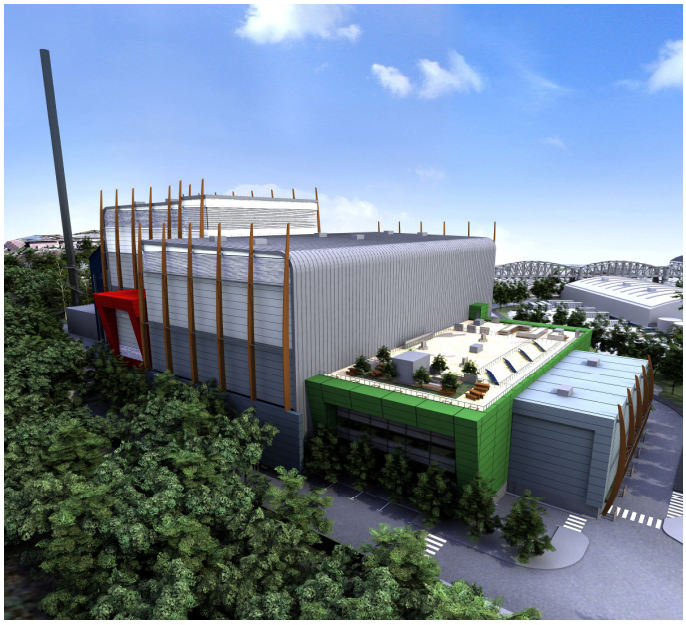
MVV Environment Devonport Ltd Energy from Waste Combined Heat and Power Facility

North Yard, Devonport

Climate Change and Sustainability Statement

May 2011



Prepared for

MVV Environment Devonport Ltd

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1 Introduction

1.1 Purpose of this Supporting Statement

1.1.1 This Climate Change and Sustainability Statement (CCSS) forms part of an application for planning permission by MVV Devonport Environmental Limited (MVV) for the construction and operation of an Energy from Waste Combined Heat and Power Facility (EfW CHP Facility) on land currently situated in the north east of Her Majesty's Naval Base (HMNB) Devonport, Plymouth. This CCSS has been prepared by URS/Scott Wilson Limited on behalf of MVV.

1.1.2 This CCSS addresses the requirements of Policy W8: Considerations for Waste Development Proposals of the Adopted Plymouth Waste Development Plan Document (DPD), which states (at Clause 12) that all major applications for waste management facilities should include a CCSS. The suggested content of the CCSS is set out in the Adopted Design Supplementary Planning Document (SPD) for Plymouth. In accordance with this policy, this statement addresses the sustainability and climate change issues set out in Chapter 3 and Chapter 10 of the Sustainable Design in Plymouth SPD (Adopted 2009) (hereafter the Design SPD). Other design issues set out in the Design SPD are addressed in the Design and Access Statement (DAS) which accompanies this application.

1.1.3 This CCSS introduces the sustainable development policy context which is relevant to this application at the national, regional and local level. It provides an analysis of the compatibility of the proposed EfW development with this policy context. In particular it examines in detail the fit between the proposed development and sustainable development policies in the Plymouth Local Development Framework, including addressing the questions on sustainable development and climate change set out in the Sustainable Design in Plymouth SPD.

1.1.4 This CCSS is supported by a BREEAM pre-assessment document (Appendix 1) and a WRATE analysis (Appendix 2).

1.1.5 The purpose of this Supporting Statement is to provide the Waste Planning Authority with a summary of the main sustainability credentials of the development. Much of the detail required by the Waste Planning Authority is contained in the appendices to the Planning Supporting Statement, and in the accompanying Environmental Statement (ES) and DAS. Duplication of information between documents has been deliberately minimised. Consequently, this CCSS should be read in conjunction with these documents and is appropriately cross referenced throughout.

Definition of Sustainable Development

1.1.6 Sustainability of the development has been considered in reference to the definition of sustainable development set out in the UK Sustainable Development Strategy 'Securing the Future' (2005):

"to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations".

The Strategy identifies five guiding national principles for a sustainable future, which are defined as:

- Living within environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

1.1.7 Four priorities are also identified, namely:

- Sustainable production and consumption;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities.

1.1.8 The CCSS is structured as follows:

Section 1: Introduction;

Section 2: Review of national and regional policy on sustainable development and the compatibility of the proposed development with this policy context;

Section 3: Assessment of the proposed development against 'sustainable development' policy in the Plymouth Local Development Framework;

Section 4: Detailed assessment of the proposed development against Chapter 2 and 10 of the Adopted Plymouth Design SPD;

Section 5: Conclusions.

2 Review of National and Regional Policy on Sustainable Development

2.1 Introduction

2.1.1 The Planning Application Supporting Statement (PASS) provides a detailed assessment of the compliance of the proposed EfW development with planning policy, including the relevant waste management policy framework. The purpose of this review is to briefly highlight the sustainable development policy context that is relevant to the scheme at the national and regional level, demonstrating the compatibility of the proposed development, before considering in detail compliance with the sustainable development policies of the Local Development Framework (Section 3 of this Statement) and specifically, the Sustainable Design in Plymouth SPD (Section 4 of this Statement). There is inevitably some duplication of policy assessment between this Statement and the PASS, but this has deliberately been kept to a minimum. Where relevant, specific policies have been referenced.

2.2 National Policy

2.2.1 The following national policy statements, strategies and guidance set out the government's position on sustainable development as it relates to waste management.

The Government's White Paper – "Securing the Future" (2005)

2.2.2 The UK Government, Scottish Executive, Welsh Assembly Government and the Northern Ireland Administration agreed a set of shared guiding principles that provide the basis for sustainable development policy in the UK. The four priority areas for immediate action are:

- Sustainable Consumption and Production;
- Climate Change and Energy;
- Natural Resource Protection and Environmental Enhancement; and
- Sustainable Communities.

2.2.3 These priority areas are reflected in the national and regional sustainability guidance and policy which has emerged since the publication of this white paper. European policy on responding to climate change is generally enacted in the UK through legislation and is incorporated in the policy documents listed below:

- Regional Energy Strategy for the South West 2003-2010;
- The South West Climate Change Action Plan for the South West 2008 – 2010;
- Plymouth City Council "Sustainable Design - Supplementary Planning Document" (adopted 6 July 2009).

Waste Strategy for England (2007)

2.2.4 Chapter 1 of the Waste Strategy for England opens with the statement (paragraph 1) that we are "*living beyond our environmental means*" and that we need to reduce our consumption of natural resources so that it is within the environmental limits of the planet's ecosystems. This is vital to the *"survival, health and prosperity of future generations".* The most crucial threat from exceeding environmental limits is dangerous climate change (paragraph 2).

2.2.5 The overall objective for waste policy in "securing the future" is stated (at paragraph 20) as follows:

"Protection of human health and the environment by producing less waste and by using it as a resource wherever possible. Through more sustainable waste management – reduction, re-use, recycling, composting and using waste as a source of energy – the Government aims to break the link between economic growth and the environmental impact of waste".

2.2.6 This approach – to make better use of resources – is encapsulated in the waste hierarchy: prevent, re-use, recycle, recover and disposal. Better management of waste can contribute to:

- Reducing greenhouse gases – notably methane from landfill sites but also carbon dioxide emission (through re-use and recycling);
- Improving resource efficiency – saving energy and reducing material use through waste prevention, re-use, recycling and renewable energy recovery (paragraph 4);

2.2.7 Disposal of biodegradable waste to landfill results in emissions of methane, a powerful greenhouse gas which adds to global warming (currently about 3% of UK emissions). Alternatively, recycling waste and recovery of energy from it can preserve virgin materials and reduce the use of fossil fuels (so reducing greenhouse gas emissions) (paragraph 5). By further reducing landfill and increasing the amount of waste that is recycled, composted or has energy recovered, there is considerable scope for reducing greenhouse gas emissions from the waste we produce (paragraph 7).

2.2.8 The strategy focuses on encouraging much greater consideration of waste as a resource through increased emphasis on re-use, recycling and recovery of energy from waste and aims to stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered (paragraph 19).

2.2.9 The development proposals will contribute to the stated objectives of the Waste Strategy for England. The proposed EfW CHP facility will help to reduce greenhouse gas emissions by diverting residual waste from landfill, generate low carbon electricity and heat through waste recovery, and recycle/reuse materials including bottom ash, waste metals and its own construction waste. Evidence of compatibility with the Waste Strategy for England can be found in: PASS, EEEEBS and ES chapter 3 and 5.

2.2.10 Overarching national planning policy on sustainable development is contained in Planning Policy Statement 1, Delivering Sustainable Development (2005) (PPS1). Other national planning policy is generally presented in topic-specific Planning Policy Statements and those most relevant to climate change and sustainability are set out below.

Planning Policy Statement (PPS) 1: Delivering Sustainable Development (January 2005)

2.2.11 PPS1 sets out the government's objectives for the planning system and national planning policies, including key principles. The objectives of sustainable development are set out at paragraph 5 of the PPS:

Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:

- *making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;*
- *contributing to sustainable economic development;*
- *protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;*
- *ensuring high quality development through good and inclusive design, and the efficient use of resources; and,*
- *ensuring that development supports existing communities and contributes to the creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community.*

2.2.12 The key principles are aimed at the delivery of sustainable development, including addressing the causes of climate change. Of specific relevance to this planning application are the following national planning policy principles (PPS1, paragraph 13):

- *"(i)….development plans promote outcomes in which environmental, economic and social objectives are achieved together over time."*
- *"(ii)….development plans contribute to global sustainability by addressing the causes and potential impacts of climate change – through policies which …..promote the development of renewable energy resources and take climate change impacts into account in the location and design of development."*

2.2.13 PPS1 also includes policies to secure sustainable economic development. In particular PPS1, states that (paragraph 3):

(Planning Authorities should) "Recognise the wider sub-regional, regional or national benefits of economic development and consider these alongside any adverse local impacts."

2.2.14 The proposed MVV EfW CHP facility contributes to global sustainable development objectives by mitigating the climate change impacts of waste disposal by diversion of waste from landfill, using this waste as a resource to generate renewable energy and heat and realising the potential of vacant and underused previously developed land in the process. The proposals address global as well as local sustainability objectives: by contributing to the wellbeing of local communities through the provision and/or improvement of local facilities; a high standard of

sustainable design and landscaping; supporting the local economy and providing local employment opportunities; and by making enhancements to the local environment.

2.2.15 Evidence of compatibility with sustainability policy can be found in: PASS, D&AS, EEEEBS and ES Chapter 17.

PPS1 Supplement – Planning and Climate Change (December 2007)

2.2.16 The PPS1 supplement on climate change states that the government's main objectives are to deliver sustainable development and ensure that spatial planning policies include a full and appropriate response to climate change - through providing for the needs of communities in a manner which secures the highest viable resource and energy efficiency and reduction in emissions and securing new development that minimise vulnerability and provides resilience to climate change (paragraph 9).

