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## **Towards Zero Waste One Wales: One Planet**

The Post Adoption Statement of the  
Waste Prevention Programme for Wales

December 2013



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## Executive Summary

The Waste Prevention Programme for Wales (WPP) is one of a series of Waste Sector Plans/programme under development as a mechanism for delivering the overarching Towards Zero Waste (TZW) Strategy for Wales. The WPP provides a record of the proposed strategy and actions in relation to waste prevention and reuse for the municipal, commercial / industrial and construction / demolition sectors in Wales.

The Sustainability Appraisal (SA) is an appraisal of the potential economic, social and environmental sustainability effects of the implementation of the WPP. A Sustainability Appraisal (SA) together with a Health Impact Assessment (HIA) and Habitats Regulations Assessment (HRA) was undertaken during the development of the WPP. The SA approach followed an integrated assessment methodology with Strategic Environmental Assessment (SEA) to comply with the requirements of the SEA Directive and “The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004”.

The SA report was made available for public consultation along with the WPP Sector Plan from 28 March 2013 to 20 June 2013, to seek the views of stakeholders (including the public) on the approach undertaken and the conclusions in the SA report. Consultation responses on the SA report were taken into account into the elaboration of the final WPP and the elaboration of subsequent sector plans SA.

This post adoption statement provides evidence of how the SA/SEA process and consultation responses have influenced on the elaboration of the final WPP, makes clarifications relating to the SA, provides reasons for adopting the WPP among the reasonable alternatives considered, and set out the measures for monitoring of residual and significant effects and uncertainties of the implementation of the WPP.

## **List of Abbreviations**

AQMA	Air Quality Management Areas
C&D	Construction and Demolition
C&I	Commercial and Industrial
CIM	Collections Infrastructure and Markets
CCW	Countryside Council for Wales
EA	Environment Agency
EAW	Environment Agency Wales
EIA	Environmental Impact Assessment
HIA	Health Impact Assessment
HRA	Habitats Regulations Assessment
MSP	Municipal Sector Plan
MSP1	Municipal Sector Plan Part 1 (superseded by MSP)
NRW	Natural Resources Wales
PB	Parsons Brinckerhoff
PPP	Policies, Plans and Programmes
SA	Sustainability Appraisal
SEA	Strategic Environmental Assessment
SoE	State of Environment
TZW	Towards Zero Waste
WEEE	Waste Electrical and Electronic Equipment
WPP	Waste Prevention Programme

# **1 INTRODUCTION**

## **1.1 The Waste Prevention Programme**

1.1.1 The WPP is one of the seven Plans under development as a mechanism for delivery the overarching Towards Zero Waste (TZW) Strategy for Wales.

The WPP provides a record of the proposed strategy and actions and actions in relation to waste prevention and reuse for the municipal, commercial / industrial and construction / demolition sectors in Wales. When finalised following consultation, it will form part of the suite of documents that together comprise the statutory waste management plan for Wales as required by UK and EU legislation. It will focus on:

- the wastes produced directly by the sectors (with a focus on waste prevention, and reuse), and
- the mechanisms by which the above sectors can facilitate a reduction in the waste that they generate by focusing on the products produced by the respective sectors.

## **1.2 The Sustainability Appraisal**

1.2.1 The Sustainability Appraisal (SA) is an appraisal of the economic, social and environmental sustainability effects of the WPP. Parsons Brinckerhoff (PB) was commissioned by the Welsh Government to undertake the Sustainability Appraisal (SA) together with a Health Impact Assessment (HIA) and Habitats Regulations Assessment (HRA) during the development of the WPP.

1.2.2 SA approach follows an integrated assessment methodology with Strategic Environmental Assessment (SEA) to comply with the requirements of the SEA Directive as transposed into Welsh law by “The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004”.

1.2.3 The approach taken for the SA of the WPP is based on that set out in the SEA Practical Guide<sup>1</sup>. The SEA process has five key stages (A-E), summarised in Table 1.1.

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<sup>1</sup> Office of the Deputy Prime Minister (ODPM) (September 2005), *A Practical Guide to Strategic Environmental Assessment Directive*. London: HMSO.

**Table 1.1: The WPP SA Process**

SA/SEA Stage	The Waste Prevention Plan SA
<p><b>Stage A:</b> Setting the context and objectives, establishing the baseline and deciding the scope</p>	<p>A Scoping Report for all TZW Sector Plans was produced in September 2010. Although the WPP was not specifically included in the Scoping Report, the issues covered are still applicable.</p> <p>This Scoping report included the outcome of Policies, Plans and Programmes (PPPs) review undertaken for TZW SA and the MSP1 SA, and a review of other PPPs emerged after their preparation. It also included a summary of the baseline conditions described in the MSP1 SA. It set out the scope and intended approach for the remaining sectors plans and invited comment on this from the consultation bodies as set out in the SEA Regulations 2004.</p> <p>The report was issued for consultation to statutory consultees from 20 September 2010 to 25 October 2010.</p> <p>The sustainability issues and SA framework emerged from the TZW SA and the MSP1 SA were reviewed and updated accordingly in this report in accordance with the outcomes of the additional PPPs and baseline conditions review and consultation responses.</p> <p>A review of the HIA and HRA conducted for TZW and the MSP1 was also undertaken.</p>
<p><b>Stage B:</b> Developing and refining alternatives and assessing effects</p>	<p>As TZW already set up the strategic alternatives for managing waste in Wales, and for consistency with the approach undertaken in preceding Sector Plan SAs, the SA of the Waste Prevention Programme intends to consider and assess alternatives based on the sector plan actions.</p> <p>The SA process followed was established by previous SA for TZW.</p> <p>Prior to undertaking an assessment of the actions, a screening exercise was undertaken to assess the need of taking each action forward for a SA. The SA report presents the findings of the screening</p>

SA/SEA Stage	The Waste Prevention Plan SA
	<p>and what actions are taken forward for a SA under this or other linked Sector Plans. The SA report also includes a sustainability assessment of actions and the assessment of the alternatives presented for each action.</p> <p>A HRA screening assessment and an HIA of the WPP were undertaken in parallel with the elaboration of the SA report and their findings have been incorporated.</p>
<p><b>Stage C:</b> Preparing the Environmental Report</p>	<p>The approach followed was established in MSP1 and has been adopted for subsequent plans, including the Waste Prevention Programme to ensure consistency throughout the SA process.</p>
<p><b>Stage D:</b> Consulting on the draft plan or programme and the Environmental Report</p>	<p>The SA report will be made available for public consultation along with the draft WPP, to seek the views of stakeholders (including the public) on the approach undertaken and the conclusions in this report. Views will also be sought on how to improve the sustainability of actions presented in the WPP.</p>
<p><b>Stage E:</b> Monitoring the significant effects of implementing the plan or programme on the environment</p>	<p>Monitoring will be undertaken following the adoption of the WPP.</p>

### 1.3 The Post Adoption Statement

1.3.1 A Post Adoption Statement (PAS) is prepared following the consultation period (Stage D of the SA process) to summarise how the SA has influenced in the development of the WPP. Following on the requirements of the SEA Directive (Article 9), the PAS should cover the following topics:

- The SA / SEA process undertaken to date;
- How the SA has been taken into account in the development of the WPP;
- An overview of the responses to the public consultation on the draft WPP;
- Changes made to the WPP on the basis of the consultation process;
- Any clarification relating to the SA;



- Reasons for adopting the WPP among the reasonable alternatives considered; and
- Measures for monitoring of residual and significant effects and uncertainties of the implementation of the WPP.

1.3.2 The structure of this statement has been set out to meet the requirements of the SEA Directive as presented in the Table 1.2 below.

**Table 1.2 Structure of the WPP Post-Adoption Statement**

<b>Section</b>	<b>Title</b>	<b>Contents</b>
Section 1	Introduction	An introduction to the report. The SA / SEA process undertaken to date.
Section 2	SEA and the Waste Prevention Programme	How the SA has been taken into account.
Section 3	Consultation	An overview of the responses to the public consultation on the draft WPP. Changes made to the draft WPP on the basis of the consultation process. Any clarification relating to the SA.
Section 4	Reasons for adopting the WPP	Reasons for adopting the WPP among the reasonable alternatives considered.
Section 5	Next Steps	Next steps of the SA process Confirmation of the final arrangements for monitoring of residual significant effects and uncertainties.
Appendix A	Recommended Mitigation and Enhancement Measures.	
Appendix B	Consultation Responses on the SA of the WPP.	
Appendix C	Monitoring Framework.	

