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A critical analysis of whether the One Planet Development Policy promotes the United Nations Sustainable Development Goal 11 (Sustainable communities)

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University of the West of England

Faculty of Business and Law

Department of Law

One Planet Development: a sustainable future?

A critical analysis of whether the One Planet Development Policy promotes the United Nations Sustainable Development Goal 11 (Sustainable communities)

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14006421

Date: 08th September 2019

Word count: 14,921

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Acknowledgements

I would like to thank Jona Razzaque, Professor of Environmental Law for her support and guidance throughout my studies without whom this dissertation would not have been possible.

Key to Abbreviations

CCC – Committee on Climate Change

CLT – Community Land Trust

Defra - Department for Environment, Food and Rural Affairs

EU – European Union

GHG – Green House Gas

IPCC - Intergovernmental Panel on Climate Change

JNCC - Joint Nature Conservation Committee

LLT- Local Land Trust

LID – Low Impact Development

OPC – One Planet Council

OPD – One Planet Development

NDC – Nationally Determined Contribution

SCP - Sustainable Consumption and Production

TAN - Technical Advice Note

UK – United Kingdom

UNSDG – United Nations Sustainable Development Goals

Abstract

Environmental crisis has recently been declared throughout the United Kingdom,¹ therefore it is essential to begin assessing the impact current policy is having upon the promotion of sustainable development. The One Planet Development policy² (from here on referred to as OPD) in Wales is an attempt to create a sustainable planning policy which, if successful, could promote the United Nations Sustainable Development Goals (from here on referred to as UNSDGs).³ However, as recognised within the UNSDG's,⁴ sustainability is not simply environmental protection. Sustainability encompasses both economic and social factors alike. UNSDG 11⁵ highlights the objective of creating sustainable communities which is directly applicable to the recently implemented OPD policy in Wales.⁶ Thus, whilst a number of the UNSDGs can be applied to OPD, including climate action (Goal 13)⁷ and no poverty (Goal 1),⁸ it is necessary to assess whether such a policy could in fact promote sustainable communities (Goal 11).⁹

Throughout this dissertation, the analysis will adopt a sociolegal approach allowing a full assessment of the impact OPD¹⁰ has had upon creating sustainable communities.¹¹ As a new policy, it undeniably encompasses some challenges. The purpose of this study is to address them by suggesting possible reform which may improve the policy's ability to

¹ BBC, 'UK Parliament declares climate change emergency' (*BBC news*, 1 May 2019) <<https://www.bbc.co.uk/news/uk-politics-48126677>> accessed 1 July 2019.

² Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

⁴ Ibid.

⁵ Ibid.

⁶ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

⁸ Ibid.

⁹ Ibid.

¹⁰ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

¹¹ Ibid.

promote sustainable communities and create a far more accessible policy which can be implemented throughout the UK. Therefore, this study argues that OPD has the potential to promote UNSDG 11 however the implementation is weak and further reform is necessary.

Chapter One

Introduction

1.1 Research Question

The research focuses upon the OPD policy,¹² the aim of which is to establish whether the policy promotes UNSDG 11.¹³ To establish this, it is necessary to assess a wide range of factors raising questions regarding the policy itself and its implementation. Beginning by defining sustainable development and the factors it encompasses before proceeding to analyse what OPD entails with a focus upon the three pillars of sustainability. It will then be necessary to identify what international, regional and national standards, targets and goals the policy intends to adhere to. Furthermore, the dissertation will proceed to raise questions regarding whether the policy does in fact adhere to such obligations. Next, the dissertation will question what can be done to improve the policy suggesting reforms that in turn, ensure it is promoting UNSDG 11¹⁴ as well as additional goals and standards Wales intends to meet. Such questions will allow an in-depth critical analysis of the policy through a clear structure which will enhance the ability to create a comprehensive discussion based upon reform suggestions.

1.2 Background of the study

The Institute of Public Policy Research¹⁵ has urged that ‘the historical disregard of environmental considerations in most areas of policy has been a catastrophic mistake’¹⁶ which suggests that global policy is failing to protect the environment. Thus, as international

¹² Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁴ Ibid.

¹⁵ Institute for public policy research, 'THIS IS A CRISIS FACING UP TO THE AGE OF ENVIRONMENTAL BREAKDOWN' (*Institute for Public Policy Research*, February 2019) <<https://www.ippr.org/files/2019-02/risk-and-environment-feb19.pdf>> accessed 20 February 2019

¹⁶ Ibid.

obligations discuss the need for policy to promote sustainability¹⁷ it seems necessary to begin analysing the policies which claim to adhere to such obligations. Such analysis enables the identification of successful policy as well as where further reform is necessary.

The Welsh Assembly Government has created a policy with the objective of adhering to international, national and regional sustainable development targets. OPD¹⁸ was created in 2010 as part of the 'One Wales: One planet'¹⁹ scheme which intends to promote sustainable development, stating that 'within the lifetime of a generation, Wales should only use its' fair share of the earth's resources.'²⁰ The OPD policy aims to encourage individuals, families and co-operatives alike to create residential developments that are either low impact, or do not significantly degrade the environment.²¹ This includes meeting the 65% of the residents' basic needs from the land within the first five years, including income, energy and food. The mere creation of such a policy could be deemed an achievement, however for it to be successful it must also adhere to its' aims in practice. Thus, the dissertation will formulate discussion based upon both the policy's content as well as an analysis of its implementation. This will encompass multiple factors including social, economic and environmental, referring back to the targets under UNSDG 11.²² Establishing whether the policy is successful or whether reform is necessary.

¹⁷ United Nations, *The Millennium Development Goals Report 2012* (New York, 2012).

¹⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹⁹ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009)

<<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

²⁰ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²¹ Ibid.

²² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

1.3 Defining Sustainable Development

Sustainable development has been recognised within legislation globally, with current reports like the IPCC's²³ suggesting environmental crisis. Legislation including the Paris Agreement discusses the need to avoid temperature increase by more than 1.5 degrees²⁴ which requires significant action globally.²⁵ However, the concept of sustainable development comes with its own challenges. With no agreed legal definition, the concept can be complex. The most accepted definition has come from the Brundtland report stating, 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'²⁶ This definition will formulate the analysis throughout the dissertation, incorporating the three pillars of sustainability. The three pillars are economic, social and environmental,²⁷ which are intrinsically linked to create an assessment of sustainability. The three pillars are widely utilised as a method of assessing the sustainable nature of policy and projects alike.

In contrast, Desai²⁸ has discussed the complexity of the concept of sustainable development at length, highlighting the challenges associated with its applicability. This is further confirmed by Bostrom who believes that the social pillar of sustainability is rarely considered,²⁹ this may be due to the difficulties in fully assessing social factors. Quantifying social impact may create more challenges than environmental or economic due to the subjective nature. Thus, throughout the dissertation which specifically focuses on sustainable communities, there will be significant attention paid to the social aspects of OPD to ensure

²³ IPCC, 'Summary for policy makers' [2018] SPECIAL REPORT: GLOBAL WARMING OF 15 °C.

²⁴ United Nations, 'Paris climate conference (COP21)' (2015).

²⁵ IPCC, 'Summary for policy makers' [2018] SPECIAL REPORT: GLOBAL WARMING OF 15 °C.

²⁶ World commission on environment and development, *Our Common Future* (Oxford University Press 1987)

²⁷ Amir Aryanasl and others, 'Components of sustainability considerations in management of petrochemical industries' [2017] 189(6) *Environmental monitoring and assessment* 274.

²⁸ Pooran Desai, *One planet communities: A real-life guide to sustainable living* (Wiley 2010).

²⁹ Magnus Bostrom, 'A missing pillar? Challenges in theorizing and practicing social sustainability: introduction to the special issue' [2018] 8(1) *Sustainability: Science, Practice and Policy* 3-14.

the social pillar of sustainability is thoroughly considered. The three pillars are interlinked therefore social impacts cannot be assessed in the absence of economic and environmental impact assessments.

Sustainable development has also been the focus of the UNSDGs³⁰ which incorporate multiple social, economic and environmental factors to create 17 goals. Signatories aim to achieve multiple goals including action against climate change and its effects (Goal 13), gender equality (Goal 5) and sustainable cities and communities (Goal 11).³¹ Through such goals signatories intend to begin creating and implementing policy which will promote the aims of the UNSDGs.³²

UNSDG 11³³ discusses sustainable cities and communities, with the need to ‘substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change’ (Goal 11.B).³⁴ This target indicates the requirement for policy and planning which reflects and promotes sustainable living, proceeding to discuss the aim of improving access to green space, as well as ‘Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning’ (Goal 11.A).³⁵ UNSDG 11³⁶ also encompasses multiple

³⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³¹ Ibid.

³² Ibid.

³³ Ibid.

³⁴ United Nations, 'Goal 11: Make cities inclusive, safe, resilient and sustainable' (*Sustainable Development Goals*, no-date) <<https://www.un.org/sustainabledevelopment/cities/>> accessed 20 February 2019.

³⁵ Ibid.

³⁶ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

additional sustainable development goals such as responsible consumption and production (Goal 12), good health and wellbeing (Goal 3) and eradicating poverty (Goal 1).³⁷

Furthermore, with regards to OPD, whilst there is discussion based upon the challenges of the concept of sustainable development in practice from academics such as Desai³⁸ and Fairlie,³⁹ there is a lack of discussion upon challenges within the OPDs implementation. Some academics have identified challenges, few have suggested reform which may improve the policy and promote its implementation throughout the UK. Thus, this dissertation intends to discuss such challenges in depth, and also suggest reform which could promote sustainable living and UNSDG 11.⁴⁰

³⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³⁸ Pooran Desai, *One planet communities: A real-life guide to sustainable living* (Wiley 2010).

³⁹ Simon Fairlie, *Low Impact Development The future in our hands* (Creative Commons Attribution-Non-Commercial-Share 2009).

⁴⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

1.4 Methodology and methods

The concept of methodology has been described as ‘the overall research strategy which takes into consideration the ethical, philosophical and political rationale for adopting particular methods.’⁴¹ The methodology applied must therefore be suitable to the relevant topic, ensuring the best approach is applied to provide the researcher with adequate scope to complete the research effectively. The chosen methodology utilised throughout the dissertation will be socio-legal, supported by additional methods in the necessary areas.

Due to the nature of the dissertation in assessing whether OPD⁴² promotes UNSDG 11,⁴³ it is necessary to utilise a broadened methodology. This is a result of the requirement to assess a variety of factors including legal, social, economic and environmental. Whilst socio-legal research does not have one singular definition, Cotterrell states that the research contains a ‘consistent openness to many different aims, outlooks and disciplinary backgrounds.’⁴⁴ A socio-legal approach will allow for the required broadened scope, utilising multiple factors to create an assessment of the law in practice. This is reiterated by the belief that socio-legal research can ‘inform decisions about which policies or initiatives might be most usefully implemented to solve everyday issues and problems, or to evaluate the effectiveness of such policies in meeting the objectives.’⁴⁵ This encapsulates the objectives of the dissertation topic in the assessment of OPD in meeting its aims and will enable a full analysis of the policy⁴⁶ in theory and in practice.

⁴¹ Matt Henn et al, *A critical introduction to Social Research* (2nd edn, Sage 2009) 334.

⁴² Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁴³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

⁴⁴ Roger Cotterrell, 'Subverting Orthodoxy, Making Law Central: A View of Sociological Studies' [2002] 29 *Journal of Law and Society* 632-644.

⁴⁵ Matt Henn et al, *A critical introduction to Social Research* (2nd edn, Sage 2009) 9.

⁴⁶ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

Henn states that the approach is ‘research upon human behaviour,’⁴⁷ hence human factors are a key theme of the discussions based upon the promotion of sustainable communities. Such communities naturally encompass a wide range of social factors which are integral to the analysis thus, the approach must allow for the assessment of such factors. Such factors include but are not limited to, health and wellbeing, gender equality and accessibility, all of which are mentioned within the UNSDG 11.⁴⁸

The enhanced scope of analysis created by a socio-legal approach will also enable an in depth and practical assessment which will be channelled into suggesting effective reform to improve the policy. However, it is also vital to discuss the challenges that can be faced when conducting socio-legal research including creating a scope that is too wide. It has been stated that socio-legal research typically can ‘cast a wide net, including statutes passed by legislatures, rules passed by administrative agencies, and court decisions, but also "unofficial" or non-state law involving cultural norms and alternative systems of ordering.’⁴⁹ Whilst the casting of a wide net can be seen as a benefit, it is imperative to be mindful of overreaching the scope of the research which may hinder the creation of an effective and precise assessment. In order to avoid this, it is also necessary to clearly define the methods utilised to support the socio-legal approach, this will in turn, create clarity and structure preventing the utilisation of unnecessary sources.

As discussed, the methodology of the dissertation will be socio-legal, however the dissertation will also encompass various methods. Utilising a variety of approaches is important to ensure efficient assessment of a range of sources and achieve clarity within the research. Doctrinal research has been defined as focusing ‘heavily, if not exclusively upon

⁴⁷ Matt Henn et al, *A critical introduction to Social Research* (2nd edn, Sage 2009) 9.

⁴⁸ United Nations, *The Millennium Development Goals Report 2012* (New York, 2012).

⁴⁹ Sandra R Levitsky et al, "'Legality with a Vengeance': Reclaiming Distribution for Sociological Studies"[2018] 52(3) *Law & Society Review* 712.

the law itself as an internal self-sustaining set of principles.’⁵⁰ Therefore, the doctrinal method will be utilised to support the methodology, ensuring an effective assessment of OPD’s content.⁵¹ This is vital for a full analysis of the policy itself to ‘identify, analyse and synthesise the content of the law’ in the words of Henn⁵² Without using the doctrinal method, the dissertation could lack an in depth assessment of the policy which is a fundamental aspect of the research.

Doctrinal research has historically played a vital role within the legal sector and traditionally was the main method of conducting legal research. For this reason, it is evident that doctrinal research has fundamental strengths when assessing legal data. However, the approach is not without challenges, whilst an approach which specifically identifies and analyses the law itself can be an advantage, this is dependent on the research topic. Due to the restricted scope of analysing the law itself rather than the law in practice, the method will be applied to support the sociolegal methodology rather than be utilized as the methodology.