2.2.17 Paragraph 10 of PPS1 supplement on climate change sets out decision making principles, including planning for new development to limit carbon dioxide emissions, make good use of opportunities for decentralised and renewable or low carbon energy, minimise future vulnerability and integrate climate change considerations into all spatial planning concerns. Paragraph 20 requires that local planning authorities should:

"ensure any local approach to protecting landscape and townscape is consistent with PPS22 and does not preclude the supply of any type of renewable energy other than in the most exceptional circumstances".

2.2.18 When considering the environmental performance of proposed development, planning authorities should expect new development to (PPS1 Supplement, paragraph 42):

- *comply with adopted DPD policies … for sustainable buildings…;*
- *take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption… and…be planned so as to minimise carbon dioxide emissions through giving careful consideration as to how all aspects of development… support opportunities for decentralised and renewable or low-carbon energy supply;*
- *provide …private open space as appropriate so that it offers accessible choice of shade and shelter, recognising the opportunities for flood storage, wildlife and people provided by multifunctional greenspaces;*
- *give priority to the use of sustainable drainage systems, …and encourage layouts that accommodate waste water recycling;*
- *provide for sustainable waste management; and*
- *create and secure opportunities for sustainable transport … including through –…travel plans,…safe and attractive walking and cycling opportunities including…secure cycle parking and changing facilities; and …provision and management of car parking.*

2.2.19 In addition, planning authorities should also consider the likely impact of proposed development on existing, or other proposed, development, and its renewable or low-carbon energy supply (paragraph 43).

2.2.20 In providing for the waste management infrastructure necessary for managing the residual waste generated by the communities of Plymouth City, Torbay, West Devon, Teignbridge and

South Hams, the MVV EfW CHP facility secures the highest viable resource and energy efficiency and a substantial reduction in greenhouse gas emissions. By recovering energy from waste at a sufficiently high level of efficiency the facility will generate renewable energy and minimise carbon dioxide from fossil fuel sources associated with the current and future operation of the Naval Base and Dockyard.

2.2.21 In accordance with paragraphs 10 and 42 of the supplement, the development will make excellent use of opportunities for renewable or low carbon energy, by exploiting a unique opportunity to deliver CHP by linking into an existing heat distribution network. The unique deliverability benefits that the North Yard site offers, demonstrates careful consideration of how this development can support and exploit future opportunities for renewable or low-carbon energy supply, generated by future growth and diversification of the Dockyard and Naval Base.

2.2.22 With respect to paragraph 20 of the supplement, the high quality design and landscape strategy will achieve an excellent level of design which pays due respect to local landscape and townscape considerations.

2.2.23 The design achieves an excellent rating in terms of its sustainable design and construction credentials (BREEAM Pre-Assessment) and qualifies as a Good Quality CHP scheme. Process systems and building design minimise water consumption, prioritise sustainable drainage systems and address flood mitigation and protection of coastal ecosystems. Sustainable transport objectives are achieved through secure cycle parking and changing facilities, accessibility to the local public transport network and a green travel plan.

2.2.24 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, D&AS, and EEEEBS and ES Chapter 3.

Planning Policy Statement (PPS) 4: Planning for Sustainable Economic Growth (December 2009)

2.2.25 Policy EC2: Planning for Sustainable Economic Growth seeks to make the most efficient and effective use of land, prioritising previously developed land which is suitable for re-use and, reflecting the different location requirements of businesses, including site size, quality, access and proximity to markets, and locally available workforce.

2.2.26 It also seeks to locate developments which generate substantial transport movements in locations that are accessible (including by rail and water transport where feasible), avoiding congestion and preserving local amenity as far as possible.

2.2.27 Policy EC10: Determining planning applications for economic development states that all planning applications for economic development should be assessed in terms of their ability to limit carbon dioxide emissions and minimise vulnerability to climate change.

2.2.28 The proposed development has been assessed as having a beneficial impact on Plymouth and the South West's economies, through a range of positive effects including the generation of new employment (total net additional employment estimated at 265 jobs per year), supply chain benefits on the Plymouth economy, increased local income, cost savings to businesses, households and the MoD through operational savings and reduction in carbon dioxide emissions, and contributions to wider carbon saving targets at the regional and national level. The proposed development will also have beneficial impacts on employment by bringing a disused site back into operation which is well located in terms of proximity to the market (for

heat and electricity) and the locally available workforce. The use will intensify employment numbers on the site relative to the last existing use and has good access to the principal road network.

2.2.29 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS, Transport Assessment and ES.

Planning Policy Statement (PPS) 10, Planning for Sustainable Waste Management (March 2011)

2.2.30 The PPS forms part of the policy framework for England on waste management. The overall objective of Government policy on waste is to "*protect human health and the environment by producing less waste and by using it as a resource wherever possible"* (paragraph1). PPS10 states that planning authorities should help deliver sustainable development by driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for (paragraph 3). Emphasis is placed on the need for positive planning to achieve sustainable waste management (paragraph 2) "…*by providing sufficient opportunities for new waste management facilities of the right type, in the right place and at the right time".*

2.2.31 The statement identifies that waste management should be considered alongside other spatial planning concerns, such as transport, housing, economic growth, natural resources and regeneration, and the positive contribution that waste management can make to the development of sustainable communities should be recognised (paragraph 4). When identifying potential sites for waste management facilities, PPS10 recommends that Waste Planning Authorities (WPAs) should consider a broad range of locations including industrial sites, looking for opportunities to co-locate facilities together and with complementary activities (paragraph 20) and give priority to the use of previously developed land (paragraph 21 (ii)). PPS10 also states that planning applications for waste developments on sites that have not been allocated for waste use in the development plan should be considered favourably when consistent with the policies in PPS10 including the criteria set out at paragraph 21 of the PPS and the waste planning authority's Core Strategy (paragraph 24). Paragraph 25 states that in the case of waste disposal facilities, applicants should be able to demonstrate that the envisaged facility will not undermine the waste planning strategy through prejudicing movement up the waste hierarchy.

2.2.32 The MVV EfW CHP facility contributes to the objectives set out in PPS10 by moving waste management up the waste hierarchy, helping to implement national and regional targets for diversion of waste from landfill. The facility will deal with residual waste only, and therefore will not prejudice movement of waste up the waste hierarchy. The site location enables waste disposal in one of the nearest appropriate installations to the South West Devon communities it will serve, is a suitable use of previously developed industrial land, and provides the opportunity to locate with complementary activities, in terms of finding a viable customer for the heat and electricity generated by the facility. Although not located on a site allocated for waste use in the development plan, the proposals are consistent with the policies in PPS10 and the Plymouth Core Strategy, as is further demonstrated below.

2.2.33 The proposals recognise the positive contribution that waste management can make to the development of sustainable communities (paragraph 4.), not only by managing waste in a sustainable way, but by providing a major boost to both the local community and the economy, through provision of community resources such as the visitor/education facility and roof terrace, improvements to local biodiversity, improvement of informal open space and the provision of local employment, business and training opportunities.

2.2.34 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, D&AS, EEEEBS and ES Chapters 3 and 5.

Planning Policy Statement (PPS) 22, Renewable Energy (August 2004)

2.2.35 Increased development of renewable energy resources is identified as vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy. Positive planning which facilitates renewable energy developments is seen as contributing to all four elements of the Government's sustainable development strategy (pg 6, The Governments Objectives):

- social progress which recognises the needs of everyone – by contributing to the nation's energy needs;
- effective protection of the environment – by reductions in emissions of greenhouse gases and thereby reducing the potential for the environment to be affected by climate change;
- prudent use of natural resources – by reducing the nation's reliance on ever diminishing supplies of fossil fuels; and,
- maintenance of high and stable levels of economic growth and employment – through the creation of jobs directly related to renewable energy developments, but also in the development of new technologies.

2.2.36 The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission (paragraph 1.iv). Development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful consideration of location, scale, design and other measures (paragraph 1.viii).

2.2.37 The MVV EfW CHP generates renewable energy and heat as a result of recovery of energy from waste, contributing to the nation's energy needs and reducing greenhouse gas emissions arising from disposal to landfill, and the use of natural gas/oil in the Naval Base heating system. This represents a prudent use of resources, reducing reliance on fossil fuels and creating direct local and sub-regional benefits by contributing to economic growth and employment. These wider benefits of renewable energy generation are set alongside a number of measures to minimise local impacts of the development, including careful orientation of buildings on site, a high standard of design and comprehensive landscaping scheme.

2.2.38 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, D&AS, EEEEBS and the ES.

The Localism Bill

2.2.39 The Decentralisation and Localism Bill (published 14 December 2010) (The Localism Bill) contains wide-reaching reforms of the planning system in England. The programme for progress of the Localism Bill to receipt of Royal Assent, and the content of the Act, is uncertain at the time of the submission of this planning application. The content of the Localism Bill, and of a number of ministerial statements issued in relation to the Localism Bill and consequent revisions to the planning system, is an important guide to the direction of national planning policy and the likely content of the proposed National Planning Policy Framework (NPPF), which is expected to include a new definition of sustainable development and to be finalised by the end of 2011. The Localism Bill is a material consideration for this planning application.

2.2.40 On 23 March 2011, the government published 'The Plan for Growth' (HM Treasury/Department for Business, Innovation and Skills) alongside its budget. At paragraph 1.34, The Plan for Growth lists "*a powerful new presumption in favour of sustainable development, so that the default answer to development is 'yes'*" as one of its intended "*radical and fundamental*" reforms of the planning system. At paragraph 2.14, The Plan for Growth notes that *"The Government's top priority in introducing the NPPF will be to support long-term sustainable economic growth."*

2.2.41 The Decentralisation Minister's statement is wide-ranging and the following extracts are of particular relevance to this assessment.

"Government's clear expectation is that the answer to development and growth should wherever possible by 'yes', except where this would compromise the key sustainable development principles set out in national planning policy."

"When deciding whether to grant planning permission, local planning authorities should support enterprise and facilitate housing, economic and other forms of sustainable development. Where relevant - and consistent with their statutory obligations - they should therefore:

(i) consider fully the importance of national planning policies aimed at fostering economic growth and employment, given the need to ensure a return to robust growth after the recent recession…….

(iii) consider the range of likely economic, environmental and social benefits of proposals; including long term or indirect benefits such as increased consumer choice, more viable communities and more robust local economies (which may, where relevant, include matters such as job creation and business productivity)".

"In determining planning applications, local planning authorities are obliged to have regard to all relevant considerations. They should ensure that they give appropriate weight to the need to support economic recovery, that applications that secure sustainable growth are treated favourably (consistent with policy in PPS4), and that they can give clear reasons for their decisions."

"The Secretary of State for Communities and Local Government will take the principles in this statement into account when determining applications that come before him for decision. In particular he will attach significant weight to the need to secure economic growth and employment."

2.2.42 Further, in a recent public statement (address to CPRE, March 2011) Energy and Climate Change Secretary stated "*landscape change is inevitable in the battle against climate change*" and in relation to the security and affordability of electricity supplies, *"Sometimes, national need will mean we have to sit down and take a tough decision about local impacts".*

2.2.43 From this brief analysis of the Localism Bill and the likely implications for planning decisions, it is apparent that, because of the programme towards Royal Assent and the programme for the adoption of the NPPF, considerable weight should be given in the determination of this planning application to the contents of the Bill, the NPFF, the Strategy for Growth and the relevant ministerial statements.

