily usage for the family during the summer was 2.15 kWh per day. This is lower than that of a typical house connected to the mains electric, which is said to consume on average 8.8 kWh per day.

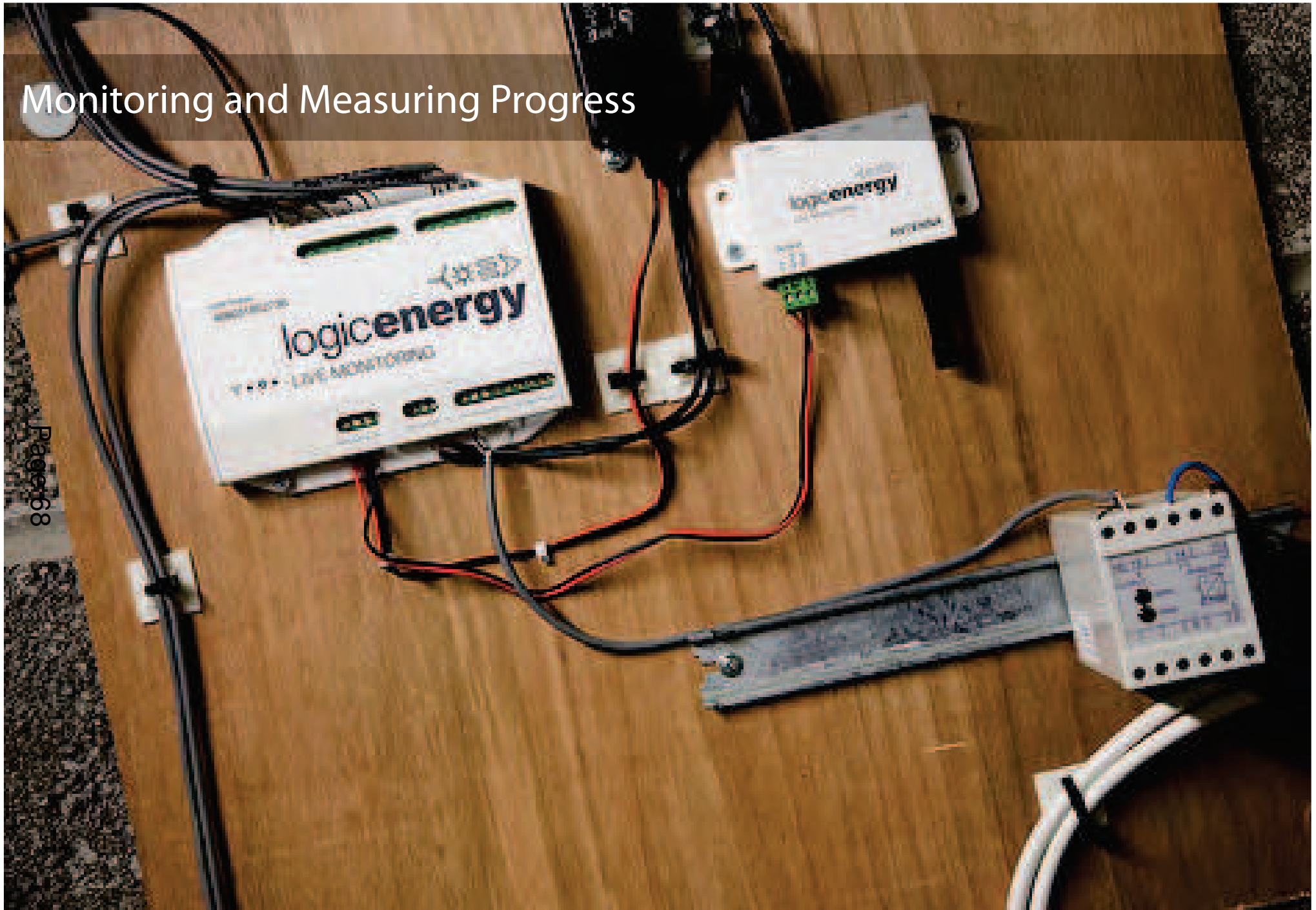
Although the family made some slight adjustments to their everyday routines, for example doing the washing and ironing on sunny days, they say that living completely off-grid hasn't significantly changed their appliance usage.

The project has been hailed as an exemplar in sustainable low carbon living, and has won several high profile accolades including the top prize at the Royal Town Planning Institute Wales awards. In June 2014 the project was visited by one of the most

senior UK representatives in the European Union, Shan Morgan, UK Deputy Permanent Representative to the EU. She was very impressed with the project and in particular was interested in how the technology could be replicated in properties both on and off the grid to encourage people to change their behaviour and use energy and water more sustainably.



Monitoring and Measuring Progress



Monitoring and Measuring Progress

The SD & LE Team reports to a number of groups and against the indicators in several strategies including:

- The Regeneration & Planning Division's Service Improvement Plan
- The Local Service Board Single Integrated Plan

The Team also reports to the Sustainable Development Advisory Panel, and co-ordinates the Council's report to Welsh Government as part of its commitment to the Sustainable Development Charter. The Team also prepares reports to the Greener Caerphilly Leadership Group and partners.

Some selected indicators for the work of the Team are set out in the table below:

Funding

The Sustainable Development & Living Environment Team secured an additional £126,037 to contribute to our work in 2014/15. This includes:

- £12,431 for Caerphilly Environmental Quality projects from the Community Scheme budget
- £37,431 from Greener Caerphilly partners to match fund CEQ projects

- £71,000 from UWHA for Solar Schools Phase II
- £2,180 from Lets Walk Cymru towards the Pedometer Challenge
- £400 from Fairtrade Wales towards Fairtrade school training
- £1,595 from Sustrans towards the Strategic Cycle map project
- £1,000 from CCBC Tourism for the strategic Cycle map project

£126,037 Total secured

Indicator	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Actual	2013/14 Actual	2014/15 Target	2014/15 Actual
Number of Services supported	4	5	5	7	5	5	5	5
The number of staff on the 'Cycle to Work Scheme'	New PI	New PI	104	221	291	360	375	390
The percentage of schools with a Green Flag award under the Eco Schools programme	32%	39.5%	51.6%	58%	62%	67%	70%	71%
The number of education for sustainable development training with schools	New PI	New PI	128	102	89	89	100	91
Number of staff on our "Car share database"	New PI	New PI	293	321	342	354	380	384
Number of sustainable travel events held	New PI	New PI	10	13	11	9	9	6
Number of Climate Change Woodlands created	New PI	New PI	1	3	3	5	2	1
Farms and rural businesses advised on sustainable energy issues	New PI	New PI	New PI	28	28	37	40	51

Sustainable Development and Living Environment Team

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Sustainable Development and Living Environment Team

The Sustainable Development and Living Environment Team is part of the Regeneration & Planning Division, based in Ty Pontllanfraith, Pontllanfraith Blackwood.

The team is currently made up of 4 officers.

Paul Cooke
Team Leader, Sustainable Development and Living Environment.

Paul is responsible for coordinating the work of the Greener Caerphilly Outcome Theme of the Single Integrated Plan and for leading on Sustainable Development issues with the Authority. This includes raising awareness of living environment and sustainability issues and ensuring that the principles are embedded in the policies and procedures of the Authority.

Tracy Evans
Education for Sustainable Development Officer.

Tracy became the Education for Sustainable Development Officer in October 2004, having previously worked in environmental waste management. Her main role is to raise awareness and understanding of Education for Sustainable Development and Global Citizenship across the county borough as well as supporting the sustainable development work within the authority.

Tracy works closely with the county borough's schools on the Eco Schools initiative, and has been instrumental in continuously improving the standards of the eco-schools programme and school ESGC work through training the pupils, teachers, headteachers and governors in sustainable development and global citizenship issues.

Kelly Silcox
RDP Sustainable Energy Officer

Kelly was appointed as one of two RDP Sustainable Energy Officers in May 2011, having previously worked for an environmental charity, providing energy advice to individuals and businesses. Her main role is to engage with farming and rural businesses in the county borough on energy issues, raising awareness of the implications of climate change, and promoting sustainable energy solutions.

Melanie Phillips
RDP Sustainable Energy Officer

Melanie joined the Team in 2011, having worked for CCBC for 13 years, providing environmental support and advice to businesses in Caerphilly. Melanie's role is also to engage with farming and rural businesses in the county borough on energy issues, raising awareness of the implications of

climate change, and promoting sustainable energy solutions.



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SUSTAINABLE DEVELOPMENT ADVISORY PANEL – 5TH NOVEMBER 2015

SUBJECT: LOCAL CLIMATE IMPACTS PROFILE

REPORT BY: CORPORATE DIRECTOR - COMMUNITIES

1. PURPOSE OF REPORT

- 1.1 To make the Panel aware of the Local Climate Impacts Profile (LCLIP) report and recommendations approved by the Corporate Management Team on the 30th July 2015.

2. SUMMARY

- 2.1 Under the Climate Change Act statutory guidance, the Authority is required to make progress in adapting to climate change, and to report annually on progress.
- 2.2 Meetings were undertaken with 43 senior officers covering each of the 18 Service within the Authority. Each Service received an individual report. One hundred and twenty eight impacts were identified, of which 33 were rated as a high priority for further assessment.
- 2.3 This report identifies a total of 14 recommendations, divided into two areas:
- Existing work and reviews where consideration of climate change adaptation issues should be included. This includes 5 recommendations under 3 headings:
 - Strategies and Plans
 - Review of policies and procedures
 - Financial considerations
 - Specific additional work on climate adaptation issues. This includes 9 service specific recommendations

3. LINKS TO STRATEGY

- 3.1 Addressing climate change adaptation contributes to the delivery of the following key strategies:
- Climate Change Strategy for Wales. Welsh Government (2010).
 - Climate Adaptation Delivery Plan. Welsh Government (2010).
 - One Wales, One Planet (2009), the Sustainable Development Strategy for Wales.
 - Wales Environment Strategy (2006).
 - Caerphilly Delivers - Caerphilly Single Integrated Plan, 2013 - 2017
 - Caerphilly Climate Change Strategy (2009).
 - Living Better, Using Less, the Sustainable Development Strategy (2008).

4. THE REPORT

4.1 The Climate Change Act 2008 gave Welsh Ministers the power to issue guidance on climate change impacts and adaptation. It also gave them the power to issue a direction requesting bodies with public functions to prepare an adaptation report. Local authorities are included as 'reporting authorities' as are the Health Boards, Fire Services and others.

4.2 In January 2012 the Minister for Environment & Sustainable Development published new statutory guidance, setting out what is required of us.

The Minister expects all key reporting authorities to make continued progress in preparing for a changing climate and identified the challenge as being to embed consideration of climate change impacts and possible responses into decision-making processes. Statutory guidance was published setting out the detail of what is required. The guidance is in 5 parts, based on a management-system styled approach.

4.3 The Local Climate Impact Profile (LCLIP) along with other associated work was carried out between February 2013 and May 2015.

The first phase of the LCLIP process consisted of researching media sources in order to identify occurrences of extreme weather events during the study period between January 2003 and December 2013. The research identified 89 severe weather events:

- 35 excessive rainfall/flooding events
- 25 frost/ice/snow/cold events
- 14 storm/high wind events
- 15 Events of high temperatures/heatwave/drought

4.4 As part of the next stage of the process, interviews, workshops and questionnaires were used with 43 senior managers across the 18 Service within the Authority to verify the data and to identify priority impacts.

A total of 128 impacts were identified of which 32 were rated as "high" priority.

	All weather	Excessive rainfall	Frost Ice Snow	Storm high winds	High temperature	Total
Total impacts identified	2	43	32	21	30	128
Rated as high priority	0	13	3	4	12	32

4.5 The preparation of this LCLIP has identified that there is a good understanding of climate change issues across the senior officers in the Authority who were interviewed. Services are aware that the climate is changing, with many services considering and planning to adapt to the changes they are seeing. The levels of understanding of other employees was not assessed as part of this work.

4.6 Across the Authority existing systems are in place which compliment and enable adaptation work. These systems include Business Continuity, Emergency Planning, Major Incident Plan, Corporate Risk assessment, as well as the individual Service Plans.

4.7 The study also identified that the Authority is subject to numerous changes being driven by external factors including the financial climate and new legislation. These are driving changes at a quicker rate than the natural adaptation of the organisation to climate change. Many of the potential changes also provide an opportunity to make the organisation more resilient to climate change. The rationalisation of buildings, changes to HR policies to enable more flexible or home working all have the potential to enable us to deal better with severe weather

events. Climate change adaptation issues are being factored into the overall change process that the Authority is currently going through.

4.8 In addition to this overall LCLIP report, each of the 18 Services within the Authority has received an individual report summarising the findings from the interviews and research. Each of these reports identifies and characterises the impacts of climate change on the Service, and assess them as high, medium or low priority.

4.9 LCLIP Recommendations

Part 2 of the Welsh Government guidance recommends that each organisation should consider the scale of the future work. This should include considering whether the priority is to take a high-level look at impacts affecting the organisation as a whole, or focusing on assessing detailed impacts for specific departments/service areas/types of infrastructure/assets/communities.