The rationale behind this is to analyse the policy’s content through the adoption of the doctrinal method. Whilst enhancing the approach and scope of the dissertation by the inclusion of social factors such as gender and background to research the policy in practice through the overarching sociolegal methodology. By doing so this will enable a deeper assessment of both fundamental aspects of the dissertation question.

The research conducted follows an assessment of both primary and secondary sources due to the requirement of analysing the policy itself and additional policies which promote it but also secondary sources such as academic writings based upon the policy but also low impact housing from a wider view point. By assessing both primary and secondary data the

⁵⁰ Mike McConville and Wing Hong Chui, *Research methods for law* (Edinburgh University Press 2007) 1.

⁵¹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁵² Dawn Watkins and Mandy Burton, *Research methods in law* (Routledge 2013) 9.

dissertation offers a view into not only the policies which aim to promote sustainable development but also their success. This allows for greater discussion upon the necessary steps moving forward with the policy and improvements which can be implemented to further achieve the policy's objectives. Additionally, the data collected will be of a qualitative nature as this enables the research to 'take place in the natural world'⁵³ creating a widened scope of analysis including data of a subjective nature. Qualitative research will facilitate the research drawing upon the context of the policy rather than its content alone.

Overall it is clear that, as the dissertation is based upon the scope of the policy in practice, it is necessary to assess greater variation of resources than simply primary sources and commentary upon the policy itself. A socio-legal methodology will enable the use of such a variety of sources which will aid the in-depth analysis of the policy in practice and its promotion of sustainable communities.

⁵³ Catherine Marshall, Gretchen B Rossman, *Designing qualitative research* (6th edn, SAGE 2016) 2.

1.5 Structure of the dissertation

To identify whether the OPD policy⁵⁴ is in fact promoting UNSDG 11⁵⁵ it is necessary to create an assessment of multiple factors. Thus, the factors will be divided into chapters and subsections to ensure clarity of the dissertation.

Chapter one titled 'Introduction' establishes the research question before proceeding to discuss the global environmental issues, specifically global policy failures.⁵⁶ Identifying the need for assessment upon policy which aims to promote sustainable development with discussion upon the three pillars.

Chapter two discusses the policy and its aims, highlighting the various objectives of the policy. Proceeding to identify the current housing challenges within the UK such as unaffordable prices. Before discussing, the aims and specifications of OPD including affordable housing, structured around the three pillars of sustainability.

Chapter three introduces international obligations the UK must adhere to, global goals and action plans. Due to the research question, discussion is focused upon the non-binding UNSDG's⁵⁷ however, the discussion encompasses many of the UNSDGs due to the nexus of many of the goals.⁵⁸ Chapter 3:3 offers an in-depth assessment of UNSDG 11 highlighting the aspects promoted by OPD.⁵⁹

⁵⁴ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁵⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

⁵⁶ IPCC, 'Summary for policy makers' [2018] SPECIAL REPORT: GLOBAL WARMING OF 15 °C.

⁵⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

⁵⁸ Ibid.

⁵⁹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

To identify the standards the UK intends to meet, there is additional discussion of binding and non-binding international targets including the Paris Agreement.⁶⁰ This is furthered by a discussion on the key concepts that are guiding OPD (section 3.7), before proceeding to identify EU and UK law that influences the content and implementation of OPD. This chapter concludes with an analysis of additional Welsh policies which are relevant to the OPD.

Chapter four identifies the need to analyse the OPD policy in practice, initiating discussion based upon the OPD policy's current status, including political statements favouring a moratorium on the policy.⁶¹ This chapter also analyses the policy's implementation through statistical data, statements and academic writings. The chapter is broken down into subsections to create an in-depth analysis of some of the key challenges the policy is currently facing.

Section 4.3 highlights application issues, identifying a lack of training amongst planning authorities. Arguing that without training, the policy will remain inconsistently implemented and fail to meet its' objectives. This is evidenced further through discussion based upon the resource deficiency with some counties feeling under resourced. Additionally, the financial burden of the application process is identified as a challenge which may jeopardise the economic sustainability and undermine its intentions of creating affordable housing. Section 4.4 further highlights challenges within the reporting specifications of the policy, including the financial burden upon local planning authorities.

⁶⁰ United Nations, 'Paris climate conference (COP21)' (2015).

⁶¹ BBC, 'Put a stop to eco-homes being built, says councillor'(BBC news, 29 April 2019)<<https://www.bbc.co.uk/news/uk-wales-48084556>>accessed 3 June 2019.

Additionally, there is discussion based upon the housing crisis and a report from Calon Cymru regarding land prices, the demand for social housing and lack of suitable land.⁶² This is utilised to form a discussion upon the policy and its capacity to elevate the housing crisis.

Following this, chapter five draws upon academic discussion upon low impact development, and OPD itself to suggest reform which may be improve the policy.⁶³ This includes proposing reform based upon the policy's specifications and implementation. This is formed around discussion from two perspectives, the Welsh Assembly government and local planning authorities and, OPD residents and prospective OPD residents. Furthermore, the reform chapter is divided into short-term and long-term reform.

Chapter six creates a summary of the dissertation's research briefly discussing its findings before proceeding to demonstrate whether OPD⁶⁴ is in fact promoting the UNSDG 11.⁶⁵ This is followed by discussion upon the reform suggestions made within chapter five which could benefit both the policy and Wales in its commitments.

⁶² Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandovery' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) <<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

⁶³ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁶⁴ Ibid.

⁶⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

Chapter Two

Sustainability in the context of OPD

2.1 Introduction

The OPD policy⁶⁶ has been established in alignment with the Welsh government's One Wales: One Planet⁶⁷ scheme which intends to meet the international objective of tackling climate change stating that:

'4.5.11 Our Sustainable Development Scheme sets out an ambition for Wales to use its fair share of the Earth's resources, where, within a generation, our ecological footprint is reduced to the global average availability of resources ...Reducing Wales' ecological footprint will require a large reduction in the total resources used to sustain our lifestyles....whilst delivering sustainable development and tackling climate change.'

Introduced within TAN 6, the OPD policy⁶⁸ is a planning policy which has been established to compliment the objectives of the One Wales: One Planet scheme.⁶⁹ The policy offers Welsh residents the opportunity to build low impact homes on agricultural land to live a more sustainable life.⁷⁰ The policy which comprises of multiple factors offers individuals and groups alike the opportunity to build affordable houses that are at least zero-carbon throughout their lifetime. OPD aims to promote multiple factors including the use of 100%

⁶⁶ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁶⁷ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009)

<<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

⁶⁸ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁶⁹ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009)

<<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

⁷⁰ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

renewable energy, land-based enterprises which must satisfy 65% of the household's basic needs, increase biodiversity and support the use of Welsh language and culture.⁷¹ According to the One Planet Council (hereafter OPC), there are currently forty-one OPD settlements.⁷²

2.2 Focus on the UK and housing

The UK is experiencing a 'housing crisis'⁷³ with reports suggesting that in England alone '340,000 new homes need to be built each year until 2031'⁷⁴ to address the housing shortage. However, with an awareness of the climate crisis,⁷⁵ simply building homes could be deemed inadequate. In order to, address the housing crisis⁷⁶ and prevent creating further environmental challenges, homes must be created sustainably.⁷⁷

It is undeniable that the current housing challenges have been the result of far more than simply a lack of infrastructure itself, however the Welsh policy⁷⁸ could address multiple issues associated with the housing crisis such as affordable housing through the promotion of UNSDG 11.⁷⁹

⁷¹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁷² One Planet Council, 'Approved Applications' (*One Planet Council*, 23 May 2019)<<http://www.oneplanetcouncil.org.uk/approved-applications/>> accessed 29 May 2019.

⁷³ May Bulman, 'UK facing its biggest housing shortfall on record with backlog of 4m homes, research shows' (*The Independent*, 18 May 2018)<<https://www.independent.co.uk/news/uk/home-news/housing-homeless-crisis-homes-a8356646.html>> accessed 22 February 2019.

⁷⁴ Ibid.

⁷⁵ IPPC, 'Summary for policy makers' [2018] SPECIAL REPORT: GLOBAL WARMING OF 15 °C.

⁷⁶ May Bulman, 'UK facing its biggest housing shortfall on record with backlog of 4m homes, research shows' (*The Independent*, 18 May 2018)<<https://www.independent.co.uk/news/uk/home-news/housing-homeless-crisis-homes-a8356646.html>> accessed 22 February 2019.

⁷⁷ Simon Fairlie, *Low Impact Development The future in our hands* (Creative Commons Attribution-Non-Commercial-Share 2009).

⁷⁸ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

⁷⁹United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011).

2.3 Impacts of OPD

Whilst OPD⁸⁰ is a low impact housing and planning policy, due to its specifications, it may be more of a life style choice rather than solely a housing and planning policy.⁸¹ OPD encompasses a multitude of economic, social and environmental factors with significant impact not only to the individuals participating but also the local community, and Wales as a whole. Thus, it is also necessary to discuss the policy with regards to the three pillars of sustainability.⁸² For the OPD policy to be successful in creating a sustainable housing policy and promoting UNSDG 11,⁸³ it must meet all three.⁸⁴

2:3:1 Social

Wimbush stated:

“The key to understanding our approach lies in questioning the core premise of the planning system. . . [it] separates out human habitation from land management; it reserves the open countryside for agriculture (and forestry) and directs the remainder of the population to live within town and village boundaries”⁸⁵

This statement alone encompasses the significant shift in social structure required for OPD life. As discussed, the policy is a lifestyle change which demands far more than the average housing policy. Furthermore, Harris states ‘The policy offers the scope for living in open countryside, and doing so legitimately, but at the cost of the extension of regulation into

⁸⁰ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

⁸¹ Ibid.

⁸² Amir Aryanasl and others, 'Components of sustainability considerations in management of petrochemical industries' [2017] 189(6) *Environmental monitoring and assessment* 274.

⁸³ United Nations, *The Millennium Development Goals Report 2012* (New York, 2012).

⁸⁴ Amir Aryanasl and others, 'Components of sustainability considerations in management of petrochemical industries' [2017] 189(6) *Environmental monitoring and assessment* 274.

⁸⁵ Paul Wimbush, 'Sustainable Land Management Consultation 2014 ' (*One Planet Council*, 2014) <<http://www.oneplanetcouncil.org.uk/wp-content/uploads/2014/02/Inquiry-on-sustainable-land-management-Submitted-by-Paul-Wimbush.pdf>> accessed 10 June 2019.

the details of individuals' everyday lives.'⁸⁶ In order to fully understand the social demands of OPD, it is necessary to discuss various social aspects of the policy itself.⁸⁷ As stated by Wimbush, those participating must both live and work on the OPD site, thus, many career prospects may become inaccessible should individuals wish to live within the policy.⁸⁸

Section 4 of TAN 6 states that OPDs can range from single settlements, co-operatives or larger settlements.⁸⁹ Highlighting the potential for the policy to take a range of forms, for example Lammas community, West Wales comprises of multiple 6-hectre small holdings to individual OPD builds on separate land. The policy also widens the scope of applicability to those who do not wish to build and live within a community setting.⁹⁰

2:3:2 Economic

The economic aspects of the policy must also be considered before the policy can be deemed successful in promoting sustainable development and UNSDG 11.

(i) Affordable housing

OPD could be regarded as a method of creating affordable housing as the construction must be simple and functional. The policy further requires the construction to be self-built with a 'resourceful use of materials'⁹¹ forcing the home to be constructed in a less wasteful manner, reducing overall cost. A member of the OPC has stated that OPD offers an

⁸⁶ Neil Harris, 'Exceptional Spaces for Sustainable Living: The Regulation of One Planet Developments in the Open Countryside' [2019] 20(1) Planning Theory & Practice <<https://www-tandfonline-com.ezproxy.uwe.ac.uk/doi/pdf/10.1080/14649357.2018.1562562?needAccess=true>> accessed 10 June 2019 13.

⁸⁷ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid.

⁹¹ One Planet Council, '10 Good Reasons' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/10goodreasons/>> accessed 30 May 2019.

accessible method of owning a home at a much lower cost.⁹² This is confirmed by Thorpe who states that for those living within the Lammas Community, the average total start-up cost per holding of approximately £56,000.⁹³ This is significantly less than the average house to purchase or build, however, in an interview with Stoddard, Thompson stated that the lower initial cost is only one of the factors which must be discussed with regards to the economic sustainability of the OPD builds.⁹⁴ Whilst the initial cost of building under the OPD policy may be dramatically less, however the complexity of what the policy demands could deem the policy slightly less economically viable.

(ii) Sustainable livelihoods

Those participating in the OPD lifestyle, must gain 65% of their basic needs from the land within the first five years. This includes a land based income, whilst there is no exhaustive list of appropriate sources of income, those currently participating are gaining their income from an array of business ventures from growing willow for basket work and teaching,⁹⁵ to rearing cows for dairy farming.⁹⁶ Whilst it is entirely possible to fulfil the requirement, there remains an awareness of the ‘difficulty surmounting the planning hurdles and the extreme commitment involved in choosing such a radical shift of lifestyle.’⁹⁷

(iii) Local economy

The local economy may also benefit from OPD projects, this is due to the necessity to source materials locally as well as, the potential tourism which can arise from OPD projects.

⁹² Kim Stoddart, 'A gateway to the good life' (*Country small holdings*, 08 December 2016) <<https://www.countrysmallholding.com/land/a-gateway-to-the-good-life-1-4810517>> accessed 30 May 2019.

⁹³ David Thorpe, *The 'One Planet' Life: A Blueprint for Low Impact Development* (Routledge 2015) p 341.

⁹⁴ Kim Stoddart, 'A gateway to the good life' (*Country small holdings*, 08 December 2016) <<https://www.countrysmallholding.com/land/a-gateway-to-the-good-life-1-4810517>> accessed 30 May 2019.

⁹⁵ David Thorpe, *The 'One Planet' Life: A Blueprint for Low Impact Development* (Routledge 2015) p 348.