## 1.4 Availability of Documents

1.4.1 The final WPP adopted together with the SA and this post adoption statement will be available for viewing free of charge on-line at:

<http://wales.gov.uk/consultations/environmentandcountryside/waste-prevention-programme/?status=closed&lang=en>

<http://wales.gov.uk/consultations/environmentandcountryside/waste-prevention-programme/?skip=1&lang=cy>

[www.wales.gov.uk/topics/environmentcountryside/epq/waste\\_recycling/prevention/waste-prevention-programme/?lang=en](http://www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=en)

[www.wales.gov.uk/topics/environmentcountryside/epq/waste\\_recycling/prevention/waste-prevention-programme/?lang=cy](http://www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=cy)

Or in person Monday – Friday (9.00 am – 5.00 pm) excluding public and bank holidays at:

Waste Strategy Branch  
Department for Natural Resources and Food  
Welsh Government  
3<sup>rd</sup> Floor, South Wing,  
Cathay's Park  
CF10 3NQ

Email: [wastestrategy@wales.gsi.gov.uk](mailto:wastestrategy@wales.gsi.gov.uk)

Tel: 02920821787

## 2 SEA AND THE WASTE PREVENTION PROGRAMME

### 2.1 Sustainable Development Commitment

2.1.1 The Welsh Government has a legal duty with regard to sustainability as set out by their Sustainable Development Scheme, 'One Wales: One Planet' (2009). TZW included a commitment to ensure that the subsequent sector plans are subject to the same SA/SEA process, and therefore, the WPP actions intend to aid delivery of the sustainable development outcomes identified in 'One Wales: One Planet' and TZW.

### 2.2 Compliance with the SEA Regulations

2.2.1 Table 2.1 presents details how the Welsh SEA Regulations (2004) requirements Part 4 on post adoption procedures have been addressed on this Post Adoption Statement, and where the information can be found.

**Table 2.1 Compliance of the WPP Post Adoption Statement with the SEA Regulations**

SEA Regulations Requirement	Availability of information and sections of this Post Adoption Statement (where appropriate)
<b>SEA regulation 16: Information as to adoption of plan or programme</b>	
<p><i>(1) As soon as reasonably practicable after the adoption of a plan or programme for which an environmental assessment has been carried out under these Regulations, the responsible authority shall -</i></p> <p><i>(a) make a copy of the plan or programme and its accompanying environmental report available at its principal office for inspection by the public at all reasonable times and free of charge; and</i></p> <p><i>(b) take such steps as it considers appropriate to bring to the attention of the public</i></p> <ul style="list-style-type: none"> <li>- <i>(i) the title of the plan or programme;</i></li> <li>- <i>(ii) the date on which it was adopted;</i></li> <li>- <i>(iii) the address (which may include a website) at which a copy of it and of its accompanying environmental report, and of a statement containing the particulars specified in paragraph (4), may be viewed or from which a copy may be obtained;</i></li> </ul>	<p>A copy of the WPP and accompanying reports and documentation is available at:</p> <p><a href="http://www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=en">www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=en</a> / <a href="http://www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=cy">www.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/prevention/waste-prevention-programme/?lang=cy</a></p> <p>Paper copies of the WPP, SA Report and this Post Adoption Statement are available for public viewing at:</p>

SEA Regulations Requirement	Availability of information and sections of this Post Adoption Statement (where appropriate)
<ul style="list-style-type: none"> <li>- (iv) the times at which inspection may be made; and</li> <li>- (v) that inspection may be made free of charge.</li> </ul>	<p>Waste Strategy Branch Department for Natural Resources and Food Welsh Government 3<sup>rd</sup> Floor, South Wing Cathays Park CF10 3NQ</p> <p>The Welsh Government will inform the public of the WPP's adoption, together with details as required under (b) opposite, via the Welsh Government's website.</p>
<p>(2) As soon as reasonably practicable after the adoption of a plan or programme -</p> <p>(a) the responsible authority shall inform -</p> <ul style="list-style-type: none"> <li>- (i) the consultation bodies;</li> <li>- (ii) the persons who, in relation to the plan or programme, were public consultees for the purposes of regulation 13; and</li> <li>- (iii) where the responsible authority is not the National Assembly, the National Assembly; and</li> </ul> <p>(b) the National Assembly must inform the Secretary of State, of the matters referred to in paragraph (3).</p> <p>(3) The matters are -</p> <p>(a) that the plan or programme has been adopted;</p> <p>(b) the date on which it was adopted; and</p> <p>(c) the address (which may include a website) at which a copy of -</p> <ul style="list-style-type: none"> <li>- (i) the plan or programme, as adopted,</li> <li>- (ii) its accompanying environmental report, and</li> <li>- (iii) a statement containing the particulars specified in paragraph (4), may be viewed, or from which a copy may be obtained.</li> </ul>	<p>The Welsh Government, as the responsible authority, will inform consultation bodies, public consultees and the Secretary of State by January 2014 on the matters included in (3) opposite.</p> <p>This Post Adoption Statement addresses c (iii) and contains particulars specified in paragraph (4) outlined below.</p>
<p>(4) The particulars referred to in paragraphs (1)(b)(iii) and (3)(c)(iii) are -</p>	
<p>(a) how environmental considerations have been integrated into the plan or programme;</p>	Section 2.3.
<p>(b) how the environmental report has been taken into account;</p>	Section 2.4, 2.5 and Appendix A.

SEA Regulations Requirement	Availability of information and sections of this Post Adoption Statement (where appropriate)
<p>(c) <i>how opinions expressed in response to -</i></p> <ul style="list-style-type: none"> <li>- (i) <i>the invitation referred to in regulation 13(2)(d): invite the consultation bodies and the public consultees to express their opinion on the relevant documents, specifying the address to which, and the period within which, opinions must be sent.</i></li> <li>- (ii) <i>action taken by the responsible authority in accordance with regulation 13(4): The responsible authority must keep a copy of the relevant documents available at its principal office for inspection by the public at all reasonable times and free of charge</i></li> <li>- <i>have been taken into account;</i></li> </ul>	<p>Section 3.</p> <p>Section 3.</p> <p>Section 2.5 and Appendix B.</p>
<p>(d) <i>how the results of any consultations entered into under regulation 14(4) have been taken into account;</i></p>	<p>Not applicable - no transboundary consultations with other EU Member States were undertaken.</p>
<p>(e) <i>the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and</i></p>	<p>Section 4.</p>
<p>(f) <i>the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.</i></p>	<p>Section 5.1 and Appendix C.</p>
<p><b>SEA regulation 17: Monitoring of implementation of plans and programmes</b></p>	
<p>(1) <i>The responsible authority shall monitor the significant environmental effects of the implementation of each plan or programme with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action.</i></p>	<p>Monitoring procedures are set out in Section 5.1 and Appendix C. The Welsh Government will identify unforeseen adverse effects and undertake remedial action (as necessary) as the WPP is implemented.</p>
<p>(2) <i>The responsible authority's monitoring arrangements may comprise or include arrangements established otherwise than for the express purpose of complying with paragraph (1).</i></p>	<p>The monitoring procedures set out in Section 5.1 and Appendix C will complement existing monitoring arrangements as indicated on the WPP where possible.</p>

## **2.3 Evidence Base**

- 2.3.1 The development of the WPP and the other TZW Sector Plans constitute an ongoing process of evidence base gathering to build up upon the TZW SA/SEA.
- 2.3.2 The evidence and recommendations provided in the WPP SA report should be considered by subsequent sector plans SA and should also be considered by the Welsh Government to develop the Welsh Government's National Infrastructure Plan.

## **2.4 Integrated development of the WPP and the SA**

- 2.4.1 The WPP was appraised against a SA framework to identify key sustainability issues that the plan should consider. The SA framework covered environmental, social and economic objectives derived and adapted from the TZW SA and the MSP1 SA.
- 2.4.2 The SA report was prepared in parallel to the draft WPP. Amendments were made as necessary to the plan throughout its development followed by sustainability reassessments.

## **2.5 How the SA report has been taken into account in developing the WPP**

- 2.5.1 The SA appraisal report recommended the implementation of measures to avoid and/or mitigate potential adverse effects, and enhance beneficial effects. **Appendix A** includes a list of the recommendations proposed in the SA report and how those have been incorporated in to the final WPP.
- 2.5.2 In addition, consultation comments on the SA report have also resulted in changes or issues to consider further in the development of subsequent sector plans. The Welsh Government's responses to the SA consultation comments are included in **Appendix B**.