4.10 The report recommends a twin track approach, with some high level issues such as a review of key policies, being combined with some further work on specific impacts relating to individual Service areas.

This report identifies a total of 14 recommendations, divided into two areas:

- Existing work and reviews where consideration of climate change adaptation issues should be included. This includes 5 recommendations under 3 headings:
 - Strategies and Plans
 - Review of policies and procedures
 - Financial considerations
- Specific additional work on climate adaptation issues. This includes 9 service specific recommendations

4.11 The completion of the LCLIP will mean that the steps outlined in Part 1 of the Welsh Government's statutory guidance will be complete. The next steps, set out in Part 2, are for those impacts identified as being of high priority, to go forward for further investigation, vulnerability assessment and risk assessment.

4.12 The LCLIP report was approved by Corporate Management Team on the 30th July 2015

5. EQUALITIES IMPLICATIONS

5.1 No Equalities Impact Assessment has been done on this report, however Sustainable Development and Equalities interact on many levels and work done in one area often supports the other. Creating sustainable communities, employment and transport for example, is of benefit to all the residents of Caerphilly county borough, regardless of their individual circumstances or backgrounds.

6. FINANCIAL IMPLICATIONS

6.1 There are likely to be financial considerations from implementing the recommendations set out in the report. Some will require climate change adaptation to be considered as future policies, procedures and work is developed. Other recommendations will require amendments to existing ways of working, or prioritising of resources. The cost of this work will be dependant on the specific work identified, but this is not known at this time.

7. PERSONNEL IMPLICATIONS

- 7.1 There are no initial personnel implications associated with this report. The report does however recommend that climate change adaptation should be considered in future reviews of personnel and other policies.

8. CONSULTATIONS

- 8.1 See list below.

9. RECOMMENDATIONS

- 9.1 That the Panel note the contents and recommendations contained in the Local Climate Impacts Profile report.

10. REASONS FOR THE RECOMMENDATIONS

- 10.1 In order to develop a Climate Change Adaptation Plan for the Authority in accordance with statutory guidance.

11. STATUTORY POWER

- 11.1 Climate Change Act 2008.

Author: Paul Cooke – Team Leader, Sustainable Development & Living Environment.
Consultees: Cllr Ken James – Cabinet Member for Regeneration, Planning & Sustainable Development
Cllr Derek Havard - Vice Chair, Sustainable Development Advisory Panel
Chris Burns – Interim Chief Executive
Christina Harry Corporate Director - Communities
Pauline Elliott – Head of Regeneration & Planning
Dave Street, Corporate Director Social Services
Nicole Scammell – Acting Director of Corporate Services
Alison Palmer – Community Planning Co-ordinator
Paul Rossiter – Energy & Water Conservation Officer
Steve Martin - Principal Contracts Officer (Energy)

Appendix 1 Local Climate Impacts Profile (LCLIP) report

CAERPHILLY COUNTY BOROUGH COUNCIL

Local Climate Impacts Profile (LCLIP)

Prepared by the Sustainable Development & Living Environment Team

Local Climate Impacts Profile (LCLIP)

Introduction and Background

With carbon dioxide remaining in the atmosphere for around 100 years, historic emissions mean that changes to the UK climate are now inevitable. These changes are predicted to include milder wetter winters, hotter drier summers and more frequent severe storms.

For Caerphilly by 2040 the UKCOP09 climate projections suggest the following:

- **winter rainfall** will increase by 11%;
- **summer rainfall** will decrease by 14%;
- **average annual temperatures** increase by 2.8 degrees;
- **summer daily temperatures** increase by 3.4 degrees;
- **winter daily minimum temperatures** to increase by 2.1

Such events are likely to affect many aspects of local authority activity, and as climate change accelerates over the coming decades, are likely to have more frequent and increasingly significant impacts on service delivery.

The Climate Change Act 2008 gave Welsh Ministers the power to issue guidance on climate change impacts and adaptation. It also gave them the power to issue a direction requesting bodies with public functions to prepare an adaptation report. Local authorities are included as 'reporting authorities' as are the Health Boards, Fire Services and others.

The Minister has published guidance in 5 parts. It set out the Welsh Government's expectation that key reporting authorities will make progress in preparing for a changing climate. This includes a requirement for reporting at the end of the financial year on what has been achieved, and the organisations proposed approach.

The guidance identifies the use of the Local Climate Impacts Profile (LCLIP) tool, developed by the UK Climate Impacts Programme (UKCIP), as an important step in understanding how the weather is already affecting an organisation. The result of this work will then be fed into the Service Plan process to demonstrate how climate change impacts on the work that we deliver.

Local Climate Impacts Profile (LCLIP)

This Local Climate Impacts Profile (LCLIP) has been prepared as part of the process of developing a Climate Change Adaptation Strategy for the Authority, and to report on progress to Welsh Government in line with statutory guidance under the Climate Change Act 2008.

The LCLIP process involves reviewing local media reports and interviewing key stakeholders in order to identify local impacts and consequences of extreme weather events for an organisation.

Executive Summary

The Local Climate Impact Profile (LCLIP) along with other associated work was carried out between February 2013 and May 2015.

The LCLIP exercise documented in this report forms part of the work that is required to be undertaken by Local Authorities for Welsh Government as part of the requirements of the Climate Change Act 2008.

The first phase of the LCLIP process consisted of researching media sources in order to identify occurrences of extreme weather events during the study period between January 2003 and December 2013. The research identified 89 severe weather events:

- 35 excessive rainfall/flooding events
- 25 frost/ice/snow/cold events
- 14 storm/high wind events
- 15 Events of high temperatures/heatwave/drought

As part of the next stage of the process, interviews, workshops and questionnaires were used with 43 senior managers across the 18 Service within the Authority to verify the data and to identify priority impacts.

A total of 128 impacts were identified of which 32 were rated as “high” priority.

	All weather	Excessive rainfall	Frost Ice Snow	Storm high winds	High temperatures	Total
Total impacts identified	2	43	32	21	30	128
Rated as high priority	0	13	3	4	12	32

High priority impacts include:

- Trees being blown down in high winds
- Drainage and culvert collapses in excessive rainfall
- Health of staff in extremely hot weather

The preparation of this LCLIP has identified that there is a good understanding of climate change issues across the senior officers in the Authority who were interviewed. Services are aware that the climate is changing, with many services considering and planning to adapt to the changes they are seeing. The levels of understanding of other employees was not assessed as part of this work

Across the Authority existing systems are in place which compliment and enable adaptation work. These systems include Business Continuity, Emergency Planning, Major Incident Plan, Corporate Risk assessment, as well as the individual Service Plans.

The study also identified that the Authority is subject to numerous changes being driven by external factors including the financial climate and new legislation. These are driving changes at a quicker rate than the natural adaptation of the organisation to climate change. Many of the potential changes also provide an opportunity to make the organisation more resilient to climate change. The rationalisation of buildings, changes to HR policies to enable more flexible or home working all have the potential to enable us to deal better with severe weather events. Climate change adaptation issues are being factored into the overall change process that the Authority is currently going through.

In addition to this overall LCLIP report, each of the 18 Services within the Authority has received an individual report summarising the findings from the interviews and research. Each of these reports identifies and characterises the impacts of climate change on the Service, and assess them as high, medium or low priority.

LCLIP Recommendations

Part 2 of the Welsh Government guidance recommends that each organisation should consider the scale of the future work.

This should include considering whether the priority is to take a high-level look at impacts affecting the organisation as a whole, or focusing on assessing detailed impacts for specific departments/service areas/types of infrastructure/assets/communities.

This report recommends a twin track approach, with some high level issues such as a review of key policies, being combined with some further work on specific impacts relating to individual Service areas.

This report identifies a total of 14 recommendations, divided into two areas:

- Existing work and reviews where consideration of climate change adaptation issues should be included. This includes 5 recommendations under 3 headings:
 - Strategies and Plans
 - Review of policies and procedures
 - Financial considerations
- Specific additional work on climate adaptation issues. This includes 9 service specific recommendations

The next steps

The completion of the LCLIP will mean that the steps outlined in Part 1 of the Welsh Government's statutory guidance will be complete. The next steps, set out in Part 2, are for those impacts identified as being of high priority, to go forward for further investigation, vulnerability assessment and risk assessment.

Subject to approval, work will need to be undertaken to prioritise and action the recommendations set out in this report

Project Aims

Caerphilly County Borough Council is undertaking a Local Climate Impacts Profile (LCLIP) as part of the process of developing a Climate Change Adaptation Strategy for the Authority, and to report on progress to Welsh Government in line with statutory guidance under the Climate Change Act 2008. It also complements other work currently being undertaken by the Council.

The LCLIP aims to:

- identify impacts of the local weather on the operations of Caerphilly County Borough Council;
- analyse the Council's response capabilities to address the weather-related consequences;
- help the Council identify weaknesses in the current abilities to respond to weather generated events;
- disseminate the findings across the Council in an accessible format.

An anticipated outcome is that the document will promote proactive discussions within and across Service Areas of the Council on ways of more effectively planning responses to weather induced events and anticipated climate change.

Caerphilly County Borough Council drivers

The Authority is committed to addressing climate change through adaptation and mitigation measures, and by working in partnership with stakeholders across Caerphilly County Borough. In association with the Caerphilly Living Environment Partnership, a high-level Climate Change Strategy was produced for the borough in 2009. The Strategy identified actions on mitigation (reducing the causes of climate change), adaptation (adapting to the changes) and opportunities. Mitigation is being taken forward by the carbon reduction and management work across the Authority.

The Partnership recognised the need to collaboratively produce a Climate Adaptation Plan for the borough. Under the guidance, Health, Police and Fire partners are also required to produce Climate Adaptation Reports, as responsible bodies.

Support and funding was been secured from the WLGA to initiate the process and two workshops were run on Climate Change Adaptation. These workshops introduced climate adaptation to a range of key personnel from across the Authority and developed an approach to the issues. A report setting out this proposed approach was endorsed by the Authority's Sustainable Development Advisory Panel in July 2012.

In April 2006, Caerphilly County Borough Council, together with all other Welsh councils signed the 'Welsh Declaration on Climate Change and Energy Efficiency' a declaration that recognises the risks associated with climate change, and commits to the introduction of strategies for adaptation and mitigation of its impacts.

In the context of this report the emphasis is specifically on weather, and not climate. NASA defines the difference between weather and climate as "... a measure of time. Weather is what conditions of the atmosphere are over a short period of time, and climate is how the atmosphere "behaves" over relatively long periods of time." (NASA 2008) Thus "weather"

refers to day-to-day conditions of a particular location while “climate” refers to conditions over a long-term period. Typically, the climate of a place is defined as an average of the weather over a period of 30 years.

As a first step towards developing effective adaptation strategies, there is a clear need to measure and assess the likely impact of weather-related events on local authority staff and services. The Caerphilly County Borough Council LCLIP exercise considered the impact of weather-related events upon Council operations during the period January 2003 to December 2013. The research process broadly consisted of identifying, extracting, collating and analysing data from media resources, followed-up by meetings and interviews with Council representatives to verify the data and impacts.

Although efforts to mitigate further future climate change remain important, in order to be able respond creatively and effectively to the various threats and opportunities that will arise, local authorities must now also focus on adapting to climate change. Strategic planning in relation to climate change adaptation needs to become embedded into the authority’s planning around service delivery, staff resources, finances and reputation.

The Local Climate Impact Profile (LCLIP) presented in this report is an initial attempt to identify and quantify these likely impacts for Caerphilly County Borough Council.

Context

Caerphilly County Borough covers 27,745 hectares, and has a population of 178,806 (2011 Census). The county is populated at approximately 6.4 people per hectare, in contrast to the Welsh average population per hectare of 1.5. This means that it is in the top 5 counties in Wales for population density.

Over the past 15 years the Hadley and Tyndall Research Centres, through the UK Climate Impacts Programme (UKCIP), have developed models to predict how global warming will affect the climate in the UK. Although there are differences in the detail, these models tend to produce broadly similar conclusions about what is going to happen in the first half of this century regardless of whether our emissions are 'business as usual' or if we act cut them. The extent to which these changes occur will depend on how we are able to control emissions. Either way, we are committed to changes. For Wales, the main impacts by 2080 are predicted to be:

- A longer growing season
- Milder wetter winters
- Drier, hotter summers
- Increases in extremes of heat, and decreases in extremes of cold
- Warmers seas and sea level rise of up to 100cm
- More extreme events (droughts, heatwaves, flooding)
- More frequent and more violent storms/gales

For Caerphilly by 2040 the UKCOP09 climate projections suggest the following:

- **winter rainfall** will increase by 11%;
- **summer rainfall** will decrease by 14%;

- **average annual temperatures** increase by 2.8 degrees;
- **summer daily temperatures** increase by 3.4 degrees;
- **winter daily minimum temperatures** to increase by 2.1

These indicate averages. Projections suggest extreme weather events will become more prevalent. It is these severe, more frequent conditions, as well as the general changes, which present some challenges to ensure Caerphilly is resilient in the future.

