VALE OF GLAMORGAN

REPLACEMENT LOCAL DEVELOPMENT PLAN

2021 - 2036

VIABILITY ASSESSMENT

November 2025

BACKGROUND PAPER - BP42

RLDP CDLN

VALE of GLAMORGAN BRO MORGANNWG

@VOGCouncil Vale of Glamorgan Council LDP@valeofglamorgan.gov.uk 01446 704681 www.valeofglamorgan.gov.uk

Executive Summary

i. This paper sets out the Vale of Glamorgan Council's High Level Viability Review which assesses the broad level of development viability across the Vale of Glamorgan. The purpose of the study is to determine the levels of affordable housing that can be financially supported on new market led housing developments. The findings of the study will inform the affordable housing policies of the Vale of Glamorgan Replacement Local Development Plan (RLDP). The study has been undertaken in accordance with the requirements of the Welsh Government Development Plans Manual.

ii. The Study utilises market evidence on local house price data, data from the Building Cost Information Service (BCIS) and a range of development costs agreed by development stakeholders at a Viability Stakeholder Group (VSG) Workshop hosted by the Council. These costs form the baseline assumptions for the high-level viability appraisals which have been applied across a range of housing site typologies. In addition to the high-level study, site specific bespoke viability assessments of the key sites identified within the Deposit RLDP have also been undertaken by the site promoters and independently verified, to evidence site deliverability including associated infrastructure and levels of affordable housing.

iii. In addition, the high-level appraisal also considers testing the impact of net zero construction costs on development viability.

iv. The main conclusion reached from this high-level study is that it should be viable for market-led residential developments to deliver the following percentages of affordable housing, as part of the overall mix of dwelling types and tenures.

v. The proposed policy for affordable housing targets and thresholds is as follows:

Housing Market Area	Settlements	Affordable Housing Requirement %	Policy Threshold
Barry	Barry	30%	5 dwellings net gain
Coastal	Rhoose, St Athan, Llantwit Major	35%	5 dwellings net gain
Penarth	Penarth, Dinas Powys, Llandough, Sully	40%	1 dwelling net gain new build. 2 dwelling net gain for conversions of existing buildings
Unallocated sites outside the strategic growth area (Rural and East Vale)	Primary and Minor Rural Settlements outside the strategic growth area, all areas outside of settlement boundaries	40%	1 dwelling net gain new build. 2 dwelling net gain for conversions of existing buildings
Affordable housing led allocations outside the strategic growth area	Housing allocations outside the strategic growth area	50%	As per allocation

Contents

1 Introduction

1.1 In May 2021, the Vale of Glamorgan Council commenced preparation of its Replacement Local Development Plan (RLDP). Key to the production of the RLDP is to review and establish the evidence base to support key elements of the plan, including the evidence that underpins assumptions on the levels of affordable housing which the Council can realistically secure through the planning system, and where appropriate update the existing policy framework so that it is fit for purpose.

1.2 The provision of affordable housing is key to the RLDP Strategic Vision and Objectives of the plan for ensuring future housing within the Vale of Glamorgan contributes to meeting the identified housing needs of residents and assist in the delivering of diverse and cohesive communities.

1.3 The Council's latest Local Housing Market Assessment (LHMA, 2023) illustrates the pressing need for affordable housing within the authority, identifying a net annual need for 1,075 affordable units per annum in the Vale of Glamorgan for the period 2023-28[1], and a further 154 units per annum over the following 10 years.

1.4 Over the 15-year period of the RLDP, the LHMA identifies an annual need for 461 affordable units per annum (6,918 in total), comprising an average of 306 social rented units per annum and 156 units of intermediate housing per annum. The greatest need for affordable housing annually is within Barry, Penarth/Llandough, Llantwit Major, Dinas Powys and Rhoose, however the LHMA identifies a need of affordable housing across the authority. The greatest need is for one- and two-bedroom properties, across all areas of the Vale of Glamorgan, although in some areas the LHMA identifies a requirement for 3- and 4-bedroom properties.

1.5 The Vale of Glamorgan Council has a strong track record in delivering affordable housing through the policies contained within the current adopted LDP. To ensure the continued delivery of affordable housing through the RLDP, it is essential for the Council to undertake a review of the existing policy framework and underlining evidence base that supports the adopted LDP. The purpose of the high-level review is to test the existing affordable housing thresholds and targets within the adopted LDP to determine if the existing affordable housing requirements are appropriate within the context of current market conditions. In this respect the report contains recommendations on future policy to be considered as part of the LDP review.

[1] Headline figure based on the principal projection

2 Format of the Report

2.1 The following report is divided into 3 parts. Part 1 provides an overview of the planning policy and guidance in respect of affordable housing and viability and also provides a summary of the performance of the Council's current existing affordable housing policy.

2.2 Part 2 of the report provides an overview of the baseline default values used within the high-level financial viability review as agreed through consensus by stakeholders. This information updates the previous evidence of development viability that informed the existing affordable housing policies of the adopted LDP.

2.3 Part 3 provides an overview of the headline results of the viability assessments and sets out the justification for the affordable housing policy proposed for inclusion within the Deposit RLDP.

2.4 To support the Council's ambitions to achieve net zero by 2030, and in accordance with national planning policy, the viability review also explores the potential for the Council to introduce a policy requiring all new dwellings to be constructed to zero carbon standards. Background to this policy is set in the Council's Net Zero Buildings Background Paper.

2.5 In terms of viability modelling, the Council has utilised the Regional High Level Viability Model (HLVM) developed by Burrows-Hutchinson Ltd Chartered Surveyors to assist LPAs within the South East Wales Region to undertake transparent high-level financial viability appraisals. The use of the HLVM will ensure a consistent approach to development viability amongst LPAs in the region. The model is also used by the eight LPAs in the Mid and South West Wales region.

2.6 In addition to the high-level testing, key site allocations identified within the RLDP have been the subject of bespoke viability modelling using the Burrows-Hutchinson site-specific Development Viability Model (DVM) to demonstrate that they are viable and deliverable. These detailed site appraisals have considered all associated infrastructure requirements arising from the development, including any site-specific contributions for additional educational provision, community facilities, active travel and highway improvements. The site-specific assessments have been independently reviewed and a summary of these is contained in the Site-Specific Viability Background Paper.

3 Policy Context

3.1 Planning Policy Wales (PPW Edition 12) requires LPAs to have a thorough understanding of development viability across the authority, stating "*when setting the affordable housing thresholds and/or site-specific targets planning authorities must consider their impact on site viability to ensure residential sites remain deliverable*" (paragraph 4.2.32).

3.2 Paragraph 4.2.20 sets out the national policy requirements for LPAs to evidence that site viability has been examined at the key stages of plan preparation, stating that:

"*At the 'Deposit' stage, there must be a high-level plan-wide viability appraisal undertaken to give certainty that the development plan and its policies can be delivered in principle, taking into account affordable housing targets, infrastructure and other policy requirements. In addition, for sites which are key to the delivery of the plan's strategy a site-specific viability appraisal must be undertaken through the consideration of more detailed costs, constraints, and specific requirements*".

3.3 Technical Advice Note (TAN) 2: Planning and Affordable Housing (June 2006) sets out additional guidance on affordable housing. It requires LPAs to include either site thresholds or combinations of site thresholds and site-specific targets in their plans. It notes that LPAs may identify sites for up to 100% Affordable Housing.

3.4 TAN 6: Planning for Sustainable Rural Communities (2010) notes that development plans should include sufficient land to meet market and affordable housing needs across the planning authority's area. It also notes that, in rural areas, planning authorities may wish to give priority to affordable housing to meet local needs.

3.5 Future Wales: The National Plan 2040 represents the highest tier of development plans in Wales, focusing on issues and challenges at a national scale such as the economy, housing, transport, energy, and the environment. The national aims and spatial objectives contained within Future Wales provide the context and direction for future Strategic Development Plans (SDPs) at a sub-regional level, and LDPs at the local level. Policy 7 - Delivering Affordable Homes states "*Through their Strategic and Local Development Plans planning authorities should develop strong evidence-based policy frameworks to deliver affordable housing, including setting development plan targets based on regional estimates of housing need and local assessments. In response to local and regional needs, planning authorities should identify sites for affordable housing led developments and explore all opportunities to increase the supply of affordable housing*".

3.6 The Welsh Government Development Plans Manual (DPM, Edition 3, 2020) contains practical guidance on how to prepare, monitor and revise development plans based

on sound evidence *"to ensure that plans are effective and deliverable and contribute to placemaking, as defined in national policy set out in PPW"* (WG, 2020, para. 1.1).

3.7 The Manual states that viability and deliverability should start at the Candidate Site stage to frontload the viability assessment, later accompanied with site specific appraisals for those sites key to delivery of the plan. Furthermore, and in order to justify a range of geographically based affordable housing policies, *"The LPA must undertake a high-level viability appraisal to assess the broad levels of development viability at housing market areas. Broad housing market areas should identify the contribution sites can make to the delivery of infrastructure, affordable housing, and any other policy requirements"* (WG, 2020, para. 5.88).

3.8 The national policy position reflects the growing recognition within planning of the critical link that exists between aspirations set out within development plans and the delivery of individual site allocations in achieving timely and sustainable development during the Plan period. The ability to demonstrate that LDP allocations will come forward during the plan period also helps to provide evidence that the Council will meet requirements in PPW to ensure that policies and allocations within the LDP are viable and deliverable.

3.9 The Manual does not specify that a set model should be used in viability assessments, but does state that the following components need to be addressed in the viability work:

Table 1: Components of Viability Assessments

Development mix (density and house types)	Land owner expectations / Land Value Bench Mark
House Prices	Abnormal costs (where relevant)
Contingency	Notional / Actual Sites
Fees	Cumulative impacts of plan policies (s106 obligations/CIL)
Build Costs	Affordable Housing % and Tenure Split (intermediate, social rented)
Development profit	ACG Bands

Source: Development Plans Manual Edition 3 – Diagram 17

4 Existing Affordable Housing Policy Context and Delivery

4.1 Strategic Policy SP7 of the Adopted Vale of Glamorgan LDP identifies a target of up to 3,070 affordable homes across the Vale of Glamorgan over the Plan period. The target was derived from the findings of the Council's Affordable Housing Viability Appraisal undertaken in support of the adopted plan.

4.2 Table 2 provides a summary of the number of additional new build affordable dwellings provided annually over the period 2011-25 and includes affordable housing delivered via both s106 and rural exceptions policies.

Table 2: Annual Affordable Housing Units 2011-2024	
Period	**Additional Affordable Dwellings Provided**
2011-12	48
2012-13	101
2013-14	44
2014-15	164
2015-16	163
2016-17	273
2017-18	216
2018-19	105
2019-20	279
2020-21	229
2021-22	189
2022-23	157
2023-24	170
2024-25	218
Total	**2,356**

Source: VOG records

4.3 The key policy mechanism for the delivery of the affordable housing target is Policy MG4 Affordable Housing of the adopted LDP. This policy sets out the Council's requirements for the provision of affordable housing, based upon 3 tiers of affordable housing target across the authority, reflecting the spatial variations in house prices and viability across the authority. Namely:

- Within Barry a requirement for 30% affordable housing to be provided on residential developments that result in a net gain of 5 or more dwellings.
- Within Llantwit Major, Rhoose and St Athan a requirement for 35% affordable housing to be provided on residential developments resulting in a net gain of 5 or more dwellings.
- Within Cowbridge, Dinas Powys, Llandough, Penarth, Sully, Wenvoe, the minor rural settlements (as defined in the LDP settlement hierarchy) and the rural Vale of

Glamorgan[2] a requirement for 40% affordable housing to be provided on residential developments resulting in a net gain of 1 dwelling or more, and for a net gain of 2 dwellings in the case of developments that involve the conversion of existing buildings.

4.4 Appendix 1 provides a comprehensive list of affordable housing secured on allocated sites to date, set against the current adopted plan policy framework at the time of the granting of planning permission, reflecting the evolution of the Council's policy framework during the production of the adopted LDP. In addition, affordable housing has also been secured on several 'windfall' developments and is also included within the table.

4.5 This evidence indicates that generally affordable housing delivery has been achieved in accordance with the affordable housing policy requirements. In those cases where this has not been achieved, site specific constraints or infrastructure requirements were the main reason for divergence from the policy requirements. However, it should be noted that Policy MG4 includes flexibility enabling the Council and site developers to negotiate the level of affordable housing to maintain housing delivery where site specific issues impede the delivery of the policy requirements.

Small Sites Affordable Housing Delivery

4.6 Policy MG4 also requires an affordable housing contribution to be provided on residential developments where this results in a net dwelling gain of 1 or more dwellings, or in the case of conversion of existing buildings a net gain of 2 dwellings. The requirement applies to proposals within the settlements of Cowbridge, Dinas Powys, Llandough, Penarth, Sully, Wenvoe, the minor rural settlements (as defined in the LDP settlement hierarchy) and the rural Vale of Glamorgan.

4.7 Annual monitoring of section 106 contributions indicates that the Council has successfully secured affordable housing contributions where single dwellings are proposed in line with current policy. Since October 2016, the Council has revised the application of the policy through Supplementary Planning Guidance which allows for an exemption for self-build dwellings, in recognition of the importance of the self-build industry to the local economy. The exemption is applicable only to new dwellings where the dwelling will be the sole residence of the person(s) building or commissioning the dwelling for a minimum period of 3 years.

[2] For the purposes of the policy, areas outside of the defined settlements are treated as being within the Rural Vale of Glamorgan

5 Financial Viability Review

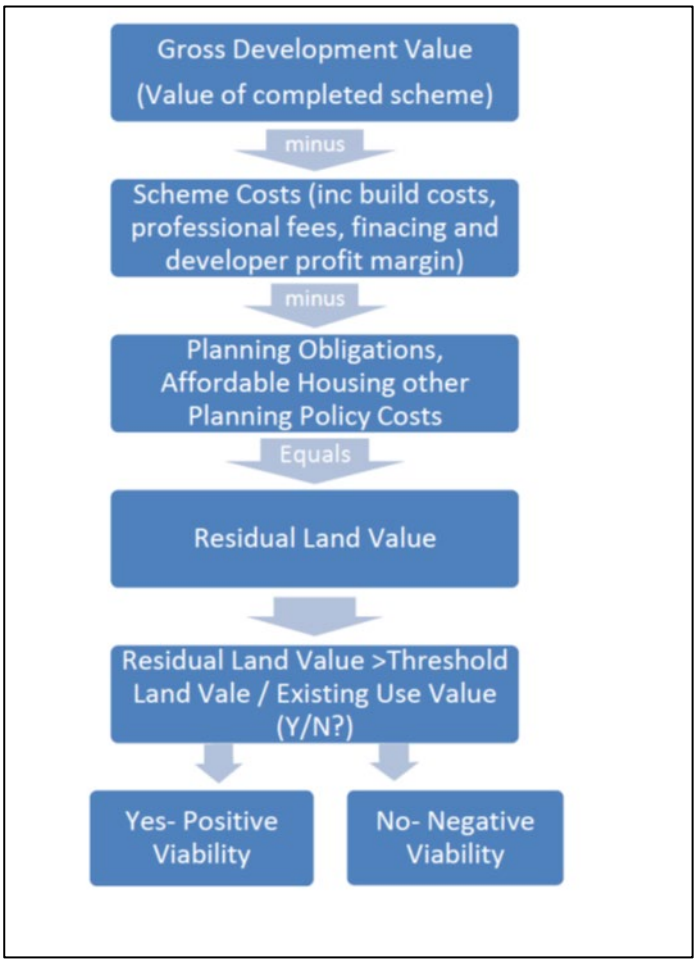
Methodology

5.1 The high-level review has been undertaken using the Regional High Level Viability Model (HLVM) which has been adopted by the 10 LPAs within South East Wales. The model was originally developed for the 8 LPAs in the Mid and South West Wales Region (MSWWR) with support from the Welsh Government, for use within LDP preparation.

5.2 The HLVM is constructed to produce a residual value (RLV) which is the net amount left after all the costs of development including Section 106 contributions (including affordable housing and other obligations) have been deducted from the gross value of the development. The RLV is then compared with a benchmark land value (or existing use value) if the amount of the RLV is higher than the benchmark/existing use value the scheme is seen to be economically viable.

5.3 The diagram below illustrates the principal by showing the basic relationship between development scheme costs and generated values.

Development Viability



Source: Vale of Glamorgan

5.4 In the above diagram, the level of affordable housing and planning obligations have a direct impact on the viability of a development, as the scale of planning obligations increase this reduces the final net residual value. The Residual Land Value is normally a key variable in determining whether a scheme will proceed. If a proposal generates sufficient positive land value (more than existing use value), it will be implemented. If not, the proposal will not go ahead, unless there are alternative funding sources to bridge the gap.

5.5 The aim of the viability assessment is therefore to identify an appropriate level of affordable housing that will maintain a net residual value that provides enough positive return to the developer/landowner above the existing value of the site for the site to come forward. This is also true in respect of developer return/profit on its investment.

5.6 Whilst it is acknowledged that landowners may hold expectations on the value of their land which often exceeds the value of its current use, the expectations need to be balance against the legitimate needs of the wider communities which will accommodate new development, including the provision of affordable housing and infrastructure to support new residents.

5.7 Consequently, in undertaken this review the Council has sought to draw upon a range of sources to inform the high-level appraisal, including working with developers to determine factors such as house prices, land values and construction cost, to ensure that the assumptions adopted within the appraisal generally reflect that of the Vale of Glamorgan. Further detail on this is considered below.

Viability Stakeholder Group

5.8 To inform the assumptions within the high-level viability assessment, the Council held a stakeholder workshop on 25th June 2024 to discuss data collected by the authority on a range of values including local house prices, land values, construction costs and professional fees. To assist in the assessment, the Council appointed Andrew Burrows of Burrows-Hutchinson to facilitate the discussion and seek consensus on the assumptions. This was informed by a presentation which provided an analysis of the local housing market, land values and build costs from a range of source material as well as knowledge acquired through the recent viability workshops that Burrows-Hutchinson have been involved in across Wales.

5.9 The purpose of the workshop was to help achieve broad consensus on the key viability inputs to be used. Invitations were sent to a cross section of stakeholders, including representatives from private developers (national and regional), the Home Builders Federation, the Federation of Master Builders, planning consultants, Registered Social Landlords (RSLs), site promoters, commercial valuers and the Council's Housing and Estates Departments. Table 2 details the list of organisational representatives who took part in this workshop.

Table 3: Viability Stakeholder Workshop Attendees 25/06/2024
Organisation
Alder King
Barratt Homes
Burrows-Hutchinson
Edenstone Homes
Hafod Housing Association
Hallam Land Management
Home Builders Federation
Newydd Housing Association
Persimmon Homes
PMG
Pobl
Savills
United Welsh Housing Association
Vale of Glamorgan Council (Estates)
Vale of Glamorgan Council (Environment and Housing)
Vale of Glamorgan Council (Planning)
Apologies were received from the following organisations
Acorn Homes
Cooke and Arkwright
Federation of Master Builders
NP Linnells
Redrow
Wales and West Housing Association
Welsh Government Land Division

5.10 Following the workshop, the presentation slides and minutes of the meeting were circulated to participants with the opportunity for participants to make further comments. Additional points of clarification were received from one participant and the minutes have been amended accordingly to reflect these points and circulated again to participants on 17th September 2024. Two further emails in respect of the minutes of the meeting and assumptions were received. These are set out in Appendix 4 and the issues they raised are addressed in the relevant sections in Chapter 6.

5.11 A second stakeholder workshop was held on the 4th July 2024 to present and discuss with stakeholders the Council's study into net zero carbon buildings and associated construction costs. The minutes of this meeting are available in Appendix 5.

6 Viability Inputs and Assumptions

6.1 This section details each viability component used for the high-level testing, together with the assumptions made about proposed development on those sites. The variables used within the high-level appraisal have been agreed through the stakeholder workshop.

6.2 Plan-wide viability testing commenced in October 2024, post conclusion of steering group discussions. This was undertaken prior to the publication of the Deposit Plan to comply with the requirements set out in PPW and the Development Plans Manual (Edition 3, 2020). Each of the assumptions used in the viability appraisals will now be outlined in turn to provide a robust basis to inform the Replacement LDP.

Housing Sub- Market Areas

6.3 The high-level viability appraisal review focusses on the housing market areas present within the Vale, which were originally identified in the Council's earlier 2010 viability assessment through an assessment of Land Registry house price sales data. This original assessment identified 6 housing market areas - Barry East, Barry West, Penarth, Coastal Vale, Rural Vale, and East Vale.

6.4 Using Hometrack data, the Council undertook a review of current house sales and valuations which reconfirmed that the sub-market areas remain relevant. The analysis seeks to establish a broad starting point for target setting in light of the general relationships between development revenues and development costs. However, due to the relatively small number of property values in the Barry West housing market area it was proposed that Barry be covered by a single sub market housing area. A single sub market housing area for Barry would also align with the market areas within the Council's LHMA and the current policy approach in the adopted LDP, which has a single target for Barry.

6.5 The 5 proposed sub market areas were presented at the stakeholder workshop where it was generally agreed to retain the 5 boundary areas. The spatial boundaries of the sub market areas used within the viability review encompass the 13 ward-based market areas identified within the LHMA. The 5 market areas of Barry, Penarth, Coastal Vale, Rural Vale, and East Vale illustrated spatially below:

Housing Market Areas

Site Typologies, Dwelling Size and Mix

6.6 To facilitate testing of sites that are likely to come forward over the plan period, due consideration has been given to the types of sites delivered in recent years and those expected to come forward in the future. Accordingly, the review has focused on high-level assessment of various site typologies, ranging from the development of single plots to developments of up to 100 dwellings and other small, medium development scenarios at a range of dwelling densities.

6.7 The Council has undertaken a review of development densities to inform future policy, with the desire to encourage higher density developments in line with national policy, and this is reflected in the site typologies tested. The net developable areas detailed in Table 3 have therefore been devised in accordance with the following gross to net ratios, deemed acceptable by the steering group, namely:

- Up to 1 ha 90%
- > 1 ha and < 2 ha 75%
- > 2 ha and < 4 ha 70%
- > 4 ha 65%

6.8 In terms of dwelling sizes, the assessment utilises the default house typologies contained within the toolkit, and the same sqm areas for both market and affordable dwellings. On this basis, notional Design Quality Requirement dwelling sizes have

been applied for all dwelling types. Whilst it is acknowledged that the size of market housing may differ and may also include a wider range of housing typologies (such as 3 storey town houses) the viability model utilises per square metre build costs and sales values, so the matter of differing house typologies is essentially overcome in the appraisal. For consistency, these unit types have been tested across all 5 HMAs, subject to adjustments to incorporate different proportions of affordable housing where viable.

6.9 In respect of affordable housing tenures and dwelling mixes, this has been informed by the Council's latest LHMA, which indicates need by dwelling size and also indicates that there is an overall need for 35% Intermediate/Low-Cost Housing Options and 65% Social Rented.

6.10 Table 3 provides an example of the dwelling mix for the Barry HMA at 30% affordable housing with the mix of affordable housing reflecting the need identified in the LHMA, whilst the market housing element generally reflects the broad housing typologies used within each HMA. Examples of the site typologies tested for each housing market area are provided at Appendix 6.

Table 3: Example Site Typologies Market and Affordable Housing Dwelling Mix (Barry HMA at 30% Affordable Housing)

3 Dwellings (0.09ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
2	0	4b7p	house	114.0	66.7%
0	1	2b3p	house	74.0	33.3%
6 Dwellings (0.18 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
4	0	3b4p	house	88.0	66.7%
0	2	2b3p	house	74.0	33.3%
10 Dwellings (0.29 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
3	0	3b5p	house	93.0	30.0%
4	0	4b6p	house	110.0	40.0%
0	2	2b3p	house	74.0	20.0%
0	1	3b4p	house	88.0	10.0%
16 Dwellings (0.45ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
5	0	4b7p	house	114.0	31.3%
6	0	4b6p	house	110.0	37.5%
0	2	2b4p	house	83.0	12.5%
0	1	3b4p	house	88.0	6.3%
0	2	2b3p	house	74.0	12.5%

26 Dwellings (0.75ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
8	0	3b4p	house	88.0	30.8%
6	0	3b5p	house	93.0	23.1%
0	4	1b2p	flat - w/u	53.0	15.4%
0	1	2b3p	house	74.0	3.8%
0	3	2b4p	house	83.0	11.5%
4	0	4b6p	house	110.0	15.4%

36 Dwellings (1 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
8	0	3b4p	house	88.0	22.2%
6	0	4b6p	house	110.0	16.7%
0	4	1b2p	flat - w/u	53.0	11.1%
0	2	2b4p	house	83.0	5.6%
11	0	3b5p	house	93.0	30.6%
0	2	2b3p	flat - w/u	65.0	5.6%
0	1	2b3p	house	74.0	2.8%
0	2	3b4p	house	88.0	5.6%

50 Dwellings (1.4 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
12	0	3b4p	house	88.0	24.0%
9	0	4b6p	house	110.0	18.0%
0	6	1b2p	flat - w/u	53.0	12.0%
0	3	2b4p	house	83.0	6.0%
14	2	3b5p	house	93.0	32.0%
0	2	2b3p	flat - w/u	65.0	4.0%

70 Dwellings (2 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
18	0	3b4p	house	88.0	25.7%
8	1	4b6p	house	110.0	12.9%
0	8	1b2p	flat - w/u	53.0	11.4%
0	4	2b4p	house	83.0	5.7%
19	2	3b5p	house	93.0	30.0%
4	0	4b7p	house	114.0	5.7%
0	4	2b3p	flat - w/u	65.0	5.7%
0	2	2b3p	house	74.0	2.9%

100 Dwellings (2.8 ha)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
20	2	3b4p	house	88.0	22.0%
12	1	4b6p	house	110.0	13.0%
0	12	1b2p	flat - w/u	53.0	12.0%
8	6	2b4p	house	83.0	14.0%
20	4	3b5p	house	93.0	24.0%
10	0	4b7p	house	114.0	10.0%
0	5	2b3p	house	74.0	5.0%
100 Dwellings High Density (2 ha @50 d.p.h)					
Open Market	**Affordable Housing**	**Dwelling Type**		**Dwelling Size in m²**	**% mix**
20	0	3b4p	house	88.0	20.0%
20	0	2b4p	house	83.0	20.0%
0	12	1b2p	flat - w/u	53.0	12.0%
0	8	2b3p	flat - w/u	65.0	8.0%
30	0	2b3p	flat - c/a	58.0	30.0%
0	10	2b3p	house	74.0	10.0%

Rates of Sales

6.11 The phasing and rate of sales was considered through the stakeholder workshop, where it was generally agreed that development of 40-50 units per annum would be appropriate on a site with a singular outlet, with more on larger sites, particularly those with more than one outlet. It was also suggested that on smaller sites, the rate of sales might be reduced to circa 30 dwellings p.a. In applying these development rates, it is assumed that the site will be progressed by a single developer.