## **2.6 Residual effects**

- 2.6.1 The SA report concluded that the implementation of the WPP is unlikely to result in significant adverse effects on the existing environmental and socio-economic conditions. Given the non-spatial nature of the plan, it is not expected that there will be any residual effects. Monitoring of the effects of the plan implementation will indicate if there are any residual environmental, social and/or economic effects to be addressed.

### 3 CONSULTATION

#### 3.1 SA Consultation

3.1.1 Table 3.1 describes the consultation process undertaken to date throughout the SA process described in Table 1.1.

**Table 3.1 SA and WPP Consultation Undertaken**

Consultation	Date of consultation / SA stage	Consultation responses
<p>A Scoping Report for all remaining TZW Sector Plans (including the WPP) was produced in September 2010 and issued to statutory consultees.</p>	<p>20 September 2010 to 25 October 2010.</p>	<p>Responses to the SA Scoping Report were received from all statutory consultees:</p> <ul style="list-style-type: none"> <li>• Cadw;</li> <li>• Countryside Council for Wales (CCW);</li> <li>• English Heritage;</li> <li>• Environment Agency;</li> <li>• Environment Agency Wales; and</li> <li>• Natural England.</li> </ul> <p>Consultee comments received included requests for further baseline information, PPPs review and amendments to the SA framework. The comments, responses and resulting actions were included in Appendix A of the SA Report.</p>
<p>The SA Report was made available on the Welsh Government's website together with the draft WPP for public consultation.</p>	<p>28 March 2013 to 20 June 2013.</p>	<p>Detailed consultation responses were received from Natural Resource Wales (NRW). A summary of the response and how comments have been addressed by the Welsh Government is included at <b>Appendix B</b> of this statement.</p>

## 3.2 Responses to the Consultation comments on the SA

3.2.1 Most comments received were of technical nature. A number of consultees made comments with regard to specific elements of the work undertaken such as:

- Updates on the baseline information;
- PPPs updates;
- HRA;
- Strategic approach in defining the sitting of individual facilities in relation to the assessment of effects; and
- Mitigation measures and monitoring of effects.

3.2.2 Consultation responses on the draft WPP SA and actions taken are included in **Appendix B**. These responses have been considered during the elaboration of the final WPP and will be considered during the elaboration of the subsequent TZW Sector Plans where applicable.

3.2.3 Changes made to the draft WPP to prepare the final WPP were not significant and therefore, a reassessment of the sustainability effects was not required. There were a number of comments from Natural Resources Wales (NRW) on the SA, mainly comprising the baseline/ review of PPPs, methodology and mitigation.

### Baseline

3.2.4 The baseline and review of PPPs for the Sustainability Appraisals for the Waste Sector Plans is largely based on the Scoping Report 2010, in addition to minor updates in response to comments arising from consultation on each sector plan. However, both the baseline and the PPPs used for the SA need a more extensive update to reflect 2013 sources of information which should be used.

3.2.5 The updates are unlikely to change sustainability issues and therefore the results of the appraisal. Therefore the SA for the WPP is still valid. However, the comments and data sources identified will be used to update the relevant sections of the next Sector Plan - the Public Sector Plan.

### Methodology

3.2.6 The NRW response made specific comment on the methodology which has been used in previous assessments is summarised below:



- Amalgamated or net assessment 'scores' may not be helpful as it may prevent full consideration of significant adverse effects on particular environmental receptors and systems.
- Consideration should be given to cumulative effects because during this strategic level of assessment this could better inform decisions regarding location, scale and type of development in earlier project stages.
- Although the difficulties of undertaking HRA at a strategic level are appreciated more explanation is required regarding deferring the HRA process down to lower tier plans and project level, and that this can only be done where it is not possible to reasonable assess the effects of a higher level plan on European Sites in a meaningful way.

3.2.7 The methodology has been used in previous assessments and where impacts from sub-objectives are both positive and negative, this is reflected in '++/ - -'. This was agreed with CCW for CIM Sector Plan 2012. Therefore, it is not proposed that this is changed, although the description accompanying the assessment should reflect that scores are not amalgamated, but both positive and negative impacts are identified.

3.2.8 In terms of cumulative effects we agree with the comments but there are problems inherent with consideration of cumulative effects at the strategic stage, as many of the impacts identified are applicable at a project level. It would however be useful if further consideration is given to cumulative effects in the final sector plan SA (Public Sector) across all the TZW plans.

3.2.9 Although the difficulties of undertaking HRA at a strategic level are appreciated by NRW it is important to note that in this case there are location-specific proposals to accompany the plan which allow a more meaningful assessment of effects.

#### Mitigation and Monitoring of Effects

3.2.10 The main issues surrounding mitigation and monitoring of mitigation measures is who has responsibility for enforcing and monitoring measures and how monitoring will be undertaken in a uniform manner across the different local authorities and statutory stakeholders:

- Although the proposed mitigation measures are agreeable, clarification is required on how mitigation measures can be enforced and incorporated into the relevant strategic development plans.

3.2.11 This issue needs to be discussed in detail with the Welsh Government and a series of proposals put forward to be agreed with the local authorities and statutory bodies confirming responsibilities, boundaries and reporting on mitigation monitoring.

### **3.3 Responses to the Consultation comments on the WPP**

3.3.1 Overall, comments were programme specific and technical detailed, whilst others related more to content and issues for consideration of future TZW Sector Plans.

## **4 REASONS FOR ADOPTING THE WPP**

### **4.1 Alternatives considered**

4.1.1 The SEA Directive requires taking into account “reasonable alternatives”, outlining the reasons for selecting the alternatives dealt with, and describing how the assessment was undertaken.

4.1.2 Three reasonable alternatives were developed for the WPP in line with the approach set out by the Waste Framework Directive:

- Do Minimum Alternative (Option 1) ‘Business as Usual’. This alternative is considered the ‘no plan’ alternative. It involves the consideration of existing measures already put in place (i.e. existing guidance, strategies, etc) without new actions being proposed. Therefore, minimum intervention or no new actions are put forward under this option. This alternative has been assessed as Option 1 (Do minimum) and is defined as being relatively easy to implement, as it does not require additional costs or major technology and or cultural shifts.
- Preferred Option (Option 2) Best Practice – The proposed Waste Prevention Programme. This option is considered a medium level intervention and assumes the adoption of best practice measures currently available and behaviour to ensure that the TZW requirements are met within the timeframe.
- Do Maximum Alternative (Option 3) Beyond Best Practice – This option is considered a high level intervention and provides the maximum potential of the plan assuming that resource efficiency strategy with the highest financial and resource investment is potentially available. It will guarantee exceeding the TZW targets within a shorter timeframe.

4.1.3 Each alternative was considered in terms of their ability to support the achievement of the SA objectives, thereby enabling comparison of the alternative’s performance. The sustainability assessment of the alternatives was undertaken for each category of actions against each SA framework objective. The full assessment is available in Appendix C of the SA report.

### **4.2 Justification for adoption of the final WPP**

4.2.1 Overall, Option 2 (best practice) has been assessed as having a more positive effect than Option 1 (do minimum alternative) and a slightly less positive effect than Option 3 (beyond best practice).

4.2.2 The results of the options assessment against the waste infrastructure and waste management objectives indicate that:

- Option 1 has been assessed as having a less positive effect than Option 2 which will guarantee meeting the TZW objectives within the timeframe; and
- Option 3 would be a slightly more beneficial option compared to Option 2. However, Option 3 would be more expensive to implement and it provides an insight into the maximum potential of the plan to achieve even better targets in a shorter timeframe, through the availability of highest financial and resource investment, mandatory targets and eco-design to priority and other sectors, mandatory targets for resource efficiency and waste reduction through permits, and employment of business advisors to provide one to one support.

4.2.3 The assessment also indicates that:

- No significant differences between Options 1 and 2 have been identified for meeting the landscape, biodiversity and cultural heritage, soil, water, air quality, noise and odour, climate change, health and civic engagement objectives; Option 3 is likely to have more positive effects on these objectives than the other two options. Actions such as the highest financial and resource investment, mandatory targets and environmental standards and support of full programme of business efficiency, will enhance the positive effects of the other two Options within a shorter timeframe.

4.2.4 Overall, Option 2 will contribute better to the achievement of the TZW objectives in the timeframe provided, with a better environmental, social and economic positive balance of implementation and cumulative effects, and less requirement of financial investment. No objections or comments were received during the consultation of the SA report with regard to the options assessment and the preferred option selection.

## **5 NEXT STEPS**

### **5.1 Monitoring**

5.1.1 The monitoring will allow identification of actual environmental and socio-economic effects of the implementation of the WPP to test them against those effects predicted and potential unforeseen adverse effects.