The UK Climate Change Act includes targets to reduce carbon emissions by 80% by 2050 based on a 1990 baseline. The EU and the UN have also set targets for reducing emissions.

Method

The LCLIP of Caerphilly Council was undertaken by the Sustainable Development and Living Environment Team between September 2013 and March 2015 and the process was broadly divided into five phases:

1. data identification and integration from media articles,
2. data interrogation and analyses,
3. data verification,
4. attainment of Service responses, and,
5. compilation of findings within a report.

Data identification and integration from media articles

The first phase of the LCLIP process consisted of researching media sources in order to identify occurrences of extreme weather events during the period 2003-2013 which impacted on life in Caerphilly County Borough and therefore on Caerphilly Council operations. The sources used to identify and obtain data for weather-linked severe events across Caerphilly over the 10-year study period included the Countryside Council for Wales (CCW) database, Met Office weather warnings, BBC online, Google and the CCBC media database.

The data extracted from the media reports was collated onto an Excel spread sheet. When completing the spread sheet standardised lists were used for weather types. The list (1-4) was as follows:

1. Excessive rainfall/flooding events
2. Frost/ice/snow/cold events
3. Storm/high wind events
4. Events of high temperatures/heat-wave/drought

The data obtained from the media survey was then analysed in order to enable correlation of the weather-linked impacts with the Caerphilly Council Service Areas.

Results from media reports studies

Data from the analysis of the media reports (Appendix 1) indicates that Caerphilly County Borough has experienced a variety of weather events during the period under consideration for the LCLIP (1st January 2003 to 31st December 2013). Analyses of these reports have revealed that there have been 89 incidents which have had significant impacts on life in Caerphilly. These have been directly linked to Caerphilly Council by the media.

Events from the media survey included 35 excessive rainfall / flooding events, 25 frost/ice/snow/ low temperatures events, 14 storm/high wind events and 15 Events of high temperatures / heat-wave/drought.

Figure 1 presents the percentage distribution of the reported weather events over the study period. Figure 2 illustrates the diversity in the weather events compiled from the media study (Panel A).. It should be noted that these figures provide an indication of the variety of the weather only; they are neither comprehensive nor can they be considered as anything other than semi-quantitative due to the subjectivity of media reporting.

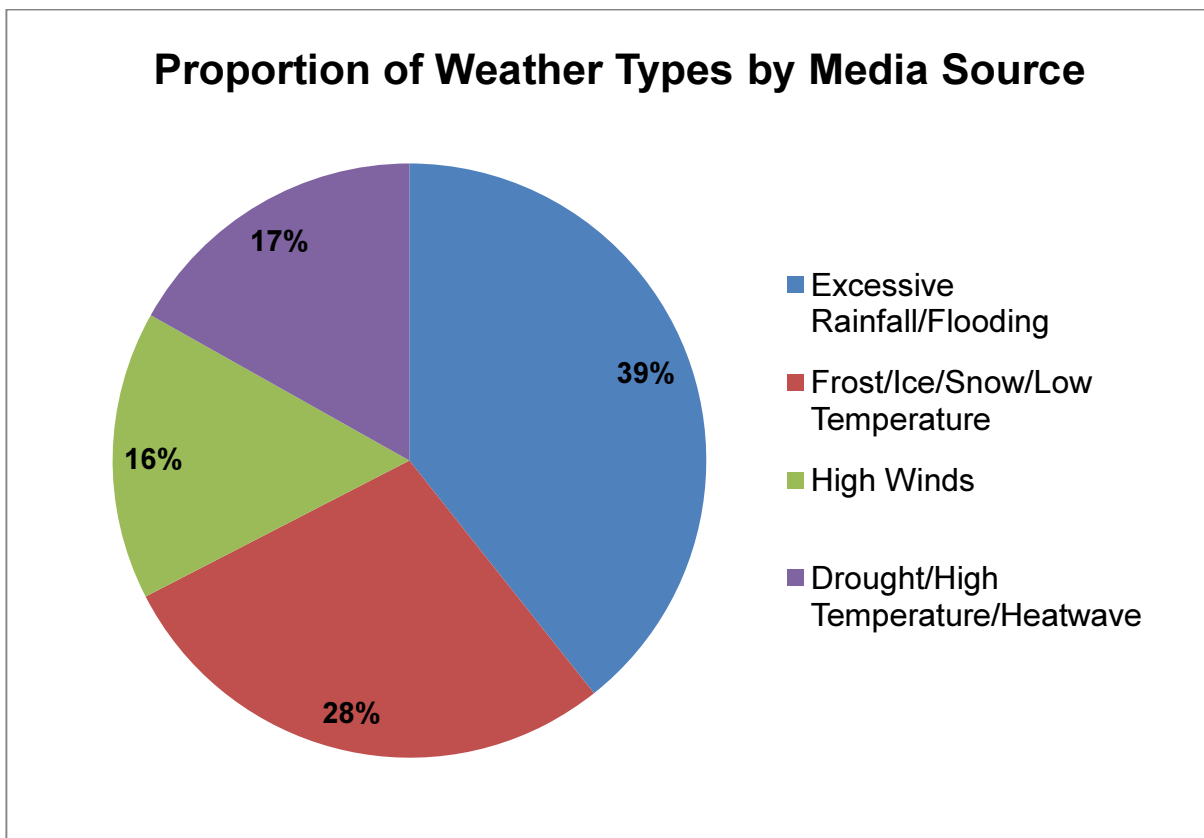


Figure 1: Percentage distribution of media reported weather events between January 2003 and December 2013.

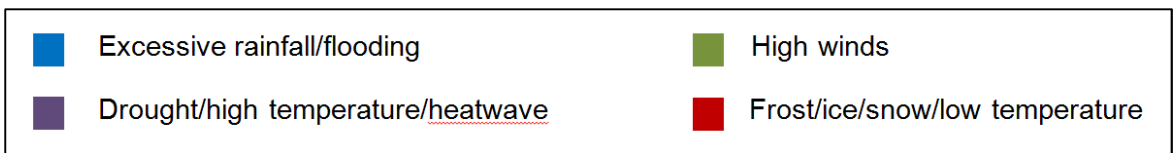
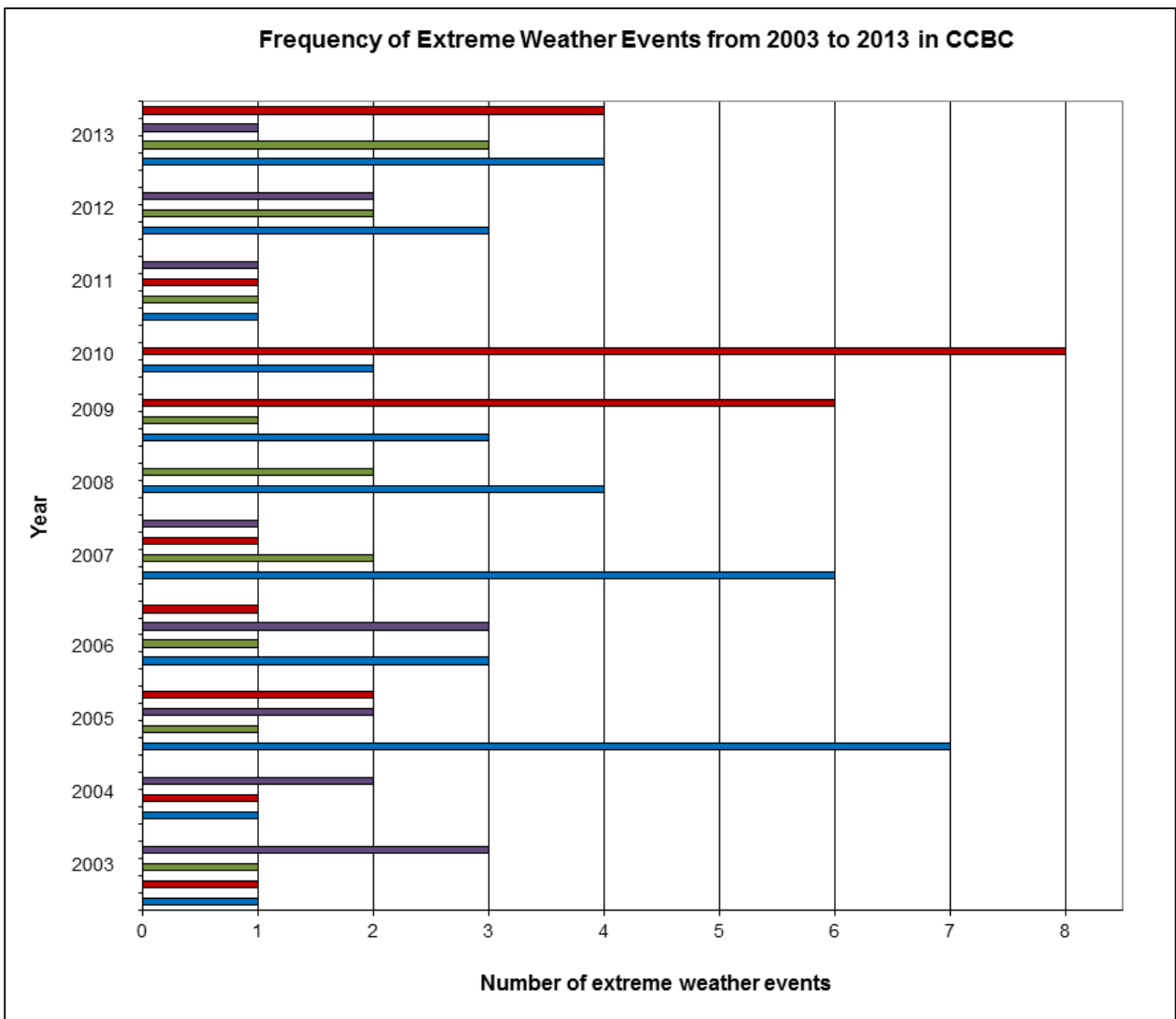


Figure 2: Frequency of weather events compiled from media sources between January 2003 and December 2013.

Data from weather stations

Figures 3, 4 and 5 show month-by-month values of the total rainfall, maximum temperature and minimum temperature for Wales over the 10 years of the study period. There has been no significant change in the pattern of the maximum and minimum temperatures over the study period.

In contrast, the data for total rainfall portrays a high level of variability, with a wide range of distribution.

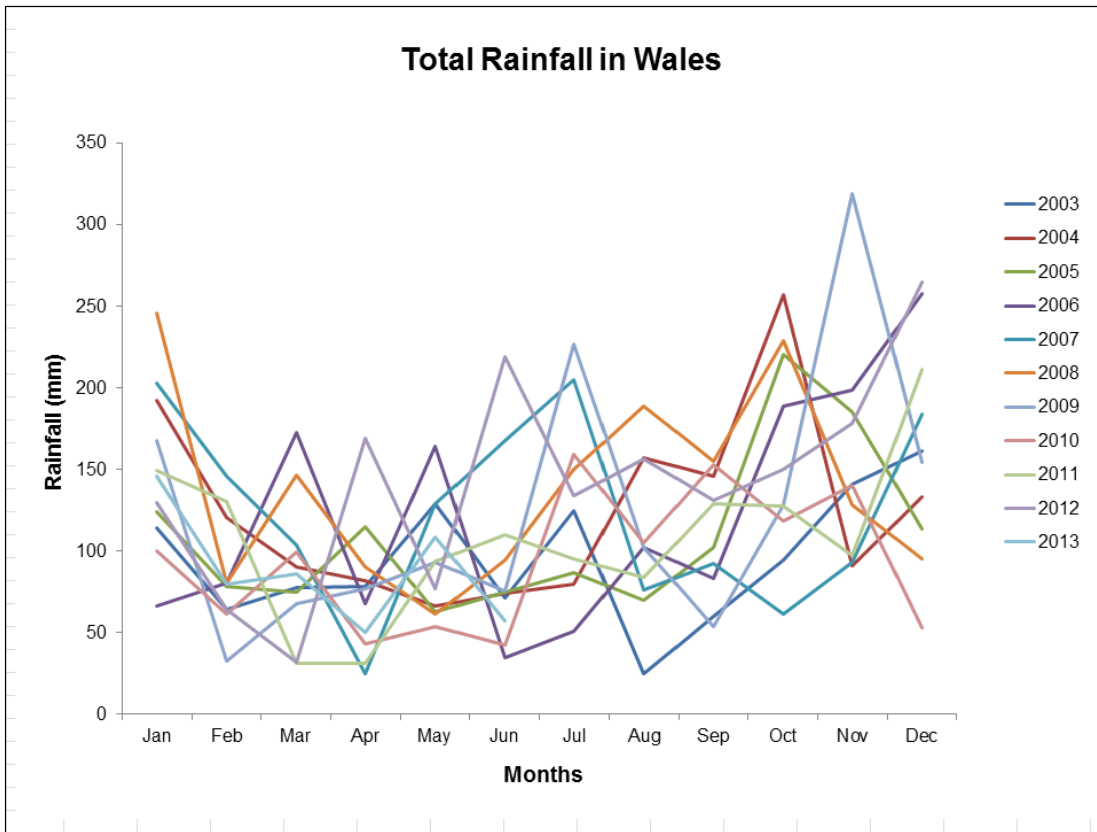


Figure 3: Plots of the total rainfall each month between January 2003 and June 2013