2.2.44 It is also abundantly clear that great weight should be given to the delivery of sustainable development objectives when determining planning applications and, in circumstances where development proposals are in accordance with sustainable development principles established in national policy, the sustainable development benefits of development proposals may need to outweigh limited local impacts caused by the development.

2.2.45 The above analysis demonstrates that the proposed EfW CHP Facility is fully in accordance with national sustainable development policy and this position should be given significant weight when determining this planning application against local development plan policy.

2.3 Regional Policy

2.3.1 The following regional policy statements, strategies and guidance set out the South West context on sustainable development as it relates to waste management and this development.

Regional Energy Strategy for the South West 2003-2010

2.3.2 The Regional Energy Strategy aims to ensure a sustainable, secure and affordable supply of energy for everyone in the region. It also aims to improve energy efficiency and increase use of renewable energy and was prepared as the regional response to the Government's Energy White Paper.

2.3.3 The strategy identifies three areas where a regional focus is required:

- Deploying renewable energy on the ground;
- Developing skills and awareness; and
- Building the South West renewable energy industry.

2.3.4 The development proposals contribute to the deployment of renewable energy on the ground, developing skills and awareness (through important on-site educational resources, visitor facilities and apprenticeship schemes in associated with local colleges) and to building up the South West renewable energy industry.

2.3.5 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS and ES Chapters 17.

The South West Climate Change Action Plan for the South West 2008 – 2010

2.3.6 The South West Climate Change Action Plan covers mitigation and adaptation activity, specific to the South West, which needs to take place at the regional level. One of the major challenges facing the region is to balance the need for continued growth (the population is forecast to increase by 750,000 in the next 20 years) with a regional aspiration to make a significant reduction in carbon emissions. The highest priority objectives for 2008-2010 relating to adaptation activity relevant to this development were as follows:

- (2.) Increase business preparation for the opportunities and risks of climate change.

2.3.7 And relevant mitigation priorities to reduce CO_2 emissions were:

- (2.) Embed long term carbon management and resource efficiency in business planning and investment and economic development.
- (3.) Incorporate carbon reduction as a requirement of public sector investment decisions and procurement.
- (5.) Stimulate the increased installation of renewable energy technologies in the region.

- (6). Provide support and coordination of activity to achieve low and zero carbon new development by 2016 (housing) and 2019 (non domestic sector).

2.3.8 The development proposals help to embed long term carbon management and resource efficiency into the local economy, demonstrate carbon savings for the SWDWP procurement of residual waste contract and provide potential to assist with future low carbon development through connection to CHP.

2.3.9 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS and WRATE and BREEAM analysis.

Regional Planning Guidance for the South West (RPG 10)

2.3.10 RPG10 was published in 2001. It provided a regional spatial strategy under which local authority development plans in the South West were to be prepared. Although it remains part of the development plan, RPG10 is now approximately 10 years old and therefore pre-dates the publication of the UK Sustainable Development Strategy 'Securing the Future' (2005) and PPS 1 Delivering Sustainable Development.

2.3.11 Policy VIS1 expresses the vision of RPG10, which is to promote a sustainable development pattern and set out a sequential approach to the location of development, seeking the development of suitable previously developed urban land as a first priority for urban-related land uses, reducing the need to travel and concentrating growth at the principal urban areas.

2.3.12 The proposed development is in accordance with policy VIS1, as the EfW CHP facility will be located primarily on previously developed land; within Plymouth (a PUA), where the largest amount of waste arises - minimising the distance that waste is required to travel and reducing the need to develop on greenfield land.

2.3.13 Policy RE5: Management and Transportation of Waste states that in order to achieve sustainable waste management in the region, a mix of waste recovery methods should be sought, to reduce reliance on landfill and to pursue the recovery of value from 67% of municipal waste by 2015. Priority should be given to the provision of waste management facilities that will recover value from waste at or near the principal urban areas, addressing the requirements of the primary urban area concerned and its neighbouring county areas.

2.3.14 The proposed development will be in accordance with and support the objectives of Policy RE5 as it will provide a sub-regional facility to recover energy (in the form of electricity and heat) from residual municipal waste. The proposed development will not compromise efforts to achieve or surpass recycling and composting targets and will also make a substantial contribution to the targets for diverting waste from landfill and recovering value from waste within the PUAs at the regional level.

2.3.15 Policy RE6: Energy Generation and Use, sets targets for the reduction in greenhouse gas emissions and renewable energy generation, and encourages greater use of renewable sources of energy such as Combined Heat and Power (CHP). This policy seeks sustainable energy production in order to help minimise the environmental impact of energy generation and address the causes of climate change.

2.3.16 The proposed development will help to reduce greenhouse gas emissions by diverting waste from landfill, reducing the distance it is necessary for waste to travel for disposal and displacing high carbon sources of electricity. The proposed CHP facility will generate low carbon electricity and is a unique opportunity to provide heat to the existing Devonport Naval Base steam system. The proposed development will therefore make a positive contribution to achieving the objectives set out by Policy RE 6.

The Draft Revised Regional Spatial Strategy for the South West (RSS) incorporating the Secretary of State's Proposed Changes (Published July 2008)

2.3.17 Policies SD1 to SD4 of the Draft Revised RSS are high level sustainable development policies that set the broad sustainability context for the RSS. From these policies is derived the regional and sub-regional expression of sustainable development in spatial policy and development terms. The four policies cover the themes of sustainable consumption and production - resolving the tension between further population and economic growth and the imperative to decouple growth and CO_2 emissions. Energy consumption is a significant contributor to the region's eco-footprint and the RSS recognises that reducing the level of demand for energy through improving energy efficiency is a major challenge, as is the development of more renewable energy sources in the region. The RSS provides targets and policy guidance to increase the supply of renewable energy. Currently, only about 3% of the region's electricity requirements are generated from renewable sources, compared to a national target of 20% by 2020.

2.3.18 **Policy SD1 The Ecological Footprint** states that the region's Ecological Footprint will be stabilised and then reduced by reducing the consumption of key resources such as energy, water and minerals; building a sustainable, low carbon and low resource consuming economy which can be secured within environmental limits; minimising the need to travel and securing a shift to use of more sustainable modes of travel by effective planning of future development; and meeting national and regional targets relating to renewable energy, resource consumption/extraction and waste production/recycling.

2.3.19 The proposed development will respect environmental limits and will make a positive contribution to the creation of a sustainable, low carbon economy, consistent with Policy SD1, through:

- reducing the consumption of key resources including water (through recycling of waste water) and minerals (bottom ash will be recycled as a construction aggregate and waste metals will be recycled);
- implementing sustainable design and construction principles and achieving a BREEAM rating of 'Excellent';
- managing waste close to where it arises, thereby reducing the distances waste is required to travel;
- reducing reliance on the private car for commuting, by providing secure cycle parking facilities; and

- recovery of electricity and heat from residual municipal waste, generating low carbon renewable energy and contributing to national and regional renewable energy targets.

2.3.20 **Policy SD2 Climate Change** aims to reduce greenhouse gas emissions at least in line with the current national targets, i.e. by of 30% by 2026 (compared to 1990 levels), as part of a longer term reduction of 60% by 2050. Adaptation measures include avoiding the need for development in flood risk areas and incorporating measures in design and construction to reduce the effects of flooding.

2.3.21 The proposed development will contribute to the reduction of greenhouse gas emissions by diverting residual waste from landfill and by generating low carbon electricity and heat, reducing reliance on high-carbon alternatives. The development proposals have also taken full consideration of the identified flood risk and appropriate mitigations have been made, including addressing the impacts of climate change (for example by raising site levels), as outlined in ES Chapter 11 Hydrology, Hydrogeology and Flood Risk.

2.3.22 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS, WRATE and BREEAM analysis.

2.3.23 **SD3 The Environment and Natural Resources** requires these resources to be protected and enhanced by ensuring that development respects landscape and ecological thresholds; reducing the environmental impact of the economy, transport and development; positive planning, taking a holistic landscape or ecosystem scale approach, to reduce pollution and contamination, maintain tranquillity, enhance local character and contribute to regional biodiversity targets through the restoration, creation, improvement and management of habitats.

2.3.24 The proposed development has been designed to take account of its surroundings and minimise impact on the historic and natural landscape and associated environmental features. The design evolution and principles in this respect are explained in the accompanying Design and Access Statement (PASS Appendix 1). Extensive mitigation measures (as set out in Chapter 10 and 11 of the Environmental Statement) will ensure there is no risk of pollution or contamination arising from the development. Proposals to improve and restore local habitats (Blackie's Wood, adjacent watercourse) are included as part of the development and described in Chapter 7 of the Environmental Statement and in the DAS.

2.3.25 Finally, **SD4 Sustainable Communities** states that growth and development will be planned for and managed positively to create and maintain Sustainable Communities throughout the region, by making best use of existing infrastructure and ensuring that supporting infrastructure is delivered in step with development; encouraging business activity, including through promoting regional sourcing; supporting social and economic progress by enhancing education, skills development and training; and linking the provision of homes, jobs and services so that cities have the potential to become more self contained and the need to travel is reduced.

2.3.26 The MVV EfW CHP proposals will make best use of existing infrastructure (Naval Base Steam System), contribute to enhancing education, skills development and training - through the provision of visitor education facilities and apprenticeships for local people, contribute to the local economy through direct employment and positive multiplier effects on the local economy,

including supporting the sustainable development of the Dockyard, and help to meet the needs of Plymouth city (and the SWDWMP), allowing it to become more self-contained and reducing the distance that waste will travel to be managed. The development proposals are therefore consistent with policy SD4.

2.3.27 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS and ES Chapter 17.

Note on the Status of Regional Spatial Strategies

2.3.28 The revocation of regional spatial strategies was announced by the Conservative/Liberal Democrat government on 6 July 2010. On 10th November 2010 Mr Justice Sales ruled in the case of Cala Homes (South) Ltd v Secretary of State for Communities and Local Government that the Secretary of State was not entitled to use the discretionary power to revoke regional strategies contained in s 79(6) of the Local Democracy, Economic Development and Construction Act 2009 to effect the practical abrogation of the regional strategies as a complete tier of planning policy guidance.

2.3.29 However, a further High Court judgement has ruled that the Government's intended abolition of regional strategies can be taken into account by planning authorities as a material consideration when making planning decisions and that it is for the decision maker to decide the appropriate weight to attach to Regional Strategies, depending on individual circumstances.

2.3.30 Given that the Regional Spatial Strategy for the South West (Draft RSS) has not yet been adopted, the 'Regional Planning Guidance for the South West' (RPG10) (2001) remains the current Regional Strategy and forms part of the statutory development plan. The Draft RSS underwent Examination in Public in 2007 and was submitted to the Secretary of State in January 2008. As a result of the Secretary of State's proposed changes to the Draft RSS it was announced that further Sustainability Appraisal (SA) work was required. The Draft RSS has not yet been adopted following the SA work, and given the current situation with regard to regional planning, looks unlikely that it will ever be formally adopted. The Draft RSS therefore forms part of the emerging development plan and is a material consideration in development control decisions.