⁹⁶ *Ibid.* p 346.

⁹⁷ *Ibid.* p 349.

For example, Lammas frequently run courses and workshops which bring people to the local community⁹⁸ and in turn, benefit the economy. There is also an opportunity for employment of locals either due to their expertise in trades but also through apprenticeships occasionally offered by OPD projects.⁹⁹

Overall, it is evident that the policy intends to create affordable housing, encompassing a land-based income with the additional factor of benefit to the local economy. However, there are challenges associated with the initial costs of the build and the complexity of creating sufficient income from the land.

(iv) One Planet Produce

As those participating in the OPD lifestyle rely upon a land-based income to secure their planning approval and continue living under the OPD policy, some participants choose to gain their income by selling their produce in local shops and markets. Thus, the OPC have introduced an OPD label allowing consumers to identify produce grown within OPD enterprises.¹⁰⁰ This labelling allows the consumer to ensure their produce has a low carbon footprint as the product will be local, which in turn will also support those participating in OPD directly by aiding participants in gaining their land-based income.

2:3:3 Environmental

Evidentially, the main objective of OPD is geared towards environmental sustainability and reducing Wales' impact upon the environment following the One Wales:

⁹⁸ David Thorpe, *The 'One Planet' Life: A Blueprint for Low Impact Development* (Routledge 2015) p 348.

⁹⁹ One Planet Council, '10 Good Reasons' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/10goodreasons/>> accessed 30 May 2019.

¹⁰⁰ One planet council, 'One Planet Produce' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/one-planet-produce/>> accessed 6 September 2019.

One Planet¹⁰¹ initiative. However, whilst this is the policy's main-focus, it remains necessary to discuss how the policy itself intends to achieve such objectives.

(i) Low impact building

The ability to construct the homes with minimal environmental impact lays at the heart of the policy, with the utilisation of sustainable or recycled materials to achieve this. The additional requirement of sourcing materials locally where possible further contributes to the environmental sustainability of the projects due to reduced environmental impact of transporting materials reducing the footprint.¹⁰²

(ii) Land productivity and wildlife

Due to the specifications of meeting 65% of basic needs from the land, the policy is naturally labour intensive which reduces the reliance upon machinery due to the size of the holdings in contrast to large scale agricultural activities. This is furthered by the duty upon OPD participants to conserve and enhance the biodiversity of the land along with the preservation of existing ecology.¹⁰³ This is achieved through an awareness of the natural ecology when planting hedgerows, orchards and wetlands.¹⁰⁴ Furthermore, by growing produce without harmful chemicals such as artificial fertilisers and using alternative methods including encouraging natural predators of pests, land degradation is prevented.¹⁰⁵

(iii) Use of natural resources

¹⁰¹ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) <<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

¹⁰² One Planet Council, '10 Good Reasons' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/10goodreasons/>> accessed 30 May 2019

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

Along with land preservation and biodiversity, those participating in the OPD lifestyle must utilise renewable methods to obtain their own energy, this comes in many forms such as the utilization of solar panels, collection of rain water and the reusing of wastewater to encourage biodiversity and soil fertility.¹⁰⁶ On site composting of biodegradable waste is also an essential element of reducing the impact upon the environment such as compost toilets.

(iv) Transport

Under OPD,¹⁰⁷ the developments must be mindful of creating a low-transport lifestyle, with residents working and living on their own land there is a significant reduction in the carbon footprint of commuting. Also, developments are located within an accessible distance of public transport by foot or bicycle which in turn reduces the dependency and usage of personal vehicles.¹⁰⁸

Overall it is evident that from the structure itself to the land usage and lifestyle of those participating in OPD, environmental sustainability remains at the heart. The policy appears to have thoroughly considered the many complexities of creating an environmentally sustainable policy with regards to its content.

2.4 Conclusion

Firstly, the OPD policy's structure portrays a well thought out alternative to conventional living with environmental consciousness at its heart. Secondly, despite the environmental focus of the policy, the economic and social stipulations highlight that the

¹⁰⁶ One Planet Council, '10 Good Reasons' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/10goodreasons/>> accessed 30 May 2019.

¹⁰⁷ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

¹⁰⁸ One Planet Council, '10 Good Reasons' (*Supporting One Planet Developments*, no date) <<http://www.oneplanetcouncil.org.uk/10goodreasons/>> accessed 30 May 2019.

policy is far more than a planning policy with implications upon many aspects of the participant's life. Thirdly, whilst there is a clear sustainable focus of the policy, for it to be successful in meeting its' objectives under the One Wales: One Planet scheme,¹⁰⁹ it is also necessary to identify the relevant laws and create a critical analysis of the policy in practice. If the policy is unsuccessfully implemented then it cannot be deemed successful in promoting UNSDG 11.¹¹⁰

¹⁰⁹ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) <<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

¹¹⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

Chapter Three

International and national Law influencing the OPD policy

3.1 Introduction

Whilst OPD is specific to Wales,¹¹¹ its creation is evidentially a response to international, national, and regional efforts to put sustainable development at the forefront of policies. Despite its creation predating the UNSDGs there is a clear alignment of the shared goal of sustainable development.¹¹² To identify whether the OPD policy is successful, it is vital to assess the obligations and standards of OPD in the context of international development. This chapter examines the objectives of OPD discussed within chapter two, firstly identifying the specific international laws and goals which align with each objective. Secondly, analysing whether the OPD policy is aligned with relevant national and regional laws. The table below identifies the specific laws and goals which will be discussed with reference to the OPD's core objectives.

Linking OPD policy aims to international and national laws

OPD policy aims	International laws and policies	National/local laws and policies
Sustainable development	UNSDG (Goal 4.7, 7.1, 7.3, 7.a, 8.3, 8.4, 8.9, 9.1, 11.4, 11.b, 12.1, 12.2, 12.8, 17.14)	One Wales: One Planet [2009]

¹¹¹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019

¹¹² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011

Affordable Housing	UNSDGs (Goal 11.1,11.3, 16.b)	Improving lives and Communities, homes in Wales [2010]
Climate change	UNSDG (Goals 11,12,13) Paris Agreement [2015] Climate Change Convention [1994] Kyoto Protocol [1997]	One Wales: One Planet [2009] Wellbeing of Future Generations (Wales) Act [2015]
Environmental protection/biodiversity	UNSDGs (Goals 2.3,2.4,15.1, 15.2, 15.5) EU framework for rural development programmes UK biodiversity strategy (JNCC)	Welsh Rural Development programme
Sustainable planning	UNSDG (Goals 11, 15.1, 15.2, 15.9)	One Wales: One Planet [2009] Wellbeing of Future Generations (Wales) Act [2015]
Sustainable communities (including sustainable livelihoods)	UNSDG (Goal 4.7, 11)	One Wales: One Planet [2009] Wellbeing of Future Generations (Wales) Act [2015]

It is worth noting that some of OPD's objectives are supported by multiple policies, at the international level and, also, at both the national and regional level such as climate

change. However, when compared to other aspects of the policy's core objectives, there is very little policy supporting the objectives for example affordable housing.

3.2 Sustainable Development

Sustainable development as defined within the Brundtland report¹¹³ is an aspect of the OPD policy which appears to share the objectives of international, national and regional goals and targets. With a range of laws surrounding the term, sustainable development is clearly a key principle globally. This section will identify and discuss the various principles and policies which highlight sustainable development to address whether the OPD policy's aims are supported globally as well as promote the achievement of goals and standards at all levels.

(i) United Nations Sustainable Development Goals

The UNSDGs¹¹⁴ have been established to raise awareness and prompt action against global challenges, promoting sustainable development by 2030. The challenges highlighted within the goals range from poverty and inequality to climate and environmental degradation however, many of the goals are interconnected.¹¹⁵ Whilst this research is predominantly focused upon Goal 11¹¹⁶ as discussed, there is an interconnection between many of the UNSDGs thus, the OPD policy could aid the achievement of a number of UNSDGs.

The Welsh Assembly government created the One Wales: One Planet¹¹⁷ scheme to consider sustainable development as a central organising principle in the creation of new

¹¹³ World commission on environment and development, *Our Common Future* (Oxford University Press 1987).

¹¹⁴ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹¹⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹¹⁶ *Ibid.*

¹¹⁷ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009)

<<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019

policy along with improvements upon existing policy. OPD is an example of a Welsh policy which resonates significantly with the global aim of promoting sustainable development.

Sustainable development spans across the UNSDGs as the key focus.¹¹⁸ Many of the goals relating to sustainable development are specifically aligned and promoted by the OPD policy. Beginning with Goal 4.7, which sets out the goal of ensuring teaching knowledge and skills which promote sustainable development and sustainable life styles to Goal 8.4 discussing responsible resource consumption.¹¹⁹ Through the demands of the OPD policy which were discussed within chapter two, it is evident that the policy if implemented correctly can promote multiple goals.

An example of a specific link between the OPD policy's alignment with the UNSDGs is Goal 11.A which identifies the objective of supporting 'positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning.'¹²⁰ As discussed within chapter two there are economic, social and environmental benefits to the local area of an OPD. The benefits range from employment of local trades people and education on sustainable lifestyles through workshops, to local produce with a reduced carbon footprint and benefit to biodiversity.

Whilst there is evidently an alignment of the objectives of OPD¹²¹ and the UNSDGs with regards to sustainable development, the UNSDGs themselves have received some criticism.¹²² Some academics have raised concerns, with Sengupta speculating that the

¹¹⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011

¹¹⁹ Ibid.

¹²⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011).

¹²¹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹²² Mitu Sengupta, 'Transformational Change or Tenuous Wish List? A Critique of SDG 1 ('End Poverty in All Its Forms Everywhere')' [2018] 37(1)Social alternatives 12.

UNSDGs are little more than a ‘wish list’¹²³ due to ‘weakly worded targets that provide little indication of how the goal will be achieved.’¹²⁴ The lack of indication throughout the UNSDGs is evident, Goal 12.1 discussed the need to implement ten year sustainable consumption and production plans (from here on referred to as SCPs), however the indicator merely states ‘12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies.’¹²⁵ This indicator bases the fulfilment of the goal upon the amount of countries who possess SCP action plans or priorities sustainable consumption within national policy however the goal is not achieved if the policy or action plan is not successful or has not been implemented correctly. Thus, the indicator for Goal 12.1 is an example of a measurement which does not effectively measure progress. Measuring achievement upon quantified data alone does not portray the whole picture. Creating SCP action plans or identify sustainable consumption as a priority or target does not mean they are successfully in practice therefore creating data based on this would be inaccurate.

Furthermore, there are issues associated with the reporting of progress within countries. Data has shown that whilst 103 countries submitted their voluntary reports between 2016-2018, only 31 submitted a review of Goal 11.¹²⁶ Without the submission of reports from countries, it is not possible to measure the progress towards fulfilment or identify areas in

¹²³ Ibid.

¹²⁴ Ibid.

¹²⁵ Unstats, 'Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development '(UNSTATS, no date) <https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202019%20refinement_Eng.pdf>accessed 4 August 2019.

¹²⁶ United Nations, '2018 Review of SDGs implementation: SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable'(HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT, 2018)<https://sustainabledevelopment.un.org/content/documents/197282018_background_notes_SDG_11_v3.pdf> accessed 24 August 2019.

which certain goals remain unfulfilled. This is an issue which must be addressed should the UNSDGs successfully work towards their goals globally.

(ii) One Wales: One Planet

As discussed, OPD¹²⁷ was established under the One Wales: One Planet scheme¹²⁸ which intends to ensure that in the lifetime of a generation, Wales only utilises its fair share of the earth's natural resources. To achieve this target which is rooted within the overarching aim of sustainable development, there must be a dramatic shift. Not only of resource usage but also the lifestyle of those living in Wales and the whole system of creating policy. To fulfil the objectives under the scheme,¹²⁹ sustainable development must become a central organising principle.

The scheme aims to create a future for Wales which lives within its environmental limits, has a healthy and productive ecosystem along with a sustainable economy.¹³⁰ OPD is a direct reflection of this, by aiming to ensure those participating only use their fair share of the earth's resources.¹³¹ Furthermore, in order to gain planning permission under OPD, applicants must establish a management plan which addresses how the settlement will enhance the local ecosystem of the land and create a sustainable income from the land.

(iii) Well-being of Future Generations (Wales) Act 2015

¹²⁷ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹²⁸ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) < <http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf> > accessed 20 March 2019.

¹²⁹ Ibid.

¹³⁰ The Welsh Assembly, 'The Sustainable Development Annual Report 2009-2010' (*One Wales: One Planet*, no date) < <http://www.assembly.wales/Laid%20Documents/GEN-LD8219%20-%20One%20Wales%20One%20Planet%20-%20The%20Sustainable%20Development%20Annual%20Report%202009-2010-21092010-196494/gen-ld8219-e-English.pdf> > accessed 23 June 2019.

¹³¹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

The Well-being of Future Generations (Wales) Act 2015 was established to promote sustainable development, combatting many challenges.¹³² Such issues include climate change, poverty, employment and health. The Act intends to improve the economic, social and cultural wellbeing of Wales, along with the environmental wellbeing. The Welsh Assembly Government intends to achieve this through the seven established goals; prosperity, equality, resilience, health, cohesive communities, improved culture and language as well as ensuring a globally responsible Wales. The act puts a responsibility upon public bodies to act upon the established goals, creating an improved Wales for future generations.¹³³

The Act¹³⁴ highlights many factors which OPD can support, whilst putting significant emphasis upon environmental factors, OPD aids the promotion of all three pillars. The Act discusses creating a prosperous Wales in which individuals can find employment whilst remaining environmentally conscious regarding resource limitation. The OPD policy is specifically interlinked to both aspects, by not only offering the opportunity for individuals to live and work sustainably from their land but also by offering employment to local trades people ensuring the local economy benefits from the OPD and, also by raising awareness amongst the local community of the project's ethos.