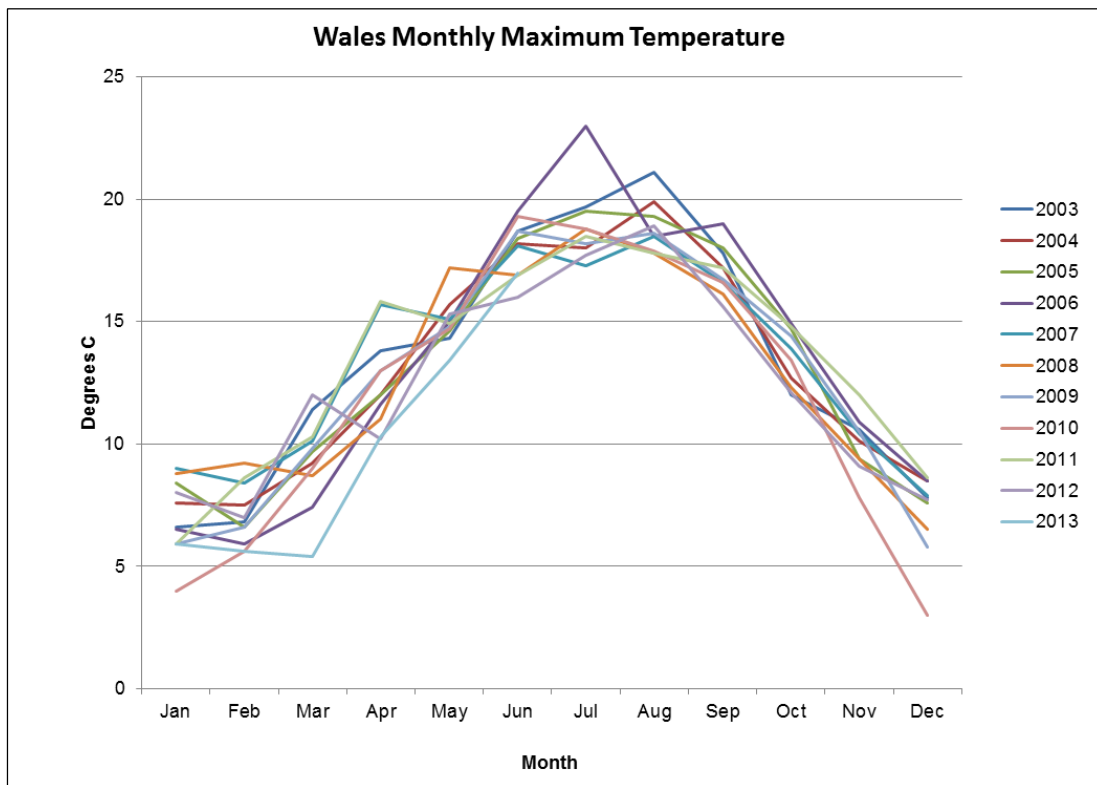


Figure 4: Plots of the maximum temperature each month between January 2003 and June 2013

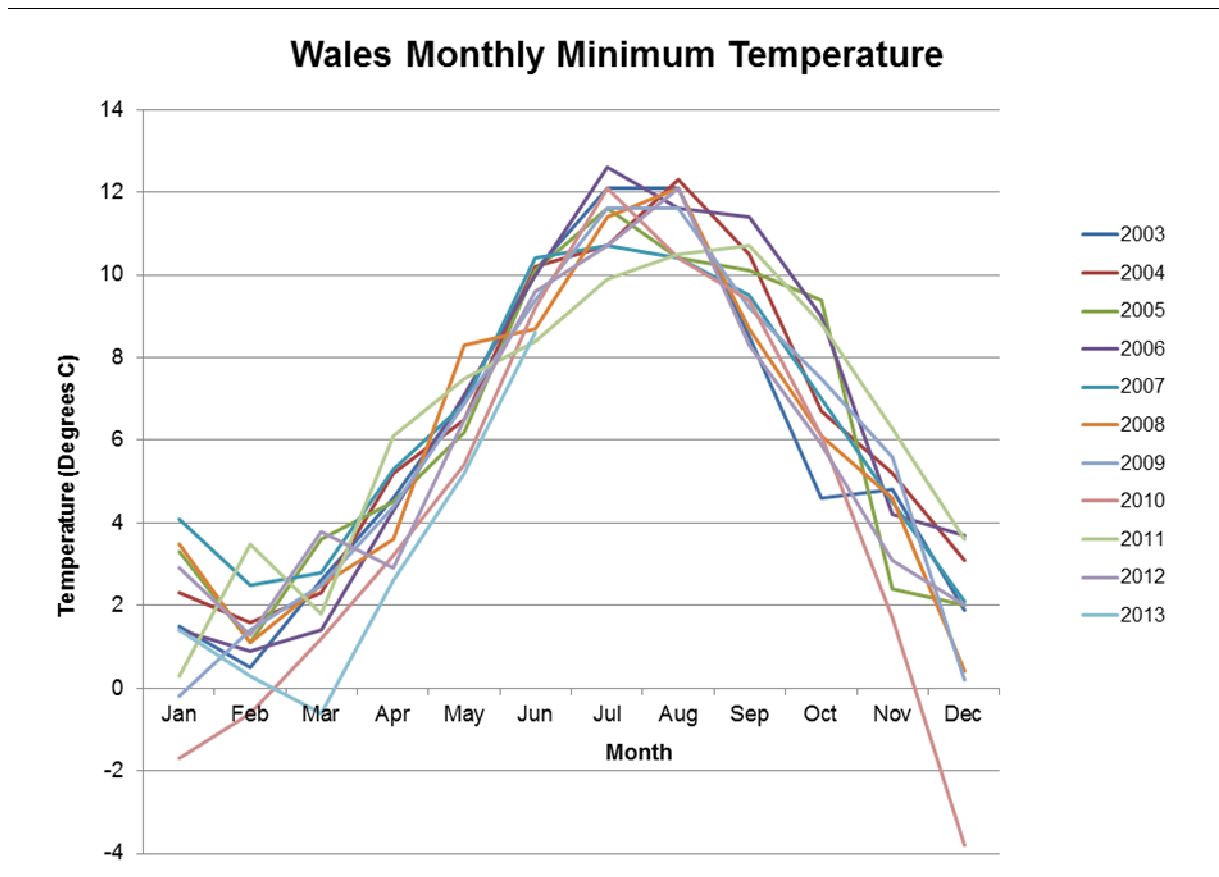


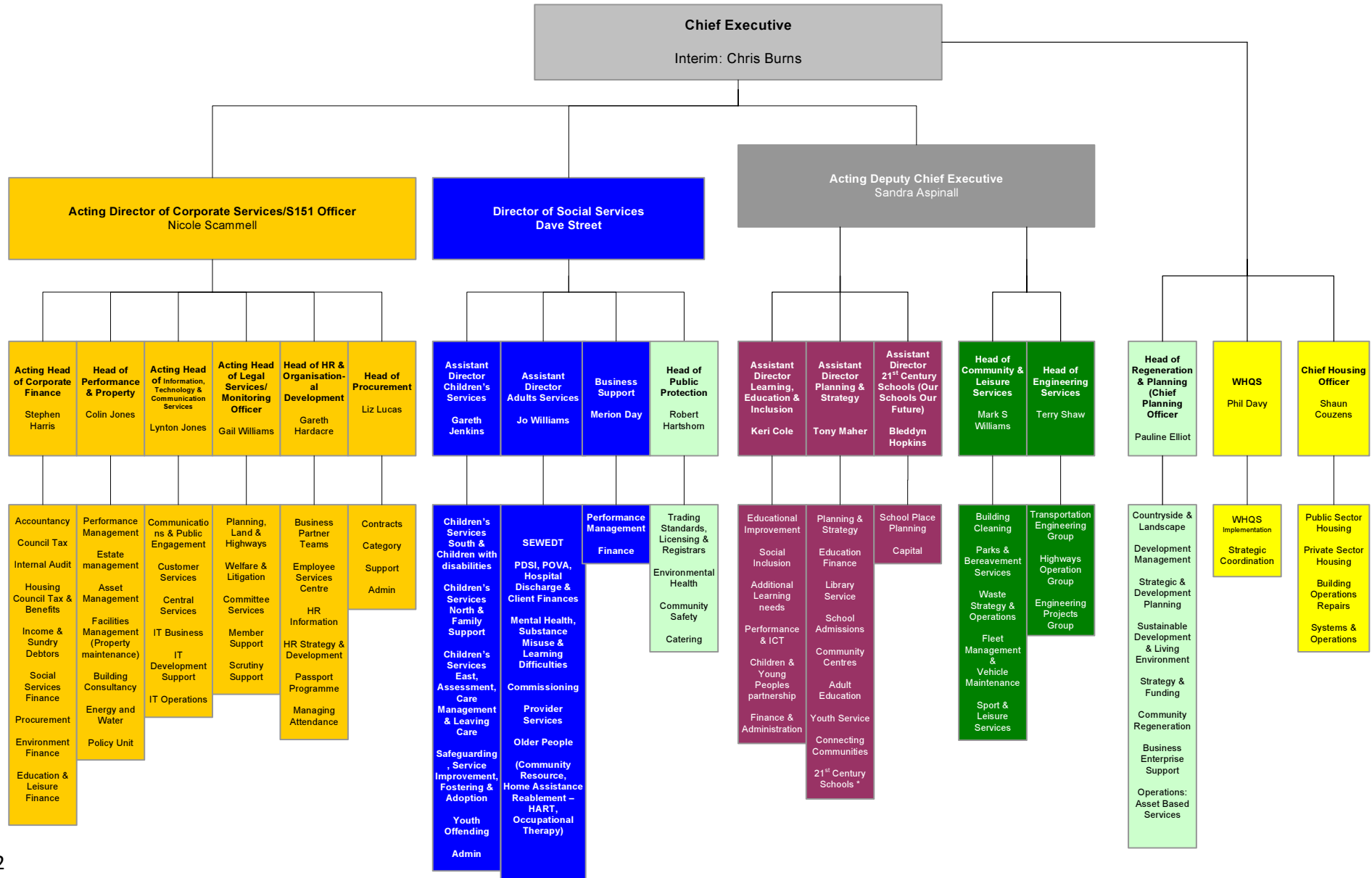
Figure 5: Plots of the minimum temperature each month between January 2003 and June 2013

Data verification

The media typically report impacts of severe weather events on the public and do not usually link these to specific departments within a council. Following linkages of the media reports to the Caerphilly Council Service Areas, it was essential to ascertain the “real” relationship between the media reported events and their impacts. Also, it could be expected that the media would report the most sensational events. This could result in an omission of events perceived to be mundane by the media but of major consequence for the Council.

It was therefore essential to interview representatives from various Service areas to verify the data obtained from media resources and to investigate additional information absent from these reports.

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Meetings were organised between the Team Leader for Sustainability & Living Environment, the LCLIP Researcher and senior officers within each of the Authority's 18 services.

Stages	Procedure
Before Interviews	Information sent via email: (i) Explanation of the process and a request for interview (ii) Summary list of weather events obtained from the media survey
During Interviews	(i) Further information on the LCLIP process and climate change related programmes being undertaken by Caerphilly County Borough Council (ii) Exploration of the validity of the events reported in the media (ii) Identification of additional impacts of weather events on the Service (iii) Investigation of the type of data available – qualitative and/or quantitative (iv) Identification of the Council's preparedness to respond to severe consequences arising from such weather events

Table 1: Interview methodology included information supplied prior to and during interview and exploration of impacts of the media reported and other weather events

Services Responses

The information obtained during the completion of data verification via meetings with representatives of various Service areas was compiled into individual reports for each Service. These reports were then sent to the Heads of Service for comment and approval.