Affordable Housing Mix

6.12 The latest LHMA indicates that of the 1,075 dwellings required annually, two thirds of this need is within the social rented sector with an annual need for 687 units of social rented accommodation, with the remaining 388 homes required for intermediate rented housing and low-cost home ownership (LCHO).

6.13 To date the Council has sought a tenure split of 70% social rent and 30% intermediate/LCHO based on the evidence at the time of the preparation of the adopted LDP. The latest evidence from the LHMA indicates that this split should now be 65% social rent to 35% intermediate/LCHO so this will form the basis for the testing moving forward.

6.14 In terms of the LCHO, historically these dwellings have been made available at 70% of open market values, however the Council and RSLs have raised concerns regarding the affordability of LCHO at 70% of market values especially in the higher value housing sub market areas where RSLs have experienced difficulties in finding buyers in some areas.

6.15 Accordingly, the stakeholder group agreed to test LCHO at both 70% and 60% of market values. A lower percentage of OMV would potentially mean that the affordable units are being better targeted to those in need of an intermediate housing product and RSLs may find it easier to find appropriate occupiers. However, reducing the OMV from 70% to 60% may impact on the number of affordable units that could be delivered and therefore a balance needs to be struck.

Affordable Housing Transfer Values

6.16 In most cases where there is a requirement as part of a Section 106 agreement for affordable housing to be delivered, this is built by the private developer of the site and the units are purchased at a discounted value (known as a transfer value) by an RSL. Historically, many local authorities including the Vale have calculated the transfer values on the basis of a percentage of the Welsh Government's Acceptable Cost Guidance (ACGs), which are values that WG consider to realistically reflect the cost to build a property, including the cost of land. ACGs vary by unit type and area, with Wales being divided into 5 bands of similar value. It was typically the case that transfer values were 42% of the ACG value, as this was equivalent to the amount that an RSL would put into a scheme if it was funded by Social Housing Grant.

6.17 Following the recommendations of the Independent Review of Affordable Housing Supply, WG announced that they would be using a new model to assess grant funded applications and would no longer be publishing ACGs in the same way. The August 2021 ACGs are therefore the last ACGs that encompassed both land and works costs. It has therefore been necessary to consider an alternative method for further updates to transfer values. As the Vale are not the only authority affected by this, the matter has been considered regionally to determine whether a consistent alternative method could be agreed. In the interim, a Statement of Common Ground was signed between the Council and the partner RSLs which agreed to use the 2021 ACGs as the basis for transfer values until such time as an alternative method was agreed.

6.18 Following discussions with a number of stakeholders including the Council's RSL partners, it was agreed that the most appropriate way forward is to update the 2021 ACGs in line with the maximum rent increase figures that WG publish on an annual basis. The figures are derived from the August 2021 WG Acceptable Cost Guidance (ACG) figures for Band 5 General Needs Homes 11 units or more and have been uplifted in line with the WG maximum rent inflation cumulatively for the 3 years since

the last set of land and works ACGs were published. The figures are based on the Registered Social Landlord or Council purchasing the units for no more than 42% of the uplifted ACG value.

6.19 On this basis, in June 2024, the Council undertook a 6-week consultation on a revised Affordable Housing Supplementary Planning Guidance document, which included the aforementioned approach to affordable housing transfer values. A small number of objections were raised through the consultation from the development industry, who considered that the values were too low when compared to the rising cost of building materials and that this was a matter that should be addressed regionally. However, no realistic alternative approach to the calculation of transfer values was put forward. The figures have been reviewed by the RSL partners who have confirmed that it would be viable for them to purchase s106 units at these uplifted rates, although there was concern by at least one RSL that they would be unable to support higher rates than these.

6.20 Following the consultation, a minor amendment was made to the transfer values to correct the 2022 CPI figure, which in effect makes a slight reduction to the figures subject to the consultation but are still affordable for the RSLs. The affordable housing transfer values set out in Table 4 below were agreed by Cabinet on 10th October 2024.

6.21 The figures have been uplifted by the following per annum:

- 1st April 2022 – 3.1% (which reflects the September 2021 CP1)
- 1st April 2023 – 6.5% (WG social rent cap)
- 1st April 2024 – 6.7% (WG social rent cap)

Table 4: Affordable Housing Transfer Values

Unit size	Unit Type	Uplifted ACG Value	Transfer value from 1st April 2024 (42%)
7 Person 4 Bed	House	£347,257	£145,848
6 Person 4 Bed	House	£321,248	£134,924
5 Person 3 Bed	House	£275,673	£115,783
4 Person 3 Bed	House	£258,217	£108,451
4 Person 2 Bed	House	£248,141	£104,219
3 Person 2 Bed	House	£240,409	£100,972
2 Person 1 Bed	House	£201,864	£84,783
3 Person 2 Bed	Bungalow	£240,409	£100,972
3 Person 2 Bed	Flat (walk up)	£195,771	£82,224
2 Person 1 Bed	Flat (walk up)	£162,733	£68,348

House Prices

6.22 Discussions were held with the steering group on new build sales prices to inform this Assessment. The Council presented Hometrack house price data for the Vale of Glamorgan which was based on new build sales and valuation data for February 2022-23 and February 2023-24. A comparison of new build and second-hand values were presented which suggested a new build premium of between 17% and 30% within the Vale. However, it was considered that a 15% premium was acceptable given the low recorded sales for 2024.

6.23 In addition to Hometrack data, the Council drew upon per sqm sales values quoted within site specific candidate sites Development Viability Models (DVMs) submitted by site promoters and were used as a comparator to sales and valuations data.

6.24 Following discussions on the values provided and Hometrack data it was agreed that the Upper Quartile Average for the period 2023-24 provided a reasonable reflection of current sales values, however adjustment was made to the Coastal sub-market where values were considered to be lower than would be expected in the area as stakeholders felt the figures should be compatible with Barry sub market. The stakeholders suggested that 2- and 3-bedroom properties should be below £300,000 to reflect Help to Buy thresholds. Following further analysis, it was suggested that the Coastal figures should be increased to £3,300 per sqm to mirror the relationship between house prices and land values in the other sub-markets and there was no disagreement from the group following email consultation on this point. One subsequent comment was received stating that if the sales value for Coastal increased, the land value should be increased too. However, the reason why the sales value was increased was to ensure that the relationship between sales and land values were consistent across all areas and increasing the land value in isolation would bring it out of line. As the comment was not about the sales value itself and more about the land value, these figures, including the amendment to Coastal, were taken as agreed as appropriate for the purposes of the high-level testing:

- Barry – £3,200 per sqm
- Coastal - £3,300 per sqm
- East Vale – £3,400 per sqm
- Penarth – £3,800 per sqm
- Rural – £3,500 per sqm

Build/ Construction Costs

6.25 Current build costs were explored at the workshop, with the Building Cost Information Service (BCIS) database considered as the starting point for build costs.

The BCIS costs (average prices for residential facilities) are based on accepted tenders and include contractor's overheads, profit, and preliminaries. These indicate that the Vale has a higher locational factor (index of 95) than the Wales average, but these were marginally lower than Monmouth. The average BCIS basic plot costs in the Vale were identified as £1,400. Consideration was also given to the construction costs reported through the site specific DVMs submitted as part of the candidate site process, and the build costs agreed as part of the VSGs in other local authorities in Wales.

6.26 As part of the s106 affordable housing requirements, the Council would normally ask for any 1 bed properties to be developed as walk-up flats, rather than a block of flats with a communal entrance and stairway. Walk up flats share characteristics of a block of 2 bed semis and therefore the costs would be similar to that of housing.

6.27 Whilst not a common house type in the Vale, it has been suggested that a block of flats would be more costly to build than a house. It is therefore intended to apply a 95% net to gross ratio in respect of build costs for blocks of flats of 3 storey or more with shared entrances, which are likely to be sought on higher density urban sites.

6.28 Following discussions with stakeholders it was agreed that the following per sqm build costs were appropriate, with the understanding that the costs relate only to the building costs (excluding externals) and do not account for additional costs associated with ULEV charging, sprinklers or other external costs which are factored in separately.

- £1,150 psm (£107 psf) for sites of 40+ units
- £1,300 psm (£121 psf) for 20 – 39 units
- £1,400 psm (£130 psf) for 10 – 19 units
- £1,500 psm (£139 psf) for 2 – 9 units
- £1,550 psm (£144 psf) for 3-bed single unit
- £1,600 psm (£149 psf) for 5-bed single unit
- Flatted developments (3 storeys or above)– 95% net to gross ratio

Additional Build Costs

6.29 The impacts of changes to Welsh Building Regulations, and particularly changes to Part L, and sprinkler requirements are largely excluded from the BCIS data as the schemes currently being developed were generally approved prior to the latest changes. Typical assumptions for sprinklers and Ultra Low Emissions Vehicles (ULEV) charging points were considered by the VSG. In recent viability appraisals these identified typical combined costs of £2,550 per dwelling for sprinklers and ULEV.

6.30 It was agreed that £3,000 per dwelling was a reasonable assumption to reflect the recent 2021 Part L changes. It is anticipated that there will be further additional costs in light of additional changes to Part L proposed for 2025 onwards. The cost uplift associated with this, and an assessment of how this compares in cost terms with options for net zero buildings is discussed below.

Net Zero Building Construction Costs

6.31 Paragraph 5.8.2 of Planning Policy Wales (Edition 12, 2024) states "*the Welsh Government's policy is to secure zero carbon buildings while continuing to promote a range of low and zero carbon technologies as a means to achieve this"*. PPW also indicates that *"Sustainable building design principles should be integral to the design of new development"* and that new development proposals should:

- *"Mitigate the causes of climate change, by minimising carbon and other greenhouse gas emissions associated with the development's location, design, construction, use and eventual demolition; and*
- *include features that provide effective adaptation to, and resilience against, the current and predicted future effects of climate change."* (para 5.8.3 refers)

6.32 In relation to viability appraisals para 5.8.4 goes on to state that:

"Planning authorities should assess strategic sites to identify opportunities to require higher sustainable building standards, including zero carbon, in their development plan. In bringing forward standards higher than the national minimum, which is set out in Building Regulations, planning authorities should ensure the proposed approach is based on robust evidence and has taken into account the economic viability of the scheme."

6.33 Furthermore, PPW states that "*Developers should take into account future requirements for carbon reduction in new buildings, as a result of changes to Building Regulations in Wales, when designing their schemes. Being mindful of any future changes will ensure design aspects of requirements are considered as early as possible*." (Para 5.8.5 refers)

6.34 A workshop was held on 12th July 2024, facilitated by Spring Design, to discuss the feasibility and cost implications of delivering planning policies requiring buildings to be operationally net zero, with consideration also being given to the feasibility and costs of achieving net zero in terms of embodied carbon. A briefing note was shared with participants in advance of the meeting.

6.35 As detailed in the Net Zero Carbon Buildings Feasibility Study and Cost Assessment, four operational emissions scenarios were modelled in PHPP applying identical external envelope u-values to achieve increasing levels of building performance:

- AD: L (Wales) 2025 - future anticipated Building Regulations;

- AECB CarbonLite – Heat Demand: 40 kWh/m²/yr & EUI: 75 kWh/m²/yr thresholds;
- B&NES – Heat Demand: 30 kWh/m²/yr & EUI: 40 kWh/m²/yr thresholds;
- LETI – Heat Demand: 15 kWh/m²/yr & EUI: 40 kWh/m²/yr thresholds.

6.36 Modelling was undertaken on three different house types:

- HT 211 3 storey block of nine flats
- HT 421 Two semi-detached dwellings
- HT 641 Detached 4 bed dwelling

6.37 For the purposes of the high-level viability testing it is proposed to consider the AD L (Wales) 2025 scenario as the base scenario, as well as the LETI scenario, which represents the best building performance.

6.38 From an embodied carbon perspective, the plot costs of constructing the substructure, superstructure etc as well as mechanical and electrical elements were determined based on four different construction techniques, with increasingly lower levels of embodied carbon:

- Scenario 1 – Masonry
- Scenario 2 – Framed
- Scenario 3 - Timber
- Scenario 4 - Timber Optimised

6.39 The net zero carbon buildings feasibility study and cost assessment compares the costs of delivering the three types of homes at anticipated AD L (Wales) 2025 standards with a scheme where the dwellings meet LETI operational standards.

6.40 At the workshop on net zero buildings held in July 2024, costs were presented on the plot costs of delivering units to AL (Wales) 2025 standards as well as the cost difference to achieve LETI. Concerns were raised at the workshop and in subsequent correspondence thereafter that the plot costs appeared low in both scenarios when compared to the BCIS Median build costs presented at the VSG Workshop and current tender prices. This feedback was considered by Spring Design and their cost consultants, RPA, and further analysis was undertaken to ensure that the plot costs in the net zero buildings work included the same elements that were included in BCIS. It was established that the original figures presented did not include assumptions for preliminaries, internal doors, surface finishes, fixtures and fittings (kitchens and bathrooms) or general electrical circuits. The inclusion of the extra elements has increased the overall plot costs, but there were no changes to the costings of the fabric or energy generation elements, which are the critical components in the analysis. Stakeholders were advised of this in email correspondence in September 2024.

6.41 As with the BCIS costs, the Spring Design costings do not include external costs, or the costs of ULEV charging or sprinklers.

6.42 The updated Cost Analysis report has factored in the additional costs and has revised the plot costs for both the Part L 2025 scenarios and the LETI scenarios.

6.43 It is important to note that to achieve both standards there will be a need for air source heat pumps (ASHP) and photovoltaics (PV). However, to achieve LETI there is a greater focus on the fabric, with improved energy efficiency. LETI would require a Mechanical Ventilation Heat Recovery (MVHR) system which reduces the heating demand of the building, compared to a Mechanical Extract Ventilation system that would be required under AD L (Wales) 2025.

6.44 When the costs of achieving both standards are compared, for the dwelling house types (421 and 641) it will cost less to construct a home to LETI than AD L (Wales) 2025 (£20.48 to £34.2 less per m2). The cost of a block of flats would be £25.49 m2 more. The reason for this is that the thermal efficiency of a home under LETI would require a smaller ASHP and less PV in dwellings.

Table 5: AD L (Wales) 2025 upgrade to LETI costs (excluding preliminaries)

AD L (Wales) 2025 upgrade to LETI (ex. preliminaries)					
Building Element			HT 211	HT 421	HT 641
Fabric	Double glazing to triple glazing	additional cost	+ £3,374.96	+ £991.76	+ £623.63
	ASHP reducing in size	cost saving	N/A	- £8,000.00	- £6,000.00
	MVHR addition	additional cost	+ £27,000.00	+ £7,000.00	+ £4,000.00
	MEV omission	cost saving	- £5,400.00	- £1,800.00	- £1,200.00
Generation	PV array decreasing in size	cost saving	- £11,250.00	- £1,600.00	- £1,200.00
TOTAL			**+ £13,724.96**	**- £3,408.24**	**- £3,776.37**
Cost per unit			+ £1,525.00	- £1,704.12	- £3,776.37
Cost per m² of GIA			+ £25.49	- £20.48	- £34.21

6.45 The table below summarises the plot costs contained in the Cost Analysis report for AD L (Wales) 2025 and LETI by house type and construction method. As detailed in the previous table, the construction of houses costs less per sq m under LETI than AD L (Wales) 2025, but the cost is slightly higher for flats.

Table 6: Plot costs per sq m by house type and construction method

	Masonry	**Framed**	**Timber**	**Timber Optimised**
HT 211 to AD L (Wales) 2025	£1,568	£1,687	£1,785	£1,815
HT 421 to AD L (Wales) 2025	£1,838	£1,970	£2,061	£2,124
HT 641 to AD L (Wales) 2025	£1,840	£1,935	£1,997	£2,061
	Masonry	**Framed**	**Timber**	**Timber Optimised**
HT 211 to LETI	£1,597	£1,716	£1,814	£1,843
HT 421 to LETI	£1,815	£1,947	£2,038	£2,101

HT 641 to LETI	£1,801	£1,897	£1,959	£2,022

6.46 It must be noted that the housing types tested are single blocks – one block of flats, two semi-detached units that form a single block and a detached dwelling. The figures do not take into account the economies of scale that would apply on a larger development. The build costs agreed for the high-level testing in the previous section indicate that large developments of 40+ units have per sq m costs 28% lower than the cost of a single large dwelling of the type tested as HT 641. In order to translate this into figures for high level viability testing, the average cost of achieving LETI across the 3 unit types has been taken, and adjustments to take account of economies of scale have been applied to this, using ratios based on the agreed figures for build costs by development size. Using this method, the cost differences of the extra cost per sq m to achieve LETI compared to the base costs of current BCIS (excluding 2021 Part L) is as follows:

Table 7: Cost difference between BCIS and LETI per dwelling by construction method and development size £ per sq m

	Masonry	Framed	Timber	Timber Optimised
Large sites 40+ units	£99	£182	£243	£280
20-39 units	£111	£205	£273	£315
10-19 units	£121	£222	£295	£340
2-9 units	£128	£236	£315	£364
3 bed single unit	£134	£246	£327	£377
5 bed single unit	£138	£253	£337	£389

6.47 It is considered most appropriate to have a single figure on a per dwelling basis for the uplift from current BCIS data for the purposes of high-level testing, rather than different figures for different development sizes or unit types. If the above figures are applied to an average dwelling, which in the Vale equates to 90m2, the increased cost would equate to between £9,000 and £12,000 depending on development size for standard masonry construction. If the Council were to set policies promoting the use of low carbon building material to address embodied carbon as well as operational carbon (i.e. the LETI standard), the costs would significantly increase to between £25,000 and £35,000 for a timber optimised unit.

6.48 The costs of further changes to Building Regulations have been debated in other viability reports in Wales[3], where it is advised that the broad consensus is that achieving 2025 Part L could add another £5,750 – £7,000 per dwelling to existing costs, in addition to an agreed assumption that it would cost £3,000 to move from current BCIS data to 2021 Part L requirements. This would be a combined cost of

[3] E.g. Pembrokeshire Financial Viability Review (July 2024)

£8,750 to £10,000. Another local authority in South Wales is also proposing to introduce a net zero policy[4] and individual site promoters have made allowances for this of in the region of £7,000 to £12,000 on an individual site specific basis, albeit the report does state that some of the costs go beyond what may be strictly necessary to satisfy the requirements of that policy, but are aimed at delivering a product that will have a higher market value and/or appeal to a particular type of purchaser.

6.49 There is also an argument that the increase to 2025 Part L and beyond to net zero could well be matched by an increase in the market value of units. The Vale would support the argument that the increase in costs to achieve higher energy efficiency standards could either partly or totally be offset by an 'energy efficiency/net zero premium.' This was discussed by stakeholders, and they raised concerns that there was a ceiling on house prices and therefore this premium may not be realised, and that this may impact on the ability of occupiers to secure mortgages. However, based on an average cost of £9,000, this would equate to just 3% of an average house price in the Vale (£295,600[5]).

6.50 There is some evidence of a 'green premium' being achieved on larger homes (1,200 to 2,000 sq ft/111 to 186 sq m) of between 10 and 20%,[6] although this is less (0.4%) on smaller homes. There are few samples at present and there may be further evidence as net zero developments increase.

6.51 Having regard to the above, for the purposes of high-level testing it is proposed to take a cautious approach by using the figure of £9,000 per dwelling to reflect the cost of meeting LETI. Whilst this is the lowest point in the range, this is balanced against the fact that no uplift has been applied to account for the increased value that net zero status would potentially put on new dwellings.

6.52 The £9,000 per dwelling figure would include the £3,000 per unit to move from previous Building Regulations currently being recorded through BCIS to 2021 Part L, and a further £6,000 to move to LETI (which is evidenced to be a lower cost for housing than AD L (Wales) 2025).

6.53 Since the Spring Design work was completed, Welsh Government have now published a consultation document on Building Regulations Part L 2025 Review Changes to Part L (conservation of fuel and power), Part O (overheating) and Part F (ventilation) of the Building Regulations for dwellings and non-domestic buildings. The consultation ended on 17th November 2025, and the outcome of the consultation is awaited. The consultation included two options:

[4] Monmouthshire Preliminary Viability Report (September 2024)

[5] Land registry, August 2024

[6] Savills UK | The cost and premium for new eco-homes

- Option 1 includes: Air source heat pumps; dMEV; Improved air tightness; increase in solar photovoltaic;
- Option 2 includes: Air source heat pumps; MVHR; Improved air tightness; increase in solar photovoltaic.

6.54 Part L Option 1 is broadly similar to what Spring Design had assumed that the 2025 Part L, with the exception that Option 1 has a more stringent target for airtightness.

6.55 Option 2 is broadly similar to the AECB Carbonlite standard that is proposed to form the basis of the RLDP policy until 31st March 2030. It is less stringent that the LETI standard, proposed from 1st April 2030 onwards.

6.56 As part of the Welsh Government consultation document, detailed modelling was carried out to determine what a reasonable level of primary energy and CO2 performance might be for a new dwelling, taking account of primary energy and carbon savings, running costs, capital costs, and impact on housebuilding. The modelling assessed four standard dwelling types – detached house, semi-detached house, terraced house and a block of 32 flats.

6.57 The report indicates that some assumptions have been made on the change in costs over time, as supply chains mature. However, as the cost assumptions are based on individual units, and do not reflect the economies of scale associated with volume housebuilders. Overall, the cost analysis indicates the following:

- Option 1 – uplift from Building Regulations 2022 – an average of £5,123 per unit
- Option 2– uplift from Building Regulations 2022 – an average of £8,916 per unit

6.58 It has been calculated that the reduction in fuel costs would equate to 13% of household fuel costs for Option 1 and 27% for Option 2.

6.59 It is not possible to draw an exact comparison between the 2025 Building Regulations uplift costs and the RLDP evidence base uplifts costs, as the RLDP policy, which equates to LETI standard is more stringent than Options 1 and 2 so, as explained in Paragraph 6.44, would have better thermal efficiency, requiring a smaller ASHP and less PV.

6.60 As discussed in BP33A Net Zero Buildings, Welsh Government have identified in the consultation document that Option 1 is the Preferred Option. If this is taken forward, then the proposed RLDP policy intervention will still be warranted in delivering operational net zero homes. If Option 2 is ultimately taken forward, then consideration should be given to whether it remains appropriate to have a planning policy that is broadly similar as it would be more desirable to deal with the relevant assessments through the Building Control process rather than the planning system. A review will be undertaken at such time as the WG publishes the outcome of the

consultation, but for the purposes of the high-level testing, these costs remain as previously identified.

6.61 Concerns were raised by the development industry that there will be additional costs associated with professional design fees and technical drawings to meet a Vale specific standard, as many volume housebuilders use standard house types across local authorities. Whilst it is acknowledged that some amendments may need to be made, this is in itself not a sufficient reason to not proceed with the intervention, as developers have sufficient time to respond to the proposals and the costs of amending designs are likely to be a one-off cost for the volume housebuilders in question.

Sustainable Drainage Systems (SuDS)

6.62 The provision of SuDS within a development has cost implications in terms of net developable area and the resultant number of dwellings that can be accommodated within a given site. The information available in the Vale is currently limited as few SAB compliant schemes have been approved, and there has been variation across those have been approved. In other areas, commuted sum costs have been £4,000-£5,000 per dwelling, and this was corroborated by one stakeholder provided examples from 6 adopted schemes across which were on average £4,500 per dwelling. Whilst a general consensus was not met amongst stakeholders on a cost per dwelling due to the site-specific nature of SuDS there was no objection to adopting average per dwelling cost of £4,500 for the purposes of high level testing.

Normal External Costs

6.63 In addition to the plot costs already outlined, a further allowance has been made for the range of external costs typically associated with developments. These encompass a range of infrastructure costs including roads, footpaths, landscaping, drainage, and services within the site. Many of these costs will be site-specific, dependent on particular site circumstances and can only be estimated from detailed site assessment work.

6.64 Notwithstanding this, the following normal external building costs were presented to stakeholders who generally agreed to the proposed values:

- 15% - 20% of Plot Costs: £18,000 per dwelling (Estate Housing)
- 5% - 10% of Plot Costs for High Density/Apartment schemes
- Abnormal Costs - to be reflected in the land value.

