

REVIEW OF ONE PLANET DEVELOPMENT IN WALES, 2010-2021

SEPTEMBER 2022
ONE PLANET COUNCIL





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EXECUTIVE SUMMARY

One Planet Developments in Wales are meeting their targets: living with a One Planet ecological footprint, building zero carbon homes, setting up new land-based businesses and creating habitats and increasing biodiversity across Wales.

One Planet Development sites show the way forward for Wales to become a One Planet Nation. OPDs are demonstrating modern and innovative ways of living with renewable energy, active travel, cohesive local communities, and shared prosperity at sustainable levels of consumption. OPDs have greater than average use of the Welsh language, make use of local businesses and offer skill-sharing opportunities and apprenticeships.

One Planet Developments are pioneers of nature recovery. Often located on ecologically degraded sites, OPDs create a mosaic of habitats and actively manage land for a range of species. Learning from OPD sites could be used to inform wider nature recovery frameworks.

High barriers to entry can be reduced through targeted action. Only 38 OPD sites have been granted planning permission since the policy was introduced in 2010. We provide a set of recommendations for improving uptake by reducing complexity to make the policy clearer and more accessible while maintaining the strong requirements for ecological, economic and social sustainability.

Equality, Diversity and Inclusion (EDI) is the key to OPD policy development. Our findings suggest that addressing EDI considerations and evolving the policy so that it is more accessible to all potential applicants will have major benefits for everyone involved in One Planet Development. EDI is at the heart of our recommendations.

Improvements to the planning application process would reduce the burden on planning departments and make OPD more accessible to all. We find that the resource currently used by planning departments to assess OPD is disproportionate and creates unnecessary strain. We recommend that a more consistent approach be outlined nationally.

One Planet Development is an exemplar of the kind of policy needed to meet Wales' aspirations of tackling the climate and biodiversity crises, achieving "Net Zero" carbon, revitalising rural and Welsh-language communities, and prioritising the well-being of future generations. Wales has a long history of environmental leadership. One Planet Development is highly regarded internationally and informs policy development in other countries.



FOREWORD FROM SOPHIE HOWE, FUTURE GENERATIONS COMMISSIONER FOR WALES

With our aspiration to become a One Planet Nation within a generation, Wales is showing great international leadership on sustainable development. But to achieve One Planet lifestyles will require change across many sectors: energy, transport, food, water, biodiversity, innovation and business, to name but a few. The One Planet Development (OPD) planning policy introduced by the Welsh Government in 2010 offers an opportunity for pioneers of sustainable living, but it would be a wasted opportunity if the lessons learned and best practice were not made available to others. I'm therefore delighted to welcome this review by the One Planet Council, which shows the immense progress made by OPD practitioners to date. The recommendations for

breaking down further barriers and improving uptake of the policy are particularly timely given our current focus on addressing climate change and finding pathways to "Net Zero" while prioritising the well-being of current and future generations. I am pleased to see the emphasis given to Equality, Diversity and Inclusion, a key component of sustainability, and the importance of innovation and learning-by-doing. There are lessons here which apply much more widely than a small number of OPD households. Supporting the principles of One Planet Development, as a planning policy and a wider principle of sustainable development, will help us to achieve a vibrant, prosperous and resilient Wales with a globally responsible ecological footprint.



A handwritten signature in grey ink, which appears to read 'Sophie Howe'.

SOPHIE HOWE

Future Generations Commissioner for Wales

September 2022



Comisiynydd
**Cenedlaethau'r
Dyfodol**
Cymru

**Future
Generations**
Commissioner
for Wales

INTRODUCTION FROM THE ONE PLANET COUNCIL

We are writing this review to provide a summary of the evidence and data generated by One Planet Development (OPD) in Wales since the policy was introduced in 2010. It is our hope that bringing this information together will help to clarify the ways in which OPD is contributing to the national aims of Wales and the ways in which it could be enabled to do so more effectively in future. Up to now, any discussion about OPD has been hampered by a lack of evidence beyond the anecdotal. This is unsurprising: as it takes five years to set up a One Planet Development site, and there are very few applications, it is only now that we have a sufficient bulk of evidence to draw wider conclusions.

The One Planet Council undertook to survey a range of quantitative and qualitative data gathered from One Planet Development annual reports and a questionnaire. We achieved a 95% response rate to our survey. We are therefore able to take stock of where the policy is after 10 years, and tell this story in both numerical data and photographic and qualitative evidence. We aim to highlight where the current policy works and how, considering the data, the policy could be improved for both current OPDs and also potential future applicants.

We note in particular that there is a very low rate of application but a high rate of success. This reflects the high barriers to entry and the immense personal commitment required to write an OPD Management Plan, which leads to a high rate of OPD success because only the most capable, committed, and advantaged even make it to the starting line. Our key recommendations, where we see opportunities to improve the policy, are framed around the importance of Equality, Diversity and Inclusion and achieving the goals of the well-being of Future Generations Act (2015).

The results presented here are both encouraging and impressive. OPD residents are demonstrating that it is possible not just to live, but to thrive with a highly sustainable lifestyle and a low ecological footprint in our country. But they also highlight the mismatch between this policy and a planning system which is based on minimising harms rather than maximising benefits. Following our presentation of the evidence, we offer a compendium of recommendations, derived from the combined experience of OPD residents, applicants, planning and enforcement officers, academics, communities, planning inspectors and independent consultants, which we believe can help improve the process considerably and set the One Planet Development policy on a sustainable pathway for the coming decade.

CYNGOR UN BLANED
Cefnogi Datblygiadau Un Blaned



ONE PLANET COUNCIL
Supporting One Planet Developments

WHAT IS ONE PLANET DEVELOPMENT?

1

An introduction to the context, principles and requirements of the Welsh One Planet Development planning policy.

WHAT IS ONE PLANET DEVELOPMENT?

1

1.1 CONTEXT OF THE OPD POLICY

Wales has a long history of environmental leadership. As part of the devolution of powers from Westminster to the Senedd, the Government of Wales Act (2006) included a statutory commitment to produce a sustainable development scheme, published in May 2009 and entitled “One Wales: One Planet”. That scheme identified the Ecological Footprint as a key metric of environmental sustainability, and includes an objective of “using only our fair share of the earth’s resources, and becoming a One Planet nation within the lifetime of a generation”. This would entail a reduction of the average Ecological Footprint from 5.16 global hectares per person in 2003 to 1.88gha in 2050, alongside efforts in waste reduction, active travel, economic regeneration, local food production, high-quality housing, renewable energy and citizenship.

In order to achieve this ambitious target, it was clear that exemplars would be needed to show the way for One Planet living, and that planning policy would be a way to encourage such exemplars, especially in rural contexts. Following on from a local planning initiative (Low Impact Development making a Positive Contribution, Pembrokeshire JUDP 2006 and subsequent Supplementary Planning Guidance), the One Planet Development policy was introduced by the Welsh Government with the publication of planning advice in “Technical Advice Note 6: Planning for Sustainable Rural Communities” (2010) which sets out the basic requirements of OPD. Drawing on experience from low impact households and communities in Wales and beyond, a Practice Guidance document (2012) was then commissioned to elaborate on the qualities and essential criteria of OPD for planning applications and assessment.

Since 2010, there have been 38 approved OPD planning applications, the majority of which are in the south-west of Wales. The following pages survey the evidence from those developments: they have generated a wealth of data and evidence which highlight both enormous opportunities and some of the wider challenges to sustainable development in Wales.

While the OPD policy has not changed since 2012, the context has moved forward. The publication of the “Well-being of Future Generations Act” in 2015 included the global ecological footprint as a key indicator of national well-being, alongside many other environmental and social indicators which relate to other essential criteria of One Planet Development including food, energy, biodiversity and healthy ecosystems. In April 2019, Wales was the first country in the world to declare a climate emergency. Sustainable development is key to reducing both our carbon emissions and our vulnerability to climatic changes and extreme weather events. And in 2021, with the commitment to achieving “Net Zero” emissions by 2050 and taking advice on stretching that ambition to 2035, Wales continues to demonstrate environmental leadership.