2.3.31 In the case of this planning application, it will be for the Local Planning Authority to determine the weight given to Regional Spatial Strategy policy, but in the medium to longer term, assuming that Regional Strategies are abolished (in accordance with Clause 89 of the Localism Bill) the evidence base that informed the preparation of the Regional Spatial Strategy is still likely to be a material consideration in the determination of planning applications, until fresh evidence is produced and tested. The current and likely future status of the Regional Spatial Strategy has been taken into consideration in the preparation of this CCSS.

3 Consideration of the development against Local Development Framework policy on 'sustainable development'

3.1.1 The following section sets out an assessment of the sustainability credentials of the MVV EfW CHP development when considered against Local Development Framework policies on 'sustainable development'. The relevant elements of the Local Development Framework for the application site include the following documents:

- Plymouth Core Strategy 2006-2021 (adopted April 2007);
- Plymouth Waste Development Plan Document 2006-2021 (adopted 2008).
- The Draft Revised Regional Spatial Strategy for the South West Incorporating the Secretary of State's Proposed Changes – for Public Consultation July 2008.
- Sustainable Neighbourhoods (including Key Site Allocations) Issues and Preferred Options Development Plan Document – Plymouth City
- Sustainable Design in Plymouth - Supplementary Planning Document (Adopted 2009)

The Plymouth Core Strategy (2006-2021) (Adopted April 2007)

3.1.2 The Adopted Plymouth Core Strategy sets out the overarching principles for development in Plymouth to 2021. Paragraph 1.20 opens with the statement that sustainable development is at the heart of Plymouth's planning agenda. The vision is for sustainable growth, which moves towards carbon neutrality, reducing the city's eco-footprint and helping to respond to the key drivers of climate change (energy use, waste and transport). It also stresses the importance of the concept of a series of sustainable linked communities providing the framework for growth.

3.1.3 Key sustainability references include Strategic Objective 1, which reiterates the importance of sustainable development for the growth agenda, Strategic Objectives 2 and 3 which highlight the role of sustainable linked communities, Strategic Objective 11 which refers to the delivery of a Sustainable Environment and Strategic Objective 13 which sets out sustainable approaches to waste matters. Policy CS34 ensures that sustainability and climate change issues will be considered for all individual planning applications. The Council has also signalled its intention to pro-actively use Supplementary Planning Documents – in particular the Design SPD and Planning Obligations SPD – to provide further guidance on delivering sustainable communities and tackling climate change.

3.1.4 Strategic Objective 1: sets Plymouth's strategic role within the South West Region firmly within the context of delivering 'Urban Renaissance' and 'sustainable linked communities' and promotes an overall planned pattern of development and constraint that:

- *Works towards carbon neutrality by minimising energy consumption, providing for renewable energy, reducing the need to travel and providing for a range of quality sustainable transport alternatives.*

- *Safeguards natural resources through limiting the use of greenfield sites, avoiding harming features of acknowledged importance and seeking new opportunities for enriching the city's biodiversity.*

3.1.5 The MVV EfW CHP facility will deliver a substantial contribution towards carbon neutrality, by minimising energy consumption from natural gas sources associated with the workings of the Devonport Dockyard and by reducing greenhouse gas emissions from disposal of waste to landfill. The facility will in addition, provide for renewable energy and heat for use by the Dockyard and and Her Majesty's Naval Base (HMNB) and energy for export to the grid. Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS, WRATE and BREEAM.

3.1.6 The development site is brownfield, which negates the need for a Greenfield site. The development proposals seek to enrich the city's biodiversity by seeking improvements to 'Blackie's Wood', an area identified as a Biodiversity Network Feature and Local Greenscape Area in the Local Development Framework. The development will take steps to safeguard natural resources such as the Tamar Estuary, through rigorous pollution control measures. The ES includes a comprehensive assessment of these matters.

3.1.7 Strategic Objective 3: Delivering Sustainable Linked Communities, states that sustainable linked communities will be developed by ensuring new development takes place where it can promote the effective and sustainable use of resources (including land and infrastructure), is fully accessible by good public transport, walking and cycling and other transport infrastructure both within and beyond the community, is safe, accessible and healthy, provides for urban cooling and well designed public and green spaces. The quality of public services and amenity provision should meet the needs of all of the community, including provision of education and training opportunities, health care, community facilities, leisure and recreation and a positive sense of place and identity should be created for each neighbourhood. The PASS and D&AS describe how the EfW CHP facility will be at the heart of a sustainable neighbourhood.

3.1.8 Policy **CS01 - Development of Sustainable Linked Communities** expresses the aims of Strategic Objective 2 and 3 in policy terms. The policy states that:

The Council will improve the sustainability of the individual communities and neighbourhoods in the city through allocating sites for development and considering proposals for development in terms of the extent to which they:

1. *Contribute to meeting the needs of the neighbourhood, helping to support a sustainable linked community.*

3. *Safeguard and capitalise on the local environment, including the need to deliver effective and sustainable use of resources.*

3.1.9 As well as the operational plant delivering the service requirements of the SWDWP contract, the development provides an important opportunity to improve the sustainability of the local neighbourhood (Barne Barton) within which it is located and of other nearby neighbourhoods. To meet identified local deficits, the community area/visitor centre proposed within the

development can be made available not only for educational purposes, but as a general community resource for meetings. The development also includes provision for improvements to an informal sports pitch/play area and to local biodiversity features (through management of and access to Blackie's Wood). These measures will improve the range of available community facilities, and address deficiencies in the quality of, and access to, open space. In addition, the facility will offer local opportunities for employment and business growth, helping to address the current isolation of the Barne Barton community from economic opportunity.

3.1.10 Strategic Objective 11 - Delivering a Sustainable Environment - aims to safeguard, enhance and promote access to Plymouth's green spaces and coastal environments that are of strategic importance in terms of defining the city's character, supporting biodiversity, recreation and other benefits, and similarly for those green spaces that are of importance to the creation of sustainable linked communities. Conservation and enhancement of biodiversity are other key aims, as is the reduction in consumption of non-renewable sources e.g. fossil fuels, land, soil, and minerals in line with national and regional targets. Renewable energy is promoted, as is addressing the causes and potential impacts of climate change, including managing flood risk in a sustainable manner.

3.1.11 **Policy CS20 Sustainable Resource Use,** puts these aspirations into policy terms:

The Council will actively promote development which utilises natural resources in as an efficient and sustainable a way as possible. This will include:

1. *Meeting high water efficiency standards and incorporating new technologies to recycle and conserve water resources.*

2. *Promoting the use of Sustainable Urban Drainage Schemes.*

3. *Requiring all proposals for non-residential developments exceeding 1,000 square metres of gross floorspace, and new residential developments comprising 10 or more units (whether new build or conversion) to incorporate onsite renewable energy production equipment to off-set at least 15% of predicted carbon emissions for the period 2010-2016.*

4. *Ensuring building design reduces energy consumption by appropriate methods such as high standards of insulation, avoiding development in areas subject to significant effects from shadow, wind and frost, using natural lighting and ventilation, capturing the sun's heat, where appropriate.*

5. *Supporting development that minimises the consumption and extraction of minerals by making the greatest possible reuse or recycling of materials in new construction, and by making best use of existing buildings and infrastructure.*

6. *Supporting development that seeks to minimise waste and facilitates recycling.*

7. *Ensuring that development and land use in the 'coastal zone' responds appropriately to the character of the particular type of coast, in the interests of preserving and making best use of this limited resource.*

3.1.12 The MVV EfW CHP Facility is a unique opportunity to deliver Combined Heat and Power (CHP) technology. The combustion of waste will produce heat, which will be used to generate steam to drive a turbine, and generate renewable electricity for use at the facility, to supply Devonport Dockyard and Her Majesty's Naval Base (HMNB) and for export to the grid. Steam will also be extracted from the turbine and fed into the Devonport Dockyard and HMNB steam network to be used for heating purposes, thereby making best use of existing buildings and infrastructure.

3.1.13 The average efficiency of the proposed EfW CHP facility is expected to be 39%, compared with a normal modern EfW plant without CHP which has an efficiency of only approximately 23%. To achieve maximum energy efficiency the dry Flue Gas Treatment system avoids energy loss due to evaporative cooling or flue gas quenching, maximising heat recovery from the plant and minimising and conserving water resources.

3.1.14 WRATE modelling has established that the proposed MVV facility results in an offsetting of -34,625 tonnes CO_2 equivalent (tCO_2eq) emissions (compared to a net burden of +38,879 tCO^2eq which would be generated by a landfill only solution). This delivers a reduction of 73,504 tCO_2eq per year, equating to 1.84$MtCO_2eq$ emissions over the course of a 25-year contract.

3.1.15 In accordance with clause 5, the EfW Facility is designed not just to maximise energy recovery but to also maximise the recovery of other useful resources from the residues, further minimising waste. Bottom ash will be processed on a linked site and will provide building materials for road building and construction materials in the Partnership area and east Cornwall. At least 90% of the bottom ash produced will be utilised in this manner. Approximately 90% of metals received in the contract waste will be recovered, approximately 8,250 -13,750 tonnes annually.

3.1.16 The site layout has also been designed to make best use of the site and its topography and to achieve maximum reuse of excavated material. The base ground level has been kept as low as possible and the cut and fill balanced to minimise removal of material from the site during construction. Material removed will be reutilised on-site as an aggregate for construction.

3.1.17 Waste water generated from the process facility will be reused to make up the water lost in the IBA quenching system (clause 1). Rainwater collected from building roofs and walls will be discharged to a SuDS system (clause 2), runoff from the roads and hard standings will be discharged by means of a separate surface water drainage system to ensure that the valued coastal estuarine system is protected (clause 7).

3.1.18 Evidence in support of this assessment of compatibility with sustainability policy can be found in: ES Chapter 6, which describes the development in detail, and the PASS, EEEEBS, WRATE and BREEAM analysis.