Professional Fees, Marketing Costs and Legal Fees

6.65 Professional fees and marketing costs can vary significantly from scheme to scheme and also from developer to developer. This is acknowledged in the Development Plans Manual (DPM), which stresses that the allowance will "be influenced by the size of developers operating in the area and site size and nature" (WG, 2020, p.145). The Manual also states that "*different size developers will have access to varying degrees of economies of scale, and /or may build from a stock of standard designs and house types, rather than designing individual houses for each site.*" Therefore, it is imperative that the economies of scale developers can achieve on larger schemes are considered, a key point discussed with the steering group.

6.66 The following fees were presented to stakeholders who generally agreed to the proposed values:

- Professional Fees - 10% on physical infrastructure
- Plot Costs - 5% and 10% for externals (this includes warranties typically 10% on infrastructure/abnormal costs)
- Contingency – 5%
- Sales and Marketing Costs- 2%
- Legals Fees- £600/unit (normally less for AH on larger sites)

Developer Profit

6.67 Welsh Government stress the importance of allowing for an adequate profit margin for a developer when assessing development viability. The test is deemed to be whether "*residual profit will provide an appropriate return for a developer in the context of prevailing market conditions*" (WG, 2020, para.5.90). The model has been developed to produce a residual profit value that represents what is left after all development costs (including the land costs) have been deducted from the Gross Development Value (GDV).

6.68 Profit can be expressed as a percentage of development costs, or as a percentage of GDV. In this regard the DPM states that, "*The normal range of profit expected by developers and necessary to meet most lenders' requirements is between 15% and 20% of GDV for developments that will be let or sold on the open market. A lower profit margin, based on 6% of cost is normally applied to the provision of affordable housing" (WG, 2020, p.145).* Equally, the Manual also emphasises that a developer's profit margin is linked to interest rates charged for finance and the importance of understanding how different types of developers operate. Both points are significant as "*larger sites can carry more risk where they take a long time to build out and an increased profit margin may be required, whereas smaller sites being developed quickly may not*."

6.69 Discussions with stakeholders in respect of developer profit was undertaken during the stakeholder workshop, with the Council proposing the following profit ranges, which were agreed by participants:

- 17.5% on sites of up to 49 dwellings
- 20% on sites of 50 dwellings and above
- 10% on single plots and site of up to 10 dwellings
- 6% on Affordable Housing costs

6.70 In order to achieve consistency between smaller and large developments in respect of costs within the appraisal, the Council has chosen to apply a 17.5% GDV for sites below 50, which is the mid-point of the range referenced by Welsh Government. For sites above 50 units a profit of 20% of GDV is considered reasonable and again is the upper limit suggested by Welsh Government. For single development plots and on sites below 10 units, a 10% profit has been applied. It should also be noted that similar approaches to GDV have been adopted by local planning authorities elsewhere.

Benchmark Land Values

6.71 When determining land values to use for viability testing, the Development Plans Manual states that, "*the evidence should be clear as to what financial return (or benchmark land value) would realistically entice a land owner to sell for the proposed use in an area or sub-market area*" (WG, 2020, p. 143).

6.72 Welsh Government guidance further clarifies that "*high level testing is generally based on a methodology that produces a residual land value (after allowing for a percentage profit margin for the developer) which is then compared with the benchmark land value (or values) for a geographical area*" (ibid, para 5.90).

6.73 At the stakeholder workshop, the Council presented average land values per hectare broadly derived from 120 Development Viability Models submitted to the Council by developers at the Candidate Sites Submission Stage. The suggested figures that were presented saw the highest values in Rural Vale, followed by Penarth with lower values in East Vale, Coastal and Barry. At the meeting it was suggested by participants that the Penarth land value was too low.

6.74 Following further consideration and discussion following the meeting, it was noted that there appeared to be a disparity between the house prices and land values in in certain market areas. It would generally follow that the areas with the highest house prices would have the highest land values and the same with the lowest values. However, this is not the case with Penarth and Rural Vale, where Penarth notably has higher sales values than Rural Vale, but a lower land value was agreed.

Stakeholders also felt Penarth should be higher. As a consequence, in the testing the values for Rural Vale be swapped with those of Penarth, so Penarth is £925,000/ha and Rural Vale is £875,000/ha.

Table 8: Benchmark Land Values by Sub Market Areas		
Sub Market Area	**£'s per net developable hectare**	**£'s per net developable acre**
Barry	£725,000/ha	£293,400/ac
Coastal	£765,000/ha	£309,500/ac
East Vale	£825,000/ha	£333,865/ac
Penarth	£925,000/ha	£375,000/ac
Rural Vale	£875,000/ha	£354,100/ac

6.75 The amended values for Penarth and Rural Vale where circulated to members of the VSG for comment and no objections were raised.

6.76 With regards to agricultural land value, it was suggested at the stakeholder workshop that a value of £12,000 an acre was considered reasonable for 'good' arable land. No assumptions on commercial land were provided.

Section 106 Contributions

6.77 In order to understand the cumulative impact of direct mitigation and policy requirements, this Assessment has sought to attribute a s106 value per dwelling for the purposes of testing. Welsh Government suggest that past levels of financial contributions should provide an indication or starting point in this analysis subject to discussions with developers and key infrastructure providers (WG, 2020).

6.78 The Council has undertaken a review of S106 contributions secured on LDP and windfall allocations since 2017 (Appendix 2). Whilst the scope of s106 contributions vary widely depending on the scale of the site and associated infrastructure requirements, the review undertaken suggests that on average s106 per dwelling was £9,708. It should be noted that the previous Vale wide viability appraisal for the adopted LDP assumed an average £10,000 per dwelling s106 contribution.

6.79 As part of the RLDP, the Council has also undertaken a review of current planning contributions and has adjusted these to consider inflation that has occurred since their adoption by the Council. The review also involves a recalculation of educational contributions to reflect most recent costs for such provision. On the basis of the discussions and clarification by the Council it was suggested that the proposed average £14,000 contribution per dwelling would be appropriate for the testing of notional sites within the appraisal.

It has been questioned whether some s106 requirements, such as public open space and public art, are accounted for in the figures, as in many cases these are provided on site. It should be noted that the figures in Appendix 2 reflect only financial contributions. However, it would be envisaged that any onsite provision of open space will be delivered in the majority of cases, particularly on larger sites.

6.80 Concerns have been raised by one stakeholder that having different s106 assumptions by site size is not a usual approach in viability testing. However, further consideration by the Council of most recent s106 contributions (as set out in Appendix 2) suggests a correlation between the levels of contribution sought and the size of development, with a larger scale of development typically contributing to a wider range of infrastructure provision, particularly educational provision. Accordingly, the Council has sought to reflect this in the viability testing as detailed in the table below by applying levels of s106 according to the scale of development tested. Current planning obligations thresholds for specific contributions do vary by site size with a threshold of 5 dwellings in place for public open space, 10 dwellings for sustainable transport, education and public art and 25 dwellings for community facilities. In many cases educational contributions are not sought on small schemes as local schools are more likely to have sufficient capacity to accommodate any additional pupil places from smaller schemes, whereas a contribution may be required from larger sites.

6.81 It should be noted that the site-specific viability appraisals will be undertaken for key sites which will include detailed infrastructure requirements and as such the average contribution may be higher or lower than the proposed average contribution suggested for high level testing.

Table 9: Section 106 Allowance by Development Typology

Number of Dwellings	S106 value tested
1-3 dwelling	Commuted Affordable Housing Value Equivalent to the % of affordable tested for a 1 bedroom 2-person property as this is the unit type with the greatest need.
5 - 10 dwellings	£5,000 per dwelling
5/16 dwellings	£8,000 per dwelling
26 dwellings	£12,000 per dwelling
36 dwellings	£14,000 per dwelling
50 dwellings	£14,000 per dwelling
70 dwellings	£14,000 per dwelling
100 dwellings	£14,000 per dwelling

6.82 In testing developments of 1 and 3 dwelling sites an affordable housing commuted sum of been applied so as to reflect the Councils affordable housing SPG for commuted sums. The commuted sum calculation is based on the transfer costs for a

2-person 1 bedroom property as detailed in Table 4 above and calculated using the formula ACG uplifted value x 58% x % affordable housing requirement (e.g. 0.3 or 30%).

Testing Assumptions Summary Table

6.83 Based on the discussions at the stakeholder workshop the following table provides a summary of the key assumptions and inputs for the high-level authority wide viability review.

Table 10: Testing Assumptions Summary Table

Element	Default Values for Appraisals
House Prices Sales per Sqm Source: Hometrack Sales and Valuations (new build)	• Rural Vale £3,500 per sq. m • East Vale: £3,400 per sq. m • Penarth: £3,800 per sq. m • Coastal: £3,300 per sq. m • Barry: £3,200 per sq.m
Benchmark Land Value Based upon submitted Candidate site DVM appraisals.	• Rural Vale: £875,000/ha • East Vale: £825,000/ha • Penarth: £925,000/ha • Coastal: £765,000/ha • Barry: £725,000/ha
Affordable Housing	Tenure mix based on Vale of Glamorgan Local Housing Market Assessment • LCHO based on 60% and 70% of market value. • Tenure Split 65% Social Rented 35% • Affordable Housing Transfer Values:

Unit size	Unit Type	Uplifted ACG Value	Transfer value from 1st April 2024 (42%)
7 Person 4 Bed	House	£347,257	£145,848
6 Person 4 Bed	House	£321,248	£134,924
5 Person 3 Bed	House	£275,673	£115,783
4 Person 3 Bed	House	£258,217	£108,451
4 Person 2 Bed	House	£248,141	£104,219
3 Person 2 Bed	House	£240,409	£100,972
2 Person 1 Bed	House	£201,864	£84,783

	3 Person 2 Bed	Bungalow	£240,409	£100,972
	3 Person 2 Bed	Flat (walk up)	£195,771	£82,224
	2 Person 1 Bed	Flat (walk up)	£162,733	£68,348
Dwelling Density	• Density Ratios: Up to 1 ha 90% > 1 ha and < 2 ha 75% > 2 ha and < 4 ha 70% > 4 ha 65%			
Annual Rate of Housing Sales	• 45 dwellings per year per outlet- potentially less per developer where more than one sales outlet on site			
Build cost per sq.m	• £1,150 psm (£107 psf) for sites of 40+ units • £1,300 psm (£121 psf) for 20 – 39 units • £1,400 psm (£130 psf) for 10 – 19 units • £1,500 psm (£139 psf) for 2 – 9 units • £1,550 psm (£144 psf) for 3-bed single unit • £1,600 psm (£149 psf) for 5-bed single unit • Flatted developments with shared/common access – a net to gross ratio of 95% to allow for the stairway to the first floor flat.			
Normal External Build Costs	• 15% - 20% of Plot Costs: £18,000 per dwelling (Estate Housing) • 5% - 10% of Plot Costs for High Density/Apartment schemes			
Additional Build Costs	• Sprinklers + ULEV charging points £2,550 per dwelling.			
Additional Net Zero Construction Costs	• £9,000 per dwelling - to account for the increase from current costs (pre-2021) to proposed net zero costs			
Abnormal Costs	• None - cost should be reflected in site value/purchase price			
SuDS	• £4,500 per dwelling			
Developer Profit	• 17.5% on sites below 50 dwellings • 20% on sites 50 and above • 10% incentive on single plots • 6% on Affordable Housing costs			
Interest on Finance	• 6% p.a. debit interest, • 0.5% p.a. credit: “all-in” rate for medium/smaller sites • 5% p.a. debit for larger sites			
Contingency	• 5% contingency on the total build cost			

<table>
<tr><td>S106 payments</td><td>
<table>
<tr><th>Number of Dwellings</th><th>S106 value tested</th></tr>
<tr><td>1 dwelling</td><td>Commuted Affordable Housing Value Equivalent to the % of affordable tested for a 1 bedroom 2 person flat.</td></tr>
<tr><td>6 dwellings</td><td>5K per dwelling</td></tr>
<tr><td>10 dwells</td><td>5K per dwelling</td></tr>
<tr><td>16 dwells</td><td>8k per dwelling</td></tr>
<tr><td>26 dwellings</td><td>12 k per dwelling</td></tr>
<tr><td>36 dwellings</td><td>14k per dwelling</td></tr>
<tr><td>50 dwellings</td><td>14K per dwelling</td></tr>
<tr><td>70 dwellings</td><td>14k per dwelling</td></tr>
<tr><td>100 dwellings</td><td>14K per dwelling</td></tr>
</table>
</td></tr>
<tr><td>Professional Fees</td><td>• Professional Fees - 10%
• Plot Costs - 5% and 10% for externals (this includes warranties typically 10% on infrastructure/abnormal costs)</td></tr>
<tr><td>Land Acquisition Fees</td><td>Model calculates LTT
1.5% for legal and agency/introductory fees</td></tr>
<tr><td>Sales and Marketing Fees</td><td>• 2.5% of Open Market Sales on sites of 20+ units
• 2% on sites below that threshold
• Legals £600/unit (normally less for Affordable Housing on larger sites)</td></tr>
<tr><td>Inflation</td><td>• No allowance</td></tr>
</table>

7 Results and Overview of Viability Appraisals

7.1 This section of the study provides an overview of the viability appraisals conducted for each notional site typology across the 5 HMAs. Example notional appraisals for each HMA are provided in Appendix 6. Having specified clear, realistic and relevant inputs, the fundamental consideration is whether "*the affordable housing targets and thresholds selected are viable for the majority of cases*" (WG, 2020, p.148).

7.2 In this regard, different percentages of affordable housing have been tested to gauge the level that can be supported by each notional site in each HMA, with the appropriate percentage highlighted. Each output indicates whether the target profit can be achieved after factoring in this level of affordable housing together with all other costs, fees, profit margins, benchmark land values, contingencies and s106 contributions detailed in Section 6.

7.3 Viability testing has been undertaken on the range of site typologies at current levels of affordable housing contained within the current adopted LDP:

- 30% affordable housing within Barry HMA
- 35% affordable housing within the Coastal HMA, and
- 40% affordable housing within the East Vale, Rural Vale and Penarth HMA

7.4 Within each HMA the following 4 viability scenarios were tested, the purpose of which was to explore the impact on viability of discounts on intermediate/LCHO units at 70% and 60% open market values (OMV), and the additional costs associated with 2021 Part L Buildings Regulations, and cost assumptions associated with dwellings constructed to meet net zero building standards as discussed in the previous section.

- Scenario 1: LCHO at 70% OMV and 2021 Part L Building Regulations at £3k per dwelling
- Scenario 2: LCHO at 60% OMV and 2021 Part L Building Regulations at £3k per dwelling
- Scenario 3: LCHO at 60% OMV and Net Zero Buildings Allowance at £9k per dwelling
- Scenario 4: LCHO at 70% OMV and Net Zero Buildings Allowance at £9k per dwelling

7.5 Summary viability results are provided in following tables. These demonstrate that:

- Within the Barry HMA the current LDP policy of 30% affordable housing remains viable on housing sites of 3 dwellings or greater at a 70% open market value discount for LCHO. Developments at this scale can support provision of dwellings

constructed to meet net zero requirements. The testing also suggests that for site typologies of 50 dwellings or greater there is potential for development to support LCHO discounts at 60% of OMV. However, consideration is needed as to whether it would be desirable to have different approaches to percentage of OMV by development size.

- Within the Coastal HMA the current LDP policy of 35% affordable housing remains viable on housing sites of 3 dwellings or greater at a 70% open market value discount on LCHO. Developments at this scale can support provision of dwellings constructed to meet net zero requirements. The testing also suggests that for site typologies of 50 dwellings or greater there is potential for development to support LCHO discounts at 60% OMV.

- Within the Penarth HMA the current LDP policy of 40% affordable housing remains viable on housing sites of 1 dwelling or greater at both 60% and 70% open market value discounts on LCHO, and that developments at this scale can support the provision of dwellings constructed to meet net zero requirements.

- Additional testing suggests that within the Penarth HMA developments of 1 dwelling or greater there may be a small amount of headroom to support the provision of 50% affordable housing alongside net zero dwellings at 70% of OMV but not at 60% for the majority of dwelling typologies. There is evidence of 50% being secured on the LDP allocated site at Cosmeston in line with the WG Land release protocol to achieve 50% on WG owned land. This is a policy decision of WG to maximise affordable housing above and would be reflected in the land value secured. Site specific evidence indicates that it would be difficult to achieve higher than 40% on new allocations in the area due to site specific constraints and infrastructure requirements. The urban capacity study shows limited capacity in the Penarth area for major sites. The largest headroom is for major sites (50+ units) for which there is limited opportunity, whereas the headroom for small to medium sized sites is much less at 50% affordable housing. On this basis it is proposed to retain the target at 40% in Penarth.

- Within the Rural Vale HMA the current LDP policy of 40% affordable housing remains viable on housing sites of 1 dwelling or greater at 70% open market value discounts on LCHO. Developments at this scale can support the provision of dwellings constructed to meet net zero requirements. The testing also suggests that there is potential for development to support LCHO discounts at 60% OMV.

- Within the East Vale HMA viability testing indicated that the current LDP policy of 40% affordable housing remains viable on housing sites of 1 dwelling or greater at both 70% OMV discounts on LCHO, but development is more challenging for certain mixes when the additional costs for achieving net zero dwellings are factored in. Further testing on these typologies through the adjustment of market and affordable

dwelling mixes and a reduced s106 (typically reflecting planning obligation negotiation process) indicated that sites could support the provision of 40% affordable housing alongside net zero dwellings, LCHO at 70% OMV, although 60% would be more difficult to achieve.

Sensitivity Testing

7.6 The viability toolkit also incorporates sensitivity testing for each site typology enabling the Council to consider the likely positive or negative impacts on viability as a result of external financial factors on development, namely, changes in construction costs (housing and physical infrastructure), open market house prices and land prices (plus associated costs) and levels of affordable housing (% of contribution and ratio of social rented to LCHO) .

7.7 Examples of these sensitivity test are provided below for the site typologies within the Eastern Vale HMA where testing has suggested that viability may be challenging for certain development mixes and or s106 contributions.

7.8 This helps illustrate how potential variations in certain components can impact upon the surplus or shortfall on target profit and further illustrate the role of both the Council and developer to negotiate these factors to enable the delivery of affordable housing in line with RLDP policy.

Table 11: Barry HMA Summary Results 30% Affordable Housing

											Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing Market Area : Barry	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	£ Surplus /Shortfall on target profit @ 70% OMV	£ Surplus /Shortfall on target profit @ 60% OMV	Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
Affordable Housing 30%		Hectare	Acre	d.p.h	sq.m /ha									
	1	0.03	0.07	33	2,933	£3,200	£28,315	£1,150	£21,750	10%	-£142,266	-£142,266	-£153,889	-£153,889
	3	0.09	0.22	33	3,511	£3,200	£0	£1,550	£65,250	10%	£195,525	£187,234	£167,131	£175,422
Benchmark Land Value £ 725,000 per ha.	6	0.18	0.44	33	2,778	£3,200	£5,000	£1,500	£130,500	10%	£299,834	£260,407	£220,100	£259,527
	10	0.29	0.72	34	3,293	£3,200	£5,000	£1,400	£210,250	17.5%	£93,795	£67,220	-£128	£26,448
	16	0.45	1.11	36	3,627	£3,200	£8,000	£1,400	£326,250	17.5%	£146,228	£101,002	-£6,586	£38,640
	26	0.75	1.85	35	2,988	£3,200	£12,000	£1,300	£543,750	17.5%	£201,257	£140,842	-£34,617	£25,798
	36	1	2.47	36	3,163	£3,200	£14,000	£1,300	£725,000	17.5%	£251,817	£165,901	-£77,933	£7,984
	50	1.4	3.46	36	3,165	£3,200	£14,000	£1,150	£1,015,000	20%	£957,838	£838,033	£499,813	£619,895
	70	2	4.94	35	3,092	£3,200	£14,000	£1,150	£1,450,000	20%	£1,310,831	£1,145,009	£670,274	£836,230
	100	2.8	6.92	36	3,193	£3,200	£14,000	£1,150	£2,030,000	20%	£1,971,786	£1,725,491	£1,045,284	£1,292,071
	100 H.D	2	4.94	50	3,604	£3,200	£14,000	£1,150	£1,450,000	20%	£931,942.6	£715,519	£33,486	£250,378

Table 12: Coastal and South HMA Summary Results: 35% Affordable Housing

											Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing Market Area : Coastal & South	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	£ Surplus /Shortfall on target profit @ 70% OMV	£ Surplus /Shortfall on target profit @ 60% OMV	Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
		Hectare	Acre	d.p.h	sq.m /ha									
Affordable Housing 35%	1	0.03	0.07	33	2,933	£3,300	£28,534	£1,550	£29,950	10%	-£136,957	-£136,957	-£148,580	-£148,580
	3	0.09	0.22	33	3,511	£3,300	£1,573	£1,550	£68,850	10%	£208,849	£200,298	£180,195	£188,746
	6	0.18	0.44	33	2,778	£3,300	£5,000	£1,500	£137,700	10%	£326,824	£309,680	£269,373	£286,516
Benchmark Land Value £ 765,000 per ha.	11	0.29	0.72	38	3,548	£3,300	£5,000	£1,400	£221,850	17.5%	£113,593	£77,594	£3,512	£39,511
	17	0.45	1.11	38	3,882	£3,300	£8,000	£1,400	£344,250	17.5%	£187,096	£130,247	£15,935	£72,784
	26	0.75	1.85	35	2,950	£3,300	£12,000	£1,300	£573,750	17.5%	£202,357	£131,437	-£44,023	£26,898
	37	1	2.47	37	3,284	£3,300	£14,000	£1,300	£765,000	17.5%	£271,686	£157,252	-£93,355	£21,079
	50	1.4	3.46	36	3,131	£3,300	£14,000	£1,150	£1,071,000	20%	£929,123	£776,475	£441,950	£593,669
	70	2	4.94	35	3,049	£3,300	£14,000	£1,150	£1,530,000	20%	£1,232,153	£1,029,449	£554,681	£757,855
	100	2.8	6.92	36	3,193	£3,300	£14,000	£1,150	£2,142,000	20%	£1,922,969	£1,611,753	£931,375	£1,243,260
	100 H.D	2	4.94	50	3,536	£3,300	£14,000	£1,150	£1,530,000	20%	£942,788	£683,432	-£125,560	£132,392

Table 13: Penarth HMA Summary Results: 40% Affordable Housing

Housing Market Area : Penarth	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	Scenario 1 £ Surplus /Shortfall on target profit @ 70% OMV	Scenario 2 £ Surplus /Shortfall on target profit @ 60% OMV	Scenario 3 Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Scenario 4 Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
		Hectare	Acre	d.p.h	sq.m /ha									
Affordable Housing 40%	1	0.03	0.07	33	2,933	£3,800	£37,754	£1,550	£27,750	10%	£78,545	£78,545	£71,904	£71,904
	3	0.09	0.22	33	3,511	£3,800	£6,292	£1,550	£83,250	10%	£315,722	£304,018	£284,173	£295,877
	5	0.18	0.44	28	2,372	£3,800	£5,000	£1,500	£166,500	10%	£381,807	£362,114	£328,609	£348,302
Benchmark Land Value £ 925,000 per ha.	10	0.29	0.72	35	3,169	£3,800	£5,000	£1,400	£268,250	17.5%	£265,033	£223,683	£156,504	£197,855
	15	0.45	1.11	33	2,969	£3,800	£8,000	£1,400	£416,250	17.5%	£360,380	£309,880	£209,017	£259,517
	25	0.75	1.85	34	2,866	£3,800	£12,000	£1,300	£693,750	17.5%	£571,396	£476,125	£307,821	£403,091
	35	1	2.47	35	3,012	£3,800	£14,000	£1,300	£925,000	17.5%	£813,237	£682,570	£446,636	£577,303
	50	1.4	3.46	36	3,161	£3,800	£14,000	£1,150	£1,295,000	20%	£1,751,704	£1,546,216	£1,209,142	£1,414,712
	70	2	4.94	35	3,013	£3,800	£14,000	£1,150	£1,850,000	20%	£2,273,387	£2,001,390	£1,528,066	£1,800,404
	100	2.8	6.92	36	3,098	£3,800	£14,000	£1,150	£2,590,000	20%	£3,376,870	£2,983,748	£2,305,463	£2,699,347
	100 H.D	2	4.94	50	3,468	£3,800	£14,000	£1,150	£1,850,000	20%	£1,991,901	£1,660,850	£981,462	£1,313,219

Table 14: Penarth HMA Summary Results: 50% Affordable Housing

											Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing Market Area : Penarth	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	£ Surplus /Shortfall on target profit @ 70% OMV	£ Surplus /Shortfall on target profit @ 60% OMV	Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
		Hectare	Acre	d.p.h	sq.m /ha									
Affordable Housing 50%	1	0.03	0.07	33	2,933	£3,800	£47,192	£1,550	£27,750	10%	£69,070	£69,070	£62,430	£62,430
	3	0.09	0.22	33	3,511	£3,800	£20,230	£1,550	£83,250	10%	£287,408	£275,689	£255,702	£267,490
	6	0.18	0.44	33	2,861	£3,800	£5,000	£1,500	£166,500	10%	£506,739	£475,338	£435,131	£466,532
Benchmark Land Value £ 925,000 per ha.	10	0.29	0.72	35	3,093	£3,800	£5,000	£1,400	£268,250	17.5%	£108,868	£55,779	-£11,399	£41,689
	16	0.45	1.11	36	3,067	£3,800	£8,000	£1,400	£416,250	17.5%	£196,627	£128,696	£20,940	£88,871
	24	0.75	1.85	32	2,732	£3,800	£12,000	£1,300	£693,750	17.5%	£190,865	£70,622	-£91,158	£29,085
	34	1	2.47	34	2,899	£3,800	£14,000	£1,300	£925,000	17.5%	£313,567	£149,431	-£80,474	£84,120
	50	1.4	3.46	36	3,090	£3,800	£14,000	£1,150	£1,295,000	20%	£1,115,503	£861,544	£524,028	£777,987
	70	2	4.94	35	2,935	£3,800	£14,000	£1,150	£1,850,000	20%	£1,396,793	£1,058,547	£584,370	£922,895
	100	2.8	6.92	36	2,979	£3,800	£14,000	£1,150	£2,590,000	20%	£2,041,142	£1,567,285	£887,200	£1,362,084
	100 H.D	2	4.94	50	3,533	£3,800	£14,000	£1,150	£1,850,000	20%	£1,328,459	£897,266	£216,517	£648,771