The Covid-19 pandemic and the continuing adjustment to the effects of the Brexit decision, especially the uncertainty about the future of food and farming, have also brought national priorities into focus. Connected to these issues, there is also the continuing problem of housing availability for young people, especially in more rural areas. The sustainability of rural communities requires affordable opportunities to live, work and raise a family. Rising house prices, holiday lets and second homes are detrimental to the prospects of village schools and pubs, the Welsh language, and the cultural heritage of our countryside.

On the small scale, One Planet Developments are a microcosm of the kind of environmental, economic, and social sustainability through interconnectedness that we aspire to see more widely. With thoughtful design, these developments show that we can aspire not just to have a “low impact” on the environment, but actually have a positive impact on social and ecological neighbours across a range of metrics and indicators.

1.2 REQUIREMENTS OF THE OPD POLICY

● A One Planet Ecological Footprint

An established One Planet Development must have an ecological footprint of 2.4 global hectares per person and be on a clear trajectory to reduce this further to around 1.88 global hectares per person.

● Positive impact on **biodiversity and habitats**

One Planet Developments are committed to conserve and enhance existing ecologically important features on site, and to create new habitats resulting in a positive effect for local biodiversity.

● Buildings to be **Zero Carbon in construction and use**

Although there is currently no definition of “Zero Carbon”, OPD buildings must be highly sustainable both in terms of the construction materials and methods and in terms of the ongoing building performance and energy use.

● A **land-based enterprise**

Once established, a One Planet Development must generate a modest cash income by selling products derived from land-based produce (grown or raised on site).

● Production of **food**

A One Planet Development must produce at least 30% of their food on site.

● Use of **renewable energy**

One Planet Developments must use energy for electricity, heating, cooking and hot water primarily from renewable on-site sources.

● Positive engagement with local **community**

● Use of **low-carbon transport**

● **Recycling and composting** organic material

● **Water harvesting** on site

● House to be the **sole residence** of occupants

● Annual **reporting** of progress



A survey of evidence from the permitted One Planet Development sites in Wales about the ways they are meeting the policy's requirements.

EVIDENCE OF SUCCESS: ONE PLANET DEVELOPMENTS 2010-2021

This section reviews the evidence from a survey conducted by the One Planet Council in November to December 2021. A total of 38 households were surveyed, representing all those we are aware of who received full OPD planning permission before November 2021, and we received responses from 36 of those (95%). They provided quantitative and qualitative data taken from annual reports and answered a series of questions about their experience. All questions were optional but most respondents answered all questions.

To protect the privacy of individual households, results are presented below in aggregated or anonymised formats. In particular, due to the small numbers, we do not identify any OPD with its local authority region.



2.1 OPD SITES AND RESIDENTS

The responses to our survey are shown in Figure 2.1, broken down by OPD year. For most, the OPD year corresponds to the number of years since planning permission was granted. For a small number, they may either have commenced development more than a year after permission was granted, or have made a partially or fully retrospective application. In those cases the OPD year is not the same as the number of years since permission was granted.

There are 11 households in “Year 0” who at the time of the survey had not yet submitted an annual report.

Only 6 of the responses are from OPDs in Year 5 or beyond. There is a further reflection on the experience of these residents later in this report.

FIGURE 2.1 SUMMARY OF RESPONSES TO SURVEY, SHOWING YEAR OF DEVELOPMENT

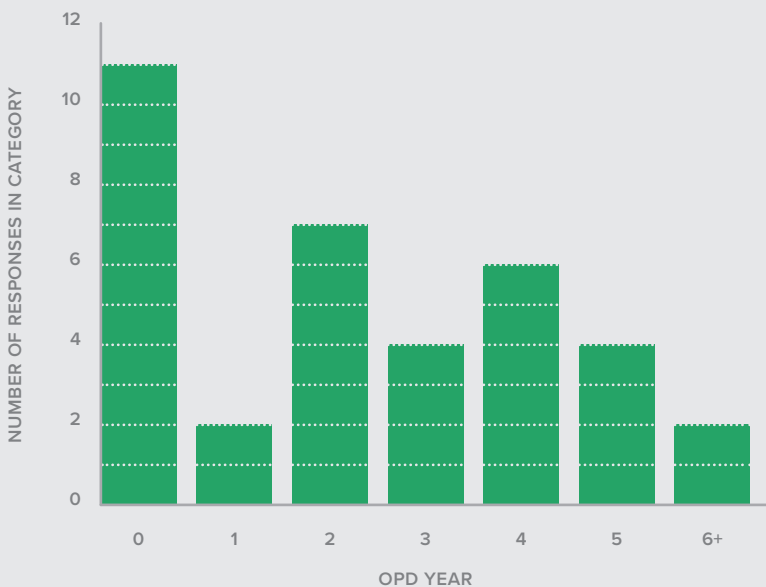


Figure 2.1: Survey responses by OPD year. The low number of OPDs in “Year 1” is due to delays of planning decisions or project commencement during the Covid pandemic. 36 responses in total.

The data shows that following the inception of the policy there has been a gradual yearly increase in the number of households being granted permission to start their OPD (with the recent exception of an effective pause in approvals during the Covid pandemic). Nonetheless, even though there is a yearly increase in the number of successful applicants, the numbers are still relatively low, a total of 38 approved OPDs in just over ten years.

One Planet Developments are spread throughout Wales but a large majority are located in the South West (Pembrokeshire and Carmarthenshire) (Figure 2.2).

There may be several reasons for this:

- The historical “Policy 52” provision for Low Impact Development in the Pembrokeshire Local Development Plan, introduced in 2006, meaning that OPD applicants and planning departments had a model to follow.
- Preference of new applicants to be located close to other OPDs, for community, sharing opportunities and economies of scale.
- Availability of land in small parcels.
- Price of land.



FIGURE 2.2 NUMBER OF OPDS IN EACH LOCAL PLANNING AUTHORITY AREA

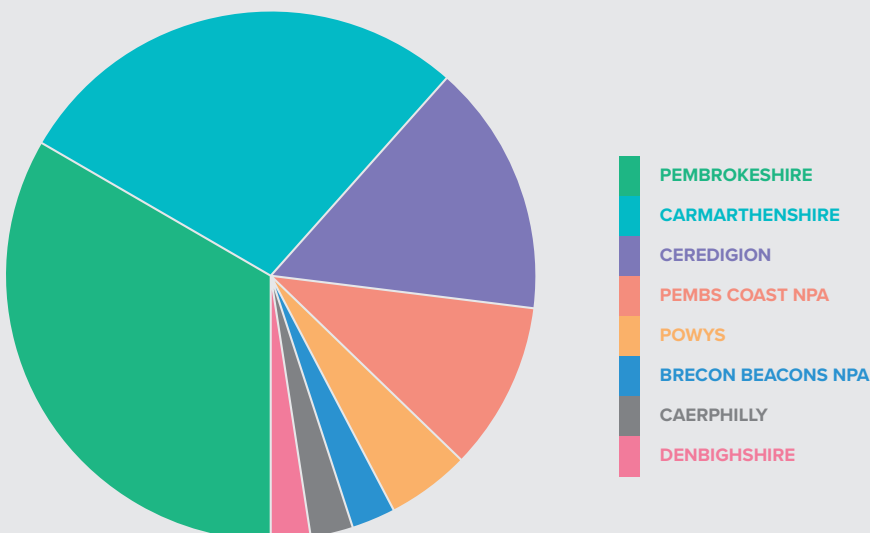


Figure 2.2: Number of OPD permissions in each council area as of November 2021. Total number 38. (Note that this includes the two who did not respond to our survey). Further details in Development Management discussion, Section 3.1.

“One Planet Developments are particularly well suited for consideration within National Park boundaries”

On a smaller scale, there is also an apparent clustering of OPDs around certain villages or council wards, for example in Llangolman (Pembrokeshire) where a retiring farming household has intentionally sold land to facilitate several new OPDs. The geographical distribution of OPD applications is explored more fully in our discussion of development management (Section 3, below).