Furthermore, the Act discusses the goal of creating cohesive communities,¹³⁵ there are two aspects in which OPD benefits this goal directly. As stated within the policy,¹³⁶ OPDs can comprise of not only individual settlements but also of communities, eco-villages and series of OPD settlements in close proximity therefore the policy can create cohesive

¹³² Well-being of Future Generations (Wales) Act 2015 (anaw 2).

¹³³ Ibid.

¹³⁴ Ibid.

¹³⁵ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

¹³⁶ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

communities by its' nature. Additionally, with the creation of OPD settlements in proximity to local communities, the settlements can benefit the wider community in a multitude of ways from benefitting the economy to the environmental and educational benefits they offer.

The goal of creating a globally responsible Wales, is interlinked with OPD as the policy and One Wales: One Planet scheme¹³⁷ were created to contribute to global wellbeing and promote sustainable development.¹³⁸

The aim of a healthier Wales¹³⁹ can also indirectly be interlinked with the OPD policy.¹⁴⁰ The aim states 'A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.'¹⁴¹ It has been documented that nature can have significant improvements upon an individual's mental health.¹⁴² Therefore OPD is likely to improve participants' mental health due to the requirement to spend time working on the land. Overall the Well-being of Future Generations (Wales) Act¹⁴³ appears to be significantly aligned with the predating OPD policy. The policy promotes and supports the goals of the Act through economic, environmental and social factors.

¹³⁷ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) <<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

¹³⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

¹³⁹ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

¹⁴⁰ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

¹⁴¹ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

¹⁴² Jo Barton, Jules Pretty, 'What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-Study Analysis' [2010] 44(1) *Environment Science Technology* <<https://texanbynature.org/wp-content/uploads/2016/10/What-is-the-Best-Dose-of-Nature-and-Gre...-Mental-Health-A-Multi-Study-Analysis.pdf>> accessed 20 June 2019.

¹⁴³ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

3.3 Climate change mitigation

As discussed within chapter two climate change mitigation and reducing environmental impact are two factors at the heart of the OPD policy.¹⁴⁴ There are a range of targets at all levels which support and align with OPD's intentions.

(i) UNSDGs

Firstly, at an international level the UNSDGs put a significant focus upon climate change¹⁴⁵ which can be seen to resonate with the ethos of the OPD policy.¹⁴⁶ Throughout the seventeen goals, combating climate change features heavily both directly and indirectly¹⁴⁷ with many being supported by the intentions and specifications of OPD.

Goal 13 of the UNSDGs discusses the need for Climate action, with target 13.2 stating 'Integrate climate change measures into national policies, strategies and planning.'¹⁴⁸ The One Wales: One planet scheme¹⁴⁹ and OPD are examples of Welsh policy which intend to integrate climate change mitigation into law at a national level. Furthermore, Goal 12 'responsible consumption and reduction'¹⁵⁰ resonates with OPD, the goal discusses the need to promote resource and energy efficiency as well sustainable infrastructure with the

¹⁴⁴ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹⁴⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁴⁶ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹⁴⁷ Committee on Climate Change, 'Net Zero The UK's contribution to stopping global warming' [2019] Committee on Climate Change 66.

¹⁴⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁴⁹ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) < <http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf> > accessed 20 March 2019.

¹⁵⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

additional aim of reducing poverty. The OPD policy intends to ensure those participating build sustainable infrastructures with responsibly sourced materials.¹⁵¹

Moreover, Goal 11.4 discusses the aim of strengthening ‘efforts to protect and safeguard the world’s cultural and natural heritage.’¹⁵² As the OPD policy discusses its intentions of promoting the Welsh culture and language which is directly supportive of the objectives under Goal 11.4.¹⁵³ The natural heritage of the land and aesthetics of the areas are also preserved within the OPD policy, this is achieved by the use of natural resources for the infrastructure’s build, for example many of the OPD buildings utilise grass roofing to ensure the properties further support ecosystems.

Whilst climate change mitigation factors heavily within the UNSDGs, the indicators used to assess their fulfilment may still be encompassing some challenges. For example, Goal 13.2 discusses integrating climate change measures into national policies, strategies and planning with indicator 13.2.1 identifying the number of countries who have communicated ‘the establishment or operationalization of an integrated policy.’¹⁵⁴ However, the indicator does not discuss what form this may take, nor does it measure the success or adequacy of such policy. Furthermore, indicator 13.2.1 proceeds to discuss nationally determined contributions (from here on referred to as NDCs) as a method of fulfilling the goal however, nationally determined contributions have raised concern amongst academics such as Selin.¹⁵⁵ Selin has argued that NDCs put each countries’ emissions target in the hands of the polluters

¹⁵¹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

¹⁵² United Nations, *The Millennium Development Goals Report 2012* (New York, 2012).

¹⁵³ *Ibid.*

¹⁵⁴ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁵⁵ Henrik Selin, Adil Najam, 'Paris Agreement on climate change: the good, the bad, and the ugly' (*The conversation*, 14 December 2015) <<https://theconversation.com/paris-agreement-on-climate-change-the-good-the-bad-and-the-ugly-52242>> accessed 28 October 2018.

themselves. The Paris agreement¹⁵⁶ is an example of where this approach is currently failing to achieve its objectives.¹⁵⁷ By assessing the fulfilment of goal 13.2¹⁵⁸ on the creation of a policy not its impact or adequacy along with measures including NDCs leaves the goal vulnerable of being deemed successful even if the policy or NDC is not being implemented or adhered to.

(ii) Paris Agreement and the United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (hereafter, UNFCCC) was established in 1992 and entered into force in 1994.¹⁵⁹ The convention set out its objective of stabilising greenhouse gas (hereafter, GHG) concentrations to prevent harm to the climate system, which in turn is a clear acknowledgement of not only humanity's detrimental impact upon the environment but also humanity's responsibility to tackle climate change on a united and global front. This binding treaty created state specific GHG limits, as well as initiating a global response on reducing GHG emissions and mitigating climate change. By establishing that the global progress must be tracked with annual meetings to discuss and the possibility of further agreements and conventions where necessary to ensure the convention's objective was to be met. This framework convention acts as a starting point in promoting global action and policy change with climate change mitigation as a key factor in consideration and policy creation. Following on from the commitments under the

¹⁵⁶ United Nations, 'Paris climate conference (COP21)' (2015).

¹⁵⁷ Alison Doig, Barbara Kvac, Barbora Urbanová, et al, 'Off target Ranking of EU countries' ambition and progress in fighting climate change' [2018] Climate Action Network Europe.

¹⁵⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁵⁹ UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107.

UNFCCC¹⁶⁰ and the 1997 Kyoto Protocol,¹⁶¹ the 2008 Climate Change Act saw the UK committing to reducing its GHG emissions by a minimum of 80% by 2050 from the 1990 levels.¹⁶²

As a result, in 2015 the Paris Agreement¹⁶³ which is a binding treaty was established in an attempt, to prevent global temperatures from rising by more than two degrees Celsius upon preindustrial levels. With 196 parties to the agreement, each has the responsibility and obligation to actively contribute to climate change mitigation and submitting of nationally determined contributions. The UN report on the UK's climate commitment commented that 'to be credible it needs to be evidence-based, accompanied by strong policies to deliver existing targets and a strategy to develop greenhouse gas removals.'¹⁶⁴ Which highlights the importance of policy reform in order to meet the contributions the UK has set for themselves. However, whilst the mere creation of the Paris Agreement could be deemed a success,¹⁶⁵ many parties to the agreement have failed to effectively act upon their commitments. For example, within the European Union, all states, including the UK are currently unsuccessful in meeting their targets.¹⁶⁶

¹⁶⁰ UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107.

¹⁶¹ United Nations, Kyoto Protocol to the United Nations Framework convention on Climate Change (adopted 11 December 1997; ratified 16 February 2005).

¹⁶² Climate Change Act (2008).

¹⁶³ United Nations, 'Paris Climate Conference COP21' (2015).

¹⁶⁴ United Nations, 'UK Climate action following the Paris Agreement' [2016] 1(1) Committee on Climate Change.

¹⁶⁵ Radoslav s Dimitrov, 'The Paris Agreement on Climate Change: Behind Closed Doors' [2016] 16(3) Global Environmental Politics.

¹⁶⁶ Alison Doig, Barbara Kvac, Barbora Urbanová, et al, 'Off target Ranking of EU countries' ambition and progress in fighting climate change' [2018] Climate Action Network Europe.

Furthermore, the Paris Agreement¹⁶⁷ has received significant criticism from weak language and unambiguous phrasing regarding what is expected of states,¹⁶⁸ from NDCs, and the financial constraints preventing the policy from meeting its potential.¹⁶⁹ With unambiguous language throughout the agreement which challenges the enforceability of the state responsibilities as well as the risks associated with NDCs the Paris Agreement is unlikely to meet its objectives.

Even though the UK is currently failing to adhere to its obligations,¹⁷⁰ and the Paris Agreement's weaknesses, the Agreement remains a key factor in the creation of policy within the UK. Earlier this year, the Welsh government followed the recommendations by the Committee on Climate Change (hereafter, CCC) to cut carbon emissions by 95% by 2050.¹⁷¹ Whilst Wales' commitment is slightly less than England's (which aims to achieve net-zero) due to the importance of its' agricultural industries, the Welsh government have stated that they will strive to go further and achieve net zero by 2050.¹⁷² Whilst it is yet to be established how both the UK and Wales intend to achieve this, OPD is an example of a policy which, if successful in practice could assist the UK and Wales in fulfilling this aim. The whole policy is geared towards ensuring minimal GHG emissions which in turn reduces their contribution to global warming, should the policy be implemented successfully, it is possible that the

¹⁶⁷ United Nations, 'Paris climate conference (COP21)' (2015).

¹⁶⁸ Friends of the earth, 'The Paris Agreement: will it help tackle climate change?' (Climate change, 12 December) <<https://friendsoftheearth.uk/climate-change/paris-agreement-will-it-help-tackle-climate-change>>accessed 31 December 2018.

¹⁶⁹ Lian-biao cui et al , 'Design and analysis of the green climate fund' [2014] 23(3) Journal of Systems Science and Systems Engineering 266.

¹⁷⁰ Alison Doig, Barbara Kvac, Barbora Urbanová, et al, 'Off target Ranking of EU countries' ambition and progress in fighting climate change' [2018] Climate Action Network Europe.

¹⁷¹ Committee on Climate Change, 'Net Zero The UK's contribution to stopping global warming' [2019] Committee on Climate Change 11.

¹⁷² Gov.wales, 'Wales accepts Committee on Climate Change 95% emissions reduction target' (*Welsh Government*, 11 June 2019)<<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>> accessed 8 August 2019.

policy can promote the UNFCCC's¹⁷³ objectives along with the aims of the Paris Agreement¹⁷⁴ and the regional aims discussed.

3.4 Affordable housing

Issues regarding affordable housing appear to have become a common global issue with recognition within international obligations and goals along with the additional recognition in regional and national policy. Despite the recognition, there appears to be a lack of discussion upon sustainable methods of solving housing issues.

(i) UNSDGs

UNSDG 11 identifies that cities are experiencing a multitude of challenges ranging from a lack of funds for public services and housing, to infrastructure, air pollution and waste management.¹⁷⁵ The goal sets out its' intentions of improving resource management and reducing pollution along with poverty, stating 'there needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing and transportation.'¹⁷⁶

Goal 11.1 proceeds to discuss the aim of ensuring all have access to affordable housing and services by 2030.¹⁷⁷ As affordable housing is a shared objective which is encompassed by many of the UNSDGs it is evident that it carries significant weight and is a global challenge.¹⁷⁸ Affordable housing is necessary within the UK, with the current housing

¹⁷³ UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107.

¹⁷⁴ United Nations, 'Paris climate conference (COP21)' (2015).

¹⁷⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁷⁶ United Nations, 'Goal 11: Make cities inclusive, safe, resilient and sustainable' (*Sustainable Development Goals*, no-date) <<https://www.un.org/sustainabledevelopment/cities/>> accessed 1 June 2019.

¹⁷⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁷⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011).

status being deemed a ‘crisis.’¹⁷⁹ The OPD policy intends to promote affordable housing, with evidence suggesting that the process is significantly cheaper than purchasing a property.¹⁸⁰ Thus, should the policy be successful in creating affordable housing, it will not only help solve the housing challenges UK is currently experiencing but also, aid the UK in adhering to its international goals under the UNSDGs.¹⁸¹

Furthermore, the UN-Habitat report has identified some of the key challenges endangering the fulfilment of goal 11.¹⁸² The report discusses issues associated with a lack of clear definition of key concepts and phrases including ‘cities.’ Without a clear and consistent definition globally, there cannot be effective fulfilment of the goal as the fundamental concepts will differ between states. Additionally, the report highlighted issues associated with the monitoring and means of monitoring utilised.¹⁸³ Without the utilisation of consistent methods of monitoring globally, the data will lack consistency thus it will be difficult to assess whether the goal has in fact been fulfilled.

(ii) Improving lives and Communities, homes in Wales [2010]

Improving Lives and Communities, Homes in Wales strategy (2010)¹⁸⁴ identified the challenges Wales is experiencing with regards to affordable housing and the steps Wales intends to take to improve this.¹⁸⁵

¹⁷⁹ May Bulman, 'UK facing its biggest housing shortfall on record with backlog of 4m homes, research shows' (*The Independent*, 18 May 2018)<<https://www.independent.co.uk/news/uk/home-news/housing-homeless-crisis-homes-a8356646.html>> accessed 22 February 2019.

¹⁸⁰ David Thorpe, *The 'One Planet' Life: A Blueprint for Low Impact Development* (Routledge 2015) p 341.

¹⁸¹ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

¹⁸² United Nations, 'Tracking Progress Towards Inclusive, Safe, Resilient and Sustainable Cities and Human Settlements ' [2018] SDG 11 Synthesis report.

¹⁸³ Ibid. p 4.

¹⁸⁵ Gov.wales, 'Homes in Wales' (*Improving Lives and Communities*, 2010)<<https://gweddill.gov.wales/docs/desh/publications/100421housingstrategyen.pdf>> accessed 8 August 2019.