Table 15: Rural Vale HMA Summary Results: 40% Affordable Housing

											Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing Market Area : Rural Vale	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	£ Surplus /Shortfall on target profit @ 70% OMV	£ Surplus /Shortfall on target profit @ 60% OMV	Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
		Hectare	Acre	d.p.h	sq.m /ha									
Affordable Housing 40%	1	0.03	0.07	33	2,933	£3,500	£37,754	£1,550	£26,250	10%	£21,028	£21,028	£14,369	£14,369
	3	0.09	0.22	33	3,511	£3,500	£6,292	£1,550	£78,750	10%	£233,784	£242,696	£222,708	£233,784
	5	0.18	0.44	28	2,372	£3,500	£5,000	£1,500	£157,500	10%	£335,126	£316,470	£282,965	£301,621
Benchmark Land Value £ 875,000 per ha.	10	0.29	0.72	34	3,169	£3,500	£5,000	£1,400	£253,750	17.5%	£167,722	£128,548	£61,369	£100,543
	15	0.45	1.11	33	2,969	£3,500	£8,000	£1,400	£393,750	17.5%	£213,936	£166,095	£65,231	£113,073
	25	0.75	1.85	34	2,866	£3,500	£12,000	£1,300	£656,250	17.5%	£207,688	£121,896	-£47,042	£38,751
	35	1	2.47	35	3,012	£3,500	£14,000	£1,300	£875,000	17.5%	£308,468	£187,771	-£48,999	£71,698
	50	1.4	3.46	36	3,086	£3,500	£14,000	£1,150	£1,225,000	20%	£1,012,452	£838,105	£500,104	£674,451
	70	2	4.94	35	3,036	£3,500	£14,000	£1,150	£1,750,000	20%	£1,309,037	£1,051,263	£576,438	£834,757
	100	2.8	6.92	36	3,096	£3,500	£14,000	£1,150	£2,450,000	20%	£1,983,957	£1,620,508	£940,038	£1,303,979
	100 H.D	2	4.94	50	3,468	£3,500	£14,000	£1,150	£1,750,000	20%	£906,498	£600,875	-£81,845	£224,952

Table 16: East Vale HMA Summary Results

											Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing Market Area :East Vale	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	£ Surplus /Shortfall on target profit @ 70% OMV	£ Surplus /Shortfall on target profit @ 60% OMV	Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit
		Hectare	Acre	d.p.h	sq.m /ha									
Affordable Housing 40%	1	0.03	0.07	33	2,933	£3,400	£37,754	£1,550	£24,750	10%	£14,801	£14,801	£8,143	£8,143
	3	0.09	0.22	33	3,511	£3,400	£6,292	£1,550	£74,250	10%	£235,903	£74,250	£205,369	£215,916
	5	0.18	0.44	28	2,372	£3,400	£5,000	£1,500	£148,500	10%	£288,429	£270,810	£237,304	£254,924
Benchmark Land Value £ 825,000 per ha.	10	0.29	0.72	34	3,169	£3,400	£5,000	£1,400	£239,250	17.5%	£69,956	£32,958	-£34,220	£2,777
	15	0.45	1.11	33	2,969	£3,400	£8,000	£1,400	£371,250	17.5%	£58,568	£10,516	-£124,503	-£76,285
	25	0.75	1.85	34	2,866	£3,400	£12,000	£1,300	£618,750	17.5%	£111,187	£25,204	-£143,734	-£57,751
	35	1	2.47	35	3,012	£3,400	£14,000	£1,300	£825,000	17.5%	£170,022	£53,134	-£183,636	-£66,749
	50	1.4	3.46	36	3,086	£3,400	£14,000	£1,150	£1,155,000	20%	£675,034	£499,202	£174,429	£350,262
	70	2	4.94	35	3,036	£3,400	£14,000	£1,150	£1,650,000	20%	£1,062,266	£809,082	£333,709	£587,514
	100	2.8	6.92	36	3,096	£3,400	£14,000	£1,150	£2,310,000	20%	£1,613,059	£1,257,462	£576,250	£932,673
	100 H.D	2	4.94	50	3,468	£3,400	£14,000	£1,150	£1,650,000	20%	£624,156	£326,698	-£356,680	-£58,405

Table 17: East Vale HMA Summary Results- Adjusted Dwelling Mix and S.106 Contributions

Housing Market Area :East Vale	No. Units	Site Area		Building Density		Sales OMV £ p.sqm	s106 per dwelling	Build Cost p.sqm	Land Price £	Developers Target Profit %	Scenario 3.1	Scenario 4.1	Commentary
Affordable Housing 40%		Hectare	Acre	d.p.h	sq.m /ha						Net Zero Dwellings & 60 % OMV £ Surplus /Shortfall on target profit	Net Zero Dwellings & 70 % OMV £ Surplus /Shortfall on target profit	
Benchmark Land Value £ 825,000 per ha.	15	0.45	1.11	33	2,933	£3,400	£4,000	£1,400	£371,250	17.5%	-£26,480	£24,615	Housing mix adjusted and s106 reduced to £4K per dwelling
	25	0.75	1.85	34	3,095	£3,400	£6,000	£1,300	£618,750	17.5%	£109,318	£203,827	Housing mix adjusted and s106 reduced to £6K per dwelling
	35	1	2.47	35	3,091	£3,400	£8,000	£1,300	£825,000	17.5%	£96,064	£217,280	Housing mix adjusted and s106 reduced to £8K per dwelling
	100 H.D	2	4.94	50	3,468	£3,400	£4,000	£1,150	£1,650,000	20%	-£185,169	£202,316	Reduced s106 to £6K per dwelling

Table 18: East Vale: 15 Dwellings 40% affordable housing, 70% OMV, Net Zero Buildings

Sensitivity Tables - Profit on GDV

Resi GDV / Build Costs

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	529,658	623,600	717,542	780,170	811,484	842,798	874,112	905,426	968,054	1,061,996	1,155,938
	-7.00%	464,798	558,740	652,682	715,310	746,624	777,938	809,252	840,566	903,194	997,136	1,091,078
	-4.00%	399,938	493,880	587,822	650,450	681,764	713,078	744,392	775,706	838,334	932,276	1,026,218
	-2.00%	356,698	450,640	544,582	607,210	638,524	669,838	701,152	732,466	795,094	889,036	982,978
	-1.00%	335,078	429,020	522,962	585,590	616,904	648,218	679,532	710,846	773,474	867,416	961,358
	0.00%	313,458	407,400	501,342	563,970	595,284	626,598	657,912	689,226	751,854	845,796	939,738
	+1.00%	291,838	385,780	479,722	542,350	573,664	604,978	636,292	667,606	730,234	824,176	918,118
	+2.00%	270,218	364,160	458,102	520,730	552,044	583,358	614,672	645,986	708,614	802,556	896,498
	+4.00%	226,978	320,920	414,862	477,490	508,804	540,118	571,432	602,746	665,374	759,316	853,258
	+7.00%	162,118	256,060	350,002	412,630	443,944	475,258	506,572	537,886	600,514	694,456	788,398
	+10.00%	97,258	191,200	285,142	347,770	379,084	410,398	441,712	473,026	535,654	629,596	723,538

Variation in Value of Open market Homes

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	14.95%	17.14%	19.23%	20.56%	21.21%	21.85%	22.48%	23.10%	24.31%	26.05%	27.72%
	-7.00%	13.12%	15.36%	17.49%	18.85%	19.52%	20.17%	20.81%	21.45%	22.68%	24.46%	26.16%
	-4.00%	11.29%	13.58%	15.75%	17.14%	17.82%	18.49%	19.14%	19.79%	21.05%	22.87%	24.61%
	-2.00%	10.07%	12.39%	14.59%	16.00%	16.69%	17.37%	18.03%	18.69%	19.97%	21.81%	23.57%
	-1.00%	9.46%	11.79%	14.01%	15.43%	16.13%	16.81%	17.48%	18.14%	19.42%	21.28%	23.05%
	0.00%	8.85%	11.20%	13.43%	14.86%	15.56%	16.25%	16.92%	17.58%	18.88%	20.75%	22.54%
	+1.00%	8.24%	10.61%	12.86%	14.29%	15.00%	15.69%	16.36%	17.03%	18.34%	20.22%	22.02%
	+2.00%	7.63%	10.01%	12.28%	13.72%	14.43%	15.13%	15.81%	16.48%	17.79%	19.69%	21.50%
	+4.00%	6.40%	8.82%	11.12%	12.58%	13.30%	14.00%	14.70%	15.38%	16.71%	18.63%	20.46%
	+7.00%	4.57%	7.04%	9.38%	10.88%	11.60%	12.32%	13.03%	13.72%	15.08%	17.04%	18.91%
	+10.00%	2.74%	5.26%	7.64%	9.17%	9.91%	10.64%	11.36%	12.07%	13.45%	15.45%	17.35%

Resi GDV / Site Value

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	371,040	464,982	558,924	621,552	652,866	684,180	715,494	746,808	809,436	903,378	997,320
	-10.00%	351,846	445,788	539,730	602,358	633,672	664,986	696,300	727,614	790,242	884,184	978,126
	-5.00%	332,652	426,594	520,536	583,164	614,478	645,792	677,106	708,420	771,048	864,990	958,932
	-2.00%	321,135	415,077	509,019	571,647	602,961	634,275	665,589	696,903	759,531	853,473	947,415
	0.00%	313,458	407,400	501,342	563,970	595,284	626,598	657,912	689,226	751,854	845,796	939,738
	+2.00%	305,780	399,722	493,664	556,292	587,606	618,920	650,234	681,548	744,176	838,118	932,060
	+5.00%	294,264	388,206	482,148	544,776	576,090	607,404	638,718	670,032	732,660	826,602	920,544
	+10.00%	275,070	369,012	462,954	525,582	556,896	588,210	619,524	650,838	713,466	807,408	901,350
	+15.00%	255,876	349,818	443,760	506,388	537,702	569,016	600,330	631,644	694,272	788,214	882,156

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	10.47%	12.78%	14.98%	16.38%	17.07%	17.74%	18.40%	19.05%	20.33%	22.16%	23.92%
	-10.00%	9.93%	12.25%	14.46%	15.88%	16.56%	17.24%	17.91%	18.56%	19.84%	21.69%	23.46%
	-5.00%	9.39%	11.73%	13.95%	15.37%	16.06%	16.74%	17.41%	18.07%	19.36%	21.22%	23.00%
	-2.00%	9.06%	11.41%	13.64%	15.07%	15.76%	16.45%	17.12%	17.78%	19.07%	20.94%	22.72%
	0.00%	8.85%	11.20%	13.43%	14.86%	15.56%	16.25%	16.92%	17.58%	18.88%	20.75%	22.54%
	+2.00%	8.63%	10.99%	13.23%	14.66%	15.36%	16.05%	16.72%	17.39%	18.69%	20.56%	22.35%
	+5.00%	8.30%	10.67%	12.92%	14.36%	15.06%	15.75%	16.43%	17.09%	18.40%	20.28%	22.08%
	+10.00%	7.76%	10.14%	12.41%	13.85%	14.56%	15.25%	15.93%	16.60%	17.92%	19.81%	21.61%
	+15.00%	7.22%	9.62%	11.89%	13.35%	14.06%	14.75%	15.44%	16.12%	17.43%	19.34%	21.15%

OM Values /AH %age

Variations in Percentage of Affordable Housing (assuming same split between Social Rent and Intermediate tenures as appears on Resi sheet)

Profit on GDV (%)		-5.00%	-4.00%	-3.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+3.00%	+4.00%	+5.00%
Variation in OM Residential Values	-5.00%	17.98%	17.98%	12.70%	12.70%	12.70%	12.70%	12.70%	12.70%	12.70%	6.70%	6.70%
	-4.00%	18.69%	18.69%	13.43%	13.43%	13.43%	13.43%	13.43%	13.43%	13.43%	7.45%	7.45%
	-3.00%	19.40%	19.40%	14.16%	14.16%	14.16%	14.16%	14.16%	14.16%	14.16%	8.18%	8.18%
	-2.00%	20.09%	20.09%	14.86%	14.86%	14.86%	14.86%	14.86%	14.86%	14.86%	8.90%	8.90%
	-1.00%	20.78%	20.78%	15.56%	15.56%	15.56%	15.56%	15.56%	15.56%	15.56%	9.61%	9.61%
	0.00%	21.45%	21.45%	16.25%	16.25%	16.25%	16.25%	16.25%	16.25%	16.25%	10.31%	10.31%
	+1.00%	22.10%	22.10%	16.92%	16.92%	16.92%	16.92%	16.92%	16.92%	16.92%	11.00%	11.00%
	+2.00%	22.75%	22.75%	17.58%	17.58%	17.58%	17.58%	17.58%	17.58%	17.58%	11.68%	11.68%
	+3.00%	23.39%	23.39%	18.24%	18.24%	18.24%	18.24%	18.24%	18.24%	18.24%	12.34%	12.34%
	+4.00%	24.02%	24.02%	18.88%	18.88%	18.88%	18.88%	18.88%	18.88%	18.88%	13.00%	13.00%
	+5.00%	24.63%	24.63%	19.51%	19.51%	19.51%	19.51%	19.51%	19.51%	19.51%	13.65%	13.65%

Aff Hsg %age	40.00%	*Changes in the Proportions of Social Rented and Intermediate Tenure*										
Social Rented	65.00%	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Intermediate	35.00%	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Development Profit (£)		965,670	880,902	880,902	796,134	796,134	711,366	626,598	626,598	541,830	541,830	457,062
Profit on GDV (%)		25.04%	22.84%	22.84%	20.64%	20.64%	18.44%	16.25%	16.25%	14.05%	14.05%	11.85%

Table 19: 25 Dwellings 40% affordable housing, 70% OMV, Net Zero Buildings

Sensitivity Tables - Profit on GDV

Resi GDV / Build Costs

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	1,037,427	1,193,079	1,348,731	1,452,499	1,504,383	1,556,267	1,608,151	1,660,035	1,763,803	1,919,455	2,075,107
	-7.00%	933,271	1,088,923	1,244,575	1,348,343	1,400,227	1,452,111	1,503,995	1,555,879	1,659,647	1,815,299	1,970,951
	-4.00%	829,116	984,768	1,140,420	1,244,188	1,296,072	1,347,956	1,399,840	1,451,724	1,555,492	1,711,144	1,866,796
	-2.00%	759,678	915,330	1,070,982	1,174,750	1,226,634	1,278,518	1,330,402	1,382,286	1,486,054	1,641,706	1,797,358
	-1.00%	724,960	880,612	1,036,264	1,140,032	1,191,916	1,243,800	1,295,684	1,347,568	1,451,336	1,606,988	1,762,640
	0.00%	690,241	845,893	1,001,545	1,105,313	1,157,197	1,209,081	1,260,965	1,312,849	1,416,617	1,572,269	1,727,921
	+1.00%	655,523	811,175	966,827	1,070,595	1,122,479	1,174,363	1,226,247	1,278,131	1,381,899	1,537,551	1,693,203
	+2.00%	620,804	776,456	932,108	1,035,876	1,087,760	1,139,644	1,191,528	1,243,412	1,347,180	1,502,832	1,658,484
	+4.00%	551,367	707,019	862,671	966,439	1,018,323	1,070,207	1,122,091	1,173,975	1,277,743	1,433,395	1,589,047
	+7.00%	447,211	602,863	758,515	862,283	914,167	966,051	1,017,935	1,069,819	1,173,587	1,329,239	1,484,891
	+10.00%	343,056	498,708	654,360	758,128	810,012	861,896	913,780	965,664	1,069,432	1,225,084	1,380,736

Variation in Value of Open market Homes

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	17.31%	19.40%	21.39%	22.66%	23.28%	23.89%	24.49%	25.09%	26.24%	27.91%	29.51%
	-7.00%	15.57%	17.71%	19.74%	21.04%	21.67%	22.29%	22.91%	23.51%	24.69%	26.40%	28.03%
	-4.00%	13.83%	16.01%	18.09%	19.41%	20.06%	20.70%	21.32%	21.94%	23.14%	24.88%	26.55%
	-2.00%	12.67%	14.88%	16.98%	18.33%	18.98%	19.63%	20.26%	20.89%	22.11%	23.87%	25.56%
	-1.00%	12.09%	14.32%	16.43%	17.79%	18.45%	19.10%	19.74%	20.36%	21.59%	23.37%	25.07%
	0.00%	11.51%	13.75%	15.88%	17.24%	17.91%	18.56%	19.21%	19.84%	21.08%	22.86%	24.57%
	+1.00%	10.94%	13.19%	15.33%	16.70%	17.37%	18.03%	18.68%	19.32%	20.56%	22.36%	24.08%
	+2.00%	10.36%	12.62%	14.78%	16.16%	16.83%	17.50%	18.15%	18.79%	20.04%	21.85%	23.58%
	+4.00%	9.20%	11.50%	13.68%	15.08%	15.76%	16.43%	17.09%	17.74%	19.01%	20.84%	22.60%
	+7.00%	7.46%	9.80%	12.03%	13.45%	14.15%	14.83%	15.50%	16.17%	17.46%	19.33%	21.12%
	+10.00%	5.72%	8.11%	10.38%	11.83%	12.54%	13.23%	13.92%	14.59%	15.91%	17.82%	19.63%

Resi GDV / Site Value

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	787,362	943,014	1,098,666	1,202,434	1,254,318	1,306,202	1,358,086	1,409,970	1,513,738	1,669,390	1,825,042
	-10.00%	754,988	910,640	1,066,292	1,170,060	1,221,944	1,273,828	1,325,712	1,377,596	1,481,364	1,637,016	1,792,668
	-5.00%	722,615	878,267	1,033,919	1,137,687	1,189,571	1,241,455	1,293,339	1,345,223	1,448,991	1,604,643	1,760,295
	-2.00%	703,191	858,843	1,014,495	1,118,263	1,170,147	1,222,031	1,273,915	1,325,799	1,429,567	1,585,219	1,740,871
	0.00%	690,241	845,893	1,001,545	1,105,313	1,157,197	1,209,081	1,260,965	1,312,849	1,416,617	1,572,269	1,727,921
	+2.00%	677,292	832,944	988,596	1,092,364	1,144,248	1,196,132	1,248,016	1,299,900	1,403,668	1,559,320	1,714,972
	+5.00%	657,868	813,520	969,172	1,072,940	1,124,824	1,176,708	1,228,592	1,280,476	1,384,244	1,539,896	1,695,548
	+10.00%	625,494	781,146	936,798	1,040,566	1,092,450	1,144,334	1,196,218	1,248,102	1,351,870	1,507,522	1,663,174
	+15.00%	593,121	748,773	904,425	1,008,193	1,060,077	1,111,961	1,163,845	1,215,729	1,319,497	1,475,149	1,630,801

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	13.13%	15.33%	17.42%	18.76%	19.41%	20.05%	20.69%	21.31%	22.52%	24.28%	25.95%
	-10.00%	12.59%	14.81%	16.91%	18.25%	18.91%	19.56%	20.19%	20.82%	22.04%	23.81%	25.49%
	-5.00%	12.05%	14.28%	16.40%	17.75%	18.41%	19.06%	19.70%	20.33%	21.56%	23.33%	25.03%
	-2.00%	11.73%	13.96%	16.09%	17.45%	18.11%	18.76%	19.40%	20.04%	21.27%	23.05%	24.76%
	0.00%	11.51%	13.75%	15.88%	17.24%	17.91%	18.56%	19.21%	19.84%	21.08%	22.86%	24.57%
	+2.00%	11.30%	13.54%	15.68%	17.04%	17.71%	18.36%	19.01%	19.64%	20.89%	22.68%	24.39%
	+5.00%	10.97%	13.23%	15.37%	16.74%	17.41%	18.07%	18.71%	19.35%	20.60%	22.39%	24.11%
	+10.00%	10.43%	12.70%	14.86%	16.23%	16.91%	17.57%	18.22%	18.86%	20.11%	21.92%	23.65%
	+15.00%	9.89%	12.17%	14.34%	15.73%	16.41%	17.07%	17.73%	18.37%	19.63%	21.45%	23.19%

OM Values /AH %age

Variations in Percentage of Affordable Housing (assuming same split between Social Rent and Intermediate tenures as appears on Resi sheet)

Profit on GDV (%)		-5.00%	-4.00%	-3.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+3.00%	+4.00%	+5.00%
Variation in OM Residential Values	-5.00%	18.23%	18.23%	18.23%	15.18%	15.18%	15.18%	15.18%	13.67%	13.67%	13.67%	13.67%
	-4.00%	18.92%	18.92%	18.92%	15.88%	15.88%	15.88%	15.88%	14.34%	14.34%	14.34%	14.34%
	-3.00%	19.60%	19.60%	19.60%	16.57%	16.57%	16.57%	16.57%	15.01%	15.01%	15.01%	15.01%
	-2.00%	20.27%	20.27%	20.27%	17.24%	17.24%	17.24%	17.24%	15.66%	15.66%	15.66%	15.66%
	-1.00%	20.93%	20.93%	20.93%	17.91%	17.91%	17.91%	17.91%	16.30%	16.30%	16.30%	16.30%
	0.00%	21.58%	21.58%	21.58%	18.56%	18.56%	18.56%	18.56%	16.94%	16.94%	16.94%	16.94%
	+1.00%	22.21%	22.21%	22.21%	19.21%	19.21%	19.21%	19.21%	17.56%	17.56%	17.56%	17.56%
	+2.00%	22.84%	22.84%	22.84%	19.84%	19.84%	19.84%	19.84%	18.18%	18.18%	18.18%	18.18%
	+3.00%	23.46%	23.46%	23.46%	20.46%	20.46%	20.46%	20.46%	18.79%	18.79%	18.79%	18.79%
	+4.00%	24.06%	24.06%	24.06%	21.08%	21.08%	21.08%	21.08%	19.38%	19.38%	19.38%	19.38%
	+5.00%	24.66%	24.66%	24.66%	21.68%	21.68%	21.68%	21.68%	19.97%	19.97%	19.97%	19.97%

Aff Hsg %age	40.00%	*Changes in the Proportions of Social Rented and Intermediate Tenure*										
Social Rented	65.00%	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Intermediate	35.00%	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Development Profit (£)		2,069,328	1,946,435	1,823,543	1,700,651	1,577,758	1,454,866	1,331,974	1,209,081	1,086,189	963,297	840,404
Profit on GDV (%)		31.77%	29.88%	28.00%	26.11%	24.22%	22.34%	20.45%	18.56%	16.68%	14.79%	12.90%

Table 20: 35 Dwellings 40% affordable housing, 70% OMV, Net Zero Buildings

Sensitivity Tables - Profit on GDV

Resi GDV / Build Costs

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	1,336,498	1,547,842	1,759,186	1,900,082	1,970,530	2,040,978	2,111,426	2,181,874	2,322,770	2,534,114	2,745,458
	-7.00%	1,197,181	1,408,525	1,619,869	1,760,765	1,831,213	1,901,661	1,972,109	2,042,557	2,183,453	2,394,797	2,606,141
	-4.00%	1,057,864	1,269,208	1,480,552	1,621,448	1,691,896	1,762,344	1,832,792	1,903,240	2,044,136	2,255,480	2,466,824
	-2.00%	964,986	1,176,330	1,387,674	1,528,570	1,599,018	1,669,466	1,739,914	1,810,362	1,951,258	2,162,602	2,373,946
	-1.00%	918,547	1,129,891	1,341,235	1,482,131	1,552,579	1,623,027	1,693,475	1,763,923	1,904,819	2,116,163	2,327,507
	0.00%	872,108	1,083,452	1,294,796	1,435,692	1,506,140	1,576,588	1,647,036	1,717,484	1,858,380	2,069,724	2,281,068
	+1.00%	825,669	1,037,013	1,248,357	1,389,253	1,459,701	1,530,149	1,600,597	1,671,045	1,811,941	2,023,285	2,234,629
	+2.00%	779,230	990,574	1,201,918	1,342,814	1,413,262	1,483,710	1,554,158	1,624,606	1,765,502	1,976,846	2,188,190
	+4.00%	686,353	897,697	1,109,041	1,249,937	1,320,385	1,390,833	1,461,281	1,531,729	1,672,625	1,883,969	2,095,313
	+7.00%	547,036	758,380	969,724	1,110,620	1,181,068	1,251,516	1,321,964	1,392,412	1,533,308	1,744,652	1,955,996
	+10.00%	407,719	619,063	830,407	971,303	1,041,751	1,112,199	1,182,647	1,253,095	1,393,991	1,605,335	1,816,679