5.1.2 The Welsh Government will be responsible for monitoring the environmental and socio-economic effects of the implementation of the actions contained within the WPP. The SA Report (Section 9) identified a range of potential indicators that could be utilised for this purpose and having regard to responses received during the consultation process, this monitoring framework has been revised and is included at **Appendix C**.

5.1.3 This monitoring framework complements the monitoring programme contained within Chapter 3 of the WPP and is expected to be developed further as investigation into potential indicators and data sources is undertaken as part of the monitoring process.

5.1.4 If the monitoring identifies unforeseen adverse effects or adverse effects with higher significance than those effects predicted, remedial actions should be identified in monitoring reports. These actions may involve the identification of the effect duration and significance followed by:

- Measures to stop the effect;
- Measures to mitigate or compensate the effect;
- Updating evidence base / undertake further research;
- Revise the WPP and monitoring framework; and
- Consultations with relevant authorities if deemed necessary.

### **5.2 Future assessments**

5.2.1 A Sustainability appraisal / SEA will also be undertaken during the development of the remaining waste sector plan. It is recommended that any actions arising from the WPP are incorporated into the development and assessment of the next sector plan.

**APPENDIX A:**

**RECOMMENDED MITIGATION AND ENHANCEMENT MEASURES**

Category of Actions	Mitigation/Enhancement Measures Proposed	Description of how/if the recommendation has been used in the plan (including reasons if not included)
Waste Management & Waste Infrastructure	<p>Include a commitment to retrain and upskill staff affected by reduction in residual waste e.g. in the use of new tools and alternative waste treatment technologies/processes such as the operation of recycling and reuse stations.</p>	<p>Research indicates that implementing a 70% recycling rate by 2025 would create new jobs in Wales in the order of:</p> <ul style="list-style-type: none"> <li>• 3,600 new jobs across municipal, commercial and industrial (including construction and demolition) sectors.</li> <li>• 2,600 new jobs in the municipal sector alone.</li> </ul> <p>Many of the jobs created (1,947) will be created between 2008 and 2015.</p> <p>Staff affected by the TZW and the WPP will be preferentially re-deployed.</p>
	<p>Promoting the sustainable and safe/healthy location of new facilities. This includes avoiding areas at flood risk.</p>	<p>The siting of infrastructure is a local authority decision. Local planning officers and developers are expected to follow guidance given in TAN 15 – Development &amp; Flood Risk. It should be noted that the planning decision process involves consultation with the relevant statutory environmental bodies and in most cases an</p>

		EIA will be required.
	Consideration of waste issues through EIA of qualifying I&C/C&D interventions/schemes.	WG to include consideration of waste issues within Scoping Opinion as a requirement of the EIA process.
Landscape, Biodiversity and Cultural Heritage	The storage of products to be prepared for reuse such as carpets, office furniture, IT equipment, other electrical equipment (WEEE), redundant stock, and protective clothing should be carried out in a manner that doesn't affect the natural and historic environment (i.e. stored where no further accidental damage can occur).	This best practice measure will be implemented by the plan to reduce potential impacts on landscape, biodiversity and cultural heritage. Key stakeholders and practitioners within the waste sector should be required to follow the requirements of this policy.
Soil	The storage of products to be prepared for reuse such as carpets, office furniture, IT equipment, other electrical equipment (WEEE), redundant stock, and protective clothing should be carried out in a manner that doesn't affect the soil resource (i.e. stored where no damage from compaction or leaching can occur).	This best practice measure will be implemented by the plan to reduce potential impacts on soil. Key stakeholders and practitioners within the waste sector should be required to follow the requirements of this policy.
Water	Encourage the use of WRAP and NRW best practices in handling stockpiles of aggregates to reduce the risk of water pollution.	Key stakeholders and practitioners within the waste sector will be required to confirm to best practice measures. In addition, activities will be regulated by NRW.

	<p>Consideration of flood risk through planning and design of qualifying interventions / schemes.</p>	<p>The siting of infrastructure is a local authority decision. Local planning officers and developers are expected to follow guidance given in TAN 15 – Development &amp; Flood Risk. It should be noted that the planning decision process involves consultation with the relevant statutory environmental bodies and in most cases an EIA will be required.</p>
	<p>The storage of products to be prepared for reuse such as electrical equipment, construction materials and redundant stock should be carried out in a manner that doesn't affect the water resource (i.e. stored where no pollution of water bodies can occur).</p>	<p>The storage of products will be undertaken in accordance with NRW best practice pollution prevention measures. Key stakeholders and practitioners within the waste sector should be required to follow the requirements of this policy.</p>
Air Quality, Noise & Odour	<p>Ensuring that qualifying interventions/schemes minimise transport distance of recycled, reused products and waste to be reused from/to premises.</p>	<p>Decisions on the siting of infrastructure are made by the local authority planning departments and consideration of logistics between various components of the waste system, including local air quality, noise and odour, will be a part of the decision making process.</p>
Climate Change	<p>Ensuring that qualifying interventions/schemes minimise transport distance of reused items from/to premises for preparation for reuse and of recycled products.</p>	<p>WG will seek to encourage an increase in sustainable infrastructure and facilities, as the actions will promote the collection, check, recycling and disposal of waste in an environmentally sound fashion, including distances travelled which will affect emissions.</p> <p>Decisions on the siting of infrastructure are made by the local authority planning departments. In addition, all new waste facilities will be regulated by NRW.</p>



	Promoting energy efficiency and the use of renewable energy technologies in qualifying interventions/schemes.	WG to consider energy use in waste management processes and energy management in new facilities.
Health	Establishment of health and safety standards for qualifying preparation for reuse and recycling interventions/schemes where appropriate - e.g. reduce the requirement for manual handling operations.	All business are expected to comply with Health and Safety legislation. The Collections Blueprint in the MSP1 has a section which specifically discusses Health and Safety issues associated with the collection of recyclate which is also applicable here.
	The storage of products to be prepared for reuse such as carpets, office furniture, IT equipment, other electrical equipment, redundant stock, and protective clothing should be carried out in a manner that doesn't affect the health and well-being of workers and local community.	

**APPENDIX B:**

**CONSULTATION RESPONSES ON THE SA OF THE WPP**

<b>Resp No</b>	<b>Organisation</b>	<b>Response</b>	<b>Action</b>
1	Natural Resources Wales	<b>Key Comments:</b>	
		1. Comments raised by Environment Agency Wales response to consultation on the draft Construction and Demolition Sector Plan (November 2011) not considered within this plan.	To be discussed with NRW. Comments will be taken forward in the SA in the next sector plan.
		2. A number of identified plans, policies and programmes are outdated.	Agreed. The process was started in 2010 and although some references have been updated, a more extensive review is required. This has been undertaken and will be used for the SA of the next sector plan (Public Sector).
		3. Key sustainability issues and opportunities may therefore be outdated.	Agreed, although the sustainability criteria used for the assessment were devised in 2010 based on these. These are still likely to be valid and ensure consistency between sector plan appraisals.

Resp No	Organisation	Response	Action
		4. Given importance of mitigation measures, more needs to be done to ensure implementation and reference best practice. Include additional mitigation measures as per C&D response.	To be discussed with NRW. These are largely best practice measures implemented through procurement, other legislation and policy e.g planning, health and safety.
		5. The Waste Sector Plans should be informed by the Wales Infrastructure Investment Plan and National Development Framework.	Note references and how they affect the SA.
		Nevertheless, based on the information provided and considering the potential impact of the concerns raised above, we agree in principal that your assessment is correct and that the plan has no significant adverse effects and has the potential for positive effects, if proposed mitigation and enhancement measures are incorporated.	Noted.
		<b>Specific Comments</b>	
		We have concerns about the use of the term 'on balance' as it implies trading between positive and negative effects.	Agree, preferable to state that there are both positive and negative effects. This will be undertaken for the next SA.
		Amalgamated or net assessment 'scores' may not be helpful as it may prevent full consideration of significant adverse effects on particular environmental receptors and systems.	Methodology has been used in previous assessments. Where impacts from sub-objectives are both positive and negative, this is reflected in '+ + / - -'. This was agreed with CCW for CIM Sector Plan 2012. Welcome to discuss alternative presentation. The relevant

Resp No	Organisation	Response	Action
			text will be amended accordingly.
		Consideration of cumulative effects is most usefully undertaken at the strategic level when mitigation and avoidance measures e.g. in terms of location, scale and type of development may still be decided.	Agree, although difficult to identify as many of the impacts identified are applied at a project level. It would be useful if further consideration is given to cumulative effects in the final sector plan SA (Public Sector) across all the plans.
		We agree in principle that the assessment is correct and that the plan has no significant adverse effects and has the potential for positive effects, if proposed mitigation and enhancement measures are incorporated in the draft WPP.	Noted.
		We acknowledge that the plan is closely aligned with other sector plans developed.	Noted.
		More emphasis needs to be made throughout the Sustainability Appraisal of 'waste' as a resource that has value.	Agreed, future sector plans to incorporate greater economic benefit. Positive impacts will be captured in the SA for the next sector plan (Public Sector Plan).
		<p>The first step in minimising waste is to avoid unnecessary resources being used in the first instance. Although the document mentions 'eco-design' there should be more emphasis on:</p> <ul style="list-style-type: none"> <li>• Building with future retrofit, refurbishment and adaptation in mind (future proofing).</li> </ul>	Agreed, particularly in relation to Construction & Demolition Sector.