3.1.19 Strategic Objective 13 - Delivering Sustainable Waste Management - sets out the Council's specific objectives on waste. The following clauses are particularly pertinent to this development:

To establish a spatial planning framework …that supports the Regional and Council's Municipal Waste Management Strategy, helping to make Plymouth a place where people and businesses

produce less waste and are provided with long term sustainable and affordable waste management and treatment facilities. This will be achieved through:

1. *Supporting and encouraging waste minimisation, particularly during construction, and during the life and use of buildings.*

3. *Allocating sufficient and appropriate land within the city that is capable of accommodating a range of strategic waste management and treatment facilities. Providing sufficient capacity to meet Plymouth's needs and, if possible, additional capacity to manage and treat waste from adjoining areas.*

4. *Providing a positive planning framework to support the accommodation of sustainable commercial and industrial waste management facilities. Providing local waste management facilities, either on strategic waste management sites or at a range of other smaller sites.*

5. *Providing a positive planning policy framework that enables sustainable waste-related development, which will have an acceptable impact on local and global environmental quality.*

3.1.20 **Policy CS26 Sustainable Waste Management** states that the Council will promote sustainable waste management by:

1. *Promoting waste minimisation through the provision of waste audits for major developments.*

2. *Requiring the integration of facilities for waste minimisation, re-use, recycling and composting in association with the planning, construction and occupation of new development.*

3. *Establishing a planning policy framework for the control of waste management development that identifies suitable locations for such development. Providing guidance on minimising potential social, environmental and economic impacts that are likely to arise in the development of waste infrastructure.*

4. *Working with neighbouring authorities and the South West Regional Assembly to identify and promote the provision of appropriate waste management, treatment and disposal sites on the edge of, or close to, the city in their waste development plans.*

3.1.21 Through a competitive tendering process, MVV Environment Devonport Limited (MVV) has been awarded the South West Devon Waste Partnership's (SWDWP) residual waste treatment and disposal contract. The SWDWP is a collaboration that has been established between Plymouth City Council, Torbay Council and Devon County Council to provide a long term solution to deal with the residual waste from the southwest Devon area that it is not practical or economically viable to recycle, reuse or compost. At present, landfill is the only means of disposal of residual municipal waste generated in the SWDWP area.

3.1.22 The proposed EFW/CHP Facility is therefore central to the delivery of the South West Devon Waste Partnership's Waste Management Strategy and achieving the regional target of less than 20% of waste being landfilled by 2020. Technical modelling undertaken by the SWDWP

suggests that energy recovery through the thermal treatment of waste is a cost efficient, low risk and sustainable solution to the need to divert residual waste from landfill. The proposed development would not have any negative impact on waste minimisation and recycling as it would deal only with 'residual' waste. The EfW CHP facility is designed to treat 245,000 tonnes of waste per annum, under optimum conditions this could be up to 265,000 tonnes per annum (tpa) of waste. Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, and ES Chapter 3.

3.1.23 In comparison to other energy from waste schemes recently built or planned in the UK the proposed EfW CHP facility scheme is almost unique. Of the ten or more schemes under active consideration or built in the last five years in the UK, only two others can claim CHP capacity from the outset; the Sheffield facility, which is a replacement for an earlier, older facility from the 1970s, and the Runcorn facility which supplies process steam to the large chemical plant operated by Ineos Chlor.

3.1.24 The EfW CHP Facility will incorporate Combined Heat and Power (CHP) technology, providing renewable electricity to drive the facility, supply Devonport Dockyard and Her Majesty's Naval Base (HMNB) and to export to the grid; as well as steam for heating purposes for the Devonport Dockyard and HMNB steam network.

3.1.25 The specific location of the EfW CHP facility offers a unique opportunity to provide renewable energy to the Dockyard and allows the existing gas and oil-fuelled generators to be switched off permanently, other than in the short periods when the EfW CHP facility is undergoing routine annual maintenance. In doing so, the facility at North Yard will improve the economic viability of the Dockyard and will in turn make an important contribution to sustaining the local communities that rely on the jobs and business generated by the dockyard. Evidence of compatibility with sustainability policy can be found in: PASS, EEEEBS and WRATE analysis.

3.1.26 **Policy CS34: Planning Application Considerations** sets out a list of detailed criteria for the assessment of all development proposals. The first of these criteria includes consideration of the "on and off-site impacts of the proposal in terms of climate change".

3.1.27 As set out above, WRATE modelling has established that the proposed MVV facility results in an offsetting of -34,625 tonnes CO_2 equivalent (tCO_2eq) emissions, in direct comparison to a net burden of +38,879 tCO_2eq which would be generated by a landfill only solution. Over the course of a 27 year contract, this equates to 1.84$MtCO_2eq$ in emissions. These savings are achieved through the recovery of energy and offset emissions from landfill disposal, alongside a significant contribution from the recycling of metals.

3.1.28 The EfW Facility emissions control system is designed to state of the art standards. The Air Pollution Control system is designed to be able to accommodate future reductions in emissions limits and the NOx control of the boiler/firing system is designed to be up-gradable, to accommodate additional equipment for further reductions of the NOx emissions should this be required in the future. Evidence in support of this assessment of compatibility with sustainability policy can be found in: ES Chapter 6 and 13.

Plymouth Waste Development Plan Document 2006-2021 (adopted 2008)

3.1.29 The Waste DPD sets out the policy context for considering waste management and disposal facilities in Plymouth. The DPD focuses particularly on providing site allocations and a decision-making framework to ensure that the waste objectives and management targets are realised, particularly for recycling/composting and landfill reduction.

3.1.30 **Policy W8: Considerations for Waste Development Proposals** requires that proposals *'do not have unacceptable impacts on environmental, social or economic assets'* and that '*all buildings should incorporate measures consistent with the principles of sustainable design and construction equivalent to the current BREEAM excellent standard.* Proposals must be compatible with the principles of sustainable waste management and associated policies as set out in national, regional policy and in the Core Strategy.

3.1.31 The policy requires all major applications for waste management facilities to include a CCSS. This CCSS meets the requirements of Policy W8. An Environmental Impact Assessment has been undertaken to ensure that the proposals do not have any unacceptable impacts on environmental, social or economic assets, and mitigation measures proposed in this assessment have been incorporated into the design where appropriate. The Environmental Statement concludes that, with the implementation of the proposed mitigation measures, the impact of the proposed development on environmental assets will be acceptable.

3.1.32 All buildings have been designed consistent with the principles of sustainable design and construction. The BREEAM Pre-Assessment submitted with this application demonstrates that the site has been designed to BREEAM excellent standard.

Sustainable Neighbourhoods (including Key Site Allocations) Issues and Preferred Options Development Plan Document – Plymouth City

3.1.33 In February and March 2011 Plymouth City Council undertook public consultation on a number of proposals for the City's neighbourhoods. The EfW CHP site is located within the neighbourhood of Barne Barton, but is also close to the neighbourhoods of Keyham and Kings Tamerton & Weston Mill.

3.1.34 A Draft 'Sustainable Neighbourhood Plan' has been prepared for the neighbourhood of Barne Barton. Key issues that arise in relation to the sustainability of the local neighbourhood in which the MVV EfW CHP development will sit include:

- Poor condition of open space and public areas. Access to much of the public open space is controlled by the MoD and not made available to residents. Opportunities should be taken to improve public access to the waterfront and open spaces;
- Lack of local employment opportunities, with one of the lowest job-to-resident ratios in Plymouth;
- Long journeys to work, with fewer residents able to walk or cycle to work;

- Poor health and high social deprivation, including concerns about crime;
- Inadequate provision of community facilities and local shopping services.

3.1.35 Similar issues exist in Keyham and Kings Tamerton & Weston Mill. In Keyham, there are good local employment opportunities, but these are dominated by the Dockyard, making employment prospects vulnerable to change. Kings Tamerton & Weston Mill has the lowest job to residents ratio in Plymouth and public green space is inadequate.

3.1.36 The MVV development proposals recognise the poor condition of open space and public areas in the neighbourhood and seek to address this by providing a new informal sports pitch/play area and improving the ecological condition of the adjacent woodland and Local Greenspace Area (Blackies Wood). Blackies Wood will be made accessible and will form an important educational resources of a type in short supply in the area. The development will create employment and training opportunities for local residents, through the construction, operation and maintenance contracts of the site and facilities and apprenticeships in conjunction with local colleges.

3.1.37 For those residents who gain employment at the site, this will also reduce the length of journeys to work. Residents will be able to take advantage of opportunities to walk or cycle to the site, as secure cycle storage will be provided. The provision of an informal sports pitch/play area on land just north of Blackies Wood and the site will contribute to tackling poor health of the local community. The visitor centre will provide an inspirational local community facility for educational purposes, as well as a potential local meeting space.

3.1.38 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, EEEEBS, and ES Chapter 17.

Sustainable Design in Plymouth - Supplementary Planning Document (Adopted 2009)

3.1.39 The SPD states (paragraph 1.4) that development proposals must contribute to the creation of an environmentally sustainable city - supporting the natural environment, minimising the effects of and adaptable to the potential impact of climate change. The aim of the SPD is to apply general design guidance to the Plymouth context, providing more detailed guidance about the distinctive elements and unique characteristics of the city and how these should be recognised and used to inform new development across the city (paragraph 1.3).

3.1.40 The evolution of the MVV ERF CHP facility design has had regard to the guidance in the Design SPD (as described in the DAS) and specific responses to the questions outlined in the guidance in relation to climate change and sustainability are set out in the following section.

4 Compliance of the development with the requirements of the Plymouth City Council Sustainable Design in Plymouth SPD (Adopted 2009)

4.1.1 The Supplementary Planning Document (SPD) Sustainable Design in Plymouth provides design guidance in support of Strategic Objective 4 – 'Delivering the Quality City' and policies CS02 and CS34 Planning Application Considerations in the Adopted Plymouth Core Strategy.

4.1.2 Paragraph 1.4 of the guidance refers to the need for development proposals to contribute to the creation of an environmentally sustainable city supporting the natural environment, minimising the effects of and adaptable to the potential impact of climate change. Policy W8 in the Adopted Waste DPD requires all major applications for waste management facilities to include a CCSS. It also states that the suggested content for this statement is included in the Design SPD. In accordance with Policy W8, the following section sets out responses to the questions raised in the relevant sections of the Design SPD.

4.1.3 Chapter 3 of the Sustainable Design in Plymouth SPD looks at **Delivering Sustainable Communities.** It suggests that there are five essential elements in the creation of a sustainable linked community (paragraph 3.1):

- A sufficient number of people to engender a sense of belonging;
- A mix of land uses including employment that work together;
- Provision for people to meet and interact;
- Character and a sense of place;
- Social inclusion.

4.1.4 This means ensuring that development contributes to the sustainable community within which it is located, but also that it aids links both within and to adjacent communities (paragraph 3.2). Responses to the questions raised in Chapter 3 of the SPD in relation to sustainable communities (pg. 27) are set out below.

SPD: Have you considered your development proposal in the light of the Sustainable Neighbourhood Assessments (SNA)?

4.1.5 The Council has prepared Sustainable Neighbourhood Assessments (SNAs), which are an audit of each of the city's neighbourhood areas and provide a benchmark as to their current level of sustainability. The proposed EfW CHP facility sits within Neighbourhood Area: 8 Barne Barton, but is also close to the Kings Tamerton & Weston Mill and Keyham SNA areas. These assessments have been considered in preparing the development proposals. The following summary of the Barne Barton SNA is particularly relevant and sets the scene for the subsequent commentary:

"The neighbourhood of Barne Barton covers an area of approximately 123ha. Barne Barton is situated in western Plymouth on a peninsula overlooking the River Tamar, physically isolated from St Budeaux and the rest of Plymouth by the railway line. The neighbourhood, has a population of 4140 people, and suffers high levels of deprivation. The neighbourhood of Barne Barton is an area of concern in terms of crime, ranking 4th worst neighbourhood in Plymouth. Barne Barton also has problems with generally poor health and the 4th lowest life expectancy in the City. There are few employment opportunities and a high amount of unemployed people who live in Barne Barton (6.6% of the population). The neighbourhood suffers from a lack of facilities and amenities with very few shops, no pub or café, business premises, church, doctor's surgery or readily accessible post office. The neighbourhood particularly has a lack of areas to meet and socialise for all ages. It has the population of a small town, without the facilities of a village. This is largely due to its unique historical development as a naval estate (formerly the largest Naval estate in Britain), and the subsequent withdrawal of Ministry of Defence interests from the area in the last 20 years, selling off the majority of housing to five housing associations. A very high proportion of the population live in social housing, 52.9% rent from the Council, Housing Association or Registered Social Landlord compared to the national average of 19.2%. Barne Barton is located in a spectacular location with views across the River Tamar and abundant green spaces and it is visible to all incoming river, road and rail users, especially from Tamar Bridge. However, the area suffers from unimaginative housing and a poor quality of public realm. Access to the waterfront is limited due to the MoD installations along the riverbanks".