One Planet Developments are particularly well suited for consideration within National Park boundaries, although they have thus far reached only the Pembrokeshire Coast and Brecon Beacons National Parks. By nature and by design, OPDs which respond appropriately to the needs of a particular location can help to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks and promote opportunities for the understanding and enjoyment of their special qualities by the public. This also applies to Areas of Outstanding Natural Beauty such as Gower. One OPD is even located on a proposed Site of Special Scientific Interest and worked with the relevant authorities to develop a plan to conserve the Marsh Fritillary butterfly habitat on site.

The current cohort of successful OPDs range in size from approximately two acres to over 35 acres, with the distribution shown in Figure 2.3. About two-thirds of sites are under ten acres in size. There are likely to be many factors that determine the size of an OPD plot, including

- the financial constraints on applicants purchasing land;
- availability of land in suitably sized parcels; and
- practical constraints relating to the land-based enterprise and the ability to manage the site effectively.

What we can say is that OPDs are conducting land-based activities which are much more intensive than conventional agriculture in the same areas, using more labour input on a smaller area to generate land-based income and thereby supporting more jobs per acre.

FIGURE 2.3 LAND AREA OF OPD SITES

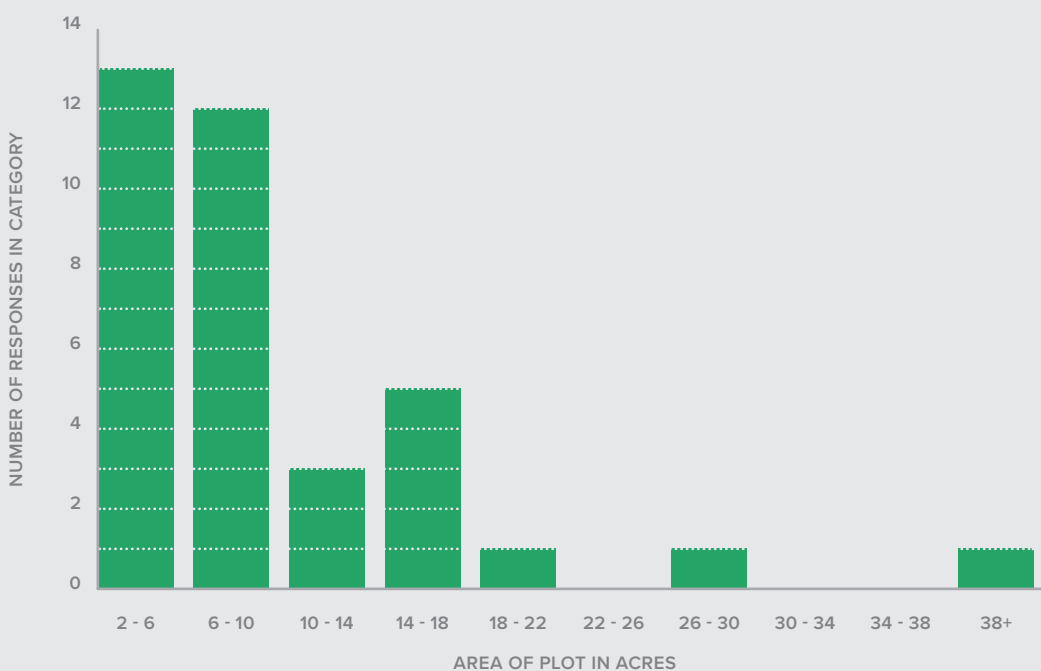


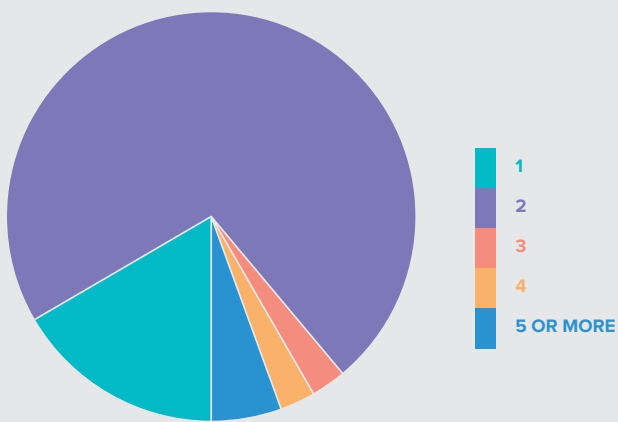
Figure 2.3: Survey responses by area of site (acres). 36 responses in total.

The number of residents living on each OPD plot is shown in Figure 2.4. The majority are two-adult households, with over half of these raising children on site. Our data below also consider the use of local schools and Welsh-medium educational settings, and it is also worth emphasising that all of these households are economically active,

many also having outside work in addition to a land-based business. In terms of the demographic challenges of rural Wales, then, **OPD is a positive economic and social force bringing opportunities for younger people and young families to live and work in the countryside.**

FIGURE 2.4 CURRENT NUMBER OF ADULT AND CHILD RESIDENTS OF OPD SITES

CURRENT NUMBER OF ADULT RESIDENTS



CURRENT NUMBER OF CHILD RESIDENTS

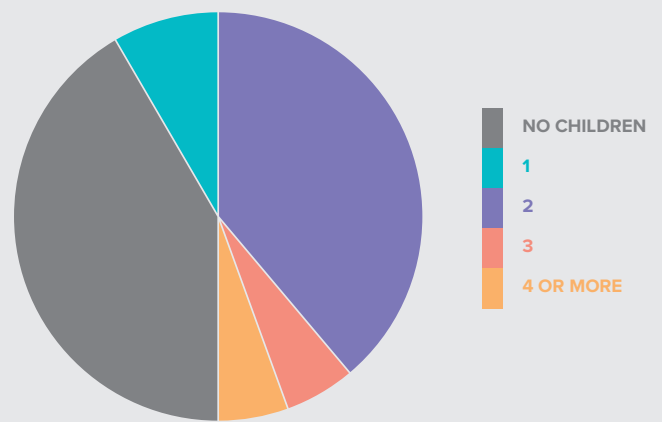


Figure 2.4: Number of residents (left: adults, right: children). 36 responses in total.

Although many OPDs consist of couples or families, the policy is moderately accessible to households consisting of single people and older people. There are now several single-adult OPD households successfully meeting the requirements and some with residents who are over 65.

The physical demands of growing food and making a living from the site do, however, mean that the barriers are high for those with disabilities. The implications of the One Planet Development policy for Equality, Diversity and Inclusion (EDI) are considered in more detail below (Section 4).



2.2 ECOLOGICAL FOOTPRINT

The Ecological Footprint is the key sustainability indicator for OPD which measures the global footprint of development. The global footprint is a key sustainability indicator and the 14th National Well-being Indicator defined by the Well-being of Future Generations Act (2015). A “One Planet” Ecological Footprint is the level at which we would be using “a fair share of the Earth’s resources” and this is identified as 1.88 global hectares (gha). In 2011 the average footprint of Wales was estimated as 3.28gha per person. The essential OPD criterion is to achieve an Ecological Footprint of 2.4gha per person initially, with the ability to move to 1.88gha over time: a footprint much lower than the average.

Figure 2.5 shows the Ecological Footprint figures achieved by OPDs, by OPD year. Footprints are required to be reported in Year 3 and Year 5. We have augmented this reported data with some further examples, where OPDs have kept additional records.

Most OPDs are meeting the “One Planet” Ecological Footprint level well before the Year 5 reporting date. Although the data are too sparse to draw further conclusions, the general trends towards reduced ecological footprints over time may be due to the increase of food production on site and the reduction in off-site transport, both of which are discussed further below.

OPD REQUIREMENT (2.4gha)

“Most OPDs are meeting the “One Planet” Ecological Footprint level well before the Year 5 reporting date.”

“The global footprint is a key sustainability indicator and the 14th National Well-being Indicator defined by the Well-being of Future Generations Act (2015).”