Resp No	Organisation	Response	Action
		<ul style="list-style-type: none"> <li>• Building low maintenance structures.</li> <li>• Building something which can easily be dismantled and materials and the site re-used.</li> <li>• Appropriate sizing of projects (scale the project to achieve objectives without using excessive resources).</li> </ul> <p>Mention should be made of the financial savings that these points could offer.</p>	
		<p>Baseline information has not been updated as follows:</p> <ul style="list-style-type: none"> <li>• AQMA info is out of date and there is now access to 2011 and 2012 data from StatsWales.</li> <li>• Data for Greenhouse Gas emissions was published in 2010 and is available from the National Atmospheric Emissions Inventory.</li> <li>• Waste Data quoted in 'Resource Efficiency' Section taken from 2005, there is Construction and Industrial waste data in Stats Wales SoE report.</li> </ul>	<p>Review and update next sector plan with baseline with 2012 data.</p> <p>2010 reference was included – check and update baseline for next sector plan.</p>
		<p>Page 28 Landscape “<i>During the period 2007 – 2010, there was easy equitable access to ample high quality green space</i>” - this is the definition of the Environment Strategy Outcome, not the state of the indicator and should not be included</p>	<p>To be removed and amended in next sector plan SA.</p>

Resp No	Organisation	Response	Action
		in the baseline.	
		Page 29 Ecological Footprint “ <i>Although there is a stable/no clear trend</i> ” contradicts StatsWales data from July 2010, 2011 and 2012 which shows clear deterioration.	To be reviewed and amended in next sector plan SA.
		Page 29 “ <i>Welsh’s Governments commitment to reduce the Ecological Footprint of Wales in One Wales One Planet should continue to decrease Wales’ Ecological Footprint</i> ” It is not the commitment that will reduce the footprint but the actions that happen as a result of the commitment.	To be reviewed and amended in next sector plan.
		Page 30 River Quality baseline data relating to water should reflect Water Framework Directive (WFD) requirements, which includes flora and fauna assessment not the General Quality Assessment (GQA) which just looks at chemical quality. Text needs to be changed to reflect this.	Review and amend next sector plan SA, although the text does go on to explain context. Suggest amalgamate with ‘Water and Flood Risk’ as this covers similar issues.
		Page 30 River Quality baseline conditions refer to developing a measure of resource availability for river flows. Although this is correct, river flow is only one factor affecting water quality.	To be reviewed and amended in next sector plan SA.
		Acronym WDF needs to be changed as WDF is acronym for Waste DataFlow.	Typo, will amend for next SA.
		Page 31 Soil “ <i>Soil is managed to safeguard its ability to support plants and animals, store carbon and provide other important ecosystem</i>	To be reviewed and amended in next sector plan.

Resp No	Organisation	Response	Action
		<p>services” This is a statement of intent taken from Environment Strategy Outcome 16, not a description of what is happening and should not be included in the baseline.</p>	
		<p>“Wales greenhouse gas emissions are minimised, consistent with Wales contributing fully to meeting UK wide targets and in line with more specific Wales targets that are in development.” This is a statement of intent taken from Environment Strategy Outcome 7, and should not be included as baseline information.</p>	<p>Agreed, to be removed for next sector plan SA.</p>
		<p>Page 31 Sustainable Water Management - the number quoted for England and Wales is available in StatsWales.</p>	<p>Reference data source in next sector plan SA.</p>
		<p>Page 31 Future Trends: “The percentage of water resource zones that are recording a deficit, and level of leakage will continue to drop into the future.” This statement is not necessarily true and published water company plans should be used to provide a statement about expected future trends.</p>	<p>Review and add additional information for next sector plan SA.</p>
		<p>Page 32 Waste “The Volume of waste sent to landfill in 2009 – 2010 fell by 4% compared with 2008 – 2009” - The 4% figure quoted is for municipal waste only and for the period 2011 – 2012.</p>	<p>Reference data source, review and amend for next sector plan SA.</p>

Resp No	Organisation	Response	Action
		Page 33 Water and Flood Risk: WFD and Bathing water quality data may be better placed in the River Quality Section and re-named Water Quality.	Agreed, amend in next sector plan SA.
		<i>“In Wales the number of properties located in the floodplain has increased from 169 thousand in 2006 to 220 thousand in 2008, of which 62% properties located in the floodplain had a significant or moderate risk of flooding, compared with 59% in 2006.”</i> It is not appropriate to use this data to show trends in the Environment and would be more appropriate to look at future flood risk as a result of climate change – info available in NRW Future Flooding in Wales Report.	To be reviewed and amended in next sector plan SA.
		<i>“The number of serious water pollution incidents has been declining in Wales since 2001; this trend is expected to continue.”</i> Data source needs to be cited and statement ratified as 2010, 2011 and 2012 data shows more 1 category 1 and 2 water pollution incidents than in 2009.	Reference, update information in next sector plan SA.
		<i>“The number of bathing waters in Wales is expected to increase”</i> - The issue for the SA isn't the number of designated bathing waters, but the fact that compliance with the new Bathing Water Directive will be challenging.	To be reviewed and amended in next sector plan SA.



Resp No	Organisation	Response	Action
		Sections 6 Sustainability – Selection of Option 2 appears to be a reasonable conclusion.	Noted.
		Recommend that the Health Protection side of Public Health Wales included in the steering group for Health Impact Assessment.	The Steering Group was set up at the beginning of the project, but PB can identify someone to contact in future.
		7.6.7 Table 7.1 – For ease of cross-reference with the deprivation data, it would be helpful if the deprivation issues were focussed around the domains within the Welsh Index of Multiple Deprivation.	Can be added.
		<p>Monitoring</p> <ul style="list-style-type: none"> <li>• Paragraph 1.5.12 Reference should be made to the most recent Birds Directive.</li> <li>• 3.7.1 SEA Directive and process requires consideration of secondary, cumulative, synergistic, short, medium and long term permanent and temporary, positive and negative effects and not just potential secondary, cumulative and synergistic effects as suggested in this section.</li> <li>• 6.5.4 As previously stated, need to include consideration of cumulative effects during strategic assessment.</li> </ul>	<p>To be reviewed and amended in next sector plan SA.</p> <p>Agreed.</p> <p>Review and amend in line with previous comments in next sector plan SA.</p>
		Section 9 – In addition to linking this plan to the other Waste Sector Plans it would be useful to highlight the potential links between the Waste Prevention Programme and the Welsh	Noted – review and amend in next sector plan SA.

Resp No	Organisation	Response	Action
		Governments Infrastructure Investment Plan and the National Development Framework.	
		Page 99 – As previously stated it is noted that there is no proposed source of data for assessing noise - would the Welsh Government noise maps be a useful source of information?	Agreed, can include in next sector plan SA.
		<p>5.0 Appendix B – A number of plans, programmes and policies are outdated:</p> <ul style="list-style-type: none"> <li>• Refer to Habitat and Species Regulations 2010 as amended instead of 1994 Regulations.</li> <li>• Refer to recent version of Birds Directive and not 1979 version.</li> <li>• Full reference to be made to the completed Shoreline Management Plans and Flood Risk Management Plans and Strategies, Water Resource Management Plans of United Utilities. In addition WRM needs to be checked as currently due to be re-released as a more recent version.</li> </ul>	<p>Noted, updated.</p> <p>Noted, updated.</p> <p>Check references and update. Draft WRM Plan to be published August 2013.</p> <p>Amend in next sector plan SA.</p>
		Appendix C – Despite the baseline data being out of date the scores have been considered in light of recent data and the sustainability assessment scores against each objective are agreeable.	Noted. Therefore baseline data will be reviewed and amended in the next sector plan SA.
		Appendix C ‘Landscape and biodiversity’ - suggest re-wording aims to protect and enhance	Review and amend text for next sector plan SA.