Meetings were held with the following 43 officers:

Corporate Services

- Gareth Hardacre – Head of HR & Organisational Development
- Gail Williams – Acting Head of Legal Services & Interim Monitoring Officer
- Stephen Harris – Acting Head of Corporate Finance
- Liz Lucas – Head of Procurement
- Colin Jones – Head of Performance & Property Services
- Mark Faulkner – Facilities Manager
- Lynton Jones – Acting Head of ICT & Customer Services
- Shaun Couzens – Chief Housing Officer
- Phil Davy – Head of Programme
- Mark Jennings – Housing Strategy Officer

Education & Lifelong Learning

- Tony Maher – Assistant Director Planning & Strategy
- Donna Jones – Health & Safety Manager
- Elizabeth Lewis – Community Focused Schools Coordinator

Social Services

- Jo Williams –Assistant Director Adult Services
- Gareth Jenkins – Assistant Director Children’s Services
- Alun Ford – Facilities Manager

The Environment

- Mark S Williams – Head of Community & Leisure Services
- Tony White – Waste Strategy and Operations Manager
- Derek Price – Parks and Outdoor Facilities Manager
- Mike Headington – Principal Officer Outdoor Facilities & Bereavement Services
- Christine Smart – Building Cleaning Contract Manager
- Mary Powell – Fleet Manager
- David Phenis – Sport and Leisure Services Manager
- Terry Shaw – Head of Engineering Services
- Marcus Lloyd – Highway Operations Group Manager
- Jacqui Mynott – Principal Engineer, Structures
- Kevin Kinsey - Principal Engineer, Consultancy
- Gareth Richards - Principal Engineer
- Michelle Johnson – Senior Engineer
- Clive Campbell – Transportation Engineering Manager
- Robert Hartshorn – Head of Public Protection
- Marcia Lewis – Principal Catering Officer
- Kath Peters – Community Safety Manager
- Ceri Edwards – Environmental Health Manager
- Jacqui Morgan – Trading Standards, Licensing & Registrars Manager
- Della Mahony – Superintendent Registrar
- Philip Griffiths – Acting Manager Countryside & Landscape
- Tim Stephens – Development Control Manager
- Rhian Kyte – Team Leader, Strategic & Development Planning
- Tina McMahon – Community Regeneration Manager
- Ian MacVicar – Group Manager Operations – Asset based services
- Paul Hudson – Marketing & Events Manager

Impacts on Caerphilly County Borough Council Service Areas

For the purpose of this study, the impacts of the weather events on the different Caerphilly Council Service Areas are placed under the categories in Figure 1:

1. High temperatures/heat-wave/Drought
2. Excessive rainfall/flooding
3. Storms/High winds
4. Frost/ice/snow/Low temperatures

The following table collates the information gathered during the interviews and follow-up research with the 18 Service areas. The impact has been assessed as high, medium or low priority. High priority impacts will be taken forward to the next stage of assessment as recommended in the Welsh Government guidance.

Each Service has received an individual report setting out the specific information relating to the interviews with officers, research and prioritised issues for their Service area.

Ref Number	Service Area	Impact	Description of weather event / observed change in climate	Climate variable e.g. hotter, drier summers.	Consequences	Identified as a priority impact?
	Corporate (Finance)	Significant additional costs from extreme weather related events	Any extreme event		Financial issues	Medium
	Corporate (Procurement)	Breakdown in supply chain due to extreme weather event	Any extreme event		Unable to obtain certain goods or services	Medium
	Community and Leisure	Sections of highway network impassable due to flooding	Excessive Rainfall/Flooding	Wetter Winters	Many services not able to function (delays in collection, disruption with burials). Staff unable to access work. Unable to access most vulnerable	Medium
	Community and Leisure (Cleaning)	Weather conditions stopping work being carried out e.g. delay in window cleaning	Excessive Rainfall/Flooding	Wetter Winters	Wet conditions prevent window cleaning activity	low
	Community and Leisure (Sport & Leisure)	Flooding of pitches and pavilions	Excessive Rainfall/Flooding	Wetter Winters	Loss of income, reduced physical activity, loss or severe damage to facilities resulting in potential closure	High
	Community and Leisure (Bereavement)	Extreme excavation conditions with potential for dangerous grave collapse	Excessive Rainfall/Flooding	Wetter Winters	Risk to staff and public. Loss of income - burials and internments	Medium
	Community and Leisure (Sport & Leisure)	Fine turf areas suffering disease following periods of waterlogging	Excessive Rainfall/Flooding	Wetter Winters	Loss of facilities. Could result in closure of groups/clubs. Loss of staff	Medium
	Community and Leisure (Waste)	Flooding of CA sites, depots, workshops, storage areas	Excessive Rainfall/Flooding	Wetter Winters	Damage to buildings causing disruption.	Low
	Community and Leisure (Parks)	Erosion of roads/footpaths in parks	Excessive Rainfall/Flooding	Wetter Winters		Medium

	Community and Leisure	Structural damage to walls, embankments, blocked/collapsed culverts	Excessive Rainfall/Flooding	Wetter Winters	Impact on access and use of parks, sports and open areas, blocking roads, delays in waste collection	High
	Community and Leisure	Leachate problems in Trehir	Excessive Rainfall/Flooding	Wetter Winters		Medium
	Corporate (Property)	Flooding of sheltered housing bungalows	Excessive Rainfall/Flooding	Wetter winters	Financial issues, need to relocate residents	High
	Corporate (Property)	flood risk gap	Excessive Rainfall/Flooding	Wetter winters	Full identification of any additional buildings that may be at risk (Flood risk management plan)	High
	Corporate (Property)	Culvert collapse	Excessive Rainfall/Flooding	Wetter winters	Financial issues	Medium
	Corporate (Property)	Landslips	Excessive Rainfall/Flooding	Wetter winters	Financial issues	Medium
	Corporate	Flooding of highways	Excessive Rainfall/Flooding	Wetter winters	Staff and customers may not be able to access buildings	Low
	Corporate (ICT)	Flooding of Tredomen Data Centre	Excessive Rainfall/Flooding	Wetter Winters	Financial issues	Low
	Corporate (ICT)	Increased number of rats	Excessive Rainfall/Flooding	Milder Winters	Rats in ducts chewing through cables	Low
	Education	Sections of highway network impassable due to flooding	Excessive Rainfall/Flooding	Wetter Winters	Staff and children unable to access buildings. Closure of schools, libraries, youth centres etc.	Medium
	Education	Flooding of pitches	Excessive Rainfall/Flooding	Wetter Winters	Unable to undertake sport	Low
	Education	Flooding of sites	Excessive Rainfall/Flooding	Wetter Winters	Damage to buildings causing disruption, leading to possible closure and clean up costs.	Medium
	Education	Landslides	Excessive Rainfall/Flooding	Wetter Winters	Damage to property, blocking roads etc. Financial issues	Medium
	Education	Structural damage to walls, blocked/ collapsed culverts	Excessive Rainfall/Flooding	Wetter Winters	Impact on access and buildings, etc. Financial issues.	High
	Engineering & Transport	Delays in contracts on site	Excessive Rainfall/Flooding	Wetter Winters	Delay in contracts leading to additional costs and inconvenience	Medium

	Engineering & Transport	Scour of culverts and drainage	Excessive Rainfall/Flooding	Wetter Winters	Potential culvert/bridge collapse	High
	Engineering & Transport	canal overflow	Excessive Rainfall/Flooding	Wetter Winters	Flooding of adjacent land	Medium
	Engineering & Transport	Landslips	Excessive Rainfall/Flooding	Wetter Winters	Landslips damaging property, blocking roads etc.	High
	Housing	Flooding of homes and buildings due to location in flood risk area	Excessive Rainfall/Flooding	Wetter winters	Financial issues, need to relocate residents	Medium
	Housing	Flooding of homes and buildings due to localised issues	Excessive Rainfall/Flooding	Wetter winters	Financial issues, need to relocate residents	Low
	Housing	Culvert collapse	Excessive Rainfall/Flooding	Wetter winters	Financial issues	Medium
	Housing	Rain penetrating external wall and bridging the cavity via the insulation material, transferring moisture to internal walls, causing damp	Excessive Rainfall/Flooding	Wetter winters	Financial issues to have the cavity wall insulation removed, and the damage repaired	High
	Public Protection	Sections of highway network impassable due to flooding	Excessive Rainfall/Flooding	Wetter Winters	Many services not able to function. Staff unable to access work (Registrars for weddings etc). Hinders access to calls. Reputational and financial risk	Medium
	Public Protection	Flooding of storage areas (pesticide, seized goods)	Excessive Rainfall/Flooding	Wetter Winters	Financial cost. Unable to prosecute cases, would need to provide compensation	Medium
	Public Protection	Damage to CCTV	Excessive Rainfall/Flooding	Wetter Winters	Cost. Security...	Low
	Public Protection	Leachate from landfill sites	Excessive Rainfall/Flooding	Wetter Winters	Toxic leachate from landfill has potential to affect homes and businesses	High
	Public Protection	Sewerage overflow	Excessive Rainfall/Flooding	Wetter Winters	Public health risk, potential for communicable disease problem...homes and businesses	High

	Public Protection	Abnormal high volume of emergency calls	Excessive Rainfall/Flooding	Wetter Winters	Unable to answer all calls - could miss vital call - reputational risk	Medium
	Regeration & Planning	Sections of highway network impassable due to flooding	Excessive Rainfall/Flooding	Wetter Winters	Some services not able to function. Staff unable to access work.	Medium
	Regeration & Planning (C&L)	Threatened land in flood areas	Excessive Rainfall/Flooding	Wetter Winters	Boundaries of floodplains extended	Medium
	Regeration & Planning	Scour of culverts and drainage	Excessive Rainfall/Flooding	Wetter Winters	potential culvert/bridge damage	High
	Regeration & Planning (C&L)	Damage to reservoirs resulting in flooding	Excessive Rainfall/Flooding	Wetter Winters	Potential flooding/overflow from reservoirs	High
	Regeration & Planning	Flood damage	Excessive Rainfall/Flooding	Wetter winters	Clean up costs to the Authority	Medium
	Regeneration & Planning (Tourism)	Flooding of event locations	Excessive Rainfall/Flooding	Wetter Winters	Loss of income, 3rd party claims	High
	Regeneration & Planning	Policy change	Excessive Rainfall/Flooding	Wetter Winters	Sustainable Urban Drainage guidance issued and encouraged	Medium
	Social Services	Flooding of buildings	Excessive Rainfall/Flooding	Wetter Winters	No buildings in flood risk areas. Emergency plan would be implemented. If potential long term impact services may need to relocate	Low
	Community and Leisure	Sections of highway network impassable due to snow/ice	Frost/Ice/Snow	Extended cold spell	Many services not able to function (loss of income). Staff unable to access work. Unable to access most vulnerable	Medium
	Community and Leisure (Sport & Leisure)	Closure of leisure centres and sports pitches	Frost/Ice/Snow	Extended cold spell	Loss of income	Medium
	Community and Leisure (Waste)	Accumulation of waste	Frost/Ice/Snow	Extended cold spell	Health hazard (pest infestation and smell), time and cost to clear it	low
	Community and Leisure (Parks)	Damage to path surfaces	Frost/Ice/Snow	Extended cold spell	Claims risk by the public leading to rising costs	Medium

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	Community and Leisure	Burst pipes	Frost/Ice/Snow	Extended cold spell	Damage to buildings/roads/footways	Medium
	Community and Leisure (Parks)	Pest and disease in trees and fine turf areas	Frost/Ice/Snow	Extended cold spell	Loss or weakening of trees, loss of facilities (could result in closure of group/club)	Medium
	Community and Leisure	Risk damage to staff through injury and also risk damage to vehicles	Frost/Ice/Snow	Extended cold spell	Cost	Medium
	Community and Leisure (Parks)	Trees blown down	Frost/Ice/Snow	More violent storms	Damage to infrastructure, public and property e.g. buildings, head stone memorials	High
	Corporate (ICT)	Road closures from snow	Frost/Ice/Snow	Extended cold spell	ICT Staff not being able to access work	Medium
	Corporate (ICT)	Road closures from snow	Frost/Ice/Snow	Extended cold spell	Staff not being able to access work systems remotely	Medium
	Corporate	Buildings being cut off during excessive snow fall	Frost/Ice/Snow	Extended cold spell	Staff unable to deliver services	Medium
	Corporate	Continuation of service delivery	Frost/Ice/Snow	Extended cold spell	Need to be more flexible and proactive e.g. access to work electronic drives via personal computers for staff. Consideration to HR policies particularly in relation to inclement weather conditions	Medium
	Corporate	Unable to access highways	Frost/Ice/Snow	Extended cold spell	Staff not able to access work for payroll, residents not able to access services	Medium
	Corporate	Staff and customers unable to access buildings	Frost/Ice/Snow	Extended cold spell	Residents unable to access services	Medium
	Education	Sections of highway network impassable due to snow/ice	Frost/Ice/Snow	Extended cold spell	Staff and children unable to access buildings. Closure of schools, libraries, youth centres etc.	Medium
	Engineering & Transport	Sections of highway network impassable due to snow/ice	Frost/Ice/Snow	Extended cold spell	Many other services not able to function. Unable to access most vulnerable	High
	Engineering & Transport	Delays in contracts on site	Frost/Ice/Snow	Extended cold spell		Medium