FIGURE 2.5 ECOLOGICAL FOOTPRINT OF ONE PLANET DEVELOPMENTS

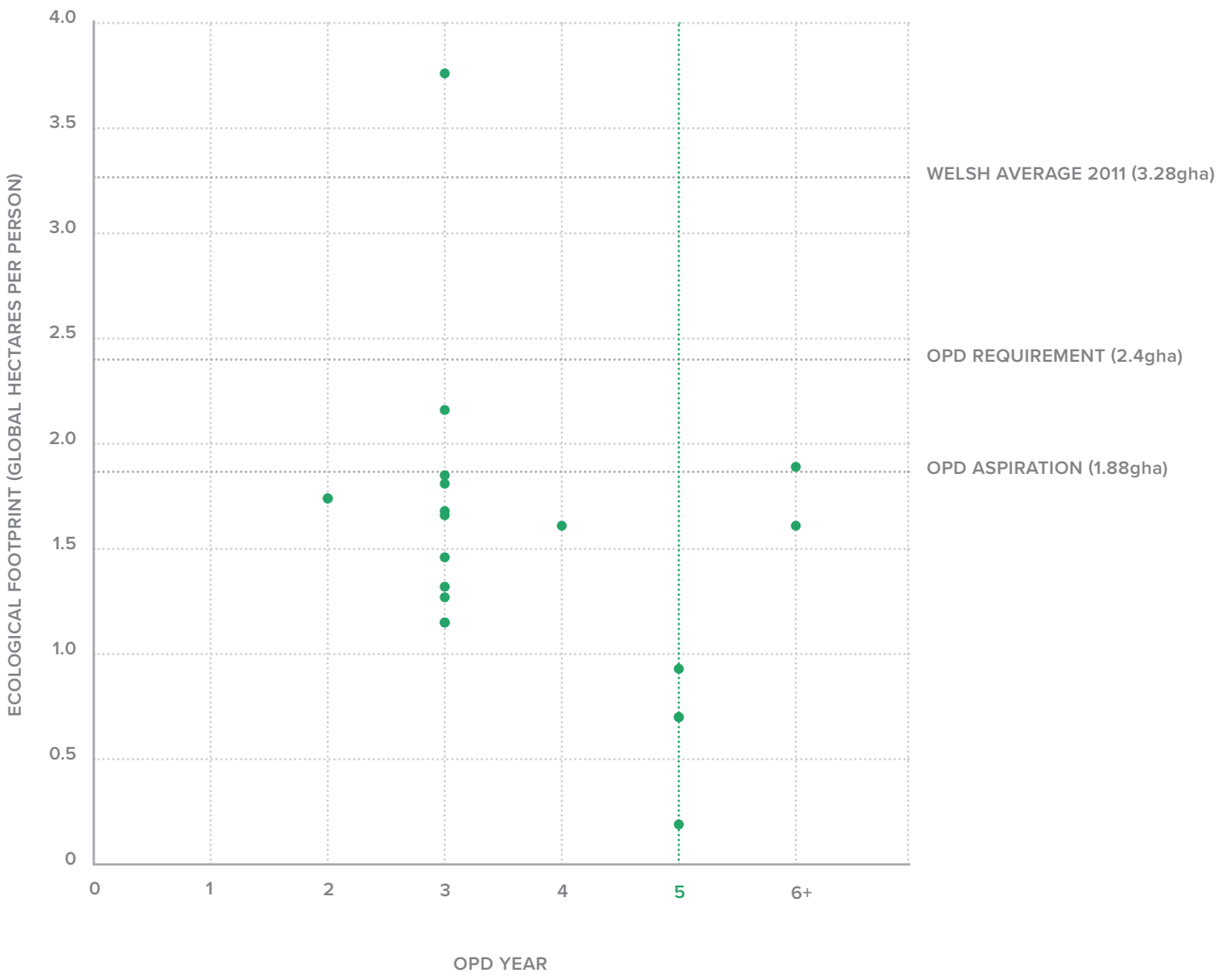


Figure 2.5: The Ecological Footprints achieved by One Planet Developments over time. (Welsh average data from report on The Ecological and Carbon Footprint of Wales, Stockholm Environment Institute, 2015).

Most OPDs are meeting the “One Planet” Ecological Footprint level well before the Year 5 reporting date.



Unfortunately, no more recent data than 2011 are available for the national footprint of Wales, despite its status as a National Well-being Indicator. We recommend that there should be a plan to update the national footprint estimate within the next five years, to take account of changing national and international circumstances. The ability to determine the ecological impact and sustainability of different choices is of utmost importance and the existence of a significant underpinning research base for the ecological footprint makes it an appropriate and rigorous indicator.

“If Wales is to become a One Planet Nation, then all new development must be One Planet Development.”

If Wales is to become a One Planet Nation, then all new development must be One Planet Development. There are many different aspects of the Ecological Footprint and it does not require everyone to live in the same way, but it does require that national choices make it easier for individuals to choose to live a One Planet lifestyle in their own context, whether rural or urban. Thinking about the largest components of individuals’ ecological footprints, this includes innovative ways of living with less energy and resources, public transport and facilities for active travel, incentivising availability of local food, and regulation to promote high quality construction. OPD experiences highlight both the challenges and opportunities of transitioning to a One Planet lifestyle.

SNAPSHOT LIFE WITH A ONE PLANET FOOTPRINT

“We have been living a One Planet life for nearly five years and have an extremely low ecological footprint. Our family gave up city life and went back to my family roots of Pembrokeshire for a life that is morally and ethically more compatible with the world’s resources. We have almost given up car travel, use public transport, grow our own food and buy extras locally. Our house is 100% off the grid and in light of the ‘cost-of-living crisis’, this is the way forward.

Since living more locally-based we feel much more connected to the local community. We happily made sacrifices such as microwaves, hairdryers and the latest coffee machines to live with a one planet footprint as we believe in sustainable living for our future generations, however this doesn’t mean we don’t have a comfortable life. Everyone should be encouraged to create sustainable homes, whether in the country or the city.”

Suzanne Pearton-Scale, Willow Farm OPD, Tenby





Photo by Mania Naimen

2.3 PRODUCTIVITY: FOOD

One Planet Developments are required to produce at least 30% of their own food on site. A further 35% must either be produced on site or bought using land-based income (ie, if not produced on site it increases the required land-based income of the enterprise). The final 35% may be grown on site or bought using any source of income.

In practice, we find that the majority of OPD households go well beyond the minimum requirement in respect of the food growing requirements.



FIGURE 2.6 PROPORTION OF FOOD GROWN ON SITE, BY OPD YEAR

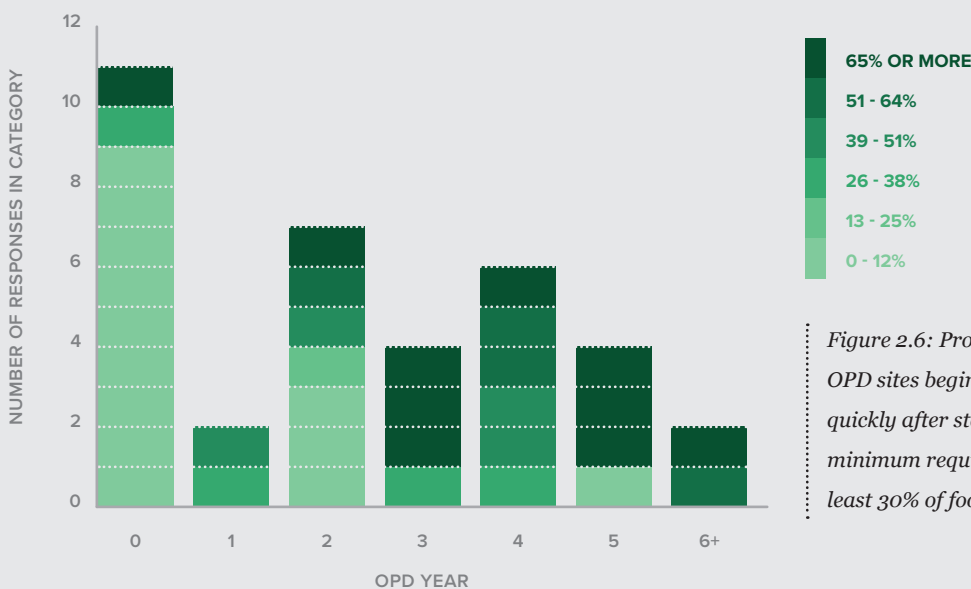


Figure 2.6: Proportion of food grown on site, by OPD year. OPD sites begin significant food growing activities very quickly after starting development, and go well beyond the minimum requirement. The requirement from Year 5 is for at least 30% of food to be grown on site. 36 responses in total.