4.1.6 Community consultation on the Draft Sustainable Neighbourhood Plan proposals to date[1] has revealed that local people think lack of spaces for children to play safely and lack of green spaces with public access are among the biggest issues facing the Barne Barton neighbourhood. Consultees point to the importance of Blackie's Wood greenspace, and that this area should be protected[2]. The Landscape Strategy and provision of improvements to existing green space and access to Blackie's Wood respond directly to these concerns.

4.1.7 The following sections focus on the Barne Barton SNA, but the majority of the community benefits and mitigation measures proposed are relevant to the employment and greenspace issues affecting the Keyham and Kings Tamerton & Weston Mill neighbourhoods.

SPD: How does the proposal help to address the deficiencies (as identified in the SNA) in the neighbourhood the development is located within?

What the SNA says:

Look at ways of bringing more facilities into Barne Barton to provide the community with more support, including in particular essential amenities and facilities that can be used as meeting places for all ages. Encourage developments that provide for a religious meeting place, a public house, health facilities, sports facilities, local employment.

The majority of open spaces are owned by the MoD with no open access to the public. More public provision is required for sports and recreation

[1] Consultation on the Sustainable Neighbourhoods (including Key Site Allocations) Issues and Preferred Options Development Plan Document - closed 30 March 2011
[2] Comments sourced from the on-line consultation portal at: http://plymouth.limehouse.co.uk/portal/planning/ldf/neighbourhood/sustainable_neighbourhoods_consultation?pointId=1297793647672 accessed 08/04/2011.

4.1.8 An Administration Block will be provided, which will incorporate a Community Area (incorporating lecture theatre, roof terrace and viewing platform) to accommodate visiting and community groups, including disabled visitors. The roof terrace will include an exhibition space for art or sculpture collections and can be used by employees as open space to safely enjoy lunch or short breaks. A combination of intimate seating areas and more open areas for larger numbers of people will allow this area to accommodate hosted events. The lecture room will also be made available for community use as a meeting space. These facilities will form an important new high quality educational and community resource of the type that is currently lacking locally.

4.1.9 An informal sports pitch / play area is also proposed in an area just north of Blackie's Wood and the site. This land is currently sloping grassed green space but will be partially levelled to provide an informal recreation and sports facility.

4.1.10 Evidence in support of this assessment of compatibility with sustainability policy can be found in: PASS, DAS and EEEEBS.

4.1.11 In addition, the facility will provide local employment and apprenticeship opportunities and some positive local supply chain impacts (see paragraph 4.1.11 below). Evidence of compatibility with sustainability policy can be found in: PASS, EEEEBS, and ES Chapter 17.

4.1.12 The development will also make ecological improvements to an area of woodland designated as a Local Greenscape Area (Blackie's Wood) that will be managed. The local community will be able to have access to this area. Evidence in support of this assessment of compatibility with sustainability policy can be found in: DAS.

What the SNA says:

There is a lack of employment opportunities within Barne Barton as there is little industry in the area and too little facilities to provide a significant amount of employment (job ratio of 0.25). 6.6% of the population is unemployed, which is almost twice the national average of 3.4% (3.2% in Plymouth). Opportunities to create more jobs locally should be identified, including ways to get people into employment and reduce unemployment e.g. training opportunities.

4.1.13 Once operational, the facility is expected to employ 33 people directly, who will work mainly in shifts. There will also be a number of other jobs created indirectly, for example through maintenance contracts and in the initial construction period. The number of staff employed during the construction period (expected construction period is 27 months) is expected to range from approximately 35, at the end of the construction phase when the plant is being commissioned to 309 during the peak (October 2013) of construction activity. The socio-economic assessment has identified that the development will generate positive local supply chain impacts and induced income effects within the Plymouth economy. Evidence in support of this assessment of compatibility with sustainability policy can be found in: Chapter 17 Socio-economics of the submitted ES and the EEEEBS.

4.1.14 Upgrading work required to the North Yard Steam system prior to connection to the CHP facility will create additional job creation opportunities for the local mechanical engineering resource

base, in addition to those created by the EfW CHP facility itself. MVV will liaise with local colleges to offer apprenticeships. Improving the economic viability of the Dockyard will make an important contribution to sustaining local jobs and businesses that are generated by the dockyard.

What the SNA says:

There is a lack of distinctive landmarks within Barne Barton. Due to the steep topography of the area it is easy to see your surroundings. Look at ways of enhancing landmarks within Barne Barton.

4.1.15 At an early stage in the EfW CHP facility design evolution process, it was established, in consultation with the South West Regional Design Panel and with Plymouth City Council, that an EfW CHP building of the scale proposed could not be hidden in the location proposed and that an appropriate design response was required, to address the scale and particular location of the proposed building.

4.1.16 MVV, advised by its architect and landscape architect, embarked on a design evolution process, with the objective of delivering a design that responded to its surroundings and that was of a quality and elegance which would encourage public acceptance and pride in a building that embodies a sustainable future for the local community, Devonport Dockyard and the thousands of local jobs that the Dockyard supports. The proposed design solution includes an acknowledgement of the impact of a building of this scale on certain local view points, through a high quality, distinctive and elegant design, which connects the neighbourhood to the history of the Dockyard. The roof terrace, situated on the south-western end of the building, will provide a viewing platform over the dockyard which will be an opportunity for education relating to the Dockyard, its history and current role and its sustainable future, supported by sustainable energy from the EfW CHP facility. A full description of the design evolution process is provided in the DAS.

What the SNA says:

The neighbourhood of Barne Barton is an area of concern in terms of crime, ranking 4th worst neighbourhood in Plymouth. As a consequence, lighting/ maintenance issues should be considered.

4.1.17 The necessary infrastructure and personnel will be provided to ensure a secure site, including security personnel, CCTV, secure fencing, access control and adequate lighting and alarm systems. Street lighting is proposed for safety and security at the entrances to the site and entrances to the building. Internal roadways will be illuminated during the hours of darkness, when required, in the early evenings, however the site will not be lit throughout the night to reduce impacts on wildlife. Security is a particular concern for the Ministry of Defence given the proximity of the site to the Dockland and all security measures will be confirmed with the Ministry of Defence.

What the SNA says:

New development within this area should protect existing biodiversity features and investigate the possibility of increasing connectivity between sites. Areas of greenspace within the

neighbourhood should be managed in a more sensitive manner to increase the biodiversity interest of the neighbourhood and increase connectivity. Investigation should be made into increasing public access to areas containing biodiversity interest, including the foreshore.

4.1.18 The proposals for the site incorporate the planting of native species in a comprehensive landscape strategy that will provide opportunities to improve biodiversity, as well as provide a suitable setting for the development.

4.1.19 Existing trees and hedgerows will be retained wherever possible, and tree planting is proposed around the site entrance to help create a degree of connectivity between habitats. Woodland banks exist to the north and western boundaries of the site. Planting of native woodland broadleaved and scrub is proposed in these areas.

4.1.20 An ecological mitigation area is proposed in the northern part of the site. This covers the majority of the existing 'Blackies Wood' which is identified as a Local Greenscape Area in PCC's Local Development Framework. The proposed development will include some ecological enhancement of this woodland.

4.1.21 A freshwater pond is to be located north of the main building within the ecological enhancement area, creating habitat suitable for amphibians and reptiles. The attenuation pond will be created with an irregular, organic shape and will be planted with suitable marginal and aquatic plant species. Areas of south facing meadow grassland are proposed to surround the pond and to the east of the bottom ash treatment area.

4.1.22 The spaces between and round the internal site infrastructure will be planted with a species-rich grassland. Some other formal shrub planting and avenues are also proposed in the closer vicinity of the building. Evidence in support of this assessment of compatibility with sustainability policy can be found in: DAS.

SPD: Have you consulted the community or assessed any documentation which provides you with an assessment of the needs of the community in the area?

4.1.23 The local community, stakeholders and the local authorities have been extensively consulted on the nature of the proposals. Please refer to the Statement of Community Involvement submitted with this application (Appendix 2 to the PASS) for details. The Sustainable Neighbourhood Assessment for Barne Barton has been considered and the findings of this assessment have influenced the proposals.

SPD: Has the development made provision for links to the community facilities and surrounding development?

4.1.24 The EfW CHP facility is planned to be part of the local community, offering access to community facilities and educational resources.

4.1.25 As is appropriate for a facility of this nature, there will be a clear demarcation between the "public/visitor" side of the facility and the "working" side. Access to these individual areas will be separated after entering the site via the main entrance. The "public/visitor" side of the facility will include an administration block with community area, roof terrace and viewing platform, to accommodate visiting and community groups, including disabled visitors. This

block is situated close to the staff and visitor parking areas and sits within the part of the site closest to the residential properties. Footpaths will provide direct access to the administration block and open areas for visitors from the car park, and a route will be provided from the car park to entrances.

4.1.26 The site includes an area of woodland (Blackie's Wood) and small waterway to the south-east of the site that will be managed for biodiversity. These biodiversity areas will be fenced, but will be made accessible and will be a resource for groups visiting the site for educational purposes. An informal sports pitch / play area is proposed in an area outside the red line boundary, just north of Blackie's Wood and the site. This land is currently sloping grassed green space but will be levelled to provide an informal recreation area for use by the local community.

4.1.27 A 'gateway' sculpture is proposed at the Camel's Head Junction at the entrance to the access road. This is to be a large-scaled, elegant piece of art produced through an art competition commissioned as a separate project with heavy community input, opened to local artists. The work is to be constructed principally using elements of waste brought into the facility, in particular scrap metal. It is proposed that this artwork is re-commissioned every five years (approximately) to represent the changing composition of waste being brought into the facility over time. This can be a creative feature to be appreciated by people using the facility and the general public alike. The artwork is to be commissioned and approved in liaison with the Arts Council for England and the Arts Officer at Plymouth City Council. Evidence of compatibility with sustainability policy can be found in the DAS.

4.1.28 Chapter 10 of the SPD considers **Development that responds to the needs of the future.** The following design considerations (questions set out at the top of page 75) are considered in the CCSS.

SPD: Has the development maximised the potential of Passive Solar Design?