The strategy identifies the priority of increasing ‘the number of affordable homes for purchase or rent, in the right location and specifically in rural areas.’¹⁸⁶ As OPD is specific to rural Wales and the promotion of affordable housing through the policy, should the strategy include affordable land prices for OPDs, the objectives could align. Furthermore, the strategy discusses the aim of improving ‘the standard of new homes to make them more energy efficient and sustainable.’¹⁸⁷ As discussed in chapter two, the OPD policy is specifically designed to create sustainable houses which are energy efficient by utilising renewable energy sources such as solar power.

OPD¹⁸⁸ is directly supportive of the main priorities established by the strategy, including affordable housing, sustainable housing, and improvement to Welsh communities, however social housing has not been addressed within the OPD policy. The strategy discusses the need for improved social housing and rented accommodation, whilst this is not prevented by OPD, there are no case studies of successful OPD social housing settlements to date. To fully support and promote the strategy under OPD this would need to be addressed.

3.5 Environmental protection and biodiversity

OPD applicants must create action plans evidencing how they intend to ensure environmental protection and the promotion of biodiversity throughout their build and lifestyle.¹⁸⁹ There is a distinct recognition of the importance of conserving biodiversity and in turn protecting the environment throughout both OPD as well as throughout global goals and policies. Such goals and policies could both support and promote the OPD policy if implementation is successful.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

¹⁸⁸ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

¹⁸⁹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

(i) EU framework for rural development programmes

Between the period of 2014-2020, all EU member states committed to facing the social, economic and environmental rural challenges of the 21st century.¹⁹⁰ By doing so, each member state was responsible for creating their individual rural development programme which would sit in line with the shared priorities of the overarching EU framework. The EU prioritised working towards,

- ‘(1) fostering knowledge transfer and innovation in agriculture, forestry and rural areas,
- (2) enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management,
- (3) promoting food chain organisation, animal welfare and risk management in agriculture,
- (4) restoring, preserving and enhancing ecosystems related to agriculture and forestry,
- (5) promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors,
- (6) promoting social inclusion, poverty reduction and economic development in rural areas.’¹⁹¹

Whilst the EU stated that each member states’ rural development programme must work towards at least four of the shared priorities, Wales has created a programme that works towards all six.¹⁹²

¹⁹⁰ European commission, 'Rural development 2014-2020' (*Agriculture and rural development*, no date) <https://ec.europa.eu/agriculture/rural-development-2014-2020_en> accessed 26 June 2019.

¹⁹¹ Ibid.

¹⁹² European commission, 'Factsheet on 2014-2020 Rural Development Programme for Wales (United Kingdom)' (*Europa*, no date)<https://ec.europa.eu/agriculture/sites/agriculture/files/rural-development-2014-2020/country-files/uk/factsheet-wales_en.pdf> accessed 26 June 2019

Wales' rural development programme has a dominant focus of 'restoring, preserving and enhancing ecosystems related to agriculture and forestry and enhancing farm viability and competitiveness of all types of agriculture and promoting innovative farm technologies and the sustainable management of forests.'¹⁹³ With a large percentage of finance being put in to improving the management of natural resources as well as promoting the use of environmentally friendly pesticides, the result of which being an overall improvement in land use, biodiversity, soil quality and water management. Furthermore, the aim is to create economic growth, improving employment rates due to the increased availability of jobs upon the land. The programme also states that there will be '35,000 training places will be created to foster innovation, knowledge transfer, co-operation, more sustainable farming practices and stronger rural businesses.'¹⁹⁴

OPD has multiple qualities which adhere to the programme's objectives along with the overarching shared priorities of the EU rural development framework through all three of the pillars of sustainability. A fundamental aspect of the OPD policy is to conserve the land and ensure there is no significant environmental impact caused by the settlement.

Furthermore, it is necessary for OPD applicants to have supporting evidence within their management plan of how they intend to support ecosystems including enhancing the biodiversity of the land. Additionally, as previously discussed in chapter 2.3, residents living under the OPD policy are required to ensure their environmental impact remains minimal.

With regards to the economic and social aspects of the rural development programme which are supported by the intentions of OPD, the land-based incomes and selling of OPD produce create economic growth. All residents choosing to live within the criteria of the policy are

¹⁹³ Ibid.

¹⁹⁴ Ibid.

self-employed upon their own land, also supporting the social aspects by offering workshops demonstrating sustainable agricultural practice.

In summary, it is indisputable that OPD's content supports the objectives of Wales' rural development programme and overarching EU rural development programme.¹⁹⁵ This can be seen throughout economic, social and environmental aspects addressed within the framework which are directly aligned with the demands of the policy. Should the policy be implemented successfully and fulfil its' intentions, it can promote Wales' rural development aims and aid the government in achieving its' objectives under the programme.

(ii) EU and UK biodiversity strategy

In July 2012 the post-2010 Biodiversity Framework was published to cover the ten-year period between 2010-2020.¹⁹⁶ The framework which was produced by Joint Nature Conservation Committee (hereafter, JNCC) along with the Department for Environment, Food and Rural Affairs (from here on referred to as Defra) and combines the EU Biodiversity strategy¹⁹⁷ with 'Aichi Biodiversity Targets' to form the UK's united response and action plan to achieve the targets established¹⁹⁸ with the overall target of preventing and halting the loss of biodiversity. A fundamental aspect of OPD is to conserve and enhance the biodiversity of the chosen site, this is achieved through multiple methods from planting hedgerows to wetlands and grass roofs.

¹⁹⁵ European commission, 'Rural development 2014-2020' (*Agriculture and rural development*, no date) <https://ec.europa.eu/agriculture/rural-development-2014-2020_en> accessed 26 June 2019.

¹⁹⁶ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012.

¹⁹⁷ European Commission, Our life insurance, our natural capital: an EU biodiversity strategy to 2020 (Brussels, 2011) COM(2011) 244 final.

¹⁹⁸ JNCC, 'The UK Post-2010 Biodiversity Framework' (*JNCC*, no-date) <<http://jncc.defra.gov.uk/page-6189>> accessed 8 June 2019.

Whilst OPD has a significant focus upon biodiversity, it is worth noting that overall the mid-term review on the progress towards the EU Biodiversity strategy showed no significant progress.¹⁹⁹ Four out of the five key threats to biodiversity were still deemed major concerns, which included intensive agriculture, habitat loss, invasive alien species and overexploitation of marine environments. Whilst there has been an improvement to pollution within some areas overall it is evident that the strategy is currently failing to meet its' objectives.²⁰⁰ Following the report, the press release highlighted that 'much greater effort to deliver commitments on implementation by Member States.'²⁰¹ Should the OPD policy be implemented successfully, it could promote and support the objectives of both the EU²⁰² and UK Biodiversity strategies²⁰³ due to its intentions to promote and protect biodiversity. However, it is evident that more must be done by member states to ensure such goals are met, one issue which may be contributing to such challenges is the agricultural subsidies which are harmful to the environment. The Global Assessment on Biodiversity and Ecosystem Services (2019) has stated that in 2015, within OECD countries, the financing of potentially harmful subsidies significantly outweighed the funding for the promotion of biodiversity.²⁰⁴ This is an issue which must be addressed should efforts to protect and promote biodiversity be fulfilled.

¹⁹⁹ Eurpoa, 'EU assessment of progress towards the targets and actions' (*Mid-term review of the EU biodiversity strategy to 2020*, 2015)<https://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/mid_term_review_summary.pdf> accessed 8 August 2019.

²⁰⁰ Ibid.

²⁰¹ European commission, 'Protecting Europe's nature: more ambition needed to halt biodiversity loss by 2020' (*Europa*, 2 October 2015)<https://europa.eu/rapid/press-release_IP-15-5746_en.htm> accessed 8 August 2019.

²⁰² European Commission, *Our life insurance, our natural capital: an EU biodiversity strategy to 2020* (Brussels, 2011) COM(2011) 244 final.

²⁰³ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. *UK Post-2010 Biodiversity Framework*. July 2012.

²⁰⁴ J Razzaque & I Visseren-Hamakers, (in press). *Global Assessment Chapter 6: Options for Decision Makers*. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 128.

3.6 Sustainable planning

Sustainable planning is a fundamental aspect of improving multiple challenges Wales currently faces, as well as the goals it intends to adhere to at all levels. Sustainable planning forms the link between solving the issues associated with the housing crisis such as affordable housing and the environmental concerns associated with energy consumption and emissions. In order to begin addressing such issues in a manner in which is not detrimental to the social, economic or environmental factors, it is vital to begin creating solutions which put sustainable development as the highest priority. Wales' efforts to achieve this can be seen within the One Wales: One Planet scheme which intends to put sustainable development as a core principle in the creation of new policy.²⁰⁵

(i) UNSDGs

Under the UNSDGs there is indirect discussion upon sustainable planning within some of the goals, for example Goal 11 is the aim to create communities which are safe, sustainable and attractive.²⁰⁶ OPD promotes the creation of settlements of all dynamics, from singular settlements to eco-villages and adjacent plots. Thus, as a result the policy promotes sustainable communities by allowing planning permission for eco-communities and adjacent settlements (should they fit the criteria of the policy).

However, whilst there is indirect recognition of sustainable planning including reducing energy consumption, promoting clean energy and protecting biodiversity which all must encompass sustainable planning,²⁰⁷ the concept lacks direct recognition throughout. One

²⁰⁵ Welsh Assembly Government, 'The Sustainable Development Scheme of the Welsh Assembly Government' (*One Wales: One Planet*, May 2009) <<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

²⁰⁶ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²⁰⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011

issue with the indirect recognition of sustainable planning is that indicators do not identify any means of measuring sustainable planning. For example, UNSDG 15.9 states ‘By 2020, integrate ecosystem and biodiversity values into national and local planning.’²⁰⁸ As discussed, the UK and specifically Wales have implemented biodiversity strategies,²⁰⁹ rural development programmes, sustainable development focused schemes such as the One Wales: One Planet scheme²¹⁰ thus, could be deemed to be fulfilling goal 15.9. However, the indicator of goal 15.9.1 states ‘Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020’²¹¹ which is specifically focused upon biodiversity due to goal 15 being biodiversity focused. However, the issue is that there is a lack of direct guidance upon sustainable planning specifically therefore it is unlikely to be translated into successful policy. This is confirmed by a study by Brown and Dühr who have stated that ‘the translation of sustainability into planning policy is still relatively weak and variable.’²¹² In order to address climate change, sustainability must be an overarching core principle and focus in the creation of policy.

Furthermore, Wales may be failing to adhere to UNSDG 11.2 which states that ‘By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all.’²¹³ This is a topic which is challenging to OPD as well as Wales as a whole, currently

²⁰⁸ Ibid.

²⁰⁹ JNCC and Defra (on behalf of the Four Countries’ Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012.

²¹⁰ Welsh Assembly Government, ‘The Sustainable Development Scheme of the Welsh Assembly Government’ (*One Wales: One Planet*, May 2009) <<http://www.wales.nhs.uk/sitesplus/documents/829/One%20Wales-%20One%20Planet%20%282009%29.pdf>> accessed 20 March 2019.

²¹¹ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²¹² Stefanie Dühr Caroline Brown, *Understanding Sustainability and Planning in England: An Exploration of the Sustainability Content of Planning Policy at the National, Regional and Local Levels*. *Planning in the UK: Agenda for the new millennium* (Ashgate 2002) 257-278.

²¹³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

there is a lack of access to public transport within rural Wales.²¹⁴ This is at the detriment to many of Wales' goals at all levels including the Well-being of Future Generations (Wales) Act which aims to achieve cohesive communities which has identified transport systems as an issue.²¹⁵ Should Wales wish to promote OPD along with adhere to its international goals and regional aims, public transport must be improved.

Overall, there is a lack of guidance upon how sustainability will be incorporated into policy to create sustainable solutions for issues such as the housing crisis. Whilst Wales discusses social and economic issues including affordable housing, employment and cohesive communities there is minimal discussion surrounding sustainable planning.

3.7 Conclusion

In conclusion, it is apparent that OPD intends to adhere to many international obligations with both national and regional policies contributing to its establishment. Furthermore, OPD is supported by additional Welsh policies which have been created to promote sustainable development throughout. If the policy is successful will not only benefit the local community and Wales, it will also further benefit the UK in meeting targets such as those discussed under the Paris Agreement.²¹⁶

There are evidentially some challenges associated with the language of international agreements such as the Paris Agreement²¹⁷ and UNSDGs, specifically goal 11²¹⁸ which must be addressed. There are also issues which require stronger reporting and monitoring at the national level to ensure objectives are fulfilled and progress tracked. Should such issues be

²¹⁴ BetterTransport, 'The future of rural bus services in the UK' (*Tracks*, December 2018) <<https://bettertransport.org.uk/sites/default/files/research-files/The-Future-of-Rural-Bus-Services.pdf>> accessed 10 August 2019.

²¹⁵ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

²¹⁶ United Nations, 'Paris climate conference (COP21)' (2015).

²¹⁷ United Nations, 'Paris climate conference (COP21)' (2015).

²¹⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

addressed, it is evident that if OPD is implemented successfully, it has the capacity to support and promote multiple objectives. This is due to the comprehensive approach at addressing all three pillars of sustainability.

The main issue identified at all levels is the lack of legislation, guidance and strategy with a focus upon sustainable planning. Whilst affordable and sustainable housing were identified as priorities within the ‘Improving lives and Communities strategy’,²¹⁹ there remains a lack of discussion upon sustainable planning. Furthermore, the strategy identifies the need for improved social housing however it fails to identify how social housing will be created to support the Wales’ commitments to reduce emissions to net-zero.²²⁰ Sustainability and environmental degradation are intrinsically impacted by all policies thus, sustainability must be incorporated into every-one.

²¹⁹ Gov.wales, 'Homes in Wales' (*Improving Lives and Communities*, 2010)<<https://gweddill.gov.wales/docs/desh/publications/100421housingstrategyen.pdf>> accessed 8 August 2019.

²²⁰ Gov.wales, 'Wales accepts Committee on Climate Change 95% emissions reduction target' (*Welsh Government*, 11 June 2019)<<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>> accessed 8 August 2019.