	Engineering & Transport	Collapse of walls and structures	Frost/Ice/Snow	Extended cold spell		High
	Housing	Homes and Buildings being cut off during excessive snow fall	Frost/Ice/Snow	Extended cold spell	Residents unable to access services	Low
	Housing	Staff unable to get to offices due to snow	Frost/Ice/Snow	Extended cold spell	Staff unable to deliver services	Medium
	Housing	Homeless people vulnerable in cold weather	Frost/Ice/Snow	Extended cold spell	Health issues for homeless people	Low
	Housing	Issues with outside toilets in cold weather	Frost/Ice/Snow	Extended cold spell	Potential damage and toilets being temporarily unusable	Medium
	Housing	Burst pipes	Frost/Ice/Snow	Extended cold spell	Financial issues clean-ups	Low
	Public Protection	Sections of highway network impassable due to snow/ice	Frost/Ice/Snow	Extended cold spell	Many services not able to function (loss of income). Staff unable to access work (Registrars for weddings, sampling to labs etc). Hinders access to calls. Reputational and financial risk	High
	Public Protection	Accidents	Frost/Ice/Snow	Extended cold spell	Service demand increase for investigating accidents	Medium
	Regeneration & Planning	Sections of highway network impassable	Frost/Ice/Snow	Extended cold spell	Some services not able to function. Staff unable to access work. Loss of income via closed tourism attractions	Medium
	Regeneration & Planning	sections of highway network impassable	Frost/Ice/Snow	Extended cold spell	Health hazard (delivery of meals on wheels service)	Medium
	Regeneration & Planning	frozen reservoirs	Frost/Ice/Snow	Extended cold spell	Public claims against LA	Medium
	Regeneration & Planning	Burst pipes	Frost/Ice/Snow	Extended cold spell	Damage to buildings/roads/footways. Cost implications	Medium
	Social Services	Sections of highway network impassable due to snow/ice cutting buildings off	Frost/Ice/Snow	Extended cold spell	Review of transport arrangement to day centre could be required. Review of provision methods such as lunchtime meals provided via MOW or carers in an individuals home	Medium
	Social Services	Staff and clients unable to access buildings	Frost/Ice/Snow	Extended cold spell	Residents unable to access services	Medium

	Social Services	Increase with slips, trips and falls with staff	Frost/Ice/Snow	Extended cold spell	Impact on resources and could result in increased Delayed Transfer of Care (DToC)	Medium
	Community and Leisure (Parks)	Trees blown down	Storm/High Winds	More violent storms	Damage to infrastructure, public and property e.g. buildings, head stone memorials	High
	Community and Leisure	Structural damage to buildings/pavilions by trees and wall collapse	Storm/High Winds	More violent storms	Damage to buildings causing disruption. Cost, staff and public risk	low
	Community and Leisure (Waste)	Blown litter	Storm/High Winds	More violent storms	Health hazard, time and cost to clear it	low
	Community and Leisure (Waste)	Bins blowing around	Storm/High Winds	More violent storms	Costs for replacements	low
	Community and Leisure (Cleaning)	Weather stopping work e.g. delay in window cleaning	Storm/High Winds	More violent storms	Windy conditions prevent window cleaning activity	low
	Corporate (ICT)	Trees blown down during high winds resulting in no power	Storm/High Winds	More violent storms	Closure of buildings	Medium
	Education	Trees blown down	Storm/High Winds	More violent storms	Damage to infrastructure, public and property	High
	Education	Structural damage to buildings	Storm/High Winds	More violent storms	Damage to / closure of buildings causing disruption. Cost, staff and public risk	Low
	Education	Slates blown off roofs	Storm/High Winds	More violent storms	Health hazard, time and cost	Medium
	Education	Chimney stacks and lighting columns affected	Storm/High Winds	More violent storms	Health hazard, time and cost	Medium
	Engineering & Transport	Debris collecting on bridges and culverts	Storm/High winds	More violent storms		Medium
	Engineering & Transport	Damage to buildings	Storm/High winds	More violent storms	Damage to buildings causing disruption	Low
	Engineering & Transport	Trees blown down	Storm/High winds	More violent storms	Damage to infrastructure	High

	Housing	Structural damage to buildings	Storm/High Winds	More violent storms	Damage to buildings causing disruption. Cost, staff and public risk	Low
	Housing	Trees being damaged or blown down	Storm/High Winds	More violent storms	Damage to buildings people and property	Medium
	Public Protection	Damage to buildings	Storm/High Winds	More violent storms		Medium
	Public Protection	Accidents	Storm/High Winds	More violent storms	Service demand increase for investigating dangerous structures under emergency planning	low
	Public Protection	No power	Storm/High Winds	More violent storms	Closure of buildings, no access to calls from vulnerable residents...	Medium
	Regeneration & Planning (C & L)	Trees blown down	Storm/High Winds	More violent storms	Damage to infrastructure, public and property e.g. buildings	High
	Regeneration & Planning	Structural damage to buildings	Storm/High Winds	More violent storms	Damage to buildings causing disruption. Cost, staff and public risk	Medium
	Social Services	Power lines go down	Storm/High Winds	More violent storms	Impact communication	Low
	Community and Leisure (Sport & Leisure)	Discomfort in gym	High Temperatures	Hotter summers	A/C is expensive	Medium
	Community and Leisure (Parks)	Large impact on fine turf areas when in highest use by public	High Temperatures	Hotter summers	Loss of facilities. Could lead to changes in sports use patterns	Medium
	Community and Leisure (Parks)	Damage to floral displays and newly planted tree stock	High Temperatures	Hotter summers	Loss of stock	Medium
	Community and Leisure (Parks)	Increased risk of grass fires in parks and woodland areas	High Temperatures	Drier summers	Loss of stock and risk to public and surrounding properties	High
	Community and Leisure	Staff health with possible heat exhaustion for those working on site	High Temperatures	Hotter summers	Demand for A/C in older fleet vehicles. May need to change the number and timing of collections. Need correct PPE	High
	Community and Leisure	Health problems in summer through decaying of waste	High Temperatures	Hotter summers	Potential disease and pest problems in hot weather	High

	(Waste)					
	Community and Leisure	Significant damage to fine turf areas	High Temperatures	Hotter summers	Loss of facilities or changes in use patterns. Longer term public health and well being issues	Medium
	Corporate (Property)	Buildings becoming uncomfortable in hot weather	High Temp Heat Wave Drought	Hotter summers	Consideration may need to be given to working hours, cooling measures, potential closure	High
	Corporate	Data centres becoming too hot	High Temp Heat Wave Drought	Hotter summers	operational issues in service delivery	Low
	Corporate	Water shortages	High Temp Heat Wave Drought	Drier summers	Major issue in buildings, may need to temporarily close offices	Medium
	Education	Buildings become hot	High Temperatures	Hotter summers	Discomfort in schools, libraries etc	High
	Education	Insufficient shade in school playgrounds/ grounds	High Temperatures	Hotter summers	Health issues for pupils and staff	High
	Engineering & Transport	Problems with bridge deck joints	High Temperatures	Hotter Summers		Low
	Engineering & Transport	Surface dressing melting	High Temperatures	Hotter Summers		Low
	Engineering & Transport	Canal levels low	High Temp Heat Wave Drought	Drier Summers	Fish death, increased algal growth	Medium
	Engineering & Transport	Blocked culverts and drains	High Temp Heat Wave Drought	Drier Summers	Lack of rain reduces natural cleaning of drains and culverts could result in flooding and/or odours	Medium
	Housing	Soils drying out could lead to problems from trees such as subsidence and structural cracking	High Temp Heat Wave Drought	Hotter summers	Financial issues	Low
	Housing	Homes become too warm in hot weather	High Temp Heat Wave Drought	Hotter summers	Health issues for vulnerable residents	Medium
	Public Protection	Mountain fires	High Temperatures	Hotter summers	Staff unable to access locations (e.g. Lechwen Hall for weddings)	Medium

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	Public Protection	Blue green algae blooms in Caerphilly Castle moat	High Temperatures	Hotter summers	Blue green algae can cause severe health problems to humans.	High
	Public Protection	Increase in pests and disease	High Temperatures	Hotter summers		High
	Public Protection	More noise / ASB	High Temperatures	Hotter summers		Medium
	Public Protection	Water shortage issues	High Temp Heat Wave Drought	Drier summers	Potential problem with food premises	Medium
	Regeneration & Planning (C & L)	Tree disease and death	High Temp Heat Wave Drought	Hotter summers	Loss of planting schemes	High
	Regeneration & Planning (C & L)	Health issues for staff working outside in high temperatures	High Temp Heat Wave Drought	Hotter summers	Staff working outside may be affected by high temperatures	High
	Regeneration & Planning (C & L)	Increased risk of fires within countryside	High Temp Heat Wave Drought	Hotter summers	Loss of amenities.	High
	Regeneration & Planning (C & L)	Effect on existing habitats and species	High Temperatures	Hotter summers	Loss of important habitats and species potentially	High
	Social Services	Health issues with vulnerable residents	High Temperatures	Hotter summers	Fans to be provided with fluids increased for residents	Medium
	Social Services	Staff health issues with possible heat exhaustion	High Temperatures	Hotter summers	Fans and additional fluids to be provided	Medium
	Engineering & Transport	Delay in contracts due to nesting birds	Early Spring	Milder winters	Nesting birds prevented commencement of work on site in February	Low

Summary of impacts

Excessive rainfall/flooding events

40% of the severe weather events identified in the media research were related to excessive rainfall or flooding. This correlates with the number of impacts identified in the Service interviews, with 43 of the 128 impacts identified (33%) relating to excessive rainfall or flooding. Of the 43 impacts identified, 13 were assessed as being of high priority.

Particular incidences of excessive rainfall were identified in October 2005, December 2006, November 2007, January 2008 and June 2012.

The Authority has various systems in place to identify and prepare for events of heavy rainfall. Severe weather warnings are received and sent to relevant staff. Services initiate plans and procedures to deal with the predicted events. Historically there have been very few problems with flash flooding. The disruption is usually very short term with localised flooding being caused either by blocked drains or because the capacity of the systems are unable to cope with the increased volumes of water resulting from heavy storms.

A Flood Risk Management Strategy is in place. Areas within the county borough where flooding from watercourses is possible have been identified and measures are either in place or being developed in partnership with Natural Resources Wales (NRW).

The major issue for the Authority is the effect of excessive rain on the aging infrastructure with reducing maintenance budgets. The potential for culverts to collapse has been identified as a particular issue, especially if, as predicted, excessive rainfall becomes more prevalent. The renewal of drainage infrastructure is likely to be a very time consuming and expensive issue.

Budgeting for emergency works is an important issue particularly where infrastructure failure, such as a culvert collapse, place severe strain on Service budgets. There have been several incidences where repair costs have exceeded £200,000.

Localised flooding of highways

Localised flooding of highways was identified 5 times during the Service interviews, but none were assessed as being high priority. The impact is generally related to staff not being able to get to their place of work or to residents not being able to access buildings.

The disruption is usually very short term with localised flooding being caused either by blocked drains or because the capacity of the systems are unable to cope with the increased volumes of water resulting from heavy storms.

No major incidents were identified where flooding had caused the closure of sections of the highway network for an extended period.

Systems are in place to proactively clean culverts. There is the potential for increased disruption if the budgets for this proactive work are reduced.

Delays in work or contracts

Excessive rain delaying work or contracts was identified as an impact 3 times but none were assessed as high priority

Cancellation of events

The Tourism Section identified the cancellation of events as a high priority impact.

Although outside the study period, Tourism identified that in 2014, the Proms in the Park event was cancelled due to a leaking roof on the main stage. The Authority still had to cover the costs of the event resulting in a £40,000 loss. The event was to be broadcast UK wide, and the cancellation caused significant reputational damage.

Tourism events such as the Big Cheese often take place in parks where excessive rainfall can make conditions very difficult, with fields becoming waterlogged preventing vehicles from accessing them to bring in marquees of equipment, and also resulting in muddy conditions which reduce the number of visitors.

Flooding of specific sports pitches or pavilions

Flooding of specific sports pitches or pavilions was identified 4 times 2 of which were identified as high priority. Many of the Authority's pitches are located on flood plains and are therefore liable to flood. This can cause damage to pavilions and make pitches unplayable. This will result in the cancellation of matches and results in lost revenue. Two wet summers in a row in 2012 and 2013 has had a significant affect on the number of people playing cricket.

The need for more all weather pitches was highlighted by Leisure Services as an important issue, however these are very expensive to install.

Damage to drainage systems and structures

The damage caused by excessive rainfall to drainage systems and structures was identified 9 times, with 5 of those being assessed as high priority. Most Services with substantial land holdings identified this as an issue. There is significant vulnerability of culverts to excessive rainfall, particularly to scouring. Many are aging and there is the potential that they may collapse. A major culvert collapse in 2009, cost in excess of £200,000 to repair.

There have been recent examples of landslips due to heavy rain. These can be extremely disruptive and expensive to repair. Sustained rainfall caused a landslip at Fothergills Road, New Tredegar which cost in excess of £1m to repair.

Heavy rainfall washed out a section of the Sirhowy Valley Walk in 2009, which cost the Authority £200,000 to repair.