Resp No	Organisation	Response	Action
		to “minimising the volume of landfill/residual treatment will reduce the need for new developments, encouraging therefore the protection of landscape, historical resources and biodiversity for both designated and non-designated habitats and ecosystems.	
		Appendix C water – No deterioration of waterbodies is a requirement under WFD, therefore should state % waterbodies which will not deteriorate as a consequence of actions.	Agreed to be included in next sector plan SA.
		Appendix C – cross refer to question 3 from the consultation response.	Noted.
		Annex 2 Para 8.4.1 – an explanation of significance would be useful.	Agreed. Next sector plan SA to include.
		Para 8.5.3 – Change England to England and Wales.	Amend.
		Para 8.5.6 – Explain and Justify the 15km zone of influence.	There is no set guidance on the demarcation of buffer zones for impact pathways but following the guidance of Natural England, received for previous similar projects, ERM who undertook the <i>Wales Waste Strategy Habitats Regulations Assessment Report (2009)</i> adopted a 15km buffer zone as standard in its assessment of the effects of air pollution deposition on sites that are currently technology neutral (the

Resp No	Organisation	Response	Action
			technology cannot yet be specified for individual sites) but which may include thermal treatment facilities. This is in accordance with the precautionary principle approach advocated by the Regulations and Natural England, and was, therefore, used in the HRA of the Waste Strategy. We would also note that air quality assessment for previous similar projects has identified likely significant effects on European designated sites over 10km from the source.
		Table 8.2 – Include artificial lighting, dust and other airbourne particulates and vibration.	Agreed - To be reviewed and amended in next sector plan SA.
		Para 8.5.15 – It needs to be made explicit that IROPI can only be justified where there are no alternative solutions and any necessary measures taken to ensure that the overall coherence of Natura 2000 is protected.	Agreed.
		Para 8.5.18 The functions of CCW have been assumed by NRW who would welcome the opportunity to discuss mitigation and avoidance measures at the lower tier project/plan level.	Amend CCW for NRW. To discuss with Welsh Government.
		Para 8.5.21 – Although the proposed mitigation measures are agreeable, clarification is required on how mitigation measures can be enforced and incorporated into the relevant strategic	To discuss with Welsh Government.

Resp No	Organisation	Response	Action
		development plans.	
		<p>Para 8.5.22 Although the difficulties of undertaking HRA at a strategic level are appreciated more explanation is required regarding deferring the HRA process down to lower tier plans and project level, and that this can only be done where it is not possible to reasonable assess the effects of a higher level plan on European Sites in a meaningful way:</p> <ul style="list-style-type: none"> <li>• HRA of a lower tier plan or project will be able to change the proposed plan/project if adverse effects on European Site Integrity cannot be ruled out.</li> <li>• HRA of the lower tier plan or project is required as a matter of law or government policy.</li> </ul>	Agree. In this case there are no location-specific proposals to accompany the plan.
		Para 8.5.24 – see comment re para 8.5.15 above.	Agreed.

## APPENDIX C:

### MONITORING FRAMEWORK

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
<p><b>Waste Management</b> To increase sustainable waste management and reduce Wales' ecological footprint.</p>	<ul style="list-style-type: none"> <li>Waste arisings and disposal across all sectors.</li> <li>Waste contribution to Ecological Footprint.</li> <li>Resource use – Wales' domestic material consumption.</li> <li>Electricity from renewable sources - percentage of electricity produced in Wales generated from renewable sources.</li> </ul>	<ul style="list-style-type: none"> <li>Waste arisings by sector in Wales, (kilotonnes per annum).</li> <li>Waste arisings by disposal (kilotonnes per annum).</li> <li>Ecological footprint (global hectares per person), Wales and the UK.</li> <li>Resource efficiency - the ratio of carbon dioxide emissions to GVA at current prices.</li> <li>Percentage of electricity generated from renewable sources.</li> <li>Packaging waste</li> </ul>	<ul style="list-style-type: none"> <li>To raise awareness and understanding of sustainable waste reduction and management, and encourage resource efficiency and sustainable consumption;</li> <li>To increase infrastructural capacity and facilities for sustainable waste management;</li> <li>To encourage behavioural change and participation amongst</li> </ul>	<ul style="list-style-type: none"> <li>Stocks of Intermediate Level Waste (ILW) and Low Level Radioactive Waste (LLW).</li> <li>Electricity from renewable sources - percentage of electricity produced in Wales generated from renewable sources.</li> </ul> <p>State of Environment (SoE) indicators:</p> <ul style="list-style-type: none"> <li>Indicator 2a: Ecological footprint.</li> <li>Indicator 6b: Percentage of municipal waste recycled or</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		recovered or recycled in Wales.	household, commercial and industrial operators; and <ul style="list-style-type: none"> <li>To contribute to the reduction/minimisation of Wales' Ecological Footprint and progress self-sufficiency in waste management.</li> </ul>	composted. <ul style="list-style-type: none"> <li>Indicator 9a: Quantity of municipal waste per person per annum.</li> <li>Indicator 39a: Trends in radioactive discharges from major sources in Wales.</li> <li>Indicator 12b: Proportion of packaging waste recovered in the UK.</li> <li>Indicator 12d: Number of Green Dragon certified companies in Wales.</li> </ul>
<b>Waste Infrastructure</b> To increase the infrastructure and facilities for sustainable waste management and the capacity of people to create and capitalise	<ul style="list-style-type: none"> <li>Progress on green jobs, skills and training through the Green Jobs Strategy.</li> <li>Employment - percentage of people of working</li> </ul>	<ul style="list-style-type: none"> <li>Packaging waste recovered or recycled in Wales.</li> <li>The number of fly-tipping incidents by type of land.</li> <li>Most common</li> </ul>	<ul style="list-style-type: none"> <li>To promote markets for recyclates and recycled goods;</li> <li>To encourage the development and deployment of alternative waste</li> </ul>	<ul style="list-style-type: none"> <li>Electricity from renewable sources - percentage of electricity produced in Wales generated from renewable sources.</li> </ul> State of Environment

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
upon opportunities arising from this.	<p>age in work.</p> <ul style="list-style-type: none"> <li>• Resource efficiency – the ratio of carbon dioxide emissions to GVA at current prices.</li> <li>• Resource use – Wales’ domestic material consumption.</li> </ul>	<p>types of fly-tipped waste.</p> <ul style="list-style-type: none"> <li>• Economic output - Gross Value Added (GVA) and GVA per head.</li> <li>• Waste arisings by sector in Wales, (kilotonnes per annum).</li> <li>• Waste arisings by disposal (kilotonnes per annum).</li> <li>• Percentage of municipal waste (excluding abandoned vehicles) recycled or composted in Wales.</li> <li>• Kilograms per person per annum of municipal waste in Wales.</li> <li>• Kilograms per person per annum</li> </ul>	<p>technologies and R&amp;D;</p> <ul style="list-style-type: none"> <li>• To encourage sustainable design of waste infrastructure and promote the development of the green technologies sector and sustainable procurement;</li> <li>• To promote equality of opportunity and access to local employment, training and upskilling and volunteering;</li> <li>• To support existing and develop new social enterprises focusing on waste as a community</li> </ul>	<p>(SoE) indicators:</p> <ul style="list-style-type: none"> <li>• Indicator 2a: Ecological footprint.</li> <li>• Indicator 6b: Percentage of municipal waste recycled or composted.</li> <li>• Indicator 9a: Quantity of municipal waste per person per annum.</li> <li>• Indicator 39a: Trends in radioactive discharges from major sources in Wales.</li> <li>• Indicator 12d: Number of Green Dragon certified companies in Wales.</li> <li>• Indicator 12b: Proportion of packaging waste recovered in the UK.</li> <li>• Indicator 28b:</li> </ul>



Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>of household waste in Wales.</p> <ul style="list-style-type: none"> <li>• Resource efficiency - the ratio of carbon dioxide emissions to GVA at current prices.</li> <li>• Percentage of electricity generated from renewable sources.</li> </ul>	<p>resource;</p> <ul style="list-style-type: none"> <li>• To promote equality and opportunity to access waste management facilities to prevent instances of fly-tipping;</li> <li>• To provide cost-effective and reliable sustainable waste management.</li> </ul>	<p>Trends in level of fly-tipping.</p>
<p><b>Landscape, biodiversity and cultural heritage</b> To protect and enhance urban and rural landscapes and resources, including ecological services and functions.</p>	<ul style="list-style-type: none"> <li>• Resource use – Wales’ domestic material consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of species in favourable, recovering or unfavourable condition in Wales.</li> <li>• Land Cover Map - % of Wales’ land cover designated for nature conservation.</li> <li>• Trends in</li> </ul>	<ul style="list-style-type: none"> <li>• To protect designated landscapes: environmental, cultural and historic;</li> <li>• To protect and enhance biodiversity, geodiversity, flora and fauna including</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 19a: Trends in Biodiversity Action Plan species and habitats.</li> <li>• Indicator 21: Percentage of features on Natura 2000 sites in favourable or recovering condition.</li> <li>• Indicator 26: The</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>Biodiversity Action Plan priority species and habitats in Wales.</p> <ul style="list-style-type: none"> <li>• Short-term abundance of widespread breeding birds in Wales.</li> <li>• Long-term changes in the ranges of widespread breeding birds, by major habitat group in Wales.</li> <li>• Existing levels of statutory cultural heritage protection in Wales - number and condition of scheduled monuments.</li> <li>• Percentage of sensitive habitats exceeding critical loads for</li> </ul>	<p>biodiversity and ecological services and connectivity;</p> <ul style="list-style-type: none"> <li>• To protect designated and undesignated historic assets and their settings, including listed buildings, scheduled ancient monuments, and historic parks and gardens;</li> <li>• To protect the character and visual identity of landscapes and townscapes, including cultural and historic landscapes;</li> <li>• To promote the use of brownfield land use;</li> </ul>	<p>number of historic assets deemed to be at risk.</p> <ul style="list-style-type: none"> <li>• Indicator 23: Indicators, measuring quality and diversity, to be developed on completion of Countryside Council for Wales (CCW) landscape characterisation work.</li> <li>• Indicator 27b: The percentage of the population meeting each of Countryside Council for Wales size/distance criteria for access to natural greenspace.</li> <li>• Indicator 29d: The percentage of adults living in Wales who frequently use the outdoors for informal</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>acidification/ eutrofication in Wales.</p> <ul style="list-style-type: none"> <li>• Accessible Natural Greenspace Standards by local authority.</li> <li>• Welsh Outdoor Recreation Survey.</li> <li>• Percentage of certified woodland area in Wales and the UK.</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure the provision of recycling facilities in all new developments and improve capacity in existing built infrastructure;</li> <li>• To remediate contaminated land.</li> </ul>	<p>recreation.</p> <ul style="list-style-type: none"> <li>• Indicator 33j: Area of natural and semi-natural habitat where deposition of acid exceeds critical loads.</li> <li>• Indicator 33k: Area of natural and semi-natural habitat where deposition of nitrogen compounds exceeds critical loads.</li> <li>• Indicator 20b: Proportion of woodland that is certified.</li> <li>• Indicators of the status of ecosystem services<sup>2</sup> (e.g. inputs of nitrogen and phosphorus fertilisers, ocean</li> </ul>

<sup>2</sup> As indicated on the UK National Ecosystems Assessment Synthesis Report will be reviewed. The report is available at: <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
				acidification in terms of greenhouse gases and carbon dioxide emissions, sea temperature rise, number of wild fisheries, hedgerows in lowland landscapes, costs of dealing with invasive species).
<p><b>Soil</b> To protect and enhance soil resources.</p>	<ul style="list-style-type: none"> <li>• Resource use – Wales’ domestic material consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• Estimated total stocks of carbon in Welsh soil (million tonnes).</li> <li>• Contaminated land brought back into beneficial use in Wales (hectares),</li> <li>• Land use, land use change and forestry emissions - kilotonnes of carbon dioxide (CO2) equivalent.</li> <li>• Variations in the</li> </ul>	<ul style="list-style-type: none"> <li>• To protect natural soil functions and ecosystems, preserving ecosystem services such as nutrient cycling, carbon storage and flood attenuation;</li> <li>• To protect against contamination to soil;</li> <li>• To conserve and treat source</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 17: Number of sites complying with standards as set out in Minerals Planning Policy and the associated Technical Advice Note for the protection of the environment and local communities.</li> <li>• Indicator 34: Land affected by contamination brought back into</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>percentage of soil groups in Wales.</p> <ul style="list-style-type: none"> <li>• % of Wales' land cover designated for soil conservation.</li> <li>• Carbon stock (tonnes per hectare) in the top 0-15cm of soil in Welsh broad habitats.</li> </ul>	<p>segregated organic waste for improving the quality of Welsh soils.</p>	<p>beneficial use.</p> <ul style="list-style-type: none"> <li>• LULUCF net sink of greenhouse gases in Wales.</li> <li>• Land Use cover.</li> <li>• Indicator 16b: The carbon stock and pH in the top 15cm of soil as recorded by Countryside Survey.</li> </ul>
<p><b>Water</b> To protect and promote the sustainable use of water resources.</p>	<ul style="list-style-type: none"> <li>• Resource use – Wales' domestic material consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of river lengths of good, fair, poor or bad biological or chemical quality in Wales.</li> <li>• Water Framework Directive Classification - ecological status in Wales.</li> <li>• Water Framework Directive Classification -</li> </ul>	<ul style="list-style-type: none"> <li>• To promote sustainable flood risk management; and</li> <li>• To protect and enhance water quality and quantity in inland, coastal and maritime environments.</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 35a: River water quality - biological and chemical.</li> <li>• Indicator 35c: Compliance with 'good status' under the Water Framework Directive.</li> <li>• Indicator 13b: The percentage of resource zones meeting target</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>chemical status in Wales.</p> <ul style="list-style-type: none"> <li>• Water Framework Directive Classification - groundwater status in Wales.</li> <li>• Percentage of water resource zones meeting target headroom requirements in Wales.</li> <li>• Numbers of properties benefiting from flood alleviation schemes in Wales.</li> <li>• Number of properties in Wales with a significant, moderate or low risk of flooding from the rivers or sea.</li> <li>• Number of properties in Wales</li> </ul>		<p>headroom requirements.</p> <ul style="list-style-type: none"> <li>• Indicator 13a: Level of leakage as a percentage of water supplied in Wales.</li> <li>• Indicator 31a: Annual cost of damage due to flooding.</li> <li>• Indicator 31b: Probability of flooding of assets at risk.</li> <li>• Indicator 36b: Bathing water quality.</li> <li>• Indicator 14b: Volume of water abstracted from the environment.</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<p>with a significant, moderate or low risk of flooding from the rivers or sea, by source.</p> <ul style="list-style-type: none"> <li>• The percentage of bathing waters which satisfy EC mandatory and guideline standards in Wales.</li> <li>• Water abstracted from the environment (excluding electricity generation) in Wales, gegalitres per year.</li> </ul>		
<p><b>Air quality, noise and odour</b> To protect and enhance air quality in local, regional and national context.</p>	<ul style="list-style-type: none"> <li>• Electricity from renewable sources - percentage of electricity produced in Wales generated from renewable</li> </ul>	<ul style="list-style-type: none"> <li>• Annual mean measured concentrations of heavy metals in the air as a percentage of objective thresholds in the</li> </ul>	<ul style="list-style-type: none"> <li>• To promote proximity of facilities to local settlements and sustainable transport modes/practices</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 33b: Air concentrations of Heavy Metals.</li> <li>• Indicator 33a: Trends in number of days when air pollution is moderate</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
	<p>sources.</p> <ul style="list-style-type: none"> <li>• Resource efficiency – the ratio of carbon dioxide emissions to GVA at current prices.</li> <li>• Resource use – Wales’ domestic material consumption.</li> </ul>	<p>Air Quality Standards (Wales) Regulations.</p> <ul style="list-style-type: none"> <li>• Percentage of sensitive habitats exceeding critical loads for acidification in Wales.</li> <li>• Number of days per year with moderate or higher pollution levels, urban sites in Wales.</li> <li>• Number of days per year with moderate or higher pollution levels, urban and rural sites.</li> <li>• Number of People Living in ‘AQMAS’.</li> <li>• Number of waste infrastructure sites built in AQMAS.</li> <li>• Number of waste infrastructure sites</li> </ul>	<p>to serve such facilities with preferences given to walking and cycling;</p> <ul style="list-style-type: none"> <li>• To minimise adverse impacts to air quality arising directly from facilities or transportation of materials to and from facilities;</li> <li>• To minimise adverse impacts to noise levels within communities;</li> <li>• To minimise odours arising from waste processing and its impact upon local communities.</li> </ul>	<p>or higher in rural zones and urban agglomerations.</p> <ul style="list-style-type: none"> <li>• Indicator 33c: Number of people living in Air Quality Management Areas.</li> <li>• Indicator 33j: Area of natural and semi-natural habitat where deposition of acid exceeds critical loads.</li> <li>• Indicator 33e: Level of emissions from Wales of ammonia.</li> <li>• Indicator 33f: Level of emissions from Wales of nitrogen oxides.</li> <li>• Indicator 33g: Level of emissions from Wales of fine particulates.</li> </ul>



Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		built in urban areas.		
<p><b>Climate change</b> To assist with Wales' capacity to adapt to and mitigate against climatic change.</p>	<ul style="list-style-type: none"> <li>Greenhouse gas emissions.</li> <li>Electricity from renewable sources - percentage of electricity produced in Wales generated from renewable sources.</li> <li>Resource efficiency – the ratio of carbon dioxide emissions to GVA at current prices.</li> <li>Resource use – Wales' domestic material consumption.</li> </ul>	<ul style="list-style-type: none"> <li>Estimated emissions of greenhouse gases in Wales, million tonnes of carbon dioxide equivalent.</li> <li>Estimated carbon dioxide emissions in Wales by source, (millions of tonnes).</li> <li>LULUCF is a net sink of greenhouse gases in Wales.</li> <li>Percentage of electricity generated from renewable sources.</li> <li>Percentage of energy generated from AD and EfW plants.</li> <li>Number of waste infrastructure sites built within land at</li> </ul>	<ul style="list-style-type: none"> <li>To reduce GHG emissions;</li> <li>To contribute to national, regional and local level carbon abatement strategy/objectives</li> <li>To promote the efficient use of on site renewable energy and energy from waste where appropriate;</li> <li>To be adaptable to predicted climate change effects including fluvial and maritime flooding and extreme weather effects.</li> </ul>	<ul style="list-style-type: none"> <li>Indicator 7a: Annual emissions of basket of greenhouse gases (by sector).</li> <li>Indicator 30a: Percentage of people whose main mode of travel to work is a) walking b) cycling.</li> <li>Electricity from renewable sources.</li> <li>Energy from AD and EfW plants.</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		risk of flooding.		
<p><b>Health</b> To protect and enhance the health and well-being of communities.</p>	<ul style="list-style-type: none"> <li>• Outcomes generated by relevant third sector organisations.</li> <li>• Active community participation - percentage of people volunteering on a formal and informal basis.</li> <li>• Benefit dependency -the percentage of people of working age on key benefits.</li> <li>• Progress on green jobs, skills and training through the Green Jobs Strategy.</li> <li>• Employment - percentage of</li> </ul>	<ul style="list-style-type: none"> <li>• GVA per head.</li> <li>• Employment status of those of working age.</li> <li>• Percentage of the population in low-income households.</li> <li>• Level of emissions of ammonia in Wales by source, kilotonnes.</li> <li>• Level of emissions of nitrogen oxides in Wales by source, kilotonnes.</li> <li>• Number of odour complaints against waste infrastructure sites.</li> <li>• Number of noise complaints with regard to waste infrastructure sites.</li> </ul>	<ul style="list-style-type: none"> <li>• To provide safe, secure, mechanisms for civic engagement;</li> <li>• To prevent the exposure of members of the public to hazards, noise and odour arising from waste;</li> <li>• To provide opportunities for those with health issues to gain suitable and meaningful employment;</li> <li>• To provide safe and healthy working environments for employees within the waste and recycling</li> </ul>	<ul style="list-style-type: none"> <li>• Households below average income National Standard.</li> <li>• Economic output - Gross Value Added (GVA).</li> <li>• Indicator 9a: Quantity of municipal waste per person per annum.</li> <li>• Indicator 33e: Level of emissions from Wales of ammonia.</li> <li>• Indicator 33f: Level of emissions from Wales of nitrogen oxides.</li> <li>• Indicator 33g: Level of emissions from Wales of fine particulates.</li> <li>• Health inequality - infant mortality Infant, neonatal and</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
	<p>people of working age in work.</p> <ul style="list-style-type: none"> <li>Resource efficiency – the ratio of carbon dioxide emissions to GVA at current prices.</li> </ul>	<ul style="list-style-type: none"> <li>Number of waste infrastructure sites built in urban areas.</li> <li>Number of green jobs created in the waste sector (non-disposal).</li> <li>Number of accidents at waste infrastructure sites.</li> <li>Infant mortality Infant, neonatal and perinatal deaths, Wales (year).</li> <li>Life expectancy male/female.</li> <li>Serious Acquisitive Crime in Wales.</li> <li>Household Crime in Wales.</li> <li>Percentage of respondents feeling safe in the local area in Wales.</li> </ul>	<p>industries.</p>	<ul style="list-style-type: none"> <li>perinatal deaths, Wales (year).</li> <li>Life expectancy male/female.</li> <li>Crime - Police recorded crime and British Crime Survey figures.</li> <li>Welsh Index of Multiple Deprivation.</li> <li>Workless households - working age.</li> <li>Childhood poverty.</li> <li>Pensioner poverty.</li> <li>Average household costs and breakdown of average low income household expenditure.</li> <li>Food waste diverted from landfill.</li> <li>Obesity.</li> <li>Health and Safety</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<ul style="list-style-type: none"> <li>• Serious Acquisitive Crime in Wales,</li> <li>• Household Crime in Wales.</li> <li>• Internal Migration Data.</li> <li>• Migration between Wales and the rest of the UK.</li> <li>• Number of companies over 50 employees involved in sustainable food clusters.</li> <li>• Number of Health and Safety incidents in the waste industry.</li> <li>• Percentage of food waste diverted from landfill.</li> <li>• Obesity level.</li> </ul>		incidents in the waste industry.

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
<p><b>Civic engagement</b> To increase civic engagement in sustainable waste practice.</p>	<ul style="list-style-type: none"> <li>• Benefit dependency -the percentage of people of working age on key benefits.</li> <li>• Outcomes generated by relevant third sector organisations.</li> <li>• Progress on green jobs, skills and training through the Green Jobs Strategy.</li> <li>• Employment - percentage of people of working age in work.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of rights of way which are easy to use in Wales.</li> <li>• Percentage of households where the time taken to reach local facilities on foot or by public transport is 15 minutes or less (access to key services).</li> <li>• Percentage of respondents volunteering in Wales in last three years.</li> <li>• Average SAP ratings for dwellings.</li> <li>• Percentage of Key Stages 1, 2 and 3 assessments in Welsh first language.</li> </ul>	<ul style="list-style-type: none"> <li>• To raise awareness and understanding of sustainable waste strategy, objectives and management;</li> <li>• To increase participation in more sustainable waste practice for all members of society, including socially disadvantaged groups and the poor;</li> <li>• To increase accessibility to sustainable waste facilities and infrastructure and tackle physical and social barriers to engagement;</li> <li>• To support and</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 30a: Percentage of people whose main mode of travel to work is a) walking b) cycling.</li> <li>• Indicator 29a: Percentage of total length of footpaths and other rights of way which were easy to use by the public.</li> <li>• Indicator 24c: Percentage of people volunteering formally or informally at least once over the last 3 years.</li> <li>• Indicator 24b: Percentage of people who feel safe in the local area - from Living in Wales Survey.</li> <li>• Welsh language -</li> </ul>

Objective	Sustainable Development Indicators (TZW)	Baseline / Trend Indicators	Sub-objectives	Potential Indicators to Monitor the Effect of the Waste Prevention Plan
		<ul style="list-style-type: none"> <li>• Key Stage 2 results by subject (LEA, year, gender, level) NS.</li> <li>• Percentage of adults aged 19-21 qualified to National Qualification Framework level 2.</li> <li>• Qualification levels of working age adults by NQF level, local authority and NUTS2 area (gender, year) NS.</li> <li>• Households Below Average Income NS.</li> <li>• Workless households - working age.</li> </ul>	<p>provide opportunities for volunteering in the waste and recycling industries;</p> <ul style="list-style-type: none"> <li>• To ensure all promotional literature is published in Welsh as well as English where appropriate;</li> <li>• To provide community facilities including visitor and educational centres.</li> </ul>	<p>end of Key Stages 1, 2 and 3 teacher assessments in the subject of Welsh first language.</p> <ul style="list-style-type: none"> <li>• Housing - average energy efficiency (SAP rating).</li> <li>• Welsh language - end of Key Stages 1, 2 and 3 teacher assessments in the subject of Welsh first language.</li> </ul>