Variation in Value of Open market Homes

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	16.59%	18.72%	20.75%	22.05%	22.68%	23.30%	23.91%	24.51%	25.69%	27.39%	29.01%
	-7.00%	14.86%	17.04%	19.11%	20.43%	21.07%	21.71%	22.33%	22.95%	24.15%	25.88%	27.54%
	-4.00%	13.13%	15.35%	17.46%	18.81%	19.47%	20.12%	20.76%	21.38%	22.61%	24.38%	26.06%
	-2.00%	11.98%	14.23%	16.37%	17.74%	18.40%	19.06%	19.70%	20.34%	21.58%	23.37%	25.08%
	-1.00%	11.40%	13.67%	15.82%	17.20%	17.87%	18.53%	19.18%	19.82%	21.07%	22.87%	24.59%
	0.00%	10.83%	13.11%	15.27%	16.66%	17.33%	18.00%	18.65%	19.30%	20.55%	22.37%	24.10%
	+1.00%	10.25%	12.54%	14.72%	16.12%	16.80%	17.47%	18.13%	18.77%	20.04%	21.87%	23.61%
	+2.00%	9.67%	11.98%	14.18%	15.58%	16.26%	16.94%	17.60%	18.25%	19.53%	21.36%	23.12%
	+4.00%	8.52%	10.86%	13.08%	14.50%	15.20%	15.88%	16.55%	17.21%	18.50%	20.36%	22.14%
	+7.00%	6.79%	9.17%	11.44%	12.89%	13.59%	14.29%	14.97%	15.64%	16.96%	18.86%	20.67%
	+10.00%	5.06%	7.49%	9.79%	11.27%	11.99%	12.70%	13.39%	14.08%	15.42%	17.35%	19.20%

Resi GDV / Site Value

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	1,002,177	1,213,521	1,424,865	1,565,761	1,636,209	1,706,657	1,777,105	1,847,553	1,988,449	2,199,793	2,411,137
	-10.00%	958,821	1,170,165	1,381,509	1,522,405	1,592,853	1,663,301	1,733,749	1,804,197	1,945,093	2,156,437	2,367,781
	-5.00%	915,465	1,126,809	1,338,153	1,479,049	1,549,497	1,619,945	1,690,393	1,760,841	1,901,737	2,113,081	2,324,425
	-2.00%	889,451	1,100,795	1,312,139	1,453,035	1,523,483	1,593,931	1,664,379	1,734,827	1,875,723	2,087,067	2,298,411
	0.00%	872,108	1,083,452	1,294,796	1,435,692	1,506,140	1,576,588	1,647,036	1,717,484	1,858,380	2,069,724	2,281,068
	+2.00%	854,766	1,066,110	1,277,454	1,418,350	1,488,798	1,559,246	1,629,694	1,700,142	1,841,038	2,052,382	2,263,726
	+5.00%	828,752	1,040,096	1,251,440	1,392,336	1,462,784	1,533,232	1,603,680	1,674,128	1,815,024	2,026,368	2,237,712
	+10.00%	785,396	996,740	1,208,084	1,348,980	1,419,428	1,489,876	1,560,324	1,630,772	1,771,668	1,983,012	2,194,356
	+15.00%	742,040	953,384	1,164,728	1,305,624	1,376,072	1,446,520	1,516,968	1,587,416	1,728,312	1,939,656	2,151,000

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	12.44%	14.68%	16.81%	18.17%	18.83%	19.48%	20.13%	20.76%	21.99%	23.77%	25.48%
	-10.00%	11.90%	14.16%	16.30%	17.66%	18.33%	18.99%	19.63%	20.27%	21.51%	23.31%	25.02%
	-5.00%	11.36%	13.63%	15.78%	17.16%	17.83%	18.49%	19.14%	19.78%	21.03%	22.84%	24.56%
	-2.00%	11.04%	13.32%	15.48%	16.86%	17.53%	18.20%	18.85%	19.49%	20.75%	22.56%	24.29%
	0.00%	10.83%	13.11%	15.27%	16.66%	17.33%	18.00%	18.65%	19.30%	20.55%	22.37%	24.10%
	+2.00%	10.61%	12.90%	15.07%	16.46%	17.13%	17.80%	18.46%	19.10%	20.36%	22.18%	23.92%
	+5.00%	10.29%	12.58%	14.76%	16.15%	16.83%	17.50%	18.16%	18.81%	20.07%	21.90%	23.64%
	+10.00%	9.75%	12.06%	14.25%	15.65%	16.34%	17.01%	17.67%	18.32%	19.59%	21.43%	23.19%
	+15.00%	9.21%	11.53%	13.74%	15.15%	15.84%	16.51%	17.18%	17.83%	19.12%	20.96%	22.73%

OM Values /AH %age

Variations in Percentage of Affordable Housing (assuming same split between Social Rent and Intermediate tenures as appears on Resi sheet)

Profit on GDV (%)		-5.00%	-4.00%	-3.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+3.00%	+4.00%	+5.00%
Variation in OM Residential Values	-5.00%	18.18%	16.76%	16.76%	16.76%	14.56%	14.56%	14.56%	12.25%	12.25%	12.25%	10.61%
	-4.00%	18.90%	17.46%	17.46%	17.46%	15.27%	15.27%	15.27%	12.96%	12.96%	12.96%	11.31%
	-3.00%	19.60%	18.16%	18.16%	18.16%	15.97%	15.97%	15.97%	13.67%	13.67%	13.67%	12.00%
	-2.00%	20.29%	18.84%	18.84%	18.84%	16.66%	16.66%	16.66%	14.36%	14.36%	14.36%	12.68%
	-1.00%	20.96%	19.51%	19.51%	19.51%	17.33%	17.33%	17.33%	15.04%	15.04%	15.04%	13.35%
	0.00%	21.63%	20.17%	20.17%	20.17%	18.00%	18.00%	18.00%	15.71%	15.71%	15.71%	14.02%
	+1.00%	22.28%	20.82%	20.82%	20.82%	18.65%	18.65%	18.65%	16.36%	16.36%	16.36%	14.67%
	+2.00%	22.93%	21.46%	21.46%	21.46%	19.30%	19.30%	19.30%	17.01%	17.01%	17.01%	15.31%
	+3.00%	23.56%	22.09%	22.09%	22.09%	19.93%	19.93%	19.93%	17.65%	17.65%	17.65%	15.94%
	+4.00%	24.18%	22.71%	22.71%	22.71%	20.55%	20.55%	20.55%	18.28%	18.28%	18.28%	16.56%
	+5.00%	24.79%	23.31%	23.31%	23.31%	21.17%	21.17%	21.17%	18.90%	18.90%	18.90%	17.18%

Aff Hsg %age	40.00%	*Changes in the Proportions of Social Rented and Intermediate Tenure*										
Social Rented	65.00%	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Intermediate	35.00%	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Development Profit (£)		2,212,717	2,142,036	2,000,674	1,929,993	1,788,631	1,717,950	1,647,269	1,505,907	1,435,226	1,293,864	1,223,183
Profit on GDV (%)		25.26%	24.45%	22.84%	22.03%	20.42%	19.61%	18.81%	17.19%	16.38%	14.77%	13.96%

Table 21: 100 Dwellings High Density 40% affordable housing, 70% OMV, Net Zero Buildings

Sensitivity Tables - Profit on GDV

Resi GDV / Build Costs

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	2,858,697	3,238,647	3,618,597	3,871,897	3,998,547	4,125,197	4,251,847	4,378,497	4,631,797	5,011,747	5,391,697
	-7.00%	2,566,346	2,946,296	3,326,246	3,579,546	3,706,196	3,832,846	3,959,496	4,086,146	4,339,446	4,719,396	5,099,346
	-4.00%	2,273,996	2,653,946	3,033,896	3,287,196	3,413,846	3,540,496	3,667,146	3,793,796	4,047,096	4,427,046	4,806,996
	-2.00%	2,079,096	2,459,046	2,838,996	3,092,296	3,218,946	3,345,596	3,472,246	3,598,896	3,852,196	4,232,146	4,612,096
	-1.00%	1,981,646	2,361,596	2,741,546	2,994,846	3,121,496	3,248,146	3,374,796	3,501,446	3,754,746	4,134,696	4,514,646
	0.00%	1,884,196	2,264,146	2,644,096	2,897,396	3,024,046	3,150,696	3,277,346	3,403,996	3,657,296	4,037,246	4,417,196
	+1.00%	1,786,746	2,166,696	2,546,646	2,799,946	2,926,596	3,053,246	3,179,896	3,306,546	3,559,846	3,939,796	4,319,746
	+2.00%	1,689,296	2,069,246	2,449,196	2,702,496	2,829,146	2,955,796	3,082,446	3,209,096	3,462,396	3,842,346	4,222,296
	+4.00%	1,494,395	1,874,345	2,254,295	2,507,595	2,634,245	2,760,895	2,887,545	3,014,195	3,267,495	3,647,445	4,027,395
	+7.00%	1,202,045	1,581,995	1,961,945	2,215,245	2,341,895	2,468,545	2,595,195	2,721,845	2,975,145	3,355,095	3,735,045
	+10.00%	909,695	1,289,645	1,669,595	1,922,895	2,049,545	2,176,195	2,302,845	2,429,495	2,682,795	3,062,745	3,442,695

Variation in Value of Open market Homes

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Build Costs	-10.00%	16.88%	18.71%	20.45%	21.57%	22.12%	22.67%	23.20%	23.73%	24.76%	26.26%	27.70%
	-7.00%	15.16%	17.02%	18.80%	19.95%	20.51%	21.06%	21.60%	22.14%	23.20%	24.73%	26.20%
	-4.00%	13.43%	15.33%	17.15%	18.32%	18.89%	19.45%	20.01%	20.56%	21.63%	23.19%	24.69%
	-2.00%	12.28%	14.20%	16.05%	17.23%	17.81%	18.38%	18.95%	19.50%	20.59%	22.17%	23.69%
	-1.00%	11.70%	13.64%	15.49%	16.69%	17.27%	17.85%	18.41%	18.97%	20.07%	21.66%	23.19%
	0.00%	11.13%	13.08%	14.94%	16.14%	16.73%	17.31%	17.88%	18.45%	19.55%	21.15%	22.69%
	+1.00%	10.55%	12.51%	14.39%	15.60%	16.19%	16.78%	17.35%	17.92%	19.03%	20.64%	22.19%
	+2.00%	9.98%	11.95%	13.84%	15.06%	15.65%	16.24%	16.82%	17.39%	18.51%	20.13%	21.69%
	+4.00%	8.82%	10.83%	12.74%	13.97%	14.58%	15.17%	15.76%	16.33%	17.47%	19.11%	20.69%
	+7.00%	7.10%	9.14%	11.09%	12.34%	12.96%	13.56%	14.16%	14.75%	15.90%	17.58%	19.19%
	+10.00%	5.37%	7.45%	9.44%	10.71%	11.34%	11.96%	12.57%	13.17%	14.34%	16.05%	17.69%

Resi GDV / Site Value

Variation in Value of Open Market Homes

Development Profit (£)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	2,147,033	2,526,983	2,906,933	3,160,233	3,286,883	3,413,533	3,540,183	3,666,833	3,920,133	4,300,083	4,680,033
	-10.00%	2,059,421	2,439,371	2,819,321	3,072,621	3,199,271	3,325,921	3,452,571	3,579,221	3,832,521	4,212,471	4,592,421
	-5.00%	1,971,808	2,351,758	2,731,708	2,985,008	3,111,658	3,238,308	3,364,958	3,491,608	3,744,908	4,124,858	4,504,808
	-2.00%	1,919,241	2,299,191	2,679,141	2,932,441	3,059,091	3,185,741	3,312,391	3,439,041	3,692,341	4,072,291	4,452,241
	0.00%	1,884,196	2,264,146	2,644,096	2,897,396	3,024,046	3,150,696	3,277,346	3,403,996	3,657,296	4,037,246	4,417,196
	+2.00%	1,849,151	2,229,101	2,609,051	2,862,351	2,989,001	3,115,651	3,242,301	3,368,951	3,622,251	4,002,201	4,382,151
	+5.00%	1,796,583	2,176,533	2,556,483	2,809,783	2,936,433	3,063,083	3,189,733	3,316,383	3,569,683	3,949,633	4,329,583
	+10.00%	1,708,971	2,088,921	2,468,871	2,722,171	2,848,821	2,975,471	3,102,121	3,228,771	3,482,071	3,862,021	4,241,971
	+15.00%	1,621,358	2,001,308	2,381,258	2,634,558	2,761,208	2,887,858	3,014,508	3,141,158	3,394,458	3,774,408	4,154,358

Profit on GDV (%)		-10.00%	-7.00%	-4.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+4.00%	+7.00%	+10.00%
Variation in Site Value (including Acquisition Costs)	-15.00%	12.68%	14.60%	16.43%	17.61%	18.19%	18.76%	19.32%	19.87%	20.96%	22.53%	24.04%
	-10.00%	12.16%	14.09%	15.93%	17.12%	17.70%	18.27%	18.84%	19.40%	20.49%	22.07%	23.59%
	-5.00%	11.64%	13.58%	15.44%	16.63%	17.22%	17.79%	18.36%	18.92%	20.02%	21.61%	23.14%
	-2.00%	11.33%	13.28%	15.14%	16.34%	16.93%	17.50%	18.07%	18.64%	19.74%	21.34%	22.87%
	0.00%	11.13%	13.08%	14.94%	16.14%	16.73%	17.31%	17.88%	18.45%	19.55%	21.15%	22.69%
	+2.00%	10.92%	12.87%	14.75%	15.95%	16.54%	17.12%	17.69%	18.26%	19.36%	20.97%	22.51%
	+5.00%	10.61%	12.57%	14.45%	15.66%	16.25%	16.83%	17.40%	17.97%	19.08%	20.69%	22.24%
	+10.00%	10.09%	12.07%	13.95%	15.17%	15.76%	16.35%	16.93%	17.50%	18.61%	20.23%	21.79%
	+15.00%	9.57%	11.56%	13.46%	14.68%	15.28%	15.87%	16.45%	17.02%	18.15%	19.78%	21.34%

OM Values /AH %age

Variations in Percentage of Affordable Housing (assuming same split between Social Rent and Intermediate tenures as appears on Resi sheet)

Profit on GDV (%)		-5.00%	-4.00%	-3.00%	-2.00%	-1.00%	0.00%	+1.00%	+2.00%	+3.00%	+4.00%	+5.00%
Variation in OM Residential Values	-5.00%	17.60%	16.91%	16.20%	15.80%	15.07%	14.33%	13.92%	13.16%	12.73%	11.95%	11.15%
	-4.00%	18.23%	17.53%	16.82%	16.42%	15.69%	14.94%	14.52%	13.76%	13.33%	12.54%	11.74%
	-3.00%	18.84%	18.14%	17.43%	17.02%	16.29%	15.55%	15.12%	14.36%	13.92%	13.13%	12.33%
	-2.00%	19.45%	18.75%	18.03%	17.62%	16.89%	16.14%	15.71%	14.95%	14.50%	13.71%	12.91%
	-1.00%	20.04%	19.34%	18.63%	18.21%	17.48%	16.73%	16.29%	15.53%	15.08%	14.28%	13.48%
	0.00%	20.63%	19.93%	19.22%	18.79%	18.06%	17.31%	16.87%	16.10%	15.64%	14.85%	14.04%
	+1.00%	21.21%	20.51%	19.79%	19.37%	18.63%	17.88%	17.43%	16.66%	16.20%	15.41%	14.60%
	+2.00%	21.78%	21.08%	20.36%	19.93%	19.20%	18.45%	17.99%	17.22%	16.75%	15.96%	15.15%
	+3.00%	22.34%	21.64%	20.93%	20.49%	19.75%	19.00%	18.54%	17.77%	17.30%	16.50%	15.69%
	+4.00%	22.90%	22.20%	21.48%	21.04%	20.30%	19.55%	19.09%	18.31%	17.84%	17.04%	16.22%
	+5.00%	23.44%	22.74%	22.03%	21.58%	20.84%	20.09%	19.62%	18.85%	18.37%	17.57%	16.75%

Aff Hsg %age	50.00%	*Changes in the Proportions of Social Rented and Intermediate Tenure*										
Social Rented	65.00%	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Intermediate	35.00%	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
Development Profit (£)		5,431,025	5,085,520	4,740,016	4,394,512	4,049,007	3,703,503	3,357,998	3,012,494	2,666,990	2,321,485	1,975,981
Profit on GDV (%)		29.84%	27.94%	26.04%	24.15%	22.25%	20.35%	18.45%	16.55%	14.65%	12.76%	10.86%

8 Viability Assessment of Housing Allocations

Key Sites

8.1 All key sites have submitted up to date site specific DVMs to demonstrate that they are viable. These have been subject to independent review by Andrew Burrows, having regard to the agreed assumptions in this paper as well as site specific requirements. The findings can be viewed in BP42A Viability Review of Key Sites (Burrows Hutchingson) (2025).

Rural Affordable Housing Led allocations

8.2 Policy SP2 Settlement Hierarchy of the Deposit RLDP sets out the strategic hierarchy of settlements that provides the framework for future housing growth over the plan period, directing the majority of growth to the settlements within the sustainable growth area, reflecting the role and function of settlements with the growth area.

8.3 Outside the strategic growth area Policy SP2 proposes to limit additional housing growth to affordable housing led sites – these being sites of up to 50 dwellings in the Primary Settlements and 25 dwellings with minor rural settlements. This policy approach recognises the need for the plan to enable an element of open-market housing within rural villages will facilitate the delivery of affordable housing where it would otherwise not be viable to provide new homes and will contribute to delivering mixed communities.

8.4 The provision of affordable housing led sites is consistent with PPW (Edition 12 February 2024) which states that:
"*Planning authorities must make provision for affordable housing led housing sites in their development plans. Such sites will include at least 50% affordable housing based on criteria reflecting local circumstances which are set out in the development plan and relate to the creation of sustainable communities*."
(paragraph 4.2.33)

8.5 Accordingly, during the consultation on the Preferred Strategy of the RLDP and second call for sites, a number of site promoters submitted sites as affordable housing led sites. This included the resubmission of sites that had previously been submitted as market led sites as part of the first call for candidate sites. Following the assessment of these sites by the Council through the candidate site assessment the Council have identified four sites for consideration:

- Land to the East of Colwinston
- Land west of Maendy Road, Aberthin

- Land at Heol Fain, Wick
- Land north of West Winds Business Park, Fferm Goch

8.6 In order to ensure viability and deliverability of these sites, detailed viability appraisals were undertaken by the site promoters to evidence that each site could support the requisite minimum 50% affordable housing without social housing grant subsidy. These sites have been carried forward within the Deposit RLDP under Policy HG4 Rural Affordable Housing Led Sites. A summary of the viability appraisals for each site is provided at Appendix 8. All sites are considered to be viable.

Other Housing allocations

8.7 The Deposit RLDP includes 9 housing allocations in addition to the key sites and rural affordable housing led sites. The following four sites are being brought forward by the Council's housing development team, delivered through the Cardiff and Vale Housing Partnership, for either 100% affordable housing or a minimum of 50% affordable housing:

- HG1.1 Land to the west of Pencoedtre Lane, Barry
- HG1.2 Land at the Mole, Barry Waterfront
- HG1.3 Land at Hayes Lane, The Bendricks
- HG1.8 Clive Road, St Athan

8.8 In addition, HG1.4 Land at Neptune Road and HG1.7 Former Stadium site, Burley Place, are being promoted as affordable housing led schemes, with RSL involvement.

8.9 Where the development is being brought forward by a social housing provider, it is anticipated that the scheme will be supported by WG social housing grant funding. This is assessed through WG's own Strategic Viability Model (SVM) to demonstrate viability. As the DVM is best suited to market led schemes, no assessments of the above schemes have been undertaken as part of this report.

8.10 HG1.5 Land between the Northern Access Road and Eglwys Brewis Road (Site C - Central Parcel), Llantwit Major is a rolled forward site from the adopted LDP. However, there has been a change in circumstances as the site has been purchased by Welsh Government, which will allow it to be delivered alongside the parcels of land to the east and west, which are also in Welsh Government ownership and have the benefit of planning permission, subject to Section 106. A DVM has been prepared for the site, demonstrating that the site is viability, this has also been included in Appendix 8.

8.11 There are two other rolled forward LDP sites (HG1.9 Land north of the Railway Line (East), Rhoose and HG1.6 Land adjoining St Athan Road, Cowbridge) that have advanced planning applications and will likely be determined in accordance with the adopted LDP. These have therefore also not been included in the assessment.

9 Conclusions and Recommendations

9.1 This report has provided a detailed analysis of plan-wide viability across the Vale of Glamorgan's five HMAs. This has indicated that across all HMAs the notional sites tested would support the provision of affordable housing in line with the current policy requirements of the adopted Vale of Glamorgan LDP, alongside net zero building standards.

9.2 The testing also suggests that discounted rates of LCHO at 60% of open market value rather than the current position of 70% could be supported in certain mixes within all five HMAs, However, there are instances where this is challenging for particular development sizes or mixes. The reduction to 60% of OMV for LCHO properties would significantly reduce the theoretical headroom above what is deemed to be a viable level, which may make development more marginal and result in a greater number of viability challenges on a site-specific basis.

9.3 Within each HMA, there will inevitably be pockets of higher or lower viability, the nuances of which can never be fully captured in an area-wide study of this type. Site-specific testing for both sites key to delivery of the Plan and smaller housing allocations has captured such factors and there will continue to be the need for scrutiny of viability at planning application stage if site specific viability challenges are present.

9.4 It is considered prudent for the Council to maximise opportunities for affordable housing through the RLDP, particularly when faced with increasingly higher levels of affordable housing need and homelessness across the authority. This also needs to be balanced with other priorities, including the climate emergency, which net zero homes can play an important role in addressing. It has been demonstrated that current LDP levels of affordable housing (with 70% OMV LCHO) can be met whilst also delivering operational net zero homes. Concerns have been raised that the cost of delivering operational net zero homes is unknown and could be higher than the evidence-based assumptions that have been factored in. In response to this, there is a contingency of 5% factored into the viability assessments to cover unexpected costs. In addition, it is proposed not to set the affordable housing requirements at the absolute limits of viability, as in each mix tested in each HMA at 70% of OMV, there is some headroom which will allow for an increase in costs. Furthermore, there is some evidence that, particularly for larger units, there could be a 'green premium' associated with net zero building, with people willing to pay more for units that have lower operating costs in the long run.

9.5 The RLDP Sustainable Growth Strategy directs new development to the main settlements of Barry, Penarth, Llantwit Major, Cowbridge, Sully, Llandough, Dinas Powys, Rhoose and St Athan. Outside of these settlements, which form part of a Strategic Growth Area, land will be allocated for the provision of small-scale affordable housing led developments, where the requirement for such development

will be limited to sites of 25 dwellings in settlements classed as minor rural settlements and up to 50 dwellings in primary settlements. For the purpose of the policy, affordable housing led schemes are defined as those schemes that would deliver a minimum 50% affordable housing. These affordable housing led schemes are allocated within the Deposit RLDP. The affordable housing led allocations are supported by viability assessments demonstrating that they are viable with 50% affordable housing.

9.6 In the settlements within the Rural Vale and East Vale, the development that is likely to come forward will be limited to the affordable housing led allocations (minimum 50% affordable housing as demonstrated on a site-specific basis), affordable housing exceptions sites (100% affordable) and windfall sites within existing settlement boundaries. These are likely to be small in scale and would include infill or redevelopment opportunities. The viability modelling demonstrates these types of sites are viable at 40% affordable housing with 70% OMV for LCHO, but there would be insufficient headroom generally to achieve a higher level of affordable housing. On this basis, it is recommended that the requirement for affordable housing for unallocated sites outside the strategic growth area would remain at 40%. It is proposed that the existing threshold of 1 dwelling be retained as this is found to be viable, whilst noting that many of the single unit schemes are self-build and are therefore exempt from section 106 requirements.

9.7 Accordingly, on the basis of the above viability evidence the following table proposes the affordable housing policy framework for the Vale of Glamorgan RLDP. To ensure consistency with the existing adopted LDP, the thresholds below would apply where proposals would result in a net gain in dwellings.

Table 22: Proposed Policy Requirements

Housing Market Area	Settlements	Affordable Housing Requirement %	Policy Threshold
Barry	Barry	30%	5 dwellings net gain
Coastal	Rhoose, St Athan, Llantwit Major	35%	5 dwellings net gain
Penarth	Penarth, Dinas Powys, Llandough, Sully	40%	1 dwelling net gain new build. 2 dwelling net gain for conversions of existing buildings
Unallocated sites outside the strategic growth area (Rural and East Vale)	Primary and Minor Rural Settlements outside the strategic growth area	40%	1 dwelling net gain new build. 2 dwelling net gain for conversions of existing buildings
Affordable housing led allocations outside the strategic growth area	Housing allocations outside the strategic growth area	50%	As per allocation

9.8 The above affordable housing thresholds and percentages have been applied to the viability appraisals of the 5 key sites identified within the Deposit RLDP as part of the evidence in respect of the viability and deliverability of these sites. These results are set out in Background Paper BP42A, undertaken by Burrows-Hutchinson Ltd on behalf of the Council. These assessments further reinforce the findings of this of this high-level viability assessment and policy recommendations. The non-key allocations have also been assessed where appropriate, including the rural affordable housing led sites, where it is confirmed that they can support the required proportions of affordable housing.