Leachate and Sewer overflow

Leachate from closed landfill sites and sewer overflow as a result of heavy rain were identified as high priority, by Public Services, due to their potential to cause public health issues.

Damp in homes with cavity wall insulation

The housing teams have identified that more frequent and heavier rain could expose weaknesses in the fabric of the building stock. Cavity wall insulation could become saturated if the render is damaged and is not repaired. This may increase the cases of

rain penetrating external walls and bridging the cavity via the insulation material, transferring moisture to internal walls, causing damp.

The removal of cavity wall insulation can be a very expensive operation. The cost of work to 70 properties at Rowan Place, Rhymney rose from £600,000 to £4m due to this issue.

Reservoir and canal overflow

The Countryside & Landscape section manages several reservoirs. Whilst it undertakes regular monitoring, additional pressure is placed on dams during periods of heavy rainfall.

With the canals there are limited outfalls and water levels need to be managed carefully when heavy rain is predicted.

Frost, ice, snow and cold

28% of the severe weather events identified in the media research were related to frost, ice, snow and low temperatures. This correlates with the number of impacts identified in the Service interviews, with 32 of the 128 impacts identified (25%) relating to frost, ice, snow and low temperatures. Of the 32 impacts identified, 3 were assessed as being of high priority.

Particular incidences of frost, ice, snow and low temperatures were identified in December 2009, January and December 2010 and January 2013.

Generally, good systems are in place for snow or freezing conditions, with advanced warning and emergency procedures. The Authority has a Winter Preparedness Action Plan and Business Continuity Plan which identify critical services, our most vulnerable residents and how key functions are maintained. This includes, for instance, the provision for Countryside & Landscape staff with 4 x 4 vehicles to support the delivery of meals on wheels to the most vulnerable.

The Authority is currently considering the case for more flexible ways of working, including home working, agile working, alternative ways of working and changes to working practices. The pace of this change is being driven by financial and other considerations, which are forcing the agenda more quickly than climate change concerns. However, an increase in home working, agile working, linked to asset management considerations such as the closure of some buildings, particularly those that are most vulnerable or least resilient in a changing climate, will make the Authority more resilient to climate change.

It is predicted that winters will become warmer and wetter, so in theory many of the issues identified will become less prevalent, although some predictions are that weather systems may become “blocked” over the UK. If a cold weather system became blocked over the UK we may experience an extended period of very low temperatures.

Of the 32 impacts identified, exactly half (16), were related to the highway network being impassable in snow/ice, preventing staff from getting to work or residents from accessing services. Two of these impacts were assessed as high priority. One related to services being able to get to our most vulnerable residents. The other related to the statutory requirement that the Registrars need to attend weddings.

Slippery surfaces causing accidents accounts for 3 impacts, with burst pipes accounting for a further 3. Delays in contracts and refuse vehicles not being able to complete their rounds account for a further 2.

The other high priority relates to the collapse of structures such as retaining walls. This was identified as a particular issue when the ground is saturated and freezing then causes greater damage.

Storms and high winds

16% of the severe weather events identified in the media research were related to storms or high winds. This matches the number of impacts identified in the Service interviews, with 21 of the 128 impacts identified (16%) relating to storms or high winds.

Particular incidences of storms or high winds were identified in December 2006, January 2009, January 2012 and December 2013

Systems are in place to identify when storms and high winds are likely to reach Caerphilly County Borough. Generally it was felt that our buildings are in good condition and not particularly vulnerable to storms and high winds. However concern was expressed that we do not currently have a comprehensive approach to surveying and identifying trees that may be vulnerable, and undertaking work to make them safer. A reduction in resources in this area in recent years was highlighted as a concern.

Of the 21 impacts identified, 4 were assessed as being of high priority.

Eight of the impacts from storms and high winds relate to damage to buildings. Historically, damage has been minor, and with improved construction and monitoring none of these impacts were assessed as high priority.

Six impacts were related to trees. All 4 of the impacts assessed as high priority in the storms/high winds category relate to damage to trees. Many Services with significant land holdings identified the risk of damage to trees from high winds as an issue. It was identified that as many trees are under stress from the changing climate and disease that this will make the situation worse. Ash dieback, Phytophthora in larch and stress to beech and hawthorn all mean that many trees in the county borough may be vulnerable in high winds.

Two impacts related to power lines being brought down and 3 impacts related to litter.

If as predicted storms and high winds become more common and more severe this will become an increasingly important issue.

High temperatures heat-wave and drought

16% of the severe weather events identified in the media research were related to high temperature, heat-wave or drought. 30 of the 128 impacts (23%) identified in the Service interviews related to high temperature, heat-wave or drought.

Caerphilly experienced very high temperatures during the summers of 2003 and 2006, with temperatures ranging between 30°C and 35°C over prolonged periods.

Of the 30 impacts identified, 12 were assessed as being of high priority. This reflects the fact that we have not experienced many hot summers recently, and as a consequence our systems have not been developed to prepare and deal with this.

Services are however aware of the likelihood of hotter drier summers, and are aware that they need to start considering and planning for them.

Particular concern was expressed for employees and school pupils who may be outside during the hottest periods of days during heat-waves.

Some buildings become very uncomfortable in hot weather. This is likely to get worse if the anticipated changes to climate happen. There are no specified maximum temperatures that buildings should be below to be appropriate for staff. Working practices do alter in hot weather but policies may need to change to reflect this if there are more extremes of heat in the summer. Home working, more flexible working or agile working could be considered although the home environment may also become too hot.

High temperatures in buildings

High temperatures in buildings was identified 6 times as an impact, of which 2 were assessed as high priority. It was identified that there is no upper limit at which buildings should not be used. As a result there is no monitoring of the upper temperatures in buildings, or analysis of how they perform in hot weather. It was identified that some buildings do become very uncomfortable in hot weather. This is likely to get worse if the anticipated changes to climate happen. It would be useful to put in place monitoring of temperatures in buildings particularly those known to become very hot, or those which accommodate vulnerable people.

Consideration may need to be given to working hours, cooling measures, even potential closures in extreme heat. It is likely that as the Authority changes with asset management and alternative ways of working that this will reduce our vulnerability. This however should be actively factored in to consideration of potential changes.

Staff/pupils outside in hot weather

The impact on staff working outside, or pupils being outside in hot weather was identified as an issue 4 times and assessed as being a high priority 3 times. This largely reflects the fact that this is seen as a potential issue, but that currently there are not comprehensive procedures in place to manage this.

This was specifically identified in Services such as refuse collection and countryside management where the work currently requires staff to be outside at the hottest times of the day.

Fires

Grass and bracken fires were identified as an impact 3 times, and as a priority twice. Fires are already a significant issue for the Authority, and this is likely to become worse if, as predicted, we see hotter drier summers.

Water shortages

Water shortages, or if no water were available in buildings would be an issue, which may require contingency planning

Loss of new planting areas

Within the countryside service there have been examples of the loss of new planting schemes due to drying out. Watering new planting may need to be considered, or changing to more drought tolerant species.

Other environmental impacts

Low river levels results in less oxygen in the water, this may result in the death of vulnerable species. The top of the River Rhymney has a good selection of invertebrates that are used to colonise further down the river. If these are lost it will be more difficult for the river to recover after a drought. Dry summers affect beech/hawthorn growth and other habitats but its true extent is unknown at this stage.

Milder winters and warmer summers may result in an increase in invasive species that may threaten human health and the native flora and fauna.

Blue green algae, which is a major health concern, is more prevalent in hotter weather.

Infrastructure

The effect of high temperature on infrastructure such as road or path surfaces has been identified by Engineering Services, who are monitoring the issue.

Next stage of the process

The completion and approval of the LCLIP will mean that Part 1 of the Welsh Government's statutory guidance will be complete. The next step, set out in Part 2, is for those impacts identified as being of high priority, to go forward for further investigation, vulnerability assessment and risk assessment.

Part 2: Investigating. This involves refining the climate change impacts identified in Part 1, and identifying levels of sensitivity and adaptive capacity. It also includes a climate change risk assessment that explores the likelihood and consequence of each impact and provides your organisation with a list of prioritised impacts to develop actions for in Part 3.

This part includes:

2.1: A Closer Look at What Climate Change Means for your Organisation - Refining the impacts

The first step in refining the impacts is for the organisation and its core partners to consider and agree the scale of the work. Is the priority to take a high-level look at impacts affecting the organisation as a whole? Or should initial efforts focus on assessing detailed impacts for specific departments/service areas/types of infrastructure/assets/communities?

The guidance identifies that there is no right or wrong answer to this question; both approaches are viable and in some cases organisations choose to assess top level

impacts alongside work looking at more detailed impacts for specific areas of concern or interest.

2.2: Assessing your Organisation's Current Vulnerability to Climate Change

Once the impacts that are considered to be particularly important and relevant to the organisation, have been identified, a vulnerability assessment should be undertaken to identify those impacts that the organisation/community/asset/infrastructure is least able to cope with. Information generated by the vulnerability assessment can also help to identify actions.

In the context of preparing for a changing climate, vulnerability is defined as:

'The extent to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. It depends not only on a system's sensitivity but also on its adaptive capacity'. [UKCIP 2003]

Involving relevant stakeholders is likely to make any vulnerability assessment more complete.

Assessing vulnerability involves four steps:

1. Listing impacts and affected departments, services and communities.
2. Assessing sensitivity.
3. Assessing adaptive capacity.
4. Assigning a vulnerability rating.

2.3: Undertaking a Climate Change Risk Assessment

After the vulnerability assessment, those departments/services/communities that returned the highest scores are most vulnerable to the impacts of climate change. These are the areas of most pressing concern for the organisation, and the organisation may wish to explore them further and carry out a risk assessment.

A risk assessment involves assessing the likelihood and consequence of risks and helps to prioritise them.

Scale of the work

A recommendation on the scale of the work, as required as part of 2.1 above, is included in the recommendations section of this report. Broadly it recommends a twin track approach, with some high level issues such as a review of key policies, and some further work on specific impacts relating to individual Service areas, being taken forward.

Conclusions

The preparation of this LCLIP has identified that there is a good understanding of climate change issues across the senior officers who were interviewed, in the Authority. Services are aware that the climate is changing, with many services considering and planning to adapt to the changes they are seeing. The levels of understanding of other employees was not assessed as part of this work

Across the Authority existing systems are in place which compliment and enable the adaptation work. These systems include Business Continuity, Emergency Planning, Major Incident Plan, Corporate Risk Assessment, as well as the individual Service Plans. Very few examples were identified where severe weather events had major impacts on the way the Authority operates.

The study identified that the Authority is changing in response to external factors including the financial climate and new legislation. These are driving changes at a quicker rate than the natural adaptation of the organisation to climate change.

It was commented that we have very traditional approaches to working and to risk management, which may restrict our ability to be flexible in response to climate change and other factors affecting the Authority

Some work is being done between Services to align various plans, in particular 21st Century Schools, Asset Management and the Local Development Plan. This work is already providing tangible benefits and is facilitating a more holistic approach to issues

The county borough's changing demographics, resulting in an increase in the number of older and more vulnerable residents, will make it increasingly difficult to ensure that they are prioritised in severe weather events.

Risk

Any changes in climate that result in services not being delivered will have a reputational risk, especially if this impacted on our most vulnerable residents. Operational failures, such as failure to pay staff or suppliers would be damaging, although this is very low risk.

Buildings being seen as not fit for purpose in extreme weather could be a reputational risk, especially if this relates to new buildings.

Better understanding of the issues

The work has identified that further assessment and a better understanding of the impacts and implications is needed for some issues.

We do not have a comprehensive picture of how our various buildings react in extreme heat conditions. Some buildings become very uncomfortable in hot weather. This is likely to get worse if the anticipate changes to climate happen.

The effect of climate change on our trees, biodiversity and landscape were identified as areas where we do not fully understand the likely impacts

Policies and procedures

Some policies, which have been developed to cover the whole authority, were highlighted as having the potential to reduce our overall ability to either react quickly or to maximise our effectiveness in severe weather. Policies highlighted included the employment policies, the inclement weather policy and procurement policies.

Many of the responses that the organisation is considering in light of the current financial climate and legislation were identified as having the potential to make the organisation more resilient to climate change. The rationalisation of buildings, changes to HR policies to enable more flexible or home working, may all enable us to deal better with severe weather events. Climate change adaptation issues are being factored into the overall change process that the Authority is currently going through.

Costs

The work has highlighted that some Services have incurred substantial costs dealing with weather related events. These are generally funded from individual Service budgets, as part of the day to day work of the Service. As a consequence these costs are often not recorded separately and it is therefore difficult to identify the true cost of climate related issues.

Unpredictability was identified as a major issue which has cost and programming implications. Services commented that it is likely that some form of severe weather will impact on their work, but this could be heavy snow, high winds or flooding, but it is impossible to make provision for every possible event.

There are potential financial issues if more frequent emergency works are required by services, such culvert collapses / landslips / flooding etc due to excessive rain. The vulnerability of aging infrastructure was identified as a key issue.