Figure 2.6 shows the percent of food grown on site, showing that over the first five years OPD households begin quickly to produce significant amounts of food.

This adds up to a significant contribution to household living costs, increasing resilience in the face of rising costs of living. Of 16 households in OPD Year 3 or beyond, the average value of food produced on site is £3,030. The total reported value of food grown on site by all 36 OPD households surveyed was £67,200, including some who have not yet begun their development.

“The majority of OPD households go well beyond the minimum requirement in respect of the food growing requirements.”



Photo by Mania Naimen

SNAPSHOT GROWING FOOD

“As a smallholding household we satisfy 65-70% of our food needs on site with a diversity of systems; from traditional vegetable gardens to polycultural forest gardens; from undergrazed orchards to fungally inoculated mulches. Tending and tweaking these systems has become innately intertwined with our lives.

Thriving from a land-based diet means adapting your lifestyle to the season. Spring is a time for fresh, energising salads and planting crops; Summer is a time of abundant food- but we're already thinking about storing some for winter; Autumn is harvest time and we begin preparing the land for winter weathers; in Winter there's some time to rest and eat our stored foods- meats and root vegetables, pickles.

To keep our diets diverse and healthy we experiment with a range of produce; bone broths, quinoa sprouts, broad bean miso, sheep's cheese, chestnut pâté and wine cap mushrooms, as well as standard staples such as lamb and potatoes.”

Caz Wyatt, Gelli y Gafel OPD, Glandwr



2.4 PRODUCTIVITY: LAND-BASED ENTERPRISE

The OPD requirement is that the land-based enterprise should provide for all of the “Minimum Needs” of the inhabitants, where Minimum Needs are defined as the total sum of council tax, clothing, IT and telecommunications, transport and additional food expenditure of the residents. Of 27 households reporting their Minimum Needs figures, the average total was £5,164, varying between £2,568 (a single-person household) and £12,800 (a four-person household). The main contributors to differences in Minimum Needs between OPDs are household size, personal transport, and the amount of food grown on site. For any particular site, the Minimum Needs tend to decline slightly over time as more food is grown and travel off-site is reduced.

Instead of reporting absolute land-based income levels, for privacy, we asked about the OPD requirement: the proportion of Minimum Needs which was met by land-based income at the most recent year of reporting. This is shown in Figure 2.7. We find that many OPDs are already meeting the requirement to cover their Minimum Needs from land-based income, well before Year 5.



“Many OPDs are already meeting the requirement to cover their Minimum Needs from land-based income, well before Year 5.”

FIGURE 2.7 PROPORTION OF MINIMUM NEEDS MET BY LAND-BASED INCOME, BY OPD YEAR

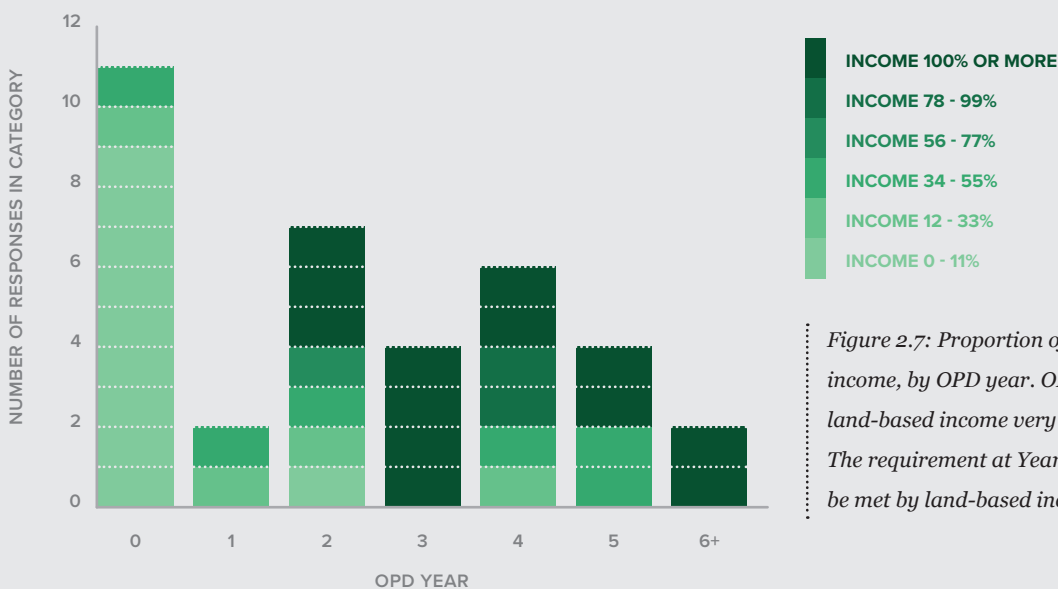
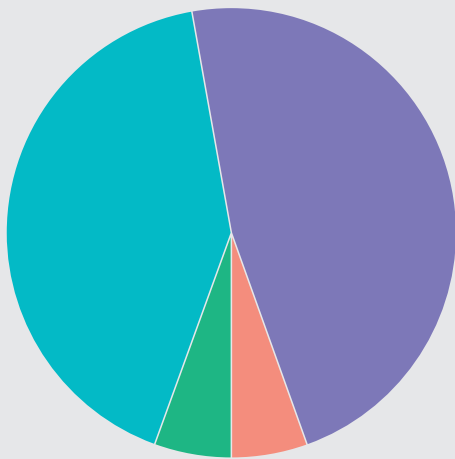


Figure 2.7: Proportion of Minimum Needs met by land-based income, by OPD year. OPD sites begin making significant land-based income very quickly after starting development. The requirement at Year 5 is for 100% of Minimum Needs to be met by land-based income. 36 responses in total.

While the OPD Essential Criteria include the requirement to meet a certain level of land-based income, **about half of OPDs aim to go significantly beyond the essential requirement and fully support the household from land-based income** (Figure 2.8).

FIGURE 2.8 ASPIRATIONS OF OPD LAND-BASED ENTERPRISES



WHAT IS YOUR AIM FOR YOUR OPD ENTERPRISE/BUSINESS?

Aim to meet the Minimum Needs only

Aim to exceed the Minimum Needs requirements, but not to fully support the household from OPD income

Aim to fully support the household from OPD income

Have plans to expand the business beyond the needs of the household

Figure 2.8: Proportion of respondents indicating intention to meet or exceed the land-based income requirement. 36 responses in total.

SNAPSHOT ONE PLANET ENTERPRISE

“Parc y Dderwen is a 12 acre off grid farm. The commercial focus is a half acre no dig market garden growing ingredients for a sauerkraut business. The business was established in April 2018 with bought-in vegetables from a local organic wholesaler with the intention to grow ingredients on site when OPD permission was granted.

Planning permission was awarded in May 2019. By the 2021/2022 growing season 70% of the business ingredients were grown on site. Starting the business ahead of planning permission, the model could be proven in advance with accurate sales figures for the planning application. More than 20 shops within a 30 mile radius of the site stock the products.

In 2020 a timber frame barn was built housing a processing kitchen so the products are grown, made and packaged on site. The kitchen is powered by Solar PV electric and the gardens irrigated with rain water from the barn roof.”

Lauren Simpson, Parc y Dderwen OPD, Llangolman



Photo by Phil Moore

2.5 ENERGY AND WATER

The OPD requirement is to meet all of the energy needs of all activities from sources of renewable energy on site, with the exception of small amounts of non-renewable fuel for particular uses for which they are best suited and justifiable (such as chainsaws or seasonal cooking).

Most OPD sites use a combination of energy sources, with by far the most common options being solar photovoltaics (97%) and wood burning (97%). Of 35 sites responding to this question, only five (14%) made use of a wind turbine, two used a solar hot water collector, one used electricity generation from other forms of biomass, and none used hydroelectric. Experimental use of home-made and/or low-budget renewable energy solutions is combined with use of modern and efficient solar panels and high-efficiency wood-burning stoves and high insulation and efficiency to reduce demand.