Appendix 1: Affordable Housing Delivery- LDP Allocations and Large Windfall Sites

HOUSING SUBMARKET: RURAL VALE			
LDP Allocation	**Adopted LDP Policy Requirement**	**Policy Requirement at time of application**	**% Affordable Housing Secured**
MG2 (20): Land to the north and west of Darren Close, Cowbridge	40%	40%	40% (70:30 social rented/intermediate split)
MG2 (39): Land adjoining to Court Close, Aberthin	40%	40%	40% affordable housing (70:30 tenure split),
MG2 (41): Land to rear of St David's Church in Wales Primary School, Colwinston	40%	35%	35% - 25% onsite and offsite in leu contribution of 10%.
MG2 (48): Land off Sandy Lane, Ystradowen	40%	35%	35%
MG2 (44): Ogmore Residential Centre	40%	30%	30%
MG2 (45): Ogmore Caravan Park	40%	30%	30%
MG2 (47): Land off St. Brides Road, Wick	40%	35%	35%
MG2 (43): The Garden Emporium, Fferm Goch	40%	35%	35% (14 units) affordable housing (80:20 tenure split)

HOUSING SUBMARKET: EAST VALE			
LDP Allocation	**Adopted LDP Policy Requirement**	**Policy Requirement at time of application**	**% Affordable Housing Secured**
MG2 (40): Land to the east of Bonvilston	40%	40%	20% Reduction in affordable housing contribution due to infrastructure costs – upgrade to WwTW
MG2 (46) Land to the East of St Nicholas (100 dwellings)	40%	40%	35% affordable dwellings onsite and off-site in leu contribution of 5%.
MG2 (38): Land to the west of Port Road, Wenvoe (131 dwellings)	40%	35%	35% - 25% onsite and offsite in leu contribution of 10%.
MG2 (42): ITV Wales, Culverhouse Cross	40%	35%	35% - 24% onsite and offsite in leu contribution of 11%.
Windfall: Land to the west of Port Road, Wenvoe (12 dwellings)	40%	40%	40% combination on and off-site contributions (4

			dwellings provided on site)
Windfall: Land to the East of St Nicholas (21 dwellings)	40%	40%	40%

HOUSING MARKET AREA: PENARTH, INCLUDING SULLY, DINAS POWYS AND LLANDOUGH.			
LDP Allocation	**Policy Requirement**	**Policy Requirement at time of application**	**% Affordable Housing Secured**
MG2 (24): Land at Upper Cosmeston Farm, Penarth	40%	40%	50% Affordable Housing (WG Land protocol)
MG2 (25): Land adjoining St. Joseph's School, Sully Lane	40%	40%	35% (80% social rented 20% intermediate properties). Viability evidence supported reduction in affordable housing provision in line with policy.
MG2 (28): Land at and adjoining St. Cyres School, Murch Road	40%	40%	40% affordable housing units (70:30 social rented/intermediate)
MG2 (29): Land off Caerleon Road, Dinas Powys	40%	40%	40% affordable housing units (70:30 social rented/intermediate)
MG2 (30): Land at Ardwyn, Pen-y-Turnpike	40%	40%	40% affordable housing realised with on and offsite contribution.
MG2 (31): Land at Cross Common Road	40%	40%	40%
MG2 (33): Land north of Leckwith Road	40%	40%	100% - Site developed by Registered Social Landlord.
MG2 (37): Land west of Swanbridge Road, Sully	40%	40%	40% affordable housing (70:30 tenure)
Windfall: Former Quarry Llandough (application 2013/00632/FUL)	40%	35%	35%
Windfall: Highlands Penarth (application 2016/01142/FUL)	40%	40%	27% provision. Viability evidence supported reduction in affordable housing provision in line with policy.

HOUSING MARKET: COASTAL (RHOOSE, ST ATHAN, LLANTWIT MAJOR)			
LDP Allocation	**Policy Requirement**	**Policy Requirement at time of applications**	**% Affordable Housing Secured**
MG2 (2): Land at Higher End, St. Athan (part 100 dwellings)	35%	30%	30% affordable housing (at a ratio of 65:35 social rented/intermediate split)
MG2 (2): Land at Higher End, St. Athan (part 25 dwellings)	35%	35%	100% - RSL scheme
MG2 (5): Land to the east of Eglwys Brewis, St. Athan	35%	35%	17%- reduction in provision due to viability issues at the site.
MG2 (7) (Site A) Land between Northern Access Road and Eglwys Brewis Road, Llantwit Major	35%	35%	35% (70:30 Social rented/intermediate)
MG2 (6) Site B: Land between Northern Access Road and Eglwys Brewis Road, Llantwit Major	35%	35%	35% (70:30 Social rented/intermediate)
MG2 (21): Plasnewydd Farm	35%	30%	30% (80:20 social rented/intermediate split)
MG2 (22): Land adjacent to Llantwit Major Bypass (Phase1)	35%	35%	29% site, plus an offsite affordable housing contribution
MG2 (22): Land adjacent to Llantwit Major Bypass (Phase2)	35%	35%	19%-reduction in provision due to site constraints and viability evidence.
MG2 (35): Land north of the Railway Line, Rhoose (Phase 1 East)	35%	30%	30% affordable housing (80% social rented, 20% intermediate housing)
MG2 (36): Land south of the Railway Line, Rhoose	35%	30%	30%

HOUSING SUBMARKET- BARRY			
LDP Allocation	**Policy Requirement**	**Policy Requirement at time of applications**	**% Affordable Housing Secured**

MG2 (9): White Farm	30%	20%	20%
MG2 (10): Land to the east of Pencoedtre	30%	30%	30%
MG2 (12): Ysgol Maes Dyfan	30%	30%	30% Affordable Housing on site (80:20 social rented/intermediate split)
MG2 (13): Barry Magistrates Court	30%	30%	100% affordable housing scheme- Site developed by Registered Social Landlord.
MG2 (1) Phase 2, Barry Waterfront	30%	30%	15% affordable housing (80:20 social rented/intermediate split). The level of provision supported by viability evidence

Appendix 2: Section 106 Contributions 2017-2023

Application No.	Site	No. of dwellings	Section 106 per dwelling (£)
2013/01279/OUT	Land south of Cog Road, Sully (Phase 1)	350	£11,996.79
2014/00282/OUT	Caerleon Road, Dinas Powys	70	£6,707.63
2016/00809/FUL	Land to the rear of Westgate (East of Eagle Lane), Cowbridge	37	£12,701.51
2015/00392/OUT	Land at Cardiff Road/Cross Common Road, Dinas Powys	50	£8,195.27
2015/00960/FUL	Land at Sycamore Cross, Pendoylan Lane and North of A48, Bonvilston	120	£4,166.67
2017/00541/FUL	Northcliffe Lodge, Northcliffe Drive, Penarth	30	£10,000.00
2014/00995/FUL	Land adjacent to Llantwit Major Bypass, Boverton	65	£11,743.70
2017/00497/FUL	Former Bryneithin Care Home, St. Andrews Road, Dinas Powys	24	£12,231.88
2017/01136/HYB	Former St. Cyres Lower School, Murch Road, Dinas Powys	215	£12,389.61
2017/00955/FUL	Former RS Garage, Windsor Road, Penarth	12	£2,022.00
2016/00369/OUT	St. Athan Boys Village, St. Athan	15	£15,180.53
2016/01427/OUT	Land off Cowbridge Road, St. Athan	253	7,829.55
2018/00458/FUL	Land adjacent to Llantwit Major Bypass, Boverton	21	£11,712.10
2018/01420/FUL	56a, Windsor Road, Penarth (Former Monty Smith Ltd)	21	£2,579.62
2016/01520/OUT	Land west of Swanbridge Road, Sully (Phase 2)	190	£16,166.42
	Total		£145,623.28
Average Contribution Per Dwelling			**£9,708.20**

Appendix 3: Stakeholder Viability Workshop Minutes of Meeting

Vale of Glamorgan Council Viability Study Group

Meeting minutes (25/06/24)

Arising from a meeting arranged by the Vale of Glamorgan Council (VOGC), attended by the following stakeholders and chaired by Andrew Burrows MA FRICS of Burrows-Hutchinson Ltd.

Attended by:

Organisation	Attendee
Alder King	Tom Jackson
Barratt Homes	Cai Parry
Burrows-Hutchinson	Andrew Burrows
Burrows-Hutchinson	Tom Butcher
Edenstone Homes	Katie Peters
Hafod Housing Association	Neil Taylor
Hallam Land Management	Hal Parsons
Home Builders Federation	Mark Harris
Newydd Housing Association	Rhian Lees
Persimmon Homes	Luke Davies
PMG	Andrew Crompton
Pobl	Sarah Smith
Savills	Andrew Weeks
Savills	Annamaria Sgueglia
United Welsh Housing Association	Alys Pride
United Welsh Housing Association	Christopher Boardman
Vale of Glamorgan Council (Estates)	Lorna Cross
Vale of Glamorgan Council (Estates)	Ian Tomkinson
Vale of Glamorgan Council (Environment and Housing)	Andrew Freegard
Vale of Glamorgan Council (Planning)	Ian Robinson
Vale of Glamorgan Council (Planning)	Liam Jones
Vale of Glamorgan Council (Planning)	Victoria Morgan
Vale of Glamorgan Council (Planning)	Andrew Wallace
Vale of Glamorgan Council (Planning)	Lucy Butler
Vale of Glamorgan Council (Planning)	Marcus Bayona-Martinez

Organisations invited that did not attend:

Acorn Homes
Bellway
Cooke and Arkwright
Dandara Homes
Federation of Master Builders
Herbert R Thomas

Llanmoor Homes
NP Linnells
Redrow
Taylor Wimpey
Wales and West Housing Association
Welsh Government Land Division

1. Background

1.1. This report has been prepared to minute the findings from the Vale of Glamorgan Viability Study Group Workshop that took place on the 25/06/24. The purpose of the workshop was to inform the assumptions for the high-level viability assessment that will be carried out to inform the VOGC Replacement Local Development Plan (RLDP)

1.2. The following agenda was followed to steer the session:

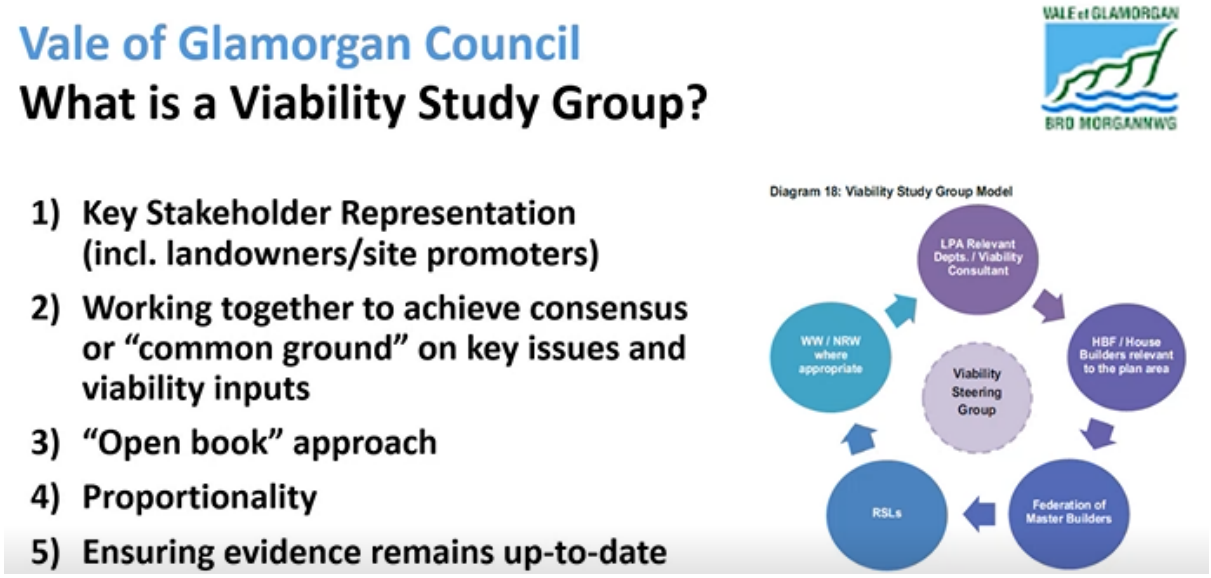
1) Introductions
2) Replacement Local Development Plan – Timetable
3) House prices and sales in the current economic climate
4) Transfer values for affordable homes
5) Impact of changes to building regulations
6) Construction and development costs generally
7) Benchmark land values
8) Any other issues

2. Introductions and RLDP Timetable

2.1. The session and its purpose, to agree assumptions for high level viability testing, were introduced. Current progress on the Replacement Local Development Plan was identified, as was the policy context within which viability work is required.

2.2. It was identified that an Initial Consultation Report (ICR) for the VOGC RLDP had been prepared following the Preferred Strategy consultation, which took place between December 2023 and February 2024. Full Council agreement to endorse the ICR and progress work on the RLDP will be sought in the early autumn 2024. Consultation on the Deposit Plan was anticipated in early Spring 2025.

2.3. The context concluded by recognising what the purpose of the viability group was, as displayed on Slide 4. It was emphasised that the working group had been established so that the Council could work with the development industry to ensure that Plans are capable of delivering.



Slide 4: What is a Viability Study Group

3. House Prices and Sales in the Current Economic Climate

Sub-Market Areas

3.1. Andrew Burrows presented the sub-market areas, as shown in Slide 5. Similar housing market values are shared within the sub-areas, whereas there are notable variances between the different sub-areas. The sub-areas are broadly similar to those identified in the adopted Local Development Plan and it was proposed to carry these forward again into the Replacement LDP.

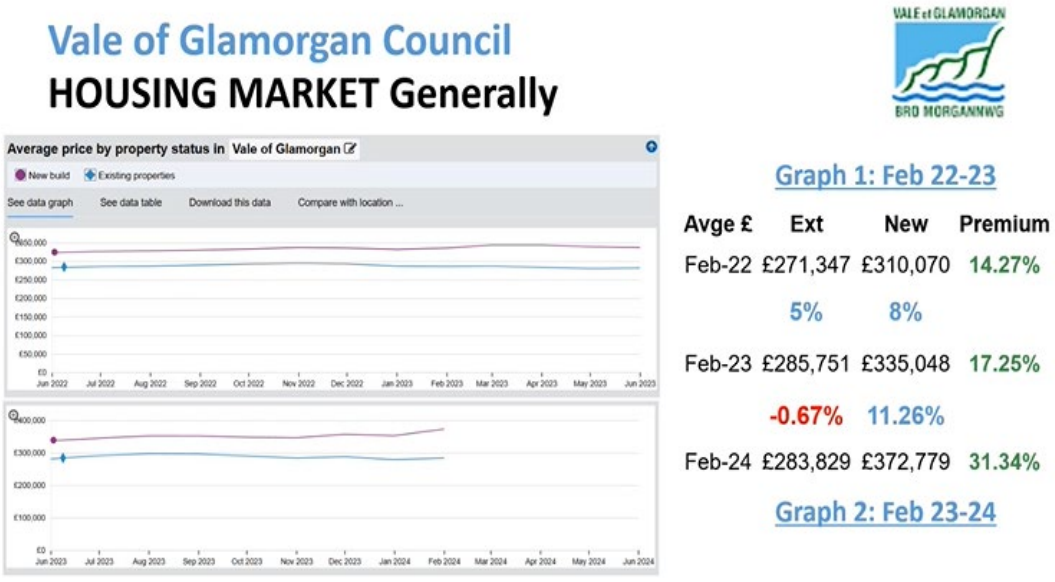
Slide 5: Sub-Market Areas

3.2. One comment was made, querying whether these areas align with the LHMA, and it was clarified that the LHMA identifies areas based on wards (aside from Barry and Penarth that combine several wards to form their own distinct areas). To replicate that would have resulted in 13 different market areas being identified for viability testing, and that would have been too many for this exercise. No concerns were raised in relation to the sub-market areas.

Housing Market Overview

3.3. A general overview of trends in the housing market in the Vale of Glamorgan was provided and this was informed by Slide 6. The premium on the price for a new house of c.15% in the 2022 and 2023 statistics fits with industry expectations; but the greater premium suggested by the February 2024 figures was questioned.

3.4. Participants suggested that this uplift was due to the majority of the houses sold recently being larger in size; i.e. 3 and 4 bed units. Caution in respect of these figures was thus proposed, as the housing market was still considered to be 'fragile'. Caution was also advised as the dataset behind the 2024 data had notably less inputs, in terms of transactions, than previous years. It was advised that Help to Buy data reaffirmed that transactions were down in 2024. The Land Registry HPI shows just 60 recorded sales in the VoG in Feb-24, which is the lowest monthly since the 1st lockdown (Mar/Apr 2020). There is danger in using a single month's data for analysis of a new build premium, especially when it relies on so few transactions in that month.



Slide 6: General Overview of the Vale's Housing

3.5. Rates of sales were discussed. It was agreed that 40-50 units per annum would be appropriate from a single outlet, with more on larger sites, where there may be more than one outlet. It was noted that where there are multiple outlets, whilst overall

sales rates are higher, the rates from individual outlets will be lower. Keeping homes below the threshold to be eligible for Help to Buy (currently £300,000) was also considered to assist in maintaining rates. It was also suggested that on smaller sites, the rate of sales might be reduced to c.30 dwellings p.a.

Sales Values

3.6. Slide 7 displayed average sales values for sub-market areas. Discussion on sales values began with Andrew Burrows highlighting a disparity between the estimates in the candidate site submissions (displayed on DVMs) and the evidence available on Hometrack from new build sales and valuations.

3.7.

Vale of Glamorgan Council
SALES VALUES by Sub-Market Area

Market Area	Mean Average 21-22	Upper Quartile 21-22		Mean Average 23-24	Upper Quartile 23-24	DVM Averages	23-24 and DVM combined.Average
Barry	£2,495	£2,688		£2,827	£3,182	£3,588	£2,957
East Vale	£2,888	£3,054		£3,121	£3,370	£3,843	£3,337
Penarth	£3,064	£3,249		£3,854	£3,802	£3,939	£3,895
Coast	£2,547	£2,743		£2,786	£2,997	£3,641	£3,367
Rural	£3,345	£3,352		£3,393	£3,482	£4,390	£3,863

Slide 7: Sales Values by Sub-Market Area

Vale of Glamorgan Council
SALES VALUES by Dwelling Type

Dwelling Type	GIA m2	£3,000	£3,200	£3,400	£3,600	£3,800	Approx. Range
1-bed flat	50	£150,000	£160,000	£170,000	£180,000	£190,000	£150,000 - £190,000
2-bed flat	61	£183,000	£195,200	£207,400	£219,600	£231,800	£185,000 - £230,000
2-bed flat	70	£210,000	£224,000	£238,000	£252,000	£266,000	£210,000 - £265,000
2-bed terraced	83	£249,000	£265,600	£282,200	£298,800	£315,400	£250,000 - £315,000
3-bed flat	74	£222,000	£236,800	£251,600	£266,400	£281,200	£225,000 - £280,000
3-bed flat	86	£258,000	£275,200	£292,400	£309,600	£326,800	£260,000 - £325,000
3-bed terraced	86	£258,000	£275,200	£292,400	£309,600	£326,800	£260,000 - £325,000
3-bed detached	96	£288,000	£307,200	£326,400	£345,600	£364,800	£290,000 - £365,000
3-bed townhouse	102	£306,000	£326,400	£346,800	£367,200	£387,600	£300,000 - £390,000
4-bed detached	100	£300,000	£320,000	£340,000	£360,000	£380,000	£300,000 - £380,000
4-bed townhouse	106	£318,000	£339,200	£360,400	£381,600	£402,800	£320,000 - £400,000
4-bed detached	107	£321,000	£342,400	£363,800	£385,200	£406,600	£320,000 - £410,000
4-bed townhouse	113	£339,000	£361,600	£384,200	£406,800	£429,400	£340,000 - £430,000

Slide 8: Sales Values by Dwelling Type

3.8. A breakdown of a suggested sales values and how they related to various dwelling types was displayed on Slide 8. Help to Buy was identified as enabling sales, particularly as it was currently a weaker market, and it was suggested that the 2 and 3 bed dwellings should be below this figure (£300,000) to allow for that. One participant suggested that at the upper end these figures were perhaps too low; the range of figures were not considered to reflect the demand for larger houses in the Vale.

3.9. It was reiterated that the DVM figures are somewhat high for these areas. However, it was noted that Building Regulations and potential Net Zero Buildings policy may increase build costs. The contributor suggested that the uplift in costs could be recouped through higher sales costs and whether these factors would need to be reflected in the anticipated sales values. However, another contributor stated that this 'net zero premium' needs to be evidenced. Research by Savills on this point shows that there is some premium in the UK for large, more expensive properties being net zero, but nothing discernible for mainstream new build properties.

Sales Values for Barry, East Vale, Penarth and Rural Areas

3.10. Overall, there was a consensus from contributors that the figures displayed in the DVMs were too high, and that the upper quartile 23-24 figures were more reasonable. It was suggested that the following figures were appropriate for the Barry, East Vale, Penarth and Rural areas:

- **Barry – £3,200**
- **East Vale – £3,400**
- **Penarth – £3,800**
- **Rural – £3,500**

3.11. It was proposed to move forward on this basis for these areas and there was a general consensus with that proposal.

Sales Vales for the Coast Area

3.12. The upper quartile figures for the Coast area were considered to be low, and this was thought to be a stronger market that could show figures closer to those agreed for Barry. The fact that a lot of the houses being delivered currently were in St Athan, which is where prices are the lowest in the area, was indicated as a reason for lower values in the market evidence here.

As two of the key housing sites proposed in the Preferred Strategy were located in St Athan, the promoter of one of these sites reasoned that values should be reflective of St Athan prices. The benefits of placemaking and the introduction of services and facilities to St Athan were considered as factors that may uplift values there in time. The contributor suggested that increasing St Athan 'slightly' from the

upper quartile 23-24, but no higher than the upper quartile figure for Barry (£3,200), would be reasonable. A participant agreed and there were no further comments.

3.14 It was decided that £3,200 psm is therefore appropriate for the Coast area.

Sales Values – Conclusion

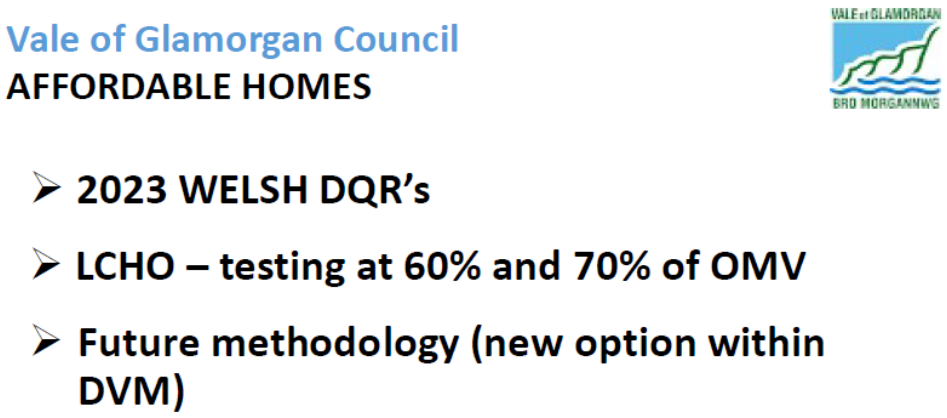
3.13. There was general consensus that the values shown in paragraphs 3.10 and 3.14 were appropriate for the high-level countywide viability assessments. One participant pointed out that it was hard to argue with the upper quartile evidence.

4. Affordable Homes

Low Cost Housing Options

4.1. Affordable Homes and their values were discussed next. Andrew Burrows acknowledged that some Registered Social Landlords (RSLs) had raised concerns about the affordability of low-cost home ownership at 70% of market value, and said that the Council proposed testing viability at both 60% and 70% of market value. The purpose of testing at the lower percentage would be to make homes more affordable in areas where this was an issue.

4.2. An RSL participant identified that they were experiencing issues selling low-cost ownership (LCHO) schemes at 70%. There was no further discussion on this.



Slide 9: Affordable Homes

4.3 RSLs receiving social housing grant are required to build to EPC A. There are some exceptions, for instance existing buildings that are being converted to provide social housing using SHG can achieve a lower EPC, but that needs to be agreed by WG. However, it was confirmed by the Council's housing team that new affordable homes delivered via s.106 sites only have to meet the WDQR space standards at

present. This position will be kept under review; and may be affected by the introduction of “zero carbon” policies in a Local Plan or on a broader National scale.

4.3. It was highlighted that the Vale were currently out on consultation on with amendments to the transfer values for social rented tenure. These are based on the August 2021 ACGs (including land), uplifted annually in line with WG changes to the social rent cap.

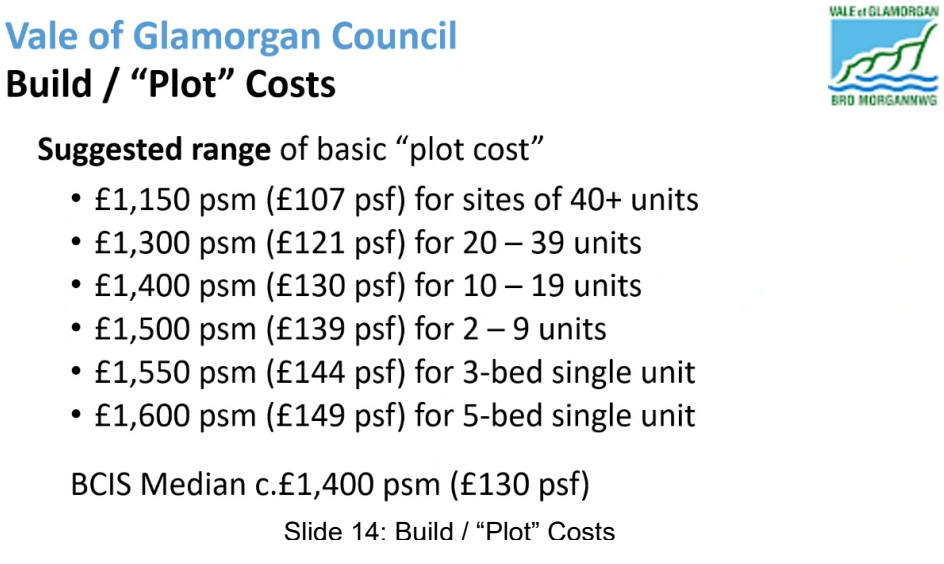
4.4. There was concern that the August 2021 base figures did not account for the significant increase in build cost inflation, changes to building regulations or requirements for EPC A, whereas the latest “build cost only” ACGs (May 2022) do account for this. It was suggested that build costs had increased by 38% since August 2021 and sales values only gone up by 15%.