Chapter Four

One Planet Development in practice

4.1 Introduction

Following recent discussion of OPD and controversial comments made by some councillors²²¹ it appears the policy's implementation may be encountering some challenges. The policy's intentions are clearly orientated towards sustainable development, supporting all three pillars of sustainability and in turn promoting the UNSDGs, specifically Goal 11.²²² However, without an awareness of the policy's progress it is impossible to identify whether it has been successful. To determine this, it is essential to undertake an assessment of the implementation of the policy. This will highlight some of the key issues which will enable discussion upon reform suggestions which may improve the policy and in turn further promote UNSDG 11.²²³

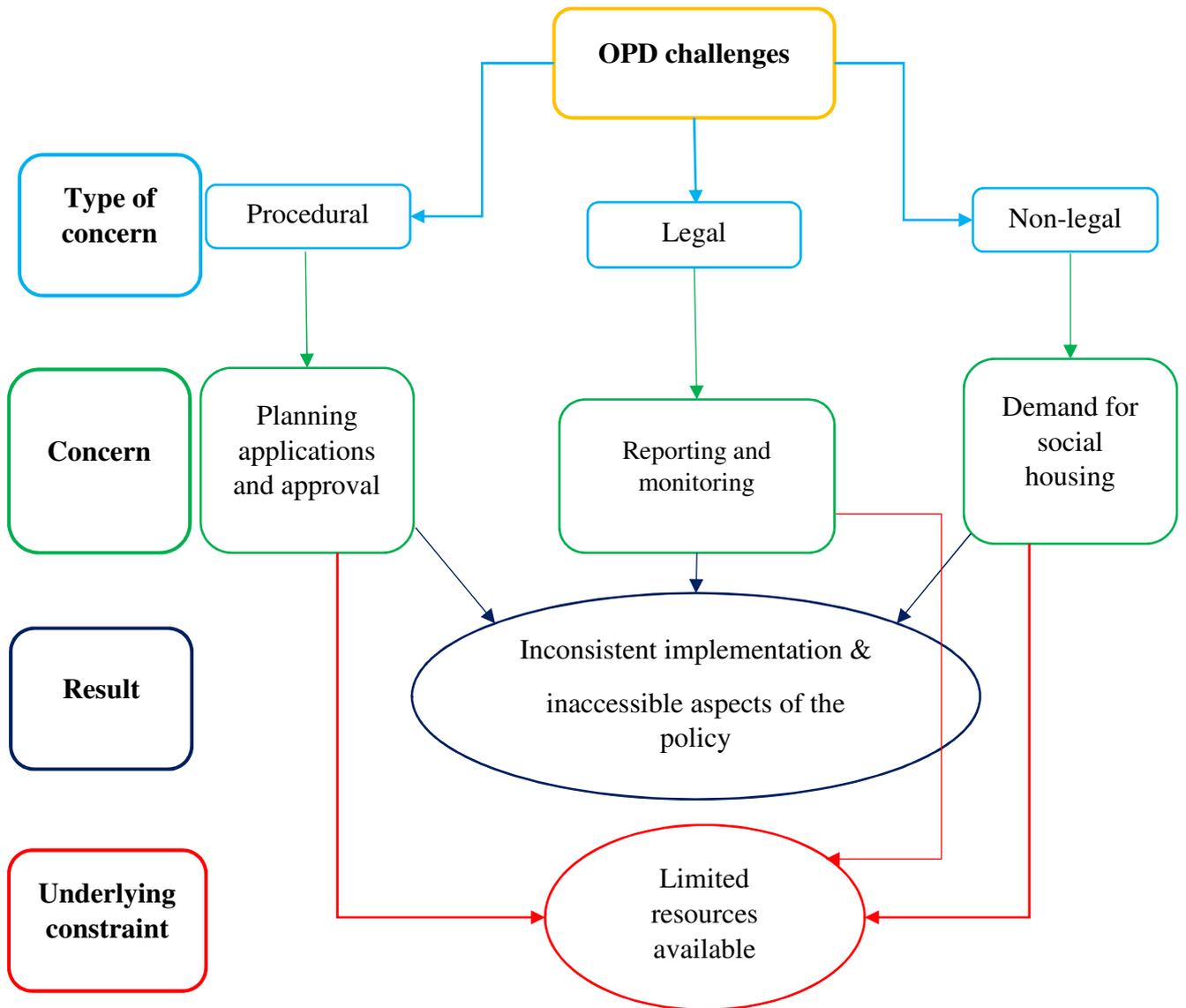
The flow chart below clearly identifies the key concerns challenging the policy's implementation, classifying the concerns within three types, legal, non-legal, and procedural. The flow chart visualises the issues, the result of the issues and, the underlying constraint.

²²¹ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) <<https://www.bbc.co.uk/news/uk-wales-48084556>> accessed 3 June 2019.

²²² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²²³ *Ibid.*

Challenges hindering the progress of OPD



4.2 Procedural

Whilst OPD was established almost ten years ago,²²⁴ the policy may be encountering some challenges with regards to the planning application process. In the county of Pembrokeshire alone, of the thirteen applications for OPD projects, only five gained approval upon initial application and a further three upon appeal.²²⁵ Academic research has suggested that the planning application process can be more complex than a regular planning application. It has been speculated that outcomes lack certainty as they are 'dependent on the interpretation of planning officers'²²⁶ which results in inconsistencies. Furthermore, it has been identified that prospective participants found it extremely challenging to gain approval due to the lack of clarity and constructive advice from planning authorities regarding previous applications as well as their own.²²⁷

To effectively promote UNSDG 11,²²⁸ environmental protection and sustainable development the application process must be consistent. By failing to implement the policy consistently, the Welsh Assembly Government could be failing to adhere to its' obligations which in turn could result in an ineffective policy.²²⁹ With an awareness that those involved are still learning how to implement the policy effectively, there appears to be a lack of

²²⁴ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²²⁵ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) < <https://www.bbc.co.uk/news/uk-wales-48084556> > accessed 3 June 2019.

²²⁶ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 5-6.

²²⁷ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011).

²²⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²²⁹ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

willingness to address the fact that the policy may need assistance and adjustment to ensure consistent implementation.²³⁰

Additionally, Pembrokeshire Coast National Park Authority stated that they feel under-resourced to deal with the OPD application process as it is resource intensive.²³¹ If the local planning authorities lack the resources to effectively participate in the planning process the policy cannot be deemed sustainable or successful. To fully promote the policy and in turn UNSDG 11,²³² it is necessary to ensure that local planning authorities have sufficient resources to implement the policy correctly and consistently.²³³

Furthermore, research has suggested that to solve the housing crisis, there must be more affordable housing which has been identified as a global objective. However, whilst OPD initially is cheaper than purchasing a property, the costs involved may be unaffordable to those currently affected by the crisis. The expense involved with the planning application process has been discussed as a challenge, with Hargraves and Wimbush both believing the process to be 'prohibitively expensive' with costs ranging from £1,000 - £5,000 for the application alone.²³⁴ The cost is high due to the likelihood of requiring an appeal following inconsistent implementation of the policy by planning authorities. This is a challenge which could represent an inaccessible aspect of the policy contributing to the risk that the policy is in fact failing to promote affordable housing as well as economic sustainability.

²³⁰ BBC, 'Put a stop to eco-homes being built, says councillor'(BBC news, 29 April 2019)<<https://www.bbc.co.uk/news/uk-wales-48084556>>accessed 3 June 2019.

²³¹ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 11.

²³² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²³³ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²³⁴ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 6.

4.3 Legal

Under OPD,²³⁵ annual reporting and monitoring of each development is required to ensure those participating continue to adhere to their obligations and fulfil the criteria established throughout. Whilst such requirements have clearly been established, councillor George has raised concerns regarding failures to adequately monitor OPD projects stating that “there are some in this area where the monitoring is so weak that we are two years in and we've had no reports and no response”²³⁶ believing that there must be altered to “tighten”²³⁷ the policy.

Annual monitoring appears to be putting a financial burden upon local planning authorities that simply exceeds the resources available.²³⁸ With stringent planning and management requirements which demand significant resources from planning authorities along with the heightened commitment of monitoring, the policy appears to be demanding more than is available. Mr Baker, Pembrokeshire County Council's cabinet member for planning has confirmed this stating "We are concerned, with more of these applications being submitted, there's more work for our officers.”²³⁹ Without adequate resources or a reduction in the amount of resources required to meet the policy's specifications it cannot be implemented efficiently nor can it meet its' potential in promoting sustainable development and in turn the UNSDG's.²⁴⁰ With planning authorities discussing concerns of limited

²³⁵ Welsh assembly government, 'Technical Advice note 6 ' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²³⁶ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) < <https://www.bbc.co.uk/news/uk-wales-48084556> > accessed 3 June 2019.

²³⁷ Ibid.

²³⁸ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 12.

²³⁹ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) < <https://www.bbc.co.uk/news/uk-wales-48084556> > accessed 3 June 2019.

²⁴⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

resources and the demands of the policy,²⁴¹ if the policy is to be successful and sustainable, there must be reform to address the challenges.

Due to the strict specifications under OPD²⁴² of not only the infrastructure itself but also the lifestyle requirements and management plans, some participants experienced many challenges with their applications. Such challenges include those mentioned above predominantly based around a lack of understanding regarding the policy's specifications and the environmental specialisation of the policy.²⁴³ Despite Kulbicki advising that recommending training for planning authorities²⁴⁴ there remains no mandatory training. Without adequate training within the environmental specialisation and heightened specifications of the policy,²⁴⁵ those dictating the policy's implementation will fail to create consistency and clarity upon what is expected of those participating in OPDs.

As a result, the OPC was formed, an independent body consisting of volunteers who intend to 'provide a bridge between applicants and local planning authorities with guidance and tools to support anyone making the transition to this more sustainable way of life.'²⁴⁶ OPC comprises of a range of individuals specialising in many areas including climate science²⁴⁷ as well as those who have overcome the planning hurdles of the policy.²⁴⁸

²⁴¹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019

²⁴² Ibid.

²⁴³ Ibid.

²⁴⁴ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 12.

²⁴⁵ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²⁴⁶ One Planet Council, 'The One Planet Council' (*Supporting One Planet Developments*, no-date) < <http://www.oneplanetcouncil.org.uk/about-the-one-planet-council/> > accessed 3 June 2019.

²⁴⁷ Ibid.

²⁴⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

Furthermore, despite the council's voluntary and independent nature, they have found themselves offering free training to planning authorities to promote the policy and bridge the gap.²⁴⁹ Whilst this is progress towards addressing the issue, training is not mandatory thus, such issues remain prevalent.

Overall despite the OPC's efforts to train planning officers as well as aid those wishing to participate in the OPD policy,²⁵⁰ challenges remain apparent. Without mandatory training for planning authorities, either from the Welsh government themselves or through cooperation with the OPC the implementation of the OPD policy is likely to remain inconsistent. With Councillor George previously threatening a moratorium due to inconsistency of the policy's implementation,²⁵¹ the future of sustainable planning in Wales is being put in the hands of those who lack the training to decide upon applications.

4.4 Non-legal

As well as the demand for affordable housing, there is also a great deal of demand for social housing.²⁵² Therefore, to solve the housing crisis in a manner which is fitting with Wales' objectives there must be sustainable social housing. To address this, Calon Cymru proposed the creation of an 'edge-of-town neighbourhood, with up to 25 homes, to meet all the requirements of a One Planet settlement, as detailed in Welsh Government policy'²⁵³ on

²⁴⁹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²⁵⁰ Ibid.

²⁵¹ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) < <https://www.bbc.co.uk/news/uk-wales-48084556> > accessed 3 June 2019.

²⁵² Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) < <http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf> > accessed 25 July 2019.

²⁵³ Ibid.

the outskirts of Llandovery. An in-depth study was carried out to assess whether this was possible, however, the study concluded that it was not feasible.²⁵⁴

One of the main issues highlighted within the report was the in-affordability of suitable land.²⁵⁵ Due to OPD's requirements, a settlement would need to be in close proximity to public transport links however, the land which was suitable was too expensive for the project to be viable. Furthermore, the study found that agricultural land prices had in fact increased since the creation of the OPD policy with land advertisements stating that the land was suitable for OPD builds.²⁵⁶ Should agricultural land prices become inflated due to the policy, there is a risk that suitable land will no-longer be accessible, resulting in a failure to create affordable housing and promote UNSDG 11.²⁵⁷

4.5 Conclusion

In summary, it is evident that there is a resource deficiency within local planning authorities which prevents efficient implementation of the policy.²⁵⁸ With a resource deficiency which is affecting the policy's implementation from planning applications to monitoring OPD settlements, the policy cannot be successful without additional resources or a change in the policy's specifications.²⁵⁹ Despite the OPC's efforts to support participants through the application process as well as offer training to planning authorities, there remains a gap which has not been addressed. Demands upon local planning authorities are likely to grow exceeding their capacity, which could cause a moratorium upon the policy as Mr

²⁵⁴ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandovery' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) <<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

²⁵⁵ Ibid.

²⁵⁶ Ibid.

²⁵⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²⁵⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) <<https://gov.wales/docs/desh/policy/100722tan6en.pdf>> accessed 22 January 2019.

²⁵⁹ Ibid.

George has suggested.²⁶⁰ Furthermore, without addressing the challenges, OPD is unlikely to achieve its' objectives thus, will not promote the aims of One Wales: One Planet and as a result the UNSDGs.

Additionally, for Wales to solve the housing issues in a manner which is fitting with their aims under the One Wales: One Planet scheme, creating sustainable social housing is vital. The challenges highlighted by Calon Cymru's report identify some of the key obstacles preventing the establishment of an eco-hamlet.²⁶¹ Whilst the study was specific to Llandoverly area, many of the issues can be applied to Wales as a whole, with obstacles such as land prices. All of which must be addressed to develop a policy and structure which benefits both those in need of affordable, social housing and, also, the Welsh Government in putting sustainable development at the forefront of policy making.

²⁶⁰ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) <<https://www.bbc.co.uk/news/uk-wales-48084556>> accessed 3 June 2019.