Of the 35 respondents, 88% made use of small amounts of gas for seasonal cooking and 57% made at least occasional use of a petrol or diesel generator as a backup to a battery system. Four sites are connected to the mains electricity grid and indicated an intention to feed back more energy than they consume. Note that many of these sites are still in the “set up phase” and are still establishing energy systems. The One Planet Council has published a position statement noting that the carbon intensity of grid electricity has decreased significantly since the OPD Practice Guidance was written. Grid connection combined with on-site renewables therefore may be the most sustainable form of power available to some households, depending on location.

“Most OPD sites use a combination of energy sources, with by far the most common options being solar photovoltaics (97%) and wood burning (97%).”





For water, similarly, OPDs need to provide for their water needs on site “unless there is a more environmentally sustainable alternative”. OPDs report using a combination of rainwater harvesting (75%), natural water sources (39%), man-made water sources such as borehole or well (25%), and

direct connection to mains water (22%). While potable water can be provided using filtration and treatment, some OPDs noted that their reason for connecting to mains water was to ensure a constant pressure for the water sprinklers required by the Building Regulations to protect the dwelling house.

SNAPSHOT LIVING IN A ZERO CARBON HOUSE

“Our One Planet Development house has the obvious advantage of zero energy bills as we meet all our energy needs from site and use no fossil fuels. All our electricity is generated by solar panels. For approximately eight months a year this is sufficient for everything; the kitchen with electric oven, induction hob, kettle, toaster, fridge, freezer etc, all our hot water as well as lighting, IT and power tools. For approximately four months (Nov-Feb) there isn't reliably enough 'surplus' generation to heat all the hot water we need so we start to light the wood burner occasionally. Maybe only once a week in November, becoming more frequent in mid-winter. This heats water in a large thermal store without the need for any pumping.

For approximately six weeks around mid winter, we can't even reliably cook on electric - especially as it's pitch dark by 5pm! On sunnier winter days we cook at lunchtime but otherwise we use the wood burner's built-in oven. Interestingly, thanks to the very well insulated house with large thermal mass and making good use of solar gain, we never really need to light the fire for space heating. The fact we light it specifically for hot water and cooking a few times a week keeps the house comfortable without thinking about it.”

Chris Vernon, Dan y Berllan OPD, Llanboidy



2.6 TRANSPORT

Of the 34 responses to this question (noting that some households were not yet living on site), the average number of vehicle trips generated per week including school run, shopping, farm supplies, social visits, etc was 6.1 out-and-back trips per household per week. For comparison, though up to date Welsh data are unavailable, the National Travel Survey data for rural communities in England published by the UK Department for Transport report an average of 387 trips per person per year (these 2020 figures show a reduction on previous years due to the pandemic), or 14.9 trips per week for a two-person household.

Although One Planet Developments are typically located in the open countryside and many are not well served by public transport, they have a lower than average transport impact. OPDs produce a Transport Assessment and Travel Plan as a part of the management plan, often involving use

of active travel (walking or cycling), trip chaining (combining journeys, for example going shopping at the same time as the school run), car sharing, or renewably powered vehicles such as an electric bicycle. Those with significant incoming traffic also manage visitor travel by charging separately for parking or by offering discounts on courses for those arriving by lower carbon transport methods.

Innovative and proactive behavioural changes of OPD households show the way forward for reducing transport impacts of rural communities. A further contribution to travel reduction is the provision of local food. Many OPDs sell surplus vegetables or eggs at the gate or by arrangement, creating an opportunity for rural neighbours to pick up food either using active travel (walking or cycling) or on the way home from other trips.

“Innovative and proactive behavioural changes of OPD households show the way forward for reducing transport impacts of rural communities.”



Photo by Natasha Cartwright

“Although One Planet Developments are typically located in the open countryside and many are not well served by public transport, they have a lower than average transport impact.”

SNAPSHOT MINIMISING THE IMPACTS OF TRAVEL

“A large part of the Land Based Enterprise element of our OPD is based around locally-sourced food and an important part of this is to reduce the impact of travel both by the distance the food itself travels and the distance people have to travel to purchase it. We produce vegetables, fruit and honey eggs, fermented vegetables and flowers which are sold through our gate shop and to local shops and businesses. The gate shop is proving very popular with many local people stopping to buy produce on their way home from work. For example one man who stops regularly works in Llanfyrnach and lives in Login. Buying from us saves him an extra journey to Crymych and he gets fresher, tastier and cheaper produce too. We also do local deliveries by bike to people in our village who are not able to get out easily.

Deliveries further afield are combined wherever possible with other journeys. For example deliveries to a retailer in Crymych are combined with the school run and deliveries of flowers are combined with commuting to our work in Newport. Outside of our enterprise initiatives we are conscious of the environmental impacts of car travel and try to reduce our impacts in the following ways:

- *Car sharing for the school run.*
- *Using bikes for local journeys wherever possible.*
- *Shopping locally and combining shopping trips with neighbours and friends.*
- *Encouraging visitors to car share or come by bike for example by offering a discount on tours.”*

Brendan Powell, Parc yr Odyn OPD, Hebron



2.7 BIODIVERSITY AND NATURE RECOVERY

Acknowledging the challenges that the natural world faces, in 2021 the Welsh Government declared a 'nature emergency', which has led to new policies and legislation, such as the Nature Recovery Action Plan 2020-21. **One Planet Developments are exemplars of how it is possible to develop the productivity of land while actively supporting biodiversity and nature recovery on and off site.** As part of the OPD planning application process, prospective OPD applicants have to perform a baseline ecological assessment of their site and provide a Management Plan to conserve and improve the habitats and species on site over time. Following the initial phase, another survey is performed to assess ecological changes, identify progress and opportunities to improve further. All OPDs that have reached the re-survey point have achieved tremendous improvements to biodiversity and habitats on site and ones at an earlier stage are showing significant early gains as well.

One Planet Developments support nature and biodiversity on-site through habitat creation, soil improvement, design for specific species, use of home-made peat-free potting composts, and use of organic and integrated management techniques rather than chemical fertilisers and pesticides. **A diverse range of habitats are created on OPD sites not despite the development but directly in order to support the provision of services for the human inhabitants:** food, heating fuel, water and waste assimilation, a livelihood and a home. Examples include:

- **Ponds and wetland habitat** - OPDs must process grey water on site, often through a reed bed system. In addition, approximately half (52%) of current OPDs have created new ponds on their site or improved the ecological quality of existing pond/wetland habitat, with co-benefits including slug control by amphibian populations.
- **Perennial “forest garden” systems** - 64% of OPDs are creating perennial production areas, where a healthy, undisturbed soil ensures that the biodiversity within the soil is increased, including predators that feed on common pests.
- **Coppice** - A traditional and sustainable method of generating biomass for fuel, building materials, or other products, coppice management is also recognised as providing an important ecological habitat for dormouse, many butterfly and moth species, woodland flowers, birds, mosses, lichens and fungi. 72% of current OPDs have actively increased the area of coppice woodland on site.
- **Deciduous or mixed woodland** - 75% of OPDs have increased the area and/or quality of deciduous or mixed woodland on their site. Our survey found that 48194 standard trees had been planted across 36 OPD sites to November 2021, and the number continues to increase. Trees grown on OPDs benefit from continued maintenance and management by the occupants who are able to effectively tend to young trees, increasing the success rate of planting. OPDs plant trees not to meet any targets or tick boxes, but to provide habitat, food, fuel, shelter, shade, building materials, soil regeneration, livelihoods, and beauty. Every tree is there for a reason: they are all “the right tree in the right place”.
- **Grassland** - Over half of the OPDs surveyed (55%) report the presence of species-rich grassland on site with 44% reporting an increase in total area of this habitat. In contrast, improved grassland (species-poor) has been reduced on 50% of OPDs. Low-intensity rotational grazing supports both the diversity of grassland ecosystems and animal welfare and eventual meat quality.
- **Hedgerows** - These provide habitat and foraging opportunities for insects, birds and small mammals, nest site opportunities, shelter and vital corridors between fragmented habitats. In contrast to the national trend of declining hedgerows over the last century, 91% of surveyed OPDs have increased and or improved hedgerows on their site, to a total of 9930m of new hedgerow planted at the time of writing.
- **Soil ecosystems** - All OPDs produce compost on site and this is used as a natural way to introduce necessary nutrients and microbes into productive garden areas, eliminating any perceived need for inorganic fertilisers. (This practice is also likely to result in increased carbon sequestration within soils, though more advanced studies would be needed to confirm this.)