4.5. The discussion was closed at that point; and it was agreed that the outcome of the current consultation (see paragraph 4.5) would determine this.

5. Development Costs

5.1. The BCIS database has customarily been taken as a starting point for basic build/”plot” costs. It was identified that the Vale had a higher locational factor (index of 95) than the Wales average (93), but still marginally lower than Monmouthshire (98). The BCIS basic plot cost rate for the Vale is therefore c.£1,400 psm. However, potential uncertainty was identified due to a limited sample size from Wales; it also being noted that this does not take account of additional costs associated with Welsh Building Regulations.

5.2. The following “plot” costs were suggested, as shown on Slide 14, and it was clarified that these costs relate solely to the cost of sub- and superstructures for each dwelling, and not wider site costs.



Slide 14: Build / “Plot” Costs

5.3. The impact of changes to Welsh Building Regulations, and particularly changes to Part L, were not taken into consideration in Slide 14. Andrew Burrows set out that typical assumptions for sprinklers and ULEV charging points have been made at £2,550 per dwelling, £3000 per dwelling for the recent Part L changes. In total, these changes meant that between £5,500-£6,000 per dwelling needed to be added on for these. Andrew Burrows suggested that further work needed to be done to consider the implications of further changes to the Building Regulations that are set to come in in 2025.

5.4. The methodology for working out the additional costs of the Building Regulations changes was queried by a participant, as original Welsh Government predictions are now outdated, as material costs have increased. It was clarified that the figures in paragraph 5.3 are taken from those currently being used in a majority of viability assessments throughout Wales. Andrew Burrows' view was that these are reasonable current figures, and this wasn't disputed. It was pointed out though that the method for providing water to the sprinklers may be changing and that this may have implications for their costs (see also paragraph 5.11 below). Evidence of this was requested.

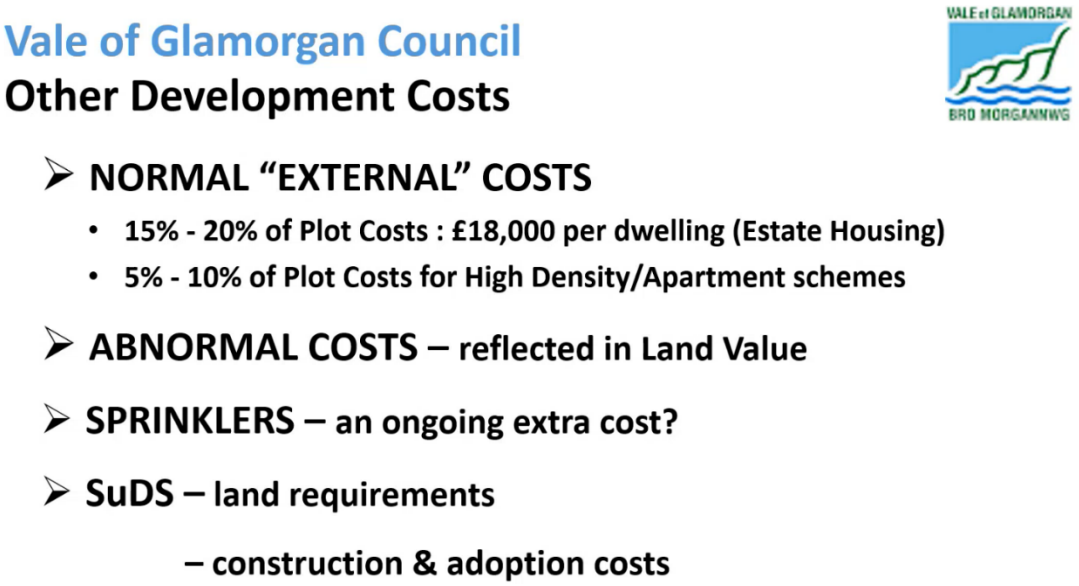
5.5. One participant considered that the cost rates on slide 14 were reasonable for standard houses; but they wouldn't be applicable for flats. It was suggested that they should be higher for these, and these concerns were reiterated.

Build / Plot Costs – Conclusions

5.6. Andrew Burrows suggested a consensus on the figures, other than in relation to flats, and no further comments were received.

Normal "External Costs"

5.7. Discussion on other development costs began by identifying what normal external costs were considered to be, as set out on Slide 15.



Slide 15: Other Development Costs

5.8. The differentiation between estate housing and higher density / apartment schemes was explained, as usually the latter type of schemes have less externals. Andrew Burrows asked whether participants felt that these assumptions were broadly acceptable.

5.9. Due to the need for bike stores, bin stores and in some cases public open space even on flatted development, one participant thought the 5-10% for higher density schemes was too low. These concerns were reiterated. Andrew Burrows suggested some of the costs may come into the overall build costs, particularly for bike stores and bin stores; but it was agreed that an allowance based on 10% may be more reasonable.

Abnormal Costs

5.10. Abnormal costs were considered to be reflected in the land value.

Sprinklers

5.11. It was highlighted by one participant that in the past cost savings have been achieved (compared with original WG estimates) by the use of a separate private main. This practice may be coming to an end, as some local highway authorities are not accepting this in the adopted highway. This could result in the need to go back to tanks and pumps, with costs going back up as a result. This will need to be monitored.

Sustainable Drainage Systems

5.12. Andrew Burrows introduced SuDS with two issues to consider: the density implications in relation to the net developable area and the resultant number of homes that can be built; the construction and adoption costs. It is proposed by Andrew Burrows that a cost of £4,000-£5,000 per dwelling was appropriate for SAB

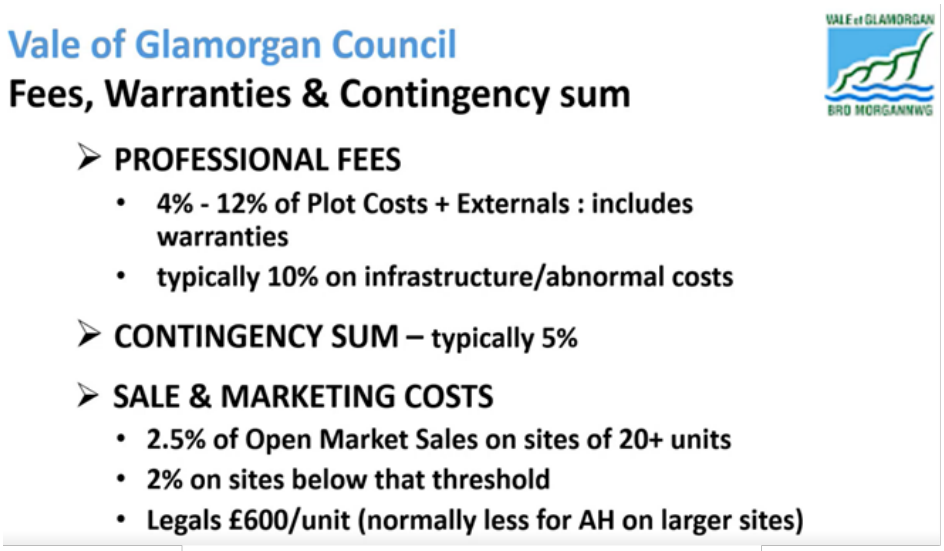
commuted sums. This is higher than other predominantly rural areas (e.g. Pembrokeshire, Carmarthenshire, Powys) but lower than Caerphilly and Newport. There is limited evidence available in the Vale.

5.13. The need for certainty on this was communicated. A participant identified that the average cost per dwelling from a sample of 6 adoptions across Wales this year was £4,500. Features that require high maintenance were currently the preference as these had less land take, so a better balance was suggested. Another participant identified that in a recent scheme they had achieved costs of £3,300 per plot.

5.14. The Council will run its high-level countywide viability assessments on the assumption that the average SAB commuted sum for SuDS adoption will be £4,500 per dwelling, as this broadly aligns with the Council's initial research and the examples provided by contributors. But it is recognised that this might need to be reviewed at a later stage, if and when other evidence is available.

Fees, Warranties and Contingency Sums

5.15. Assumptions/allowances relating to fees, warranties and contingencies were identified as shown on Slide 16. No comments or objections were made, thus indicating a general consensus that these are fair and reasonable.

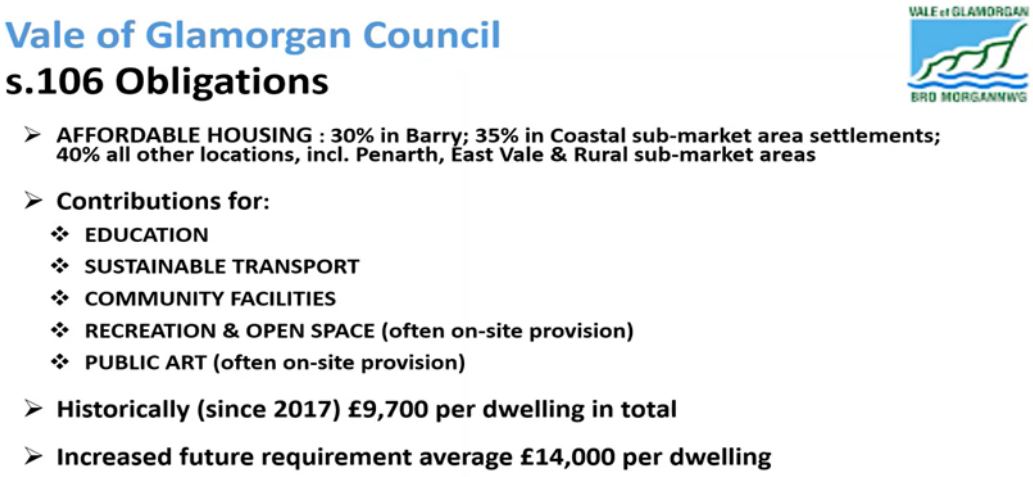


Slide 16: Fees, Warranties and Contingency Sum

Section 106 Obligations

Slide 17 outlined the typical Section 106 obligations in the adopted LDP.

Slide 17: S106 Obligations



5.16. It was clarified that the £14,000 figure was based on uplifts to the existing S106 requirements when taking into account inflation. It was pointed out that the levels of contribution sought under the adopted LDP have largely been acceptable, with some exceptions.

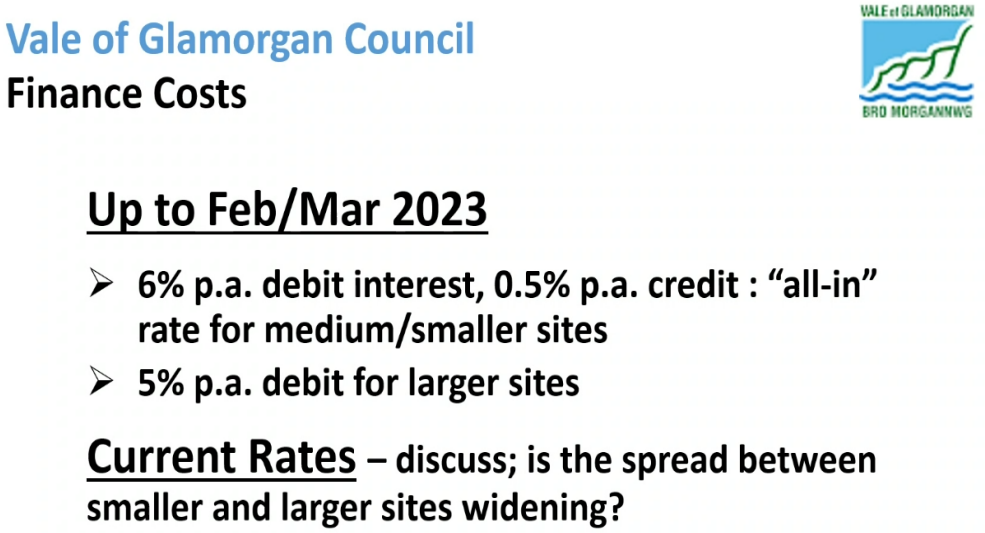
5.17. It was queried whether the £14,000 figure took into account proposed amendments to adopted LDP figures, as one participant was aware that the VOGC Education Department were reviewing the sums that they required. The VOGC clarified that the £14,000 figure was taken as an average across all sites and not all required new schools, and where they were required, they were schools of varying scales.

5.18. Variances between the adopted LDP's Strategy and the proposed RLDP strategy were identified as having different implications for the education figures. Caution was also advised to ensure that sums were spent as soon as practicable. The VOGC clarified that this work was for high level viability testing and that the key sites would have their own detailed viability work.

5.19. Clarification was offered that there may be overlap in the £14,000 between on-site public open space and public art, because these items may have been delivered incidental to the development and not through the S106 agreement.

5.20. Phasing of Section 106 payments was discussed, and it was confirmed that there is flexibility in the DVM on the timing/spread of payments. The VOGC suggested exercising caution on this issue, as each site has a different context; and increasingly there was pressure to deliver infrastructure upfront.

Finance Costs



Slide 18: Finance

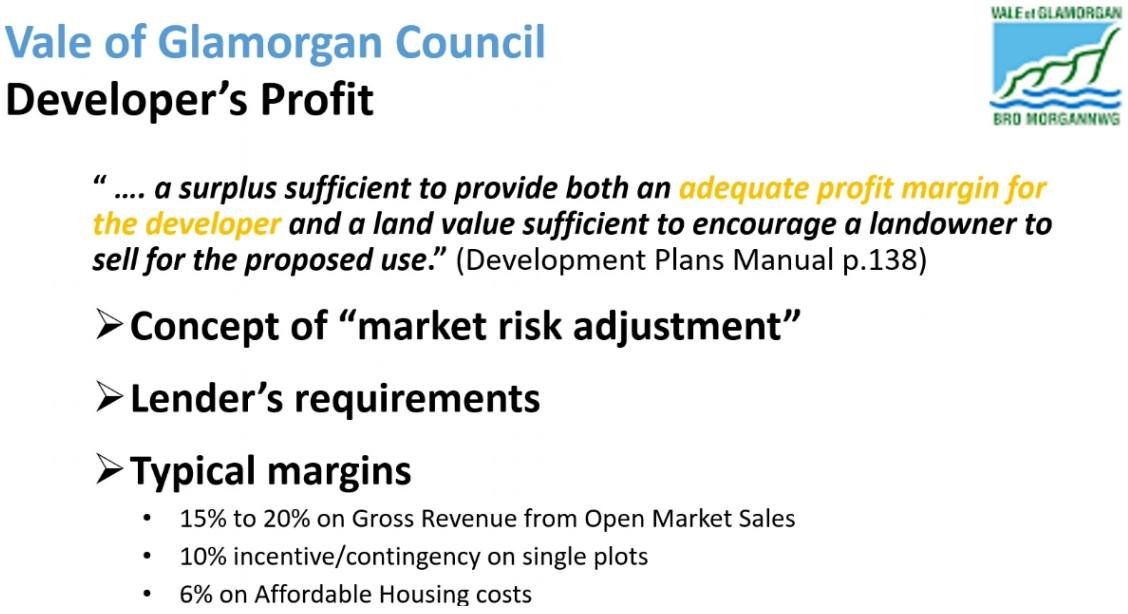
5.21. Andrew Burrows introduced finance costs as set out on Slide 18, and this included an appreciation of the uncertainty surrounding interest rates and inflation.

5.22. A participant suggested that base rate should stabilise around 3-3.5% and that with a view over the next 10 years [to account for the Plan period], where further stabilisation is anticipated, the rates identified seem appropriate.

5.23. Another participant pointed to the broader range of debit interest rates that had been used for recent high-level viability assessments in Pembrokeshire, from 6% p.a. for sites of 50+ units up to 8% p.a. for sites of less than 10 units, suggesting that these might better represent likely borrowing costs for SMEs in the medium term. SME/local developers cannot currently borrow at 6%.

Developer's Profit

5.24. Slide 19 covered the typical figures expected for developer profit, and Andrew Burrows suggested that these were long standing. For gross revenue from open market sales higher percentages were expected for larger sites, with greater risk, and lower percentages for smaller sites with less risk. No comments or objections were made, indicating a general consensus that this range of margins is considered appropriate.



Slide 19: Developers Profit

6. Benchmark Land Values

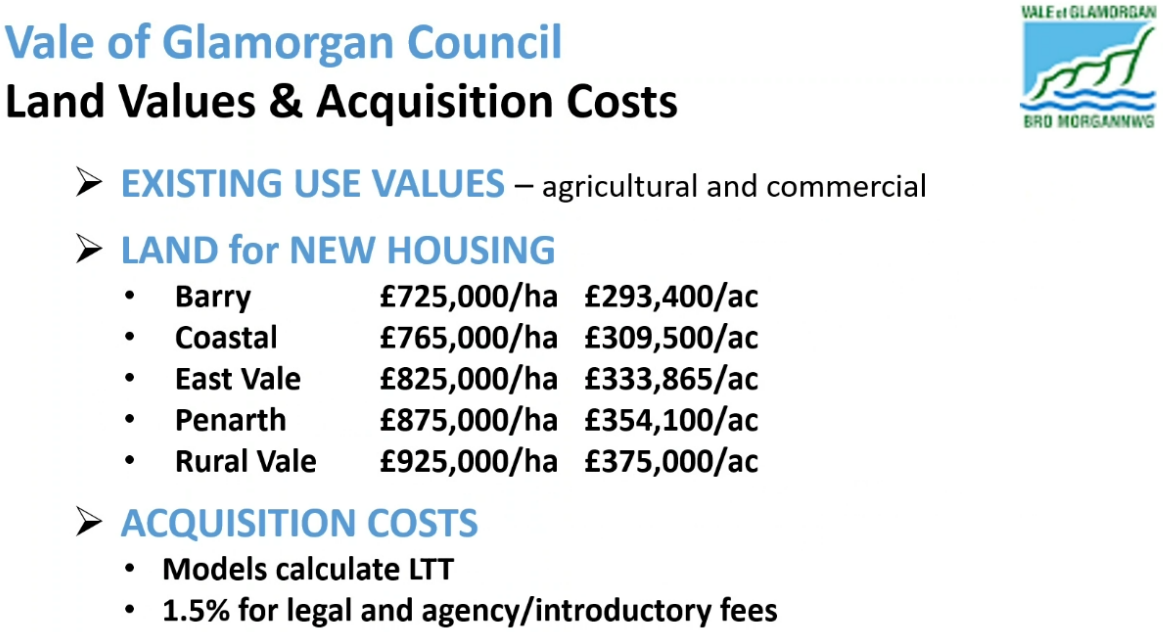
6.1. Comments were sought on land values for agricultural, commercial and housing land.

6.2. A participant was able to provide an overview for agricultural land. It was suggested that £12,000 an acre was considered reasonable for 'good' arable land. The value of agricultural land has increased in Wales since 2022, but there are multiple implications that have to be considered. There were no comments on commercial land values.

6.3. A range of land values were displayed on Slide 20, and it was explained that these were largely informed by the DVMs that had been received. One participant considered these reasonable, but, similar to the sales values, they pointed out that the Coastal area may be lower than expected. Another participant thought that the values were low compared to market values experienced recently; but clarified that there is a recognised difference between benchmark land values and market values. They suggested that the figure on slide 20 for Penarth might be low. Andrew Burrows asked for further evidence in this context, if anyone present felt that different values should be used.

6.4. It was pointed out that the landowner views the land value from the gross site area, whereas viability work is generally based on values per net developable site area; and consideration of the landowner's perspective should be borne in mind. It was acknowledged that, although the definition of Viability in the WG Development Plans Manual refers to "a land value sufficient to encourage a landowner to sell for the proposed use" (recognising a landowner's viewpoint); for practical purposes, viability assessments (and benchmark land values) will always be based on values per net developable site area. Any comparison between sites that is based on values per

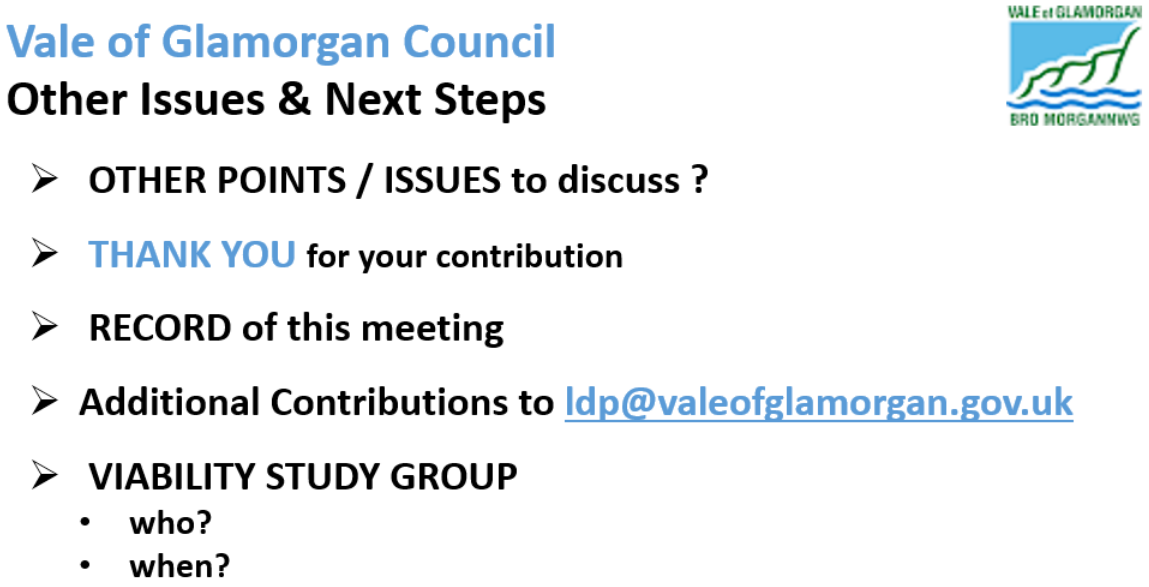
gross acre/hectare is considerably less reliable, as gross to net ratios vary from one site to another.



Slide 20: Land values and acquisition costs

7 . Closing Remarks

7.1 All participants were thanked for attending the session and for their contributions. An email address is provided on the final slide (21) for any further thoughts/contributions following the meeting.



Appendix 4: Stakeholder Additional Correspondences Following Viability Study Group Workshop

Savills – Summary of email of 20th September 2024

- It is queried whether Burrows-Hutchinson support the figure of £9,000 per dwelling for net zero, as they put forward all viability inputs apart from this one.
- Concern that the net zero buildings proposal has not been tested at scale and therefore it is not known if the figure is sufficient. It is suggested that a higher cost per dwelling is allowed in order to allow some headroom for developers to get to grips with the new standard.
- Land values are still considered to be low. A good example is Taylor Wimpey's Sully scheme where they delivered policy compliant Affordable Housing and paid £1.077m/ha. There is evidence of land deals in the Coastal area at a similar level as this; I am also aware of a live option agreement in the Coastal area with a minimum land price of £1.17m/ha – clearly much higher than the £765k/ha suggested below. I would suggest that if you are proposing to increase revenues in the Coastal area from £3,200 to £3,300 psm there is logic to increasing the land value for this location too – even a pro rata increase in line with sales values would be closer to £800k/ha.
- Not aware of there being 'ample evidence' of green premiums in the current market. Exeter City Living were quoted as an example, but they went bust so not a good example of successful net zero delivery.

HBF – Summary of email 30th September 2024

- S106 - there doesn't appear to be a record of what was agreed as with other sections of the report.
- As far as I'm aware Public Open Space and Public art are both requirements of the Councils Policy on developer contributions through the S106 system.
- Benchmark Land Values - lacks a conclusion on figures being taken forward.
- In terms of the Viability Defaults Summary Table please clarify the S106 section, as this is the first time I have seen S106 contributions split into different site sizes, which figure will be used in the high level testing as this testing is unlikely to be broken down in sites of the sizes used in the s106 table.

Appendix 5: Net Zero Buildings Workshop Presentation and Minutes

Vale of Glamorgan Council Net Zero Buildings Stakeholder Workshop 12th July 2024

Attended by

Jaime Moya	Spring Design
Jonathan Davies	Spring Design
John Butler	John Butler - Sustainable Building Consultancy
Paul Griffiths	RPA
Lucy Butler	Vale of Glamorgan - Planning
Marcus Bayona-Martinez	Vale of Glamorgan - Planning
Andrew Wallace	Vale of Glamorgan - Planning
Liam Jones	Vale of Glamorgan - Planning
Owain Dolan-Gray	Vale of Glamorgan - Planning
Victoria Morgan	Vale of Glamorgan - Planning
Andrew Burrows	Burrows-Hutchinson
Peter Ballantyne	Barratt Homes
Abigail Kinsey	Barratt Homes
Richard Vine	Edenstone
Katie Peters	Edenstone
Chris Monk	Hafod
Sara Brock	Hafod
Mike Simmonite	Hammond
Eliot Hopkins	Hammond
Paul Collins	Hammond
Paul Hammond	Hammond
Mark Harris	HBF
Rhodri Williams	HBF
Shauna Blake	Llanmoor
Jonathan Davies	Lovell
Mark Harris	Lovell
Darrel Powell	Newydd
Morgan Williams	Persimmon
Luke Davies	Persimmon
Andrew Crompton	PMG
Philippa Cole	PMG
Jane Carpenter	Redrow
Wayne Rees	Redrow
Sam Thomas	Redrow
Andrew Weeks	Savills
Nick Heard	Savills
Lorna Cross	Vale of Glamorgan - Estates
Nick Jones	Vale of Glamorgan - Housing
Jonathan Lewis	Vale of Glamorgan - Housing
Alys Pride	UWHA
Peter Seaborne	UWHA
Alys Thomas	Wales and West Housing Association

Gill (OtterPilot)	

Notes of meeting

<u>Questions raised on Teams Chat and responses given.</u>

Did you consider using The Future Homes Hub New Homes specific Whole Life Carbon Assessment tool?