²⁶¹ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) <<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

Chapter Five

The OPD Policy: Reform Suggestions

5.1 Introduction

Evidence suggests that OPD has the potential to fulfil its intentions, intrinsically promote all three pillars of sustainability and UNSDG 11.²⁶² However, the analysis of the policy's implementation has identified multiple issues which are hindering this.

The dominant challenge at the root of the policy's issues appears to be a lack of resources. It is to be expected that the policy's implementation is complex, with strict stipulations which span all three pillars of sustainability. Despite this, it would be detrimental to Wales' progress towards sustainable development to put a moratorium upon a policy which reflects the values of an environmentally conscious Wales. Should there be reform to the policy, it is possible begin solving the challenges and further promote UNSDG 11. Therefore, it is necessary to discuss possible reform which may improve the policy's implementation.

This chapter is divided into the three headings of procedural, legal and non-legal reforms, which will address the issues highlighted in chapter four to offer some suggestions of reform. All suggestions are advised with an underpinning awareness of the core issue of resource deficiency, suggesting practical and accessible solutions.

5.2 Procedural reform

The policy's demands are evidentially far higher than regular planning policies, as it requires changes to many aspects of the participants' lives. Harries stated that the OPD's

²⁶² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

specifications are ‘an exception to controls over development in open countryside’²⁶³ which in turn, cannot be found elsewhere within Welsh planning policy, thus, the application process is somewhat unchartered territory. Those attempting to live within the OPD’s specifications appear to be experiencing the complexity of this.

Having planning officers deciding upon applications without specific training has resulted in inconsistencies. Despite Kulbicki²⁶⁴ advising specialist training for the planning officers, this has not been achieved however for the policy to succeed, mandatory training is essential. Training would provide an educated awareness of the policy and its specifications to those inspecting prospective OPD settlements. It could also alleviate the issue of inconsistent outcomes, reduce cases of appeal and result in a greater awareness amongst the OPD community of the policy’s expectations. Thus, by doing so, the application process is likely to be quicker, more financially accessible (as expensive appeal cases will reduce) and also, encourage others to participate. All of which would support and promote the policy and in turn, UNSDG 11.²⁶⁵

The training currently provided by the OPC appears to be benefitting both applicants and planning officers because it is provided by those already living the within OPD settlements and specialists in environmental fields. As the OPC is already established, it may be beneficial to work alongside the OPC to provide training. By doing so, there would be an amalgamation of the government’s intentions and expectations of the policy along with the experience of those participating.

²⁶³ Neil Harris, 'Exceptional Spaces for Sustainable Living: The Regulation of One Planet Developments in the Open Countryside' [2019] 20(1)Planning Theory & Practice <<https://www.tandfonline-com.ezproxy.uwe.ac.uk/doi/pdf/10.1080/14649357.2018.1562562?needAccess=true>>accessed 10 June 2019 13.

²⁶⁴ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 12.

²⁶⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

Whilst mandatory training could be extremely beneficial to both applicants and planning officers, it is important to remain mindful of the financial challenges associated with providing specialist training. One method of alleviating the financial strain could be to offer the same training to prospective OPD applicants at a fee, accumulated funds could then be utilised to ensure the training remains economically sustainable. Furthermore, offering an online training programme could have environmental benefits as it would remove the requirement to attend training in a specific location, reducing the carbon footprint. Additionally, online training could have social benefits, ensuring the training is accessible to all regardless of geographical location, access needs, or personal schedule.

Overall, it is evident that mandatory training is necessary for planning officers to ensure consistency. By working alongside the OPC to establish an online training programme which is also open to OPD applicants for a small assessible fee, the training may be more sustainable. Providing training in this manner would ensure that it is as sustainable as possible, remaining mindful of Wales' intentions to put sustainable development at the forefront.

5.3 Legal reform

There are also challenges associated with the monitoring of established OPD settlements, with planning offices lacking resources to effectively review the management reports.²⁶⁶ Additionally, some OPD residents are failing to submit their annual reports.²⁶⁷ As it has been predicted that OPD will become more popular,²⁶⁸ it is important to ensure that the planning authorities have enough time to review reports. Whilst it may be possible to identify that the

²⁶⁶ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 11.

²⁶⁷ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) <<https://www.bbc.co.uk/news/uk-wales-48084556>> accessed 3 June 2019.

²⁶⁸ *Ibid.*

resource deficiency is causing such issues, providing more finance may not be the only solution. Reducing reporting obligations for OPD settlements which are successfully established may elevate the current issues.

In an interview with Kulbicki, Fairlie suggested reducing the monitoring of successful OPD settlements to between three and five years rather than annually.²⁶⁹ If there was to be a reduction in reporting obligations following an OPD settlement's successful establishment to three years, it could elevate the strain upon planning authorities. There would also be a reduced demand upon planning authorities' resources as there would be less OPD reports to assess.

Failure of participants to submit their reports is also a concern.²⁷⁰ To act upon such failures, planning offices clearly require extra resources. Reducing the reporting obligations of successful OPDs will allow for additional resources to be utilised to act upon the failures. Additionally, should planning officers begin to act upon the reporting failures, the awareness of this action amongst OPD participants may deter them from omitting their reporting responsibilities.

To summarise, by reducing reporting responsibilities of successful OPDs to three years, the local planning authorities could have more resources to act upon those who fail to report. Furthermore, this will elevate some of the pressure upon planning authorities and ensure all settlements are adhering to their reporting obligations. The result of this will be that the policy's objectives will be met as all settlements will be meeting the required standard or

²⁶⁹ Louise Kulbicki, Does Welsh National Planning Policy effectively address Low Impact Development in the open countryside? (2011) 9.

²⁷⁰ BBC, 'Put a stop to eco-homes being built, says councillor' (*BBC news*, 29 April 2019) <<https://www.bbc.co.uk/news/uk-wales-48084556>> accessed 3 June 2019.

working towards doing so. Therefore, the policy will further promote UNSDG 11²⁷¹ and support the additional policies and targets discussed within chapter three.

5.4 Non-legal reform

One concern is that OPD is not in-fact creating affordable housing which can elevate the housing crisis.²⁷² For the policy to both adhere to its own objectives as well as promote both the Future Generations (Wales) Act and UNSDG 11,²⁷³ it is necessary to discuss a possible method of achieving this.

Community Land Trusts (hereafter, CLTs) have been discussed at length over recent years as a potential means of creating affordable housing. CLTs have been described as bringing;

‘a new dimension to low-cost housing by treating homes as one element of a sustainable, resilient community, alongside other partners in construction, energy and food production, public transport and job creation, all in the context of environmental protection and climate change mitigation.’²⁷⁴

Under which description, the ethos of CLTs appears to align with many of the OPD policy’s objectives, thus could aid the fulfilment of various aims under OPD, specifically with regards to affordable housing.

²⁷¹ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011

²⁷² Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

²⁷³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²⁷⁴ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

The proposed reform is that, should CLTs be established, land could be acquired, proposing houses for rent or 99-year leaseholds to be purchased²⁷⁵ specifically for OPD settlements. This would be a means of creating affordable housing within a community setting on the outskirts of settlements which is also sustainable through all three pillars. The houses would be affordable, with an environmental benefit of promoting biodiversity and creating housing that has no significant environmental impact. Socially, creating housing to support those affected by the housing crisis as well as, having a benefit to the wider community.

Whilst it is of course worth noting that the creation of a CLTs encompasses the risk of not gaining the relevant funding to carry out the project and purchase land, it is not impossible. Across the UK, CLTs are being successfully established to tackle the housing crisis which is the result of issues including, a shortage of affordable housing and infrastructure.²⁷⁶ There has also been the emergence of partnerships between CLTs and organisations such as housing associations which are allowing CLTs to overcome challenges ‘including acquisition of finance, stakeholder legitimacy in terms of technical competence, and volunteer capacity.’²⁷⁷ Creating partnerships between CLTs and housing associations could have financial benefits, such as access to social housing grants as well as the additional support by means of specialist expertise from the association.²⁷⁸

Additionally, another concern which may challenge the feasibility of successfully creating sustainable social housing through this method is the price of land. With evidence

²⁷⁵ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) <<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

²⁷⁶ Tom Moore, 'Replication through partnership: the evolution of partnerships between community land trusts and housing associations in England' [2018] 18(1) *International Journal of Housing Policy* <<https://www-tandfonline-com.ezproxy.uwe.ac.uk/doi/pdf/10.1080/14616718.2016.1198084?needAccess=true>> accessed 29 July 2019.

²⁷⁷ Ibid.

²⁷⁸ Ibid.

suggesting that land prices have increased since OPD was established, potentially resulting in the suitable land becoming unaffordable.²⁷⁹ The report by Calon Cymru proposed a reform to tackle the issue of allowing partnerships such as CLTs and housing associations to compulsory purchase land where there is a need for social housing.²⁸⁰ The purchase price would be lower than the full development value, at a price which is between the agricultural value and the development value. This would ensure that land is not unaffordable to CLT partnerships wanting to purchase land which will benefit the community, Wales (under the Future Generations Act 2015) and UNSDG 11,²⁸¹ whilst ensure that there is a financial gain to the seller.²⁸²

If the Welsh Government were to encourage the establishment of CLT partnerships with housing associations, there could be a significant benefit in helping Wales achieve its aims and objectives. The partnership could help elevate the housing crisis by creating affordable housing which is a direct goal under the UNSDGs and the Well-being of Future Generations Act.²⁸³ To ensure such partnerships are successful, allowing compulsory purchase at a ceiling price would also be necessary.²⁸⁴ Acquiring land in this manner

²⁷⁹ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

²⁸⁰ Ibid.

²⁸¹ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²⁸² Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

²⁸³ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

²⁸⁴ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

specifically for OPD settlements, promotes the policy for affordable, accessible and sustainable housing.

5.5 Long term reform

Chapter three identified fundamental challenges within the international, regional and national laws Wales and in turn OPD intends to adhere to. Without enough guidance and goals from all levels OPD lacks support therefore this section will be split into national, regional and international suggestions of reform which will benefit the OPD policy, climate change and biodiversity.

5.5.1 International

It is vital that goals and targets at the international level are successful, orientated towards sustainable development as they guide policy creation and implementation at the national level. Due to the research question, the international reform suggestions will predominantly be orientated towards the UNSDGs.

Definitions and indicators

The UNSDGs require greater clarification, there must be stronger definitions which will enable all states to implement the goals more effectively. For example, there must be a consistent definition of ‘cities’ within UNSDG 11²⁸⁵ which can be applied to all states utilising the same term.²⁸⁶ Without a unified definition of the term it is not possible to establish the progress of UNSDG 11 as the implementation will be inconsistent.

Voluntary reporting

²⁸⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

²⁸⁶ United Nations, '2018 Review of SDGs implementation: SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable'(HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT, 2018)<https://sustainabledevelopment.un.org/content/documents/197282018_background_notes_SDG_11_v3.pdf> accessed 24 August 2019.

As highlighted within chapter 3.2, there are also issues associated the voluntary progress reports towards the UNSDGs, with many countries failing to submit reviews, specifically on Goal 11.²⁸⁷ Without an increase in the amount of reports submitted it is not possible to assess the progress towards Goal 11 or identify areas which require greater attention. Moving forward, it may be necessary to create mandatory annual reporting of each counties' progress towards each goal.

Mandatory reporting will allow for improved global awareness and assessment of what progress has been made. To achieve this, it is also necessary to harmonize reporting systems.²⁸⁸ One of the challenges associated with this is the lack of financial resources, therefore it will be necessary to address the resource deficiency. The UNSDGs could take a similar approach to the Paris Agreement²⁸⁹ and establish funds like the Green Climate Fund. Whilst it is worth noting that there are issues associated with the Green Climate Fund,²⁹⁰ establishing a similar fund to support reporting at national and sub-national levels could be beneficial as the 2018 review of SDGs stated that strengthening national and local capacity is paramount.²⁹¹ Such additional financial resources could enable effective monitoring and implementation of monitoring systems at national and local levels ensuring maximum signatories can monitor and report.

²⁸⁷ United Nations, '2018 Review of SDGs implementation: SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable'(HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT, 2018)<https://sustainabledevelopment.un.org/content/documents/197282018_background_notes_SDG_11_v3.pdf> accessed 24 August 2019

²⁸⁸ Ibid.

²⁸⁹ United Nations, 'Paris climate conference (COP21)' (2015).

²⁹⁰ Lian-biao Cui et al, 'Design and analysis of the green climate fund' [2014] 23(3) Journal of Systems Science and Systems Engineering 266-299.

²⁹¹ United Nations, '2018 Review of SDGs implementation: SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable'(HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT, 2018)<https://sustainabledevelopment.un.org/content/documents/197282018_background_notes_SDG_11_v3.pdf> accessed 24 August 2019.

Removal of harmful subsidies

As discussed, in order to make a global effort to promote biodiversity, there must be change. The Global Assessment has stated that by 2030 governments can make a positive impact and contribute to meeting their targets by strengthening implementation and enforcement of policies already in place as well as removing policies and subsidies which are harmful.²⁹² In 2015, it was estimated that the financial contribution to agricultural subsidies which could be environmentally harmful equated to \$100 billion dramatically outweighing the subsidies for the promotion of biodiversity.²⁹³ Removing or reforming harmful agricultural subsidies such as the EU's Common Agricultural Policy which has been seen to increase the use of chemicals to maximise production²⁹⁴ could promote biodiversity.

Should the UK leave the EU, it will be responsible for reviewing and reforming its own agricultural subsidies. Therefore, if subsidies are created with sustainability as the main-focus, it could be possible to create subsidies which promote biodiversity which in turn could help the UK adhere to its international obligations. Furthermore, such incentives could promote and support those living an OPD lifestyle.

The Global Assessment²⁹⁵ has also addressed UNSDG 11²⁹⁶ and suggested improvements which could be made to aid countries in fulfilling the goal. Such suggestions will be discussed within the national and regional reform sections.

²⁹² J Razzaque & I Visseren-Hamakers, (in press). Global Assessment Chapter 6: Options for Decision Makers. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 5

²⁹³ Ibid. p128.