There may be an Increase in the cost of insurance as extreme weather events occur and claims are submitted.

The LCLIP has highlighted a number of areas where the Local Authority has been affected by extreme weather. These have been highlighted and included within the individual Service area reports.

Recommendations

Part 2 of the Welsh Government guidance recommends that each organisation should consider the scale of the future work.

This should include considering whether the priority is to take a high-level look at impacts affecting the organisation as a whole, or focusing on assessing detailed impacts for specific departments/service areas/types of infrastructure/assets/communities.

This report recommends a twin track approach, with some high level issues such as a review of key policies, being combined with some further work on specific impacts relating to individual Service areas.

This report identifies a total of 14 recommendations are divided into two areas:

- Existing work and reviews where consideration of climate change adaptation issues should be included. This includes 5 recommendations under 3 headings:
 - Strategies and Plans
 - Review of policies and procedures
 - Financial considerations
- Specific additional work on climate adaptation issues. This includes 9 service specific recommendations

Existing work and reviews where consideration of climate change adaptation issues should be included

Strategies and plans

The work associated with preparing this LCLIP has identified research and information which could be used to inform policies plans and strategies at a strategic and service level.

Climate change adaptation related work is identified in various plans across the Authority. This is useful in terms of ensuring integration, however in some cases this is effectively duplication. Some excellent work is being done by some services to align various plans, in particular 21st Century Schools, Asset Management and the Local Development Plan. This work is already providing tangible benefits and is facilitating a more holistic approach to issues

Recommendation 1: The potential benefits, should be considered, of including climate change adaptation issues in new strategies and plans including the Single Integrated Plan, Local Development Plan and Service Plans.

Recommendation 2: There should be greater emphasis on aligning plans to ensure a more joined up holistic approach, and reducing duplication.

Reviews of policies and procedures

The Authority is changing rapidly in response to factors such as the changing financial climate and new legislation. These changes are driving change at a faster rate than the natural adaptation of the organisation to climate change.

The changing climate adds to the case for considering more flexible ways of working and working practices.

Some policies, which have been developed to cover the whole Authority, were highlighted as having the potential to reduce the ability of the organisation to either react quickly or to maximise their effectiveness in severe weather. Policies highlighted included some employment policies, the inclement weather policy, and some procurement policies.

Recommendation 3: Where policies and procedures are being reviewed, climate change adaptation issues should be factored in to the reviews.

Recommendation 4: When HR policies are being reviewed, the benefits of including issues related to climate change adaptation, should be considered. Potential areas include:

- Inclement weather
- Flexible working/home working
- Agile working
- Outdoor staff working in hot weather
- Schools policies for pupils in hot weather

Financial considerations

There will be potential financial issues if more frequent emergency works are required by services, for events such as culvert collapses or landslips etc. due to excessive rain.

Unpredictability was identified as a major issue which has cost and programming implications. Depending on the degree of impact of climate change and patterns of impact, the risk ranges from short periods of total loss of continuity to other periods of partial loss/reduction but over longer periods of time. It is likely that some form of severe weather will impact on the Division, but this could be heavy snow, high winds or flooding, it is impossible to make provision for every possible event.

Recommendation 5: Consideration should be given to the potential for a more strategic use of capital programmes or central contingency funds. This should include assessing the benefits of additional funding for preventative work,

Specific additional work on climate adaptation issues

Collecting data relating to the impacts of climate change

The systematic gathering and storing of data pertaining to severe weather events and their consequences for service delivery would provide a useful aid to understanding the impacts and costs. This will be particularly important where a business case may be required to progress specific work.

Recommendation 6: Systems should be put in place to gather data on key impacts of climate change.

Remote access for staff to their work systems

If employees cannot access their place of work, and they do not have remote access to their work systems this poses a risk. There are opportunities here for ICT to contribute to making the Authority more resilient through access to systems from home, facilitating agile and flexible working etc. ICT are already looking at this, but this should be seen as a priority.

Recommendation 7: ICT prioritise assessing opportunities for increasing the remote access of staff to their work systems

Procurement

A considerable amount of work has been undertaken by Procurement Services on sustainability, however there are no specific clauses relating to climate change in procurement documentation. This may need to be reviewed if market forces do not respond appropriately to any changes in climate.

Recommendation 8: Consideration should be given to assessing which goods and services could be affected by climate change, and how vulnerable they may

Property

Some buildings become very uncomfortable in hot weather. This is likely to get worse if the anticipated changes to climate happen.

Recommendation 9: Consider our various buildings and how they would react in extreme heat conditions. Some buildings may require more detailed investigations if they are shown to react badly in high temperatures

School grounds

The Authority has undertaken work to provide shade in schools. Much of this work has been driven by the Foundation Phase, which requires more outdoor teaching. It is not clear whether or not all schools have sufficient shade should we get prolonged periods of high temperature.

Recommendation 10: Consider assessing the provision of shade in school playgrounds/grounds to cope with extended periods of hot weather.

Trees

Trees being blown down by more severe storms, was identified by several Services. This issue is likely to become more prevalent with more severe storms and more stresses placed on trees by the hotter drier weather and more pests and diseases. The current staff provision is struggling to cope with existing demands which limits their ability to undertake proactive survey and preventative work.

Recommendation 11: The current provision of tree services should be reviewed in the light of the increasing vulnerability of trees as a result of climate change. More proactive and preventative work should be considered

Biodiversity

It is not clear how climate change will impact on the current biodiversity and the landscape of the county borough. There is a need to understand the effect of climate change on existing habitats and species. Disease and pests are becoming more prevalent resulting in loss of existing species. New species are appearing as the climate changes.

Recommendation 12: Consider undertaking, or commissioning, work to assess the effects of climate change on our landscapes and biodiversity

Parks, Sports & Leisure

The effects of climate change on our sports pitches were highlighted. This results in a loss of revenue through cancellations, and in less people remaining active.

Recommendation 13: Consider undertaking a more detailed assessment of the issue, and potentially developing a business case for increasing the number of 3G pitches.

Infrastructure & Engineering

Excessive rainfall causing drainage and culvert damage was identified as one of the main severe weather issues, especially as we have an aging infrastructure.

Recommendation 14: Consider reviewing our current approach to surveying, maintenance and preventative work relating to our drainage systems and culverts, to assess any potential vulnerabilities and resourcing issues

Appendix 1. EXTREME WEATHER EVENTS 2003 – 2013

Date	Extreme Weather Event
2003	
02/01/03	Excessive Rainfall/Flooding
09/01/03	Frost/ice/snow/low temperature
01/03/03	High winds
15/04/03	High Temperature/Heat-wave/Drought
04/08/03	High Temperature/Heat-wave/Drought
08/09/03	High Temperature/Heat-wave/Drought
2004	
27/02/04	Frost/ice/snow/low temperature
04/08/04	High Temperature/Heat-wave/Drought
23/08/04	Excessive Rainfall/Flooding
07/09/04	High Temperature/Heat-wave/Drought
2005	
08/01/05	High winds
24/02/05	Frost/ice/snow/low temperature
19/04/05	Excessive rainfall/flooding
25/05/05	Excessive rainfall/flooding
19/06/05	High Temperature/Heat-wave/Drought
07/07/05	Excessive rainfall/flooding
28/09/05	Excessive rainfall/flooding
11/10/05	Excessive rainfall/flooding
27/10/05	High Temperature/Heat-wave/Drought
07/11/05	Excessive rainfall/flooding
24/11/05	Excessive rainfall/flooding
25/11/05	Frost/ice/snow/low temperature
2006	
01/03/06	Frost/ice/snow/low temperature
19/03/06	Excessive rainfall/flooding
27/05/06	High Temperature/Heat-wave/Drought
03/07/06	High Temperature/Heat-wave/Drought
29/07/06	High Temperature/Heat-wave/Drought
17/08/06	Excessive rainfall/flooding
05/12/06	Excessive rainfall/flooding
07/12/06	High winds
2007	
11/01/07	Excessive rainfall/flooding
18/01/07	High winds
09/02/07	Frost/ice/snow/low temperature
06/03/07	Excessive rainfall/flooding
05/05/07	High Temperature/Heat-wave/Drought
15/06/07	Excessive rainfall/flooding
20/06/07	High winds

20/07/07	Excessive rainfall/flooding
19/11/07	Excessive rainfall/flooding
06/12/07	Excessive rainfall/flooding
2008	
11/01/08	Excessive rainfall/flooding
10/03/08	High winds
10/05/08	Excessive rainfall/flooding
04/07/08	High winds
05/09/08	Excessive rainfall/flooding
05/10/08	Excessive rainfall/flooding
2009	
05/01/09	Frost/ice/snow/low temperature
18/01/09	High Winds
04/02/09	Frost/ice/snow/low temperature
09/02/09	Frost/ice/snow/low temperature
06/06/09	Excessive rainfall/flooding
21/07/09	Excessive rainfall/flooding
28/11/09	Excessive rainfall/flooding
15/12/09	Frost/ice/snow/low temperature
23/12/09	Frost/ice/snow/low temperature
29/12/09	Frost/ice/snow/low temperature
2010	
02/01/10	Frost/ice/snow/low temperature
05/01/10	Frost/ice/snow/low temperature
12/01/10	Frost/ice/snow/low temperature
14/01/10	Frost/ice/snow/low temperature
20/01/10	Frost/ice/snow/low temperature
12/05/10	Excessive rainfall/flooding
08/06/10	Excessive rainfall/flooding
30/11/10	Frost/ice/snow/low temperature
14/12/10	Frost/ice/snow/low temperature
20/12/10	Frost/ice/snow/low temperature
2011	
12/01/11	Excessive rainfall/flooding
17/05/11	High Temperature/Heat-wave/Drought
12/09/11	High Winds
13/12/11	Frost/ice/snow/low temperature
2012	
04/01/12	High winds
16/04/12	High Temperature/Heat-wave/Drought
29/04/12	High Winds
25/05/12	High Temperature/Heat-wave/Drought
06/06/12	Excessive rainfall/flooding
03/07/12	Excessive rainfall/flooding
31/10/12	Excessive rainfall/flooding

2013	
02/01/13	Excessive rainfall/flooding
16/01/13	Frost/ice/snow/low temperature
19/01/13	Frost/ice/snow/low temperature
21/01/13	Frost/ice/snow/low temperature
30/01/13	Excessive rainfall/flooding
22/03/13	Frost/ice/snow
19/07/13	High Temperature/Heat-wave/Drought
27/07/13	Excessive rainfall/flooding
16/09/13	Excessive rainfall/flooding
02/11/13	High Winds
18/12/13	High Winds
31/12/13	High Winds

Appendix 2. The Welsh Declaration on Climate Change and Energy Efficiency – April 2006

The Welsh Commitment on Climate Change and Energy Efficiency

Caerphilly County Borough Council recognises that Climate Change is likely to be one of the key drivers of change in our communities this century

We recognise that

- There is growing evidence that damaging climate change is occurring and that it will have long lasting effects on the UK's economy, environment and society
- Carbon dioxide emissions from fossil fuel use are a prime contributor to climate change. Improved energy efficiency and green sources of energy will therefore play a fundamental role in combating climate change.
- Local authorities need to play their full part at local level, leading and delivering the Welsh response to climate change within the UK Climate Change Programme

We welcome the

- Emissions targets and programmes for delivering change agreed by central government and the national Assembly as set out in the UK Climate Change programme
- Social, economic and environmental benefits likely to derive from combating climate change
- Recognition of a need for change by many sectors especially government and business
- Opportunity for local authorities to lead the response at local level by helping
 - Encourage local residents and businesses to reduce their energy costs
 - Reduce transport congestion
 - Improve the local environment
 - Deal with fuel poverty within our communities
- Additional powers under the Local Government Act 2000 that will allow us to address the social, economic and environmental well being of our communities
- Opportunity to improve the energy efficiency of our housing stock and public buildings

We commit our Council to

- Work with the National Assembly and central government at local level to deliver the UK climate change programme in Wales.
- Include consideration of climate change issues within Community Strategies
- Make a public declaration, in line with agreed targets with the WAG, to: -
 - Deliver a significant reduction in greenhouse gas emissions
 - Improve energy efficiency in council buildings and homes
 - Increase the use of "green" energy from renewable sources
- Encourage local residents and businesses to take action to reduce emissions of greenhouse gases and where appropriate publicise their actions
- Work with key building operators e.g. health authorities, businesses and development bodies to seek ways to adapt to potential effects of climate change on our communities
- Encourage the development of practical, economically viable, sustainable energy
- Encourage production of combined heat and electricity from these sources eg bio-mass
- Encourage local manufacture of energy efficient equipment for producing heat & power
- Monitor the progress of our plan against the actions needed and publish the results
- Take the necessary action to rectify any deviation from the plan where required

Leader of the Council

WLGA Spokesperson for the Environment	Leader of the Welsh Local Government association	Minister for the Environment Planning and the Countryside National Assembly for Wales	Minister for Economic Development & Transport National Assembly for Wales
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