4.1.29 Energy requirements for operation of the facility are supplied by renewable energy, sourced from the combustion of waste. Orientation and design of the building is based on the need to shield sensitive residential development from the nosier activities on the site, and this takes precedence over exploiting the potential of passive solar design. However, solar energy will be used form parts of the building's power supply, as described in the DAS.

SPD: How has the development incorporated energy efficiency measures?

4.1.30 The EfW Facility will be designed to maximise the recovery of energy from the waste. As well as generating electricity, the EfW CHP facility is designed to deliver steam into the Naval Base North Yard steam system, exploiting this opportunity to replace the natural gas fuel source current used (and, occasionally in times of gas disruption, distillate oil). The facility will also supply the Fleet Accommodation Centre (FAC) with heat replacing the use of natural gas in this facility.

4.1.31 With the EfW CHP facility in operation the savings in the North Yard boilers and the FAC will amount to 82,200,000 kWh per annum of natural gas and 15,200 mtoe in carbon dioxide emissions, a reduction of approximately 90%.

4.1.32 The EfW CHP facility will have a net overall efficiency of 39% on average, rising to 49% in the winter months when steam demand is highest. This compares to a normal "electricity only net efficiency" of about 27.4% which might occur in the summer months when there is no steam demand from North Yard. Other electricity only EfW facilities in the UK achieve an efficiency of 23% typically.

4.1.33 Given the nature and size of the demand of the North Yard the EfW CHP facility has been specifically designed to be at its most efficient under these conditions. The EfW CHP facility can deliver varying amounts of steam to cater for the expected variations in demand from the steam system, for example, the steam delivery can be as low as zero.

4.1.34 Energy efficient measures have also been adopted in the non-process elements of the development. The BREEAM Pre-Assessment report demonstrates that six energy credits can be claimed (consistent with an 'Excellent' assessment rating) as a result of the installation of electricity sub-metering, energy efficient lighting and lifts, and the electricity load of the development being met by the energy derived from waste.

4.1.35 In addition, the facility allows connectivity to district heating schemes and opportunities to provide heat to neighbouring communities are being actively investigated in conjunction with Plymouth City Council.

4.1.36 The EEEEBS, which can be found at Appendix 4 to the Planning Application Supporting Statement, provides a fuller consideration of the CHP benefits of the EfW CHP facility.

SPD: How has the development incorporated renewable energy?

4.1.37 The EfW Facility will use household waste and commercial and industrial waste as its sole fuel, other than at times of start up and shut down, when fossil fuel (light fuel oil) will be used to supplement furnace temperatures. The EfW Facility is designed to maximise the recovery of energy from the waste. Without the extraction of steam for any external use the maximum net power output at the design conditions will be 27.6 MWe. PASS Appendix 4 (EEEEBS) provides details of the renewable energy contribution to supply and potential for local use of generated heat and power.

4.1.38 A roof terrace has been incorporated into the most south-westerly roof section of the main building. This roof terrace will include a gravel exhibition space, which will hold a bank of solar panels on the southerly edge. These panels will provide electrical power for the Administration block.

4.1.39 The EfW CHP facility has achieved an R1 Coefficient (EU measure of energy efficiency) of between 0.95 and 1.01 (the standard set for qualification as energy recovery is 0.65). The EfW CHP also qualifies for the 'Good Quality CHP Scheme' (run by Defra), with a Quality Index of 105, compared to the minimum standard of 100.

4.1.40 The benefits that flow to the EfW CHP facility as a result of achieving a Quality Index under the Good Quality CHP Scheme of at least 100 include entitlement to be awarded Renewable Obligation Certificates (ROCs) under the Renewables Obligation (RO) regulations. These are awarded by the electricity regulator, OFGEM, and can be sold in the electricity markets.

4.1.41 Evidence in support of this assessment of compatibility with sustainability policy can be found in: EEEEBS (Appendix 4 of the PASS).

SPD: Does the development proposal enable alternatives to travel by car?

4.1.42 In accordance with DfT guidance, the Transport Assessment has analysed the opportunities for sustainable travel in proximity to the proposed site (see Appendix 12.1 of Chapter 12 of the Environmental Statement). Due to the specific nature of the site, and its associated operation, opportunities for sustainable travel are applicable to staff and visitors to the site only, as opposed to those trips that require specialist vehicles to transport waste and raw materials.

4.1.43 Footways are provided on both sides of the carriageway on both Wolseley Road and Weston Mill Drive, in the vicinity of the site. In addition, pedestrian crossing facilities are provided at the Wolseley Road / Weston Mill Drive junction.

4.1.44 In terms of cycling within the vicinity of the site, there is an on road, signed cycle lane on Wolseley Road which routes in a southerly direction from near to the junction with Weston Mill Drive.

4.1.45 The facility is located within 650m of the main bus route and there are a number of bus routes that pass close to the site, serving the various residential areas of Plymouth.

4.1.46 Devonport benefits from a number of rail stations being located in close proximity, providing opportunities to travel in a sustainable manner to neighbouring towns and villages. As the stations are situated upon the national rail network, it is therefore possible to travel to any mainline rail station within the UK.

4.1.47 The stations which serve the local area are summarised below, along with approximate walking and cycling times to and from the site:

- **Keyham** is the closest station to the redevelopment site, situated approximately 1000m away, which is approximately an 18 minute walk or a 7 minute cycle. This station operates as a 'request stop', whereby passengers wishing to alight the train need to inform the driver or conductor that they wish to disembark at Keyham Rail Station, and boarders need to clearly flag down approaching trains from the station platform.

- **St Budeaux Ferry Road** rail station is located approximately 1400m from the site, which is approximately a 20 minute walk, or a 10 minute cycle. This station operates as a 'request stop', as referred to above.

- **Plymouth North Road** station is situated approximately 3400m to the south east of the redevelopment site (approximately a 50 minute walk or 20 minute cycle journey). This station is the primary rail station within the Plymouth area as it provides the highest frequency of rail services. As such, it is also possible to travel to and from station by bus.

4.1.48 Secure cycle parking has been provided as well as showers and lockers for drying, in accordance with BREEAM requirements. The development will therefore provide opportunities

for employees and visitors to access the site by public transport, walking and cycling. A Green Travel Plan is to be produced, in accordance with BREEAM requirements.

4.1.49 The location of the proposed facilities in relation to transport links is an important factor in deciding the method by which to transfer waste and / or residues. Although the site of the proposed EfW CHP facility is close to water and to a number of wharves / quays within the Dockyard it is unlikely that use of such facilities would be approved by the MOD, as this would require transport through the secure area of the Dockyard and conflict with military activities. None of the Waste Transfer Stations across West Devon are close to water transfer links and there are no current road-to-water operations within Plymouth.

4.1.50 Transportation by water would include a large amount of transfer between modes which would be highly inefficient. Waste from the WTS sites would have to be bulked up and taken by road to existing water transport facilities. There are no such facilities in South West Devon; Teignmouth has a port but no specific waste handling facilities. When waste reaches the Dockyard it would then have to be transported through the yard to the EfW CHP facility, again using HGVs. The same logic would apply to the transportation of IBA and APC residues away from the EfW CHP facility. In addition, APC residues are hazardous and need to be moved in sealed containers and should be handled as little as possible.

4.1.51 Rail transport has similar constraints. Although the site of the EfW CHP facility contains a former railway line – the remnant earthworks being located within Blackies Wood – none of the origins of the waste nor the destinations of the IBA are close to the railway. This would again mean a great deal of mode transfer. Further, the former railway line is located in an area of biodiversity value, close to residential property and these interests would be likely to be adversely affected by the introduction of a road to rail transfer point.

4.1.52 Emissions of rail and sea transport are generally less than for road, providing each movement contains a sufficient load (unlikely for APC residues). However building infrastructure to facilitate these movements can have environmental impacts and the cost of the infrastructure needed to enable transport of waste and/or residues by sea and rail is very expensive, especially if it requires building new track or new docking facilities. Transport by road is therefore the most viable and sustainable solution.

SPD: Does the development reduce carbon emissions through selection of materials?

4.1.53 Materials will be sourced to maximise sustainability and use of re-used or recycled products, where this is compatible with engineering requirements (1 credit of a possible 2 is expected for the BREEAM assessment). This will include both the surfacing and in the fabric of the building itself. The design will use (where appropriate) materials which will be fit for purpose in terms of performance and longevity, whilst being readily recyclable if and when the facility reaches the end of its operational life. Embodied within this approach is durability of materials and the need to avoid excessive refinishing (for example painting, staining or similar activities) through the operational life of the facility. At least 80% of the combined area of external hard landscaping and boundary protection specifications will achieve an A or A+ rating, as defined by the Green Guide to Specification.

4.1.54 Suppliers will be selected which operate environmental management systems, or are able to demonstrate their environmental credentials, and responsible sourcing of materials and products (80% of the assessed materials in the relevant building elements will be responsibly sourced). Insulation materials used in the development will be formed from materials with relatively low embodied energy, as determined by the Green Guide to Specification. For more details regarding materials specification please see the BREEAM Pre-Assessment Report at Appendix 1 of this Statement.

4.1.55 Large format aluminium composite cladding panels and a standing seam aluminium roof are used in the design. This improves the sustainability credentials of the building as aluminium is an infinitely recyclable material.

4.1.56 The use of limestone aggregates will be adopted for construction purposes in most instances, a granite aggregate will be used for the thicker wall and base sections. Foundation piles will be cut off below the working surface to reduce waste. The excavated material from site preparation has been identified as suitable for re-use on an industrial site and it is planned that the cut and fill quantities will be balanced on site to avoid any off-site disposal. This significantly contributes towards the SWDWP aspiration for significant reduction in waste to landfill.

4.1.57 Chapter 15 of the Environmental Statement identifies the potential for re-use and recycling of demolition and construction materials arising from the development. Where inert demolition and construction materials cannot be re-used on site, potential off-site users will be identified.

4.1.58 The EfW Facility is designed not just to maximise energy recovery but also maximise the recovery of other useful resources from the residues. Bottom ash will be processed on a linked site and will provide building materials for road building and construction materials in the Partnership area and east Cornwall. Waste metals will be recovered and recycled.

SPD: What design measures are incorporated to promote water conservation and recycling?

4.1.59 In normal operation, clean water such as boiler blowdown water or backwash water from the boiler water treatment plant will be returned to the ash quench water seal system on the boiler. Dirty water such as the run-off from the IBA conveying system will also be returned to the ash quench system. There are no emissions to water arising from the baling process. Therefore in normal operation the only discharge to foul sewer is from the sanitary and domestic facilities and all process water will be recycled.

4.1.60 The North Yard steam system to which the CHP facility will be connected, includes a sub-system of pipes to return condensate back to the boilers. To minimise usage of raw water this condensate system will also be fed back into the EfW CHP facility where it will be cleaned up for re-use.

4.1.61 For the provision of hot water for domestic requirements, consideration has been given to local water heating rather than centralised production and storage and a number of low water use appliances will be installed throughout the facility.

4.1.62 Water conservation measures include water efficient sanitary fittings, installation of a water meter, leak detection system and sanitary supply shut off, consistent with BREEAM requirements. Please see the BREEAM Pre-Assessment Report at Appendix 1 of this Statement for more details.