²⁹⁴ Tejvan Pettinger, 'Farming subsidies in the UK' (*Economics help*, 27 January 2018) <<https://www.economicshelp.org/blog/21641/agriculture/farming-subsidies-in-the-uk/>> accessed 23 August 2019.

²⁹⁵ J Razzaque & I Visseren-Hamakers, (in press). Global Assessment Chapter 6: Options for Decision Makers. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

²⁹⁶ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

5.5.2 National

Recent reports by the CCC such as 'UK housing: Fit for the future?'²⁹⁷ have made multiple recommendations to promote the UK in building low impact, climate resilient infrastructure to help by the reduce carbon emissions. Whilst the challenge of creating such housing has many contributing factors, the recommendations are not inaccessible and specifically align with the intentions of OPD. Reform suggestions at a national level will be broken down into subheadings of some of the most accessible recommendations.

Skills and training

Should the UK wish to successfully create sustainable housing as seen within OPD,²⁹⁸ it is essential that training programmes are established to educate trades people in low carbon building.²⁹⁹ The CCC's report identified the 'low-carbon skills gap'³⁰⁰ in which there are a lack of individuals currently trained in low carbon building. To adhere to the targets the UK has committed to, reducing emissions is essential, thus trained professional are vital. The CCC have recommended the establishment 'nationwide training programme to upskill the existing workforce' with appropriate accreditation.³⁰¹

Whilst creating such a programme would require financial resources, the benefits are likely to outweigh the financial burden. Environmentally, the impact of specialist training would have a significant benefit in ensuring that new homes are low impact and aid the UK in meeting its obligations under the Paris Agreement,³⁰² UNSDGs³⁰³ and, also its recent

²⁹⁷ Committee on climate change, 'UK housing: Fit for the future?' [2019] 1(1) Committee on Climate Change<<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>> accessed 9 August 2019.

²⁹⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

²⁹⁹ Committee on climate change, 'UK housing: Fit for the future?' [2019] 1(1) Committee on Climate Change<<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>> accessed 9 August 2019

³⁰⁰ Ibid.

³⁰¹ Ibid.

³⁰² United Nations, 'Paris climate conference (COP21)' (2015).

³⁰³ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

commitments to achieve net-zero emissions by 2050.³⁰⁴ Economically, by addressing the low-carbon gap and providing training, there is the prospect of increased employment as the demand for such skills increases and the long-term financial benefits to the home owner of an energy efficient build. There are also multiple social benefits from increased employment which could aid Wales and the UK in fulfilling targets such as the target to reduce unemployment and improve wellbeing under the Well-being of Future Generations Act 2015 in Wales.³⁰⁵ Additionally, should the training be offered in Welsh in Wales, there would be further support of the Well-being of Future Generations (Wales) Act which highlighted the importance of the Welsh language.

Green Mortgages

In order to incentivise the purchasing and building of low carbon homes as well as ensuring such homes are accessible, especially in a time in which house prices are contributing to the housing crisis,³⁰⁶ green mortgages are essential.

In the Netherlands, green mortgages have successfully been implemented, allowing individuals to borrow additional funds to purchase or renovate homes to net-zero emissions.³⁰⁷ Additionally, in the US mortgages for energy efficient homes have lower interest rates.³⁰⁸ Which is evidence of how the UK can encourage individuals whilst also aiding the fulfilment of the UK's commitments at an international level under the Paris

³⁰⁴ Gov.wales, 'Wales accepts Committee on Climate Change 95% emissions reduction target' (*Welsh Government*, 11 June 2019)<<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>> accessed 8 August 2019.

³⁰⁵ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

³⁰⁶ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017)<<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019.

³⁰⁷ Committee on climate change, 'UK housing: Fit for the future?' [2019] 1(1) Committee on Climate Change<<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>> accessed 9 August 2019.

³⁰⁸ Ibid.

Agreement³⁰⁹ and a national level with the commitments to reach net-zero emissions by 2050.³¹⁰

Should the UK work with lenders to establish lower interest mortgages for low-carbon homes and additional lending for those purchasing or renovating properties to net-zero there could be multiple benefits. As discussed, the UK would have support in meeting its targets, individuals would have the financial incentive to build net-zero properties and with greater funds accessible, green mortgages may help solve the housing crisis.

5.5.3 Regional

Sustainable development is at the heart of Welsh policy with the creation of the OPD policy highlighting a significant step forwards in acknowledging the need for environmentally conscious policy.³¹¹ However, the creation of the policy alone is not enough, the short-term reforms suggested may support the implementation of the policy however long-term reform is also necessary.

Funding

Through the issues discussed within chapter four, should Wales aim to continue promoting OPD and in turn support its established targets, additional financial resources are necessary. Whilst the reforms suggested within sections 5.2-5.4 were aimed at keeping costs to a minimum, additional funds are vital for long term improvement to the policy. To fully implement and promote the policy to meet its potential, the amount of people choosing to live

³⁰⁹ United Nations, 'Paris climate conference (COP21)' (2015).

³¹⁰ Gov.wales, 'Wales accepts Committee on Climate Change 95% emissions reduction target' (*Welsh Government*, 11 June 2019) <<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>> accessed 8 August 2019.

³¹¹ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

within the policy must increase, this can only be achieved through reforms which will be financially demanding.

Additional funding would be utilised to support the reforms suggested under sections 5.2-5.4, establishing of training programmes and ensuring there are enough staff within planning offices to effectively implement the policy. Additional funds could also be utilised to improve the prospects of the policy which require looking at sustainable development as a whole.

Sustainable planning and public transport

The CCC's report specifically highlighted the importance of sustainable planning, this encompasses a wide range of factors which will aid the UK in meeting its advised targets of zero-net emissions by 2050.³¹² One example of this is the suggestion of ensuring new housing developments are built in close proximity to public transport links.³¹³ Whilst in theory this is understandable and aligns with the current specifications of OPD,³¹⁴ to move forward with the policy and its growth, it will be necessary to improve the public transport system within Wales.

The CCC report has stated that 'the Government should...develop mechanisms to fund costs of building high quality...public transport infrastructure, even when outside the immediate housing site boundary.'³¹⁵ This is a reform suggestion which is specifically applicable to the OPD policy as agricultural land which is suitable for OPD settlements and is

³¹² Committee on Climate Change, 'Net Zero The UK's contribution to stopping global warming' [2019] Committee on Climate Change 196.

³¹³ Ibid.

³¹⁴ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

³¹⁵ Committee on Climate Change, 'UK housing: Fit for the future?' [2019] Committee on Climate Change <<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>> accessed 9 August 2019.

accessible by public transport within rural Wales may be limited.³¹⁶ This challenge was highlighted within the Calon Cymru report which identified difficulties in locating suitable land.³¹⁷ Should Wales wish to increase the amount of OPD settlements,³¹⁸ which in turn will support Wales in meeting its targets at all levels including its net-zero emissions target³¹⁹ and UNSDG 11.2³²⁰ public transport must improve. Another benefit which was highlighted within the CCC's report is that improving transport can result in a stronger sense of community for individuals.³²¹ Therefore, improving public transport links would also aid Wales in its aims under the Well-being of Future Generations (Wales) Act.³²² Creating affordable and sustainable public transport links was also recognised within the Global Assessment a method which would aid the fulfilment of UNSDG 11.³²³

Should Wales provide funding focused upon sustainable planning and improving public transport, there would be an increase in rural areas which are accessible. The effect of this could be an increase in accessible agricultural land which is suitable for OPDs. Furthermore, improving public transport links in rural Wales would benefit the wider

³¹⁶ BetterTransport, 'The future of rural bus services in the UK' (*Tracks*, December 2018) <<https://bettertransport.org.uk/sites/default/files/research-files/The-Future-of-Rural-Bus-Services.pdf>> accessed 10 August 2019.

³¹⁷ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandovery' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) <<http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf>> accessed 25 July 2019

³¹⁸ Ibid.

³¹⁹ Gov.wales, 'Wales accepts Committee on Climate Change 95% emissions reduction target' (*Welsh Government*, 11 June 2019) <<https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target>> accessed 8 August 2019.

³²⁰ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³²¹ Committee on Climate Change, 'UK housing: Fit for the future?' [2019] Committee on Climate Change <<https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/>> accessed 9 August 2019.

³²² Well-being of Future Generations (Wales) Act 2015 (anaw 2).

³²³ J Razaque & I Visseren-Hamakers, (in press). Global Assessment Chapter 6: Options for Decision Makers. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 113.

community and in turn the Well-being of Future Generations (Wales) Act.³²⁴ As well as support Wales in its goals and targets with regards to reducing emissions.

5.6 Conclusion

In summary, the reforms suggested are aimed at proposing solutions which are practical and accessible. Firstly, the short-term suggestions are focused upon improving the policy itself to ensure it reaches its maximum potential and supports Wales in meeting its goals. By creating mandatory training, reducing reporting obligations of successful OPDs and promoting the partnership of CLTs and housing associations there is potential to improve the policy without creating additional financial strain.

Secondly, long-term reform at a regional level requires additional funds to further promote the policy and Wales' aims. Sustainable planning is also an essential aspect which requires attention, therefore improvement to public transport systems within rural Wales is necessary.

At the national level, the dominant discussion is based upon training programmes to educate trades people on low-carbon building methods benefitting all three pillars of sustainability. Additionally, the establishment of a green mortgages system based upon successful case studies from the Netherlands and the USA is fundamental. This could elevate the housing crisis, creating accessible funds for low carbon builds.

At an international level, firstly reform suggestions have been focused upon establishing consistency within the UNSDGs.³²⁵ Beginning with the creation of definitions which will allow for harmonization of concept. Furthermore, it is necessary to address the monitoring and reporting challenges, creating mandatory reporting for each country and

³²⁴ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

³²⁵ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

establishing funds to aid monitoring and the implementation of monitoring systems at a national and local level.

Secondly, there is discussion based upon the removal of harmful subsidies which may be hindering the achievement of international goals including the UNSDGs³²⁶ and biodiversity strategies.³²⁷ To promote and protect biodiversity harmful subsidies must be removed and replaced by incentives that will have a positive impact upon biodiversity.

³²⁶ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³²⁷ European Commission, *Our life insurance, our natural capital: an EU biodiversity strategy to 2020* (Brussels, 2011) COM(2011) 244 final.

Chapter Six

Conclusion

Overall it is evident that the OPD policy's³²⁸ content has the potential to intrinsically meet all three pillars of sustainability and fulfil its' intentions, promoting UNSDG 11.³²⁹ However, implementation issues may be restricting this, therefore reform which would further support its implementation is necessary.

The fundamental constraint identified is the lack of resources, the impact of which is significant. Challenges associated with the resource deficiency range from inconsistent implementation to failures of OPD settlements to submit reports. The policy will require additional funding to meet its objectives, however in the short-term practical solutions could elevate the strain.

Reforms have been suggested to ensure that the solutions are feasible, ranging from mandatory online training to reducing the reporting obligations of established OPDs. Whilst these reforms are focused upon accessible improvements to the OPD policy, long-term reform is essential.

The main finding with regards to the housing crisis and affordable housing is that there is a demand for social housing which must be met. The Calon Cymru report identified the challenges associated with funding and finding suitable land due to increased prices.³³⁰ Thus, the short-term reform suggestion of promoting CLTs, is based upon the successful CLT

³²⁸ Welsh assembly government, 'Technical Advice note 6' (*Planning for sustainable rural communities*, July 2010) < <https://gov.wales/docs/desh/policy/100722tan6en.pdf> > accessed 22 January 2019.

³²⁹ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³³⁰ Calon Cymru network, 'Feasibility of a resilient neighbourhood at Llandoverly' (*Affordable Homes and Sustainable Livelihoods in Rural Wales*, 2017) < <http://www.caloncymru.org/uploads/1/4/9/3/14932334/affordablehomessustainablelivelihoodsruralwales.pdf> > accessed 25 July 2019.

in London.³³¹ Furthermore, by creating CLT partnerships with housing associations and ceiling prices on land for the projects, funds and prices could be more accessible. Such reform could benefit the community, promote UNSDG 11,³³² the Well-being of Future Generations (Wales) Act³³³ and the ‘Improving lives and Communities, homes in Wales’ scheme.³³⁴

The long-term regional reform of improving public transport links within rural Wales could result in additional suitable land being accessible. Improvements to public transport will also support many of Wales’ objectives at all levels, from the Well-being of Future Generations (Wales) Act³³⁵ to the Paris Agreement³³⁶ and UNSDG 11.2.³³⁷

Nationally, more must be done to promote accessible, low-carbon building. The reforms suggested are focused upon mainstreaming environmentally conscious building methods, utilising training programmes to educate trades people. Furthermore, the establishment of Green mortgages can promote and incentivise low-carbon building for the public.

Internationally, the UNSDGs³³⁸ require unified global definitions to ensure there is consistency. Furthermore, mandatory reporting and establishing finance would ensure there is the capacity at national levels to implement monitoring and reporting systems. Finally, the

³³¹ Emma Howard, ' Could community land trusts offer a solution to the UK's housing crisis?' (*The Guardian*, 25 June 2014)<<https://www.theguardian.com/society/2014/jun/25/community-land-trusts-uk-housing-crisis-east-london-mile-end>> accessed 27 August 2019.

³³² United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³³³ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

³³⁴ Gov.wales, 'Homes in Wales' (*Improving Lives and Communities*, 2010)<<https://gweddill.gov.wales/docs/desh/publications/100421housingstrategyen.pdf>> accessed 8 August 2019.

³³⁵ Well-being of Future Generations (Wales) Act 2015 (anaw 2).

³³⁶ United Nations, 'Paris climate conference (COP21)' (2015).

³³⁷ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

³³⁸ United Nations, *Transforming our world: The 2030 agenda for sustainable development* (New York, 2015) No. A/RES/7011.

removal of harmful subsidies which hinder sustainable development are fundamental.

Biodiversity must be protected and promoted through subsidisation to aid the fulfilment of targets including biodiversity strategies.³³⁹

³³⁹ European Commission, Our life insurance, our natural capital: an EU biodiversity strategy to 2020 (Brussels, 2011) COM(2011) 244 final.

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