Photo by Tao Wimbush

One Planet Developments further support nature and biodiversity through the efficient use of sustainable materials, and by reducing the use of fossil fuels, machinery, and unnecessary disturbance.

Beneficial consequences of habitat management are also likely to extend outside of the OPD boundary. These include carbon sequestration in soils and biomass, contribution to food availability for wider ranging species such as birds of prey, insect pollination services for food security, and the OPD role as exemplar and innovator showing the way for others to manage land for nature and biodiversity.

One Planet Developments are pioneers of nature recovery.

Often located on ecologically degraded sites, OPDs create a mosaic of new and better quality habitats and actively manage land for a range of species, seeing huge improvement even over the five year timescale. OPDs take an integrated approach to building soil and ecosystem health for the benefit of all ecosystem members, including the human. As such, the time

frame of ecological reassessment after five years may not be long enough for potential improvements to be fully realised and recorded. We recommend that researchers could make use of OPDs in the longer-term by continuing ecological surveys of OPDs beyond the initial five-year development, highlighting and sharing examples of innovation and good practice. The One Planet Council would be delighted to work with other stakeholder groups to discuss and share the contributions of OPD to nature recovery.

As a tiny minority of present land use, OPDs cannot realistically increase biodiversity on more than a very local basis, but they can support larger scale actions that could have a more significant impact. **The Sustainable Farming Scheme for Wales, due to be introduced in 2025, will offer subsidies and prioritise farming practices that are already a normal (and largely unsubsidised) part of One Planet Development**, such as ensuring a significant proportion of land is dedicated for woodland and/or other habitats that support biodiversity.

SNAPSHOT MAKING SPACE FOR WILDLIFE

“When the ecologist arrived to do his initial baseline survey 5 years ago he reserved a day to do it. 40 minutes later he had finished – his summary: ‘not a lot here really’. We were starting from a denuded landscape and what has happened to the biodiversity in 5 years is utterly fantastic and astonishing. We based our approach on Permaculture principles, a little touch of rewilding and an overall agroecological view – all we do is first put through that lens. We have seen a remarkable yearly change:

- *Year 1 – huge numbers of slugs loving the regrowth of what used to be dairy pasture*
- *Year 2 – frogs, toads move in*
- *Year 3 – birds appear in their droves*
- *Year 4 – mammals start to make an appearance*
- *Year 5 – continued growth of many species both in numbers and diversity*

This years’ highlights: fledging Swallows, Bats roosting in the house, Barn Owls nesting, Forest Garden blooming, vast tadpole numbers in ponds, new Wildflower meadow flourishing, Slow worms”

Keith Burgess, Hafan y Coed OPD, Glandwr

Photo by Keith Burgess



2.8 COMMUNITY IMPACTS

One Planet Development households are typically very engaged with the local community. They report using local independent shops in preference to supermarkets (86%), using the local post office regularly (81%), attending or organising community events (75%), and sending children to the local school (90% of those with any children on site, including those who may be there only part time).

Residents also reported being members of local community groups such as church, WI or social club (50%), going to the local pub regularly (30%), and volunteering time for local charities (25%). Further responses included acting as a School Governor, running the local library, sharing tools and machinery, providing birth and postpartum support, repairing local farm equipment, looking after friends' children, and children taking part in local activities such as Cubs or dance. Notably, two responses to this question indicated that they had been part of the community all their lives and did not

feel that a list of activities was necessary to justify it. We agree that "community integration" is an intangible which cannot be easily measured. In the light of the other demands on their time and energy, though, it is remarkable that so many are also making time for outward-facing activities.

Many OPDs offer tours and open days and take part in the annual One Planet Development Open Week, an initiative which allows visitors to reduce their travel impacts by viewing nearby OPDs on the same day. About a thousand visitors have so far experienced these guided tours to learn more about low impact living, and they continue to be very popular.

Respondents to the survey reported that sites generate an average of 0.9 full-time and 1.2 part-time jobs, including those of the residents themselves. In addition to that, three OPDs (8%) have taken on formal apprentices.

“Many OPDs offer tours and open days and take part in the annual One Planet Development Open Week”





Skill sharing, teaching and education are also a part of the community impact of OPDs. 74% report offering volunteering or skill sharing opportunities to others (a figure which may be low in 2021 due to Covid restrictions). In some cases this forms part of their income: 57% offer consultancy or advice (either paid or unpaid), and 51% run courses in land-based activities.

OPDs can be an attractive venue for others to use: 43% of OPDs surveyed host adult groups on site (such as local gardening groups) and 17% host school or children's groups.

SNAPSHOT TAKING ON APPRENTICES

"At Swn y Coed we have a lot of opportunities for people to get involved, from community events, volunteering and skill sharing to our seasonal horticulture apprentices. We have used the government Kickstart scheme to employ 16-25 year old apprentices who live locally and want to learn how to grow veg and run a horticulture enterprise. As well as learning about horticulture and food processing they also learn about compost making and biofertilisers, as well as learning to cook highly nutritious veg and take it from field to plate, and explore the Permaculture ethics and principles. It's been a great experience for us having young people involved with the project and very rewarding to see them grow in confidence and self esteem and go on to further employment in the area."

Peni Ediker, Swn y Coed OPD, Llanboidy



Photo by Peni Ediker

2.9 WELSH LANGUAGE IMPACTS

The Welsh language is not mentioned in the OPD Practice Guidance either as an essential or contributory assessment criterion. Despite this, we find that OPD households have a higher than average level of use of the Welsh language, including actively learning Welsh and enrolling children in Welsh-medium education. As such, **One Planet Development is a positive contribution to the National Well-being Indicators 36 and 37 relating to everyday use of the Welsh language, and the aspiration to have a million Welsh speakers by 2050.**

Four of the 36 OPD sites surveyed (11%) reported that the household included at least one fluent Welsh speaker. This is comparable to the overall 10% of fluent Welsh speakers in Wales reported by the Welsh Language Use Survey 2019-2020.

Of the 21 OPD sites surveyed with children present, 16 are in Welsh-speaking areas. 12 of those 16 (75%) have chosen to enrol their children in Welsh-medium education and three of the remaining four (75%) are “actively learning Welsh”. The suitability of an education setting for any individual child is a matter of parental choice, so it is pleasing to see such high numbers opting to prioritise the Welsh language.



School visit. Photo by Anthony James

FIGURE 2.9 USE OF THE WELSH LANGUAGE ON ONE PLANET DEVELOPMENTS

Table showing the use of the Welsh language in OPD households relative to average. *National average from the Welsh Language Use Survey 2019-2020. **Carmarthenshire figures from 2017-2018 National Survey for Wales, using categories “Can speak Welsh” and “Have some Welsh speaking ability”. ***Carmarthenshire school figures from 2019-20, taken from Guidance on Welsh in Education Strategic Plans (2021).

	CARMARTHENSHIRE	NATIONAL AVERAGE*	OPD OVERALL (N=36)	OPD IN WELSH-SPEAKING AREAS (N=29)
FLUENT WELSH SPEAKERS	44%**	10%	11%	14%
SPEAK SOME WELSH OR ACTIVELY LEARNING	18%**	22%	67%	83%
WELSH-MEDIUM EDUCATION	58% of Year 1 pupils ***	25% of children	57% of households with children	75% of households with children



With possible impact on Welsh-language communities appearing to be a significant concern for some critics of One Planet Development, we recommend that the use of the Welsh language could be made an additional Contributory criterion in support of OPD Management Plans in Welsh-speaking areas.

“OPD households have a higher than average level of use of the Welsh language, including actively learning Welsh and enrolling children in Welsh-medium education.”