SPD: Does the development facilitate the future sustainable management of waste?

4.1.63 The South West Devon Waste Partnership (SWDWP) was formed to deliver a unified solution for the delivery of the individual waste management strategies for Plymouth City and its partner authorities; Teignbridge, South Hams and Torbay. A Joint Municipal Waste Management Strategy[3] was prepared, which includes proposals to deliver a recycling rate for municipal waste of over 50% by 2019/20. However it is not economically or practically viable to recycle all waste produced by households and businesses and the movement of waste management up the waste hierarchy requires new facilities to manage the 'residual' waste that would otherwise be sent to landfill. At present, landfill is the only means of disposal of residual municipal waste generated in the SWDWP area.

4.1.64 The SWDWP undertook an evaluation of alternative options for the management of residual municipal waste, which included forecasting the most likely quantities of residual waste that would require management in the future, taking into account the need to optimise recycling rates and forecast population growth. Evaluation of different technology and locational options included the consideration of a range of factors, including planning, technical, environmental and financial matters. The outcome of this evaluation process was that a single EfW facility was required to manage a range of residual waste inputs from the SWDWP authority areas, rising from 168,000 tonnes per annum (tpa) in 2014/15 to 203,000 tonnes per annum (tpa) by 2038/39. The partnership identified that by working together, the authorities could benefit from economies of scale and the ability to attract PFI credits.

4.1.65 A separate evaluation by MVV concluded that a similar amount of C&I waste generated in the SWDWP area is available for treatment, to avoid sending it to landfill. For commercial reasons, not all of this waste will be available to MVV for processing in the EfW CHP facility, but the capacity of the facility has been selected to allow the processing of approximately the equivalent of the amount of C&I waste arising in Plymouth, or potentially to accept municipal waste from other local authority areas in Devon or Cornwall.

4.1.66 The proposed annual capacity of the EfW CHP facility is in the order of 245,000 tonnes per annum, although that could be raised to 265,000 tonnes of residual waste per annum, depending variations in the composition/calorific value of the waste received and in the amount of time required for routine maintenance each year.

4.1.67 More information on the capacity of the EfW CHP facility and the sources of waste is provided in Environmental Statement Chapters 3 and 6. Full details of the waste modelling (forecasting) and options evaluation undertaken by the SWDWP can be found at: http://www.plymouth.gov.uk/swdwp.html.

[3] South West Devon Waste Partnership, Plymouth, Devon and Torbay Joint Municipal Waste Management Strategy Statement (Appendix 3D of SWDWP Procurement of Waste Treatment Services Outline Business Case).

4.1.68 In relation to construction of the MVV facility, Chapter 15 of the submitted Environmental Statement provides an estimation of the volumes of construction waste that will be generated by the proposal. 40,331 cubic metres of waste are anticipated to be generated as a result of demolition, excavation and construction. Of this 32,900 cubic metres are proposed to be re-used on site and 5,618 cubic metres are proposed to be sent off site for recycling.

4.1.69 In order to minimise the volume of waste generated during construction an outline Site Waste Management Plan has been prepared (see Appendix 15.1 of the submitted Environmental Statement) and a further detailed plan will be prepared. This plan sets out the measures proposed to identify the volume and type of material likely to arise from site clearance, preparation and construction activities, opportunities for the reuse and recovery of materials and demonstrates how volumes of waste will be minimised and managed. The SWMP sets standards and strategies for effective waste minimisation that will be followed by all of the sub contractors.

SPD: Does the development reduce the risk of flooding?

4.1.70 The Environment Agency Flood Map identifies that the new built development area of the site is located within Flood Zone 1 of the Tamar Estuary (low probability of tidal flooding). Some parts of the access road, where the road runs parallel to the Weston Mill Viaduct fall within Flood Zone 2. With the mitigation measures proposed however, the flood risk to this area of the access road will be low.

4.1.71 Localised flood risk from surface water, sewers and artificial flood sources has been reviewed in the Flood Risk Assessment Level 2 Report. The site lies within a Critical Drainage Area, and the Environment Agency have identified that the eastern boundary of the site is close to an area susceptible to surface water flooding. A number of flooding incidents are also recorded upstream of the site, however there is no report of flooding at the site.

4.1.72 A drainage strategy has been provided to ensure that all runoff from the hardstanding areas will drain into a series of buried pipes which will discharge into the tidal Tamar Estuary via an outfall pipe. The system has been designed so that tidal locking does not occur. As the outfall is directly into tidal waters it is not necessary for the water to be attenuated and will not cause an increase in flooding issues elsewhere.

4.1.73 It is proposed to provide a drainage system to drain the run-off roof and wall rain water to an infiltration system. It is intended that the main building roof and wall surfaces will be drained to an infiltration basin whereas the workshop building, due to its size, will be drained to an infiltration trench. SUDS measures include a swale and attenuation pond and brown roof on the workshop building. To ensure the development does not pose a flood risk to itself from sewer flooding, all sewers throughout the site are designed to ensure that no flooding occurs above ground level for events with a return period at a minimum of 30 years.

4.1.74 The double crossing over the drainage channel which runs into Weston Mill Lake will be crossed by a single new bridge crossing. This will enable removal of the narrow, weaker, bridge and the piped culvert crossing in accordance with the Environment Agency's policy of removing culvert crossings wherever possible and removing the flow restriction in the channel identified by the Agency.

4.1.75 Evidence in support of this assessment of compatibility with sustainability policy can be found in: Chapter 11 and Appendix 11 of the submitted Environmental Statement.

SPD: Is the development ready for the higher temperatures that climate change will bring?

4.1.76 The design life of the EfW CHP facility will be 30 years, and the life expectancy of the facility is approximately 40 years. MVV has experience of operating EfW CHP facilities for periods in excess of the design life, for example MVV's Mannheim facility in Germany has now been operational for more than 45 years. The design of the facility has incorporated allowances for the anticipated effects of climate change over the lifetime of the development. For example, the minimum finished floor levels of the building, access road and the soffit level of the new open span bridge will be set above the modelled tidal Flood Zone 3 including climate change (up to 2071) flood level (including 300 mm) freeboard (4.49 m AOD).

4.1.77 In relation to the health and wellbeing credentials of the office space associated with the development, the BREEAM Pre-assessment has indicated that six of the eight sustainability measures will be adopted, therefore achieving the maximum of two credits for this element. These measures relate to thermal zoning, glare control, acoustic performance and lighting and demonstrates the ability of the development to accommodate the higher temperatures that climate change will bring.

5 Conclusion

5.1.1 This CCSS has addressed the requirements of Policy W8 of the Adopted Plymouth Waste Development Plan Document, which requires all major applications for waste management facilities to include a CCSS. In accordance with the Adopted Design Supplementary Planning Document (SPD) for Plymouth this statement has addressed the sustainability and climate change issues set out in Chapter 3 and Chapter 10, as well as considering the compatibility of the proposed MVV EfW CHP development with sustainable development policy at the national, regional and local level. The purpose of this Supporting Statement has therefore been to provide the Waste Planning Authority with a summary of the main sustainability credentials of the development.

5.1.2 At the national level, the MVV EfW CHP contributes to the full range of sustainable development objectives which have been identified in national policy:

- Local authorities should promote and support opportunities for development of renewable energy;
- Climate change impacts should be taken into account in location and design of development, therefore development should:

  - Secure the highest viable resource and energy efficiency to reduce reliance on natural resources;

  - Minimise greenhouse gas emissions;

  - Reduce vulnerability to climate change and increase resilience;

  (i.e. sustainable design and construction principles).
- Waste should be considered as a resource, and therefore disposal of waste should be the very last option for waste management (i.e. waste management options that accord with the waste hierarchy).
- Development should promote sustainable use of land, sustainable communities and a sustainable environment.
- There is a new presumption in favour of sustainable development, so that the default answer to development is “yes” (Ministerial statements on the Localism Bill and ‘The Plan for Growth’)

5.1.3 As demonstrated by the national policy appraisal, the proposed EfW CHP facility is an exemplar of sustainable development, which contributes to national policy objectives, including the new presumption in favour of sustainable development. The EfW facility qualifies as a renewable energy facility because of the highly efficient energy recovery process which is employed. The facility reduces reliance on natural resources by replacing the current use of fossil fuels in the MoD Dockyard system, exploiting its unique locational advantages to generate useable energy and heat, treating waste as a valuable resource. The diversion of

waste from disposal to landfill reduces harmful greenhouse gas emissions and is consistent with the need to move management of waste up the waste hierarchy. In addition, by-products of the process will be transported off-site for recycling and reuse. The development represents a sustainable use of land, as it is located close to the communities from which waste will arise, is located primarily on previously developed land and is situated in the most advantageous position to supply heat to industrial consumers.

5.1.4 At the regional level, the MVV EfW CHP facility makes a substantial contribution to regional targets associated with reducing carbon emissions, increasing renewable energy production in the region and ensuring local self-sufficiency. Again, the proposals demonstrate a high level of consistency and compliance with regional policy, which echoes national sustainable development objectives.

5.1.5 At the sub-regional level, the MVV EfW CHP facility offers a sustainable waste management solution to the residual municipal waste management requirements of Plymouth, Teignbridge, South Hams and Torbay - consistent with the jointly preferred option identified by these authorities for an EfW facility of sub-regional capacity, located in Plymouth. The development will bring substantial wider benefits to the sub-regional (and local) economy, both by providing an avenue for the processing of commercial and industrial waste, but also through the procurement of contracts for pre-construction, construction, maintenance and operations.

5.1.6 At the local level, the proposals are consistent with the sustainable policy direction for the city of Plymouth. Although the site is not identified as a strategic waste management site in the Local Development Framework, it is located close to the community which will make the most significant contribution of waste. Most importantly, the specific location of the EfW CHP facility offers a unique opportunity to provide renewable energy to the Devonport Dockyard, in doing so improving the economic sustainability of the Dockyard and the local communities that rely on the jobs and business generated by the dockyard.

5.1.7 In recognition of the need to contribute to the sustainability of the local environment in which the facility will be set, the development will make a number of substantial contributions. The development will contribute to local biodiversity and greenspace targets through ecological improvements to the adjacent Blackie's Wood and Weston Mill Creek, improving local neighbourhood deficiencies with respect to accessible open space (through improvements to informal open space and access to Blackie's Wood) and places for the community to meet and learn (visitor and educational facilities). Most importantly, the facility will generate local jobs and training opportunities to address the high levels of social and economic deprivation in the area and will help to ensure the long term sustainability of the Dockyard and Naval Base, on which thousands of local jobs rely.

5.1.8 The substantial carbon off-set and climate change benefits of a high efficiency, CHP energy recover facility, alongside its major contribution to sustainable waste management targets for the South West Devon sub-region and the significant social, economic and environmental benefits for a local community which currently experiences significant deprivation - demonstrate the exemplary sustainability credentials of the proposed MVV EfW CHP facility. The commentary set out in this statement demonstrates the excellent and complementary fit between the development proposals and the relevant sustainable development and climate change policies at the national, regional and local levels of the policy framework.