This tool only became available in May this year, by which point most of the modelling for this project had happened. The tool is a welcome addition to available tools, though.

Why a 60 year life plan, no new home will be demolished after 60 years, A 120 yr period which be more appropriate.

This is a standard 'reference service life', used in the methodology to allow comparison. Crucially not an expected lifespan!

It is based on average lifespan in the UK across different typologies - the average for residential buildings is clearly usually longer than that, but using a reference service life just enables comparison of results on a like for like basis.

A judgement by the High court handed down on 2 July dismissing a challenge to Lee Rowley's WMS statement of 13 December advising local authorities to adhere to the Building Regs and not seek to go further through local plans. All three grounds were dismissed.

Definitely something we need to consider but also important to remember that the UK Gov Ministerial Statement doesn't apply to Wales and this position would be set out by the WG

You've referenced lots of LPA's who are using this policy none of which are in Wales, and a KC advice based on England.

Of course you're right, however, we need to acknowledge the wider context.

Why wasn't Part L Wales 2021 used as a starting point.

We took this decision because by the time the houses are being built / consents granted 2025 standards should be applicable.

We were originally going to model to existing Part L, so it could be a useful bit of narrative.

We are experiencing significant difficulty in locating ASHP's in higher density schemes ie. linked / flatted schemes. Potential impact on amenity due to noise and vibration.

This is indeed a challenge but there are alternatives. We can discuss later but Exhaust Air Heat Pumps can leverage the advantages of heat pump technology without the need for external units. We are currently employing this strategy on apartment projects.

I guess the apartment blocks you are referring too are affordable units. The E/O costs are therefore subsidised by SHG via WG ?

Yes, we are utilising EAHPs on affordable apartments but their applicability as a feasible alternative to ASHPs with external units is equally relevant to OMS apartments.

The baseline - (2025 B.Regs) build costs @ £1300/m2 is considered to be very low compared to current build costs.

PV panels cost £99 (I've just installed them on my house) each so where does such a large saving come form, you still need all the other equipment to run the panels regardless of the number of panels?

There are also savings on the framing system & time. Happy to discuss further after the meeting

In terms of house types modelled 3 bed new build data indicates detached are the most common built in Wales. Accept in the Vale data suggests 4 bed are a similar number to 3 bed why was this not modelled?

4 bed homes have been a more common house type than 3 beds in recent years, so most relevant based on our local evidence.

If we were to adopt this energy efficiency policy, it would mean that all developers would require a bespoke full suite of house type drawings just for VOGCBC ??

This policy intervention is something other LAs are actively considering elsewhere in Wales so it will likely not just be the Vale. The options presented are standard dwelling types so it doesn't need to be anything radically different.

We currently build circa 5000 new homes pa in Wales - all to the latest building regs. This represents only 0.0035% of total housing stock in Wales. I calculate that it would therefore, take more than 5150 years to achieve Net Zero Carbon in our housing stock. Are we therefore approaching this issue from the right direction ie. Cost / Benefits ?

The emissions reductions from improvements discussed here even on a development level are significant. e.g. Over the 60 yr reference lifespan in HT421 the total tonnes reduction in CO2e emissions from AD-L to LETI is around 42 tonnes per building. (combined operational and embodied savings, including from PV)

We have been asked to investigate in light of the Council's declared climate emergency; we need to be doing things differently. So the approach comes from the position / point of view of ensuring houses added are not going to further exacerbate our emissions from housing stock. This approach also means lower bills & less electricity taken off an increasingly stressed grid.

It will also assist with the cost of living crisis and fuel poverty.

The closure of the 2 blast furnaces in Port Talbot will achieve a 20% CO2 annual saving in Wales as a whole

The closure of the blast furnaces is currently the only reason Wales is on track to meet the current carbon budget. All development delivered within the lifetime of the LDP will fall within subsequent carbon budgets: there are currently no proposals that demonstrate how

the necessary reductions will be achieved. Policy interventions such as these will be instrumental in reducing emissions.

In terms of the embodied carbon and the use of timber where is the timber presumed to be coming from? Does the fact most of it is currently imported allowed for / make a difference?

Yes, figures include the transport emissions of most timber being imported currently. Hopefully this could be reduced further if more locally-sourced timber becomes available, but the current modelling here assumes imported timber

The difficulty is each LPA will probably take a different approach so different house type requirements again. This is exactly why we have always used Building Regulation, a standard that applies across Wales to control the way we build homes.

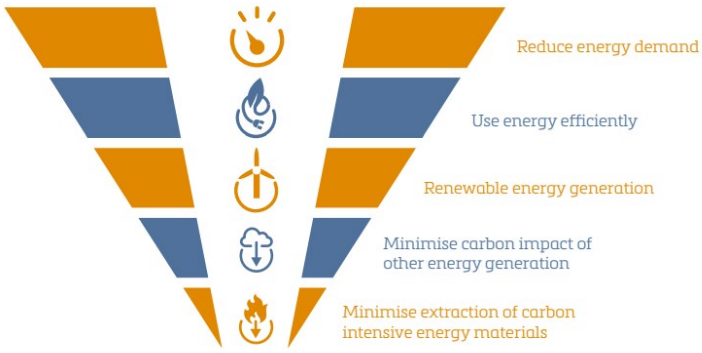
Whilst this is accepted, with little sign of centralised action - a point made by all the English LAs who have adopted or proposed such policy - individual authorities/ regions must seek appropriate interventions to meet their Net Zero targets. Alignment between regional LAs and/ or national policy is an aspiration of this work, however: it will not be used to dilute the aspiration of the Vale's policy.

There is a danger of Over Heating in the Summer

This also means careful management through design. As pointed out earlier, all typologies modelled here complied with Part O. And E/W is often the hardest to manage for over heating (as harder to shade). There is ample evidence of the green premium leveraging additional sales value in the current market (e.g. Octopus Zero Bills model) and in this instance there are multiple health benefits for the occupier due to the latent mitigation of overheating and improved IAQ.

Worth remembering that prioritising the reduction of heating demand is what is called for by the over-arching policy objectives and is reiterated in PPW12. This of course underpins the approach.

Figure 10: The Energy Hierarchy for Planning



In terms of meeting PPW12 current improvements in house building and those planned by Part L 2025 all meet this diagram, there is no requirement to be zero carbon.

Paragraph 5.8.5 of PPW states ‘Planning authorities should assess strategic sites to identify opportunities to require higher sustainable building standards, including zero carbon, in their development plan. In bringing forward standards higher than the national minimum, which is set out in Building Regulations, planning authorities should ensure the proposed approach is based on robust evidence and has taken into account the economic viability of the scheme.’

In light of the climate emergency that has been declared by the Vale of Glamorgan Council, the Council’s Project Zero programme has funded this work to provide the necessary robust evidence required to support such a policy intervention.

The quote above does specifically mentions strategic sites, does this mean the proposed policy will only apply on larger strategic sites?

The intention would be that it would apply to all new build.

Is the intention of the proposed policy to require all new buildings to be zero carbon not just homes?

Others can comment on the policy, but the modelling also included non-residential buildings, in this case a school and an office building.

Spring have tested some non-resi building types but this is a matter for further discussion as there is significant variance across the typologies.

There needs to be realism about the amount of a 'green premium' - if there is one. Even if you can demonstrate to a buyer they can save £1,000 a year on energy bills, if they expect to live in a house for say 10 years that is a max saving of £10k, the present value of that is obviously lower, and buyers will not wish to pay all that saving away in the premium on day 1 because they would be left with no actual saving. Suggest price resilience rather than premium.

Spring Designs notes that there is ample evidence of the green premium leveraging additional sales value in the current market (e.g. Octopus Zero Bills model) and in this instance there are multiple health benefits for the occupier due to the latent mitigation of overheating and improved IAQ.

Is there an issue around skills to achieve the requisite airtightness and other construction standards?

The view of one participant was that this can be dealt with once we know the requirements, through training, it just takes a while for colleges to change courses and then get learners through.

Another participant agreed and stated that the challenge of upskilling is applicable to us all. The skills challenge also represents an opportunity in terms of industry/training/education partnerships for those wishing to get ahead of the curve.

<u>Questions raised prior to the meeting</u>

Several questions were raised by participants who had received the briefing note but were unable to attend the session.

The embodied carbon in higher fabric standards can be more than the benefit, in some cases. There has been a fair bit of coverage on this, and it may nullify the benefits around thicker walls and triple glazing, for example. It may be that "worse" u-values than suggested by AD L 2025 are optimum.

The modelling shows that we need to be achieving somewhere in the 15-30 kw hours per m2 per year in order to deliver really good and climate resilient buildings. If you choose to degrade the specifications, then there will be much higher heating demand then much bigger technology (i.e. larger heating systems, larger ASHPs, and larger photovoltaic arrays to balance the annual consumption) is needed.

It was clarified that PV is included in embodied carbon calculation. However, they are not included in the LETI rating because they want to encourage people to use PV.

Embodied carbon - The maths done now is a snapshot in time. The manufacturing sector is decarbonising, as we see at Port Talbot, there should be care to allow for policy made in 2024 to evolve so that in 2032, when much lower carbon materials are available, it still makes sense.

This is a good point. We either have to have a staggered or phased policy, improving ambitions of embodied carbon targets over time, or be ambitious from the start.

For the foreseeable future, we are going to be shipping steel from abroad. However, the decarbonisation of Port Talbot steel manufacturing will make it easier to justify the use of the material.

We can only work with the snapshot in time, rather than make assumptions about the future. The policy must be based on a sound evidence base.

Transport is excluded. Although this seems logical, almost all new homes will have an EV charger and an electric vehicle soon. In that case, a car will use around 2,500kWhs of home energy each year. That is more around a third of total electricity a new home will need and emphasises that a "net zero" house in a location that requires a lot of driving could be a lot worse than a low spec. heat pump home in a good location. Facilities, comprehensive car clubs and easy, safe cycling and walking are crucial and aren't making progress.

EV will increase energy demand, but it is important to reduce demand in one place to allow it for another. If we include EV in the definition of net zero, there will be a need for more PV – viability and grid implications. EV is not within the operation of the building and therefore not within the definition.

RLDP looks to allocate sites in locations that reduce the need for private vehicle ownership.

In an all-electric future, when we use energy will be as/more important than how much. Most people in new homes will soon have variable energy tariffs as they save so much money when you have an EV and heat pump. The policy analysis doesn't seem to be looking at this. The ability to move energy demand around must be promoted – bigger hot water tanks? Batteries? Different orientation of solar? The current net zero process relies on an annual balance, it is important to realise that an energy system doesn't work on an annual net basis, it has to be in balance in

real-time. Solar value is likely to reduce in value over time as cheaper summer price electricity becomes normal.

It would be difficult to dictate energy storage for the next 15 years as any method identified now will be redundant in a couple of years. Energy storage is developing at pace.

Peak usage is normally between 5-7pm when people may be using many electrical devices at the same time, which may exceed the capacity of storage devices and rely on the grid.

From a heating demand perspective, a home with good heat recovery is going to require lower input. This is why the focus is on the building first and then the technology after.

Once you get to very big solar arrays on plots, such as 10kWp, you are likely to get issues with grid connections as there will need to be bigger allowance for export. This should be considered.

An energy efficient building would need less PV and less export to the grid.

Other comments

There was concern about the LA preparing a bespoke policy, as it could cause confusion, more work, more fees, and a delay in housing delivery. In response, the Vale noted that other LAs are currently considering this approach.

It was stated that Julie James had recently said that the zero carbon target implementation date is to be pushed back due to viability reasons. Whilst noted as recent commentary from the minister, this contradicts the legal requirement for UK/ Wales to decarbonise.

It was queried that the proposals are a massive step change, but the information presented does not show a massive step change in costs. The base build costs are lower than what were discussed at the recent viability workshop.

It was suggested that whilst developers realise, they need to be on the journey towards zero carbon, it should be done in stages to allow the industry to absorb it.

It was pointed out that MVHR and heat pumps are not new technologies – they have been in place for decades. The sector, however, needs to get to grips with them more quickly in terms of design, installation and maintenance.

The HBF stated that homes currently being built are already cheaper to run than they were 10+ years ago. It was highlighted that energy (electric and gas) bills for a typical 3 bed new build were about £700 a year, which is considered to be reasonable. The energy hierarchy in PPW talks about reducing demand, not achieving net zero. Spring Designs note that these homes are still being built with gas boilers. This goes against the urgent need to decouple from gas as an unsustainable heating solution and establishes legacy issues for decarbonisation within the immediate life of the asset.

Spring Design highlighted that we have had the consultation documents for Part L but we don’t know which option will be chosen. We do, however, know in the current context that the reduction of energy is not actually something that is prioritised. It prioritises adding renewables because renewables are perceived as having the most cost benefit, and SAP

is effectively a cost benefit analysis tool, but one that is static and slow to change. Part L does not specifically regulate energy demand, but planning policy identifies energy reduction as the highest priority.

The point was made that from a planning perspective the floorplan won't change, but the technical designs will change and will require a bespoke set of drawings. There will be a cost to this. It is suggested that different plans would be needed for every orientation. Spring clarified that they had modelled the worst-case scenario for orientation, and provided air tightness and thermal bridging were considered at the outset, standard house types could be easily applied.

The housebuilding industry relies on sub-contractors – there is a danger of mistakes and lack of consistency if the construction approaches in different LAs are different.

There was concern that orientation will affect placemaking if there is a need for rows and rows of housing with the same orientation. This may not be marketable. Spring clarified that whilst certain orientation certainly optimized the energy performance of buildings, it's not an obstacle to achieving the kind of standards that are being discussed. It just requires consultants to deliver appropriate solutions for the standards. The analysis is based on East West orientation as that is functionally the worst, so other options will improve the critical outputs (heating demand and EUI) and perhaps facilitating more flexibility in the architectural language or fabric of the dwelling. It will still be possible to respond to site characteristics and deliver brilliant placemaking. The modelling is as conservative as could reasonably be to make sure that there is confidence that whatever the orientation, it will be possible to get a really good energy performance out of it.

Developers noted that there is a presumption that people will pay more for net zero homes. However, there is a limit in how much people can afford to pay for a home and it is difficult in the current climate to ask for more. Homes also need to be valued to secure a mortgage and net zero credentials are not considered in the value. The mortgage system needs to catch up with this.

The impact on the affordability of homes was also reiterated by an RSL, who highlighted that this may be a problem for the 70% LCHO properties by increasing the cost further. This may mean that homes are not being provided for the people most in need.

Developers were not aware that customers have asked for energy efficiency credentials in sales offices, although Spring Design had anecdotal evidence that buyers are beginning to ask these questions in the Vale.

One developer was already including ASHP in their homes. They had found that customers were generally supportive of the technology, but it has not led to increased revenue.

Concern was raised about the ability to include PV on interesting roofscapes and the impact that having to change design would have from a placemaking perspective.

One developer has had a discussion with another Welsh LA about their emerging policy and there was concern that they would need to redesign some of their house types as a result.

It was noted that in England the starting point is different and therefore this was a bigger shift than it will be in Wales, where building regs are more advanced.

There was a view from the development industry that moving in the direction of zero carbon was the right thing to do in the future. One RSL felt that this needed to be done in small incremental steps with financial resources from WG.

The feedback that the HBF had had on costs is that to achieve current part L 2021, the cost is £4-5k and to achieve Future Homes Standards, it is £10k per dwelling on an average 3 bed. Construction to LETI standards significantly increases - £18-20k. The HBF indicated that they would provide more information on this. It was clarified that these relate to uplifts above the English standards, rather than the Welsh so not a fair comparison.

It was noted that the last Part L consultation included costs on what 2025 would look like and assumptions on things such as sprinklers so costs are available. It was clarified that the 2025 regulations were originally due to be published at the end of the year, but this has been pushed back.

It was queried whether there would be any relaxation of the specification standards for ASHP, as these standards don't apply in England.

It was queried whether there have been any schemes of 50+ units that have delivered net zero or close to net zero as an example. Exeter Living was highlighted as an example of this. They had been delivering to Passivhaus standards and originally the uplift cost was 15% over building regs but in the latter stages of their development programme, there has been cost parity versus the requirements of AD: L 2014 .

It was agreed that there would be an opportunity for developers to consider further and come back with any further comments or points of clarification.

Appendix 6: High Level Viability Review Sample Site Assessment 70% OMV- Net Zero Buildings

Barry Housing market Area (36 units)

Main Inputs & Key Variables

Collect / Update GIA's and AH

Unit Nos. OM	Unit Nos. AH	Dwelling Type		GIA's in m² Sales	GIA's in m² Build	Overall % mix	Build Cost/m²	Approx. OMV
8	0	3b4p	house	88.0	88.0	22.2%	£ 1,300	£282,000
6	0	4b6p	house	110.0	110.0	16.7%	£ 1,300	£352,000
0	4	1b2p	flat - w/u	53.0	55.8	11.1%	£ 1,300	
0	2	2b4p	house	83.0	83.0	5.6%	£ 1,300	
11	0	3b5p	house	93.0	93.0	30.6%	£ 1,300	£298,000
0	2	2b3p	flat - w/u	65.0	68.4	5.6%	£ 1,300	
0	1	2b3p	house	74.0	74.0	2.8%	£ 1,300	
0	2	3b4p	house	88.0	88.0	5.6%	£ 1,300	
25	11	ACG/AHI Band	1			100.0%		

Percentage of Affordable Homes	30.6%		OMV per m²	£ 3,200	£297 psf
Sales GIA's OM	2,387.0 m²		AH	758.0 m²	
Net to gross ratio for flats	95.0%		Total Build (m²)	3,163.0	
Allowance for External Site Costs	15.0%	of Build Costs, or £/unit			
Site/Sales Agency & Marketing Costs	2.50%	of OM Sales			
Legals on all Units	£600	per dwelling			
AH transfer values	Social Rent	using AHI	Intermediate	70.0%	of OMV
Extra cost/unit (if any) for additional Building Regs requirements				£11,550	
Contingency on all construction & physical infrastructure costs				5.00%	
s.106 and SuDS	£18,500	per dwelling - or CIL			psm (excl AH)
Abnormal Site Costs (if any)					per net acre
Opening-up Costs (if any)					per net acre
Net Developable Site Area		Benchmark Land Value		£725,000	
2.47 acres	1.00 hectares	£293,403	per acre	£725,000	per hectare
Housing Density	36.0 units/hectare	and	3,163	sq.m/hectare	

Development Programme	20	months in total		
Pre-Construction period	5	months	Estate/Mixed	
Construction period	15	months	starting in Month	6
Sales rate (OM homes)	30	per year	Overhang	months
Sales period (OM & AH)	10	months	starting in Month	11

Create / Update Sensitivity Tables

High-Level Appraisal

Gross Development Value		Units (N°)		% GDV
Open Market Homes		25	£ 7,638,400	
Social Rented Homes	65.0%	7	£ 655,156	
Intermediate Homes	35.0%	4	£ 594,272	
Total Revenue		**36**	**£ 8,887,828**	100.0%
Land Cost, incl LTT, and fees @	1.50%		£ 760,625	8.6%
Pre-Construction Costs	(if applicable)		£ -	
Physical Infrastructure				
Normal External Costs	£/unit	£ 17,133	£ 647,624	7.3%
Abnormal Site Costs	£/unit	£ -	£ -	
Opening-up Costs	£/unit	£ -	£ -	
Professional Fees		10.00%	£ 64,762	0.7%
Planning Obligations / CIL / SuDS	£/unit	£ 18,500	£ 666,000	7.5%
Housing Construction				
Building Costs	£/unit	£ 132,058	£ 4,754,085	53.5%
Professional Fees		5.00%	£ 237,704	2.7%
Sale & Marketing Costs			£ 212,560	2.4%
Finance Costs	Debit	Credit		
Interest rates (p.a.)	6.00%	0.50%	£ 104,645	1.2%
Total Development Costs			**£ 7,448,006**	
Blended Margin on Total GDV	16.2%	**Profit**	**£ 1,439,822**	
Overall Profit on Cost	19.33%	(see benchmark below)		
Target/Benchmark Profit			**£ 1,431,838**	
based on open market sales @		17.50%	£ 1,336,720	
and on affordable housing cost @		6.00%	£ 95,118	
Surplus/(Shortfall) on Target Profit			**£ 7,984**	0.56%
Total Equity & Borrowing (Capital Employed)			**£ 2,729,627**	36.65%

Sensitivity

House Price Factor	100.00%	(open market sales only)
Proportion of Social Rent	65.00%	(affordable housing)
Construction Cost Factor	100.00%	(housing & physical infrastructure)
Land Value/Price	100.00%	(land value & associated costs)

Regional High-Level Viability model © Burrows-Hutchinson Ltd

Appendix 7: Sales Values evidence

Data has been collected from Hometrack in respect of recent developments in each of the market areas. The data includes the last known value of the property (in most cases the original sales value, but if properties have been resold, the resale value or valuation) and what the value would be now based on index linked house price changes from the last known value. The data is available on a per dwelling basis, but has been averaged across the developments.

Housing Market Area	Date built	Last know value £psm	Index linked £psm
Penarth			
Dinas Powys - Clos Derwen	2018-2020	£3,740	£4,297
Sully - Cog Road	2021-2024	£3,617	£3,737
Average		**£3,678**	**£4,017**
Barry			
Barry Waterfront - East Quay	2022-2024	£3,256	£3,424
Barry - South Quay	2020-2022	£2,756	£3,336
Average		**£3,006**	**£3,380**
Coastal			
St Athan - Parc Fferm Wen	2021-2024	£3,233	£3,227
Rhoose - Golwg y Mor	2017-2021	£2,717	£3,192
Llantwit Major - Sycamore Chase	2019-2021	£2,871	£3,492
Average		**£2,940**	**£3,304**
Rural Vale			
Cowbridge - Clare Garden Village	2022-2024	£3,901	£3,773
Wick - Land off St Brides Road	2016-2019	£2,993	£3,698
Colwinston - Heol Cae Pwll	2016-2018	£3,177	£3,834
Average		**£3,357**	**£3,768**
East Vale			
Bonvilston - Cottrell Gardens	2020-2023	£3,651	£3,877
Culverhouse Cross - ITV Wales	2020	£2,995	£3,616
Average		**£3,323**	**£3,747**

The data demonstrates that the house prices that have been achieved, and the current values, are comparable with the agreed sales values for testing. It is recognised that there are variations within market areas – this is linked to many factors including the desirability of the location, the site and its context and the developer.

DVM Evidence

DVMs were submitted for the majority of candidate sites. The sales value (GDV) proposed in these DVMs has been averaged for each of the housing market areas as follows:

Housing Market Area	Average DVM sales value
Penarth	£4,168
Barry	£3,535
Coastal	£3,802
Rural Vale	£4,524
East Vale	£4,106

Appendix 8: Non-Key Site Allocations

Affordable Housing Led sites

Site/Proposal Name	RLDP Reference	CS ref	Market Area	Settlement	Development Start	RES/ MXD	N° of Homes	%age AH	dph	Site Value £/net ha.	Abnormals £/net ha.	OM GDV £psm	Avge Plot Cost £psm	Externals %	Extra Bldg Regs	SuDS £/dwg	s.106/CIL £/dwg
Land to the east of Colwinston	HG4.1	4069	Rural Vale	Colwinston	2027	RES	25	52.0%	30.9	£741,300	£370,650	£3,785	£1,300	15.0%	£11,000	£4,500	£21,554
Land West of Maendy Road , Aberthin	HG4.2	2299	Rural Vale	Aberthin	2027	RES	25	52.0%	32.9	£875,000	£263,158	£4,462	£1,300	15.0%	£9,000	£4,500	£20,162
Land at Heol Fain, Wick	HG4.3	2814	Rural Vale	Wick	2027	RES	50	50.0%	38.5	£696,154	£0	£3,667	£1,300	15.0%	£9,000	£4,500	£21,709
Land North of Westwinds Buisiness Park	HG4.4	2671	Rural Vale	Fferm Goch	2027	RES	22	50.0%	30.1	£842,466	£13,699	£3,711	£1,300	15.0%	£9,000	£4,500	£19,123

Other market led sites (not subject to planning applications)

Site/Proposal Name	RLDP Reference	CS ref	Market Area	Settlement	Development Start	RES/ MXD	N° of Homes	%age AH	dph	sqm/ha	Site Value £/net ha.	Abnormals £/net ha.	OM GDV £psm	Avge Plot Cost £psm	Externals %	Extra Bldg Regs	SuDS £/dwg	s.106/CIL £/dwg
Land between the Northern Access Road and Eglwys Brewis Road (Site C)	HG1.5	352	Rural South & Coast	Llantwit Major	2027	RES	235	35.0%	37.9	3,506	£750,000	£177,419	£3,301	£1,150	17.5%	£9,000	£4,500	£14,000

The Vale of Glamorgan Council
Directorate of Place
Civic Office
Holton Road
Barry CF63 4RU

LDP@valeofglamorgan.gov.uk
www.valeofglamorgan.gov.uk