SNAPSHOT WELSH LANGUAGE AND CULTURE

“The OPD policy has given me and my family a chance to live locally, to create meaningful work for ourselves and to build an affordable home in the area I was raised in. We can now stay and live in the Tywi valley and contribute towards community life, economy and the unique Welsh language culture in the area. I see a great potential for the policy to help others in our circumstance who want to stay or return to their place of origin, to do so, whilst consequently invigorating the Welsh language, create exciting small and sustainable businesses that contribute towards a local, green and cyclical economy.”

Sioned Haf, Llwyn Pur OPD, Llansadwrn

Photo by Sioned Haf



2.10 WELL-BEING

We asked OPD households about the degree to which they feel their overall well-being has changed since a “pre-OPD” life. The results in Figure 2.10 show that there is an overall average improvement in well-being, but not for everyone. Against a backdrop of social and political change in the last few years, most notably the effects of the Covid-19 pandemic, it would be difficult to say whether these changes are due to OPD. **Qualitative responses mentioning well-being highlighted both the personal satisfaction of a land-based and ecologically sustainable lifestyle and the stress of setting up business, house and garden within a five-year period and having to report in detail on progress.**

Concerns have been raised with us about the intrusive nature of some approaches to the ongoing reporting requirements, including requests for much more information than is required by the policy, for sensitive personal information, or for detailed justification of changes which do not influence the ability to meet the OPD criteria. The failure of planning and enforcement officers to understand the scope of reporting also results in wasted time and resources for LPA and OPD alike and has in some cases had a significant negative impact on the mental health of applicants and practitioners. It would be helpful to clarify what is and is not required in an annual report. We discuss this further in section 4, below.

FIGURE 2.10 WELL-BEING OF OPD RESIDENTS

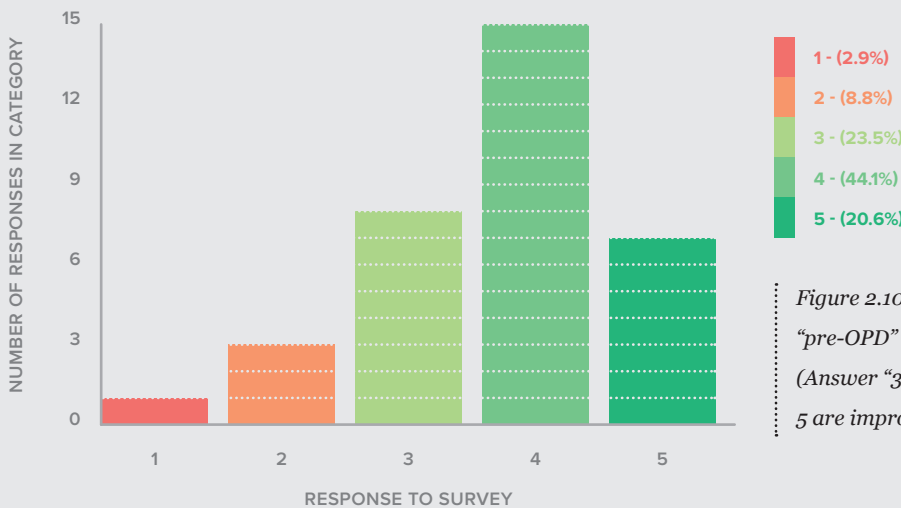


Figure 2.10: Survey responses to the question “Relative to your “pre-OPD” life, do you feel your overall well-being is improved? (Answer “3” for “no change”).” 1 and 2 are reductions and 4 and 5 are improvements in well-being. 34 responses in total.



Photo by Mania Naimen



Photo by Anthony James

One stress that is reduced for OPDs relative to conventional households is the cost of living. The use of on-site renewables, though it often implies a significant initial outlay on infrastructure, reduces the ongoing exposure of OPD households to the cost of energy. With no gas or electricity bills, significantly reduced food bills, significantly

reduced transport requirements and low consumption overall, OPD households have experienced much less of a recent rise in the cost of living than similar rural households commuting to work from a poorly insulated dwelling. This is a remarkable demonstration of the opportunity to improve household-scale resilience in rural Wales.

SNAPSHOT THE ONE PLANET LIFE

“Prior to moving onsite we were renting in the village nearby. OPD offered us an affordable and more sustainable way to live and raise our family. The way we live has changed in some fundamental ways. Energy comes from renewables (solar and firewood). The house is well-insulated and energy efficient. Basic household activities such as taking a hot bath, washing clothes, cooking with an electric oven, using a freezer, are still part of life however we now have to consider when and how we use them, especially in winter.

Far more time is spent outdoors, tending to fruit and veg beds, planting and maintaining trees, mowing grass and upkeep of paths. The 'green gym' is good for health, however the sheer amount of work, especially during the initial build and set-up phase was at times overwhelming and affected our work/life balance. We get on well with our neighbours and feel part of the community here. Our two sons play cricket for our local club and people appreciate the fruit and veg they can purchase from our gate stall and nearby shops.”

Stefan Cartwright, Pencoed OPD, Llechryd

Photo by Natasha Cartwright



2.11 ZERO CARBON DWELLINGS

Buildings constructed as part of One Planet Developments are required to be “zero carbon in construction and use”. In 2012, when the OPD Practice Guidance was published, it was expected that a national definition of Zero Carbon Homes would be provided to which OPD self-builders could refer. That did not happen, leaving builders with a limited set of guidelines from the Code for Sustainable Homes (2007), the Building Regulations Part L (Wales) (2010), and TAN22 Planning for Sustainable Buildings (2010). In practice, therefore,

OPD house builders have taken a pragmatic approach to minimising carbon, prioritising high levels of insulation and local, natural materials which sequester carbon in the fabric of the dwelling. This kind of practical, accessible experience is invaluable to future self-builders (OPD or not) and provides a counterpoint to the “mainstream” construction industry. Costs per square metre achieved by OPD dwellings can be comparable to conventional builds but have better energy performance and more beautiful and individual design.

“Zero carbon construction” refers to the house itself and the materials used in construction. Typical construction materials include:

- ◆ **Locally sourced timber.** Many OPDs source both structural timbers for framing and cladding/boarding from sawmills supplied by local sustainably-managed woodlands.
- ◆ **Straw.** The insulation offered by straw bales is very good ($U=0.171 \text{ W/m}^2\text{K}$ at the standard width of a small bale). Prefabricated straw panels achieve the same levels of insulation and are easier to erect and render.
- ◆ **Hempcrete.** A composite of hemp fibres and lime, hempcrete is a versatile insulating material with thermal mass which is easy to render.
- ◆ **Traditional lime and clay renders.** Lime plaster and weatherboarding are typically used externally and lime or clay plasters internally.
- ◆ **Wool or cellulose insulation.** Available in many different forms, natural insulation materials are non-toxic, vapour-permeable and can be locally sourced.
- ◆ **Reused or recycled materials.** One Planet self-builders have made imaginative use of mis-measured windows, second-hand bathroom fittings, re-used doors, and furnishings from Freecycle and charity shops.

“Costs per square metre achieved by OPD dwellings can be comparable to conventional builds but have better energy performance.”



Timber, straw and hempcrete all sequester carbon in the fabric of the house itself. If a clear definition of “zero carbon” were available, it would be possible to do a fuller carbon analysis of some existing OPD houses.

OPD construction methods are low impact, often involving considerable labour inputs from the residents themselves as well as paid labour and skill sharing opportunities. OPD construction supports other Welsh businesses including local builders’ merchants and artisan workers. Several OPD house frames have been supplied by Tŷ Pren, a timber-framing workers’ cooperative based near Lampeter which uses hand tools and locally sourced larch timber, with a focus on training apprentices in traditional construction methods and skills.

“Zero carbon in use” refers to the performance of the building when occupied. The first priority is minimisation of energy demand, which is achieved by high levels of insulation and energy-responsive design. This might include the use of shaded glazing on the south side to maximise solar gain in winter without overheating in summer, attention to ventilation strategies and incorporation of thermal mass.

The energy sources used by OPDs have been analysed above. Many OPD dwellings use no fossil fuel at all and are only powered by renewable sources: this makes it easy

to say that they are “zero carbon in use”. If a clear definition of “zero carbon” were available, it would be possible to do a fuller carbon analysis of those which make seasonal use of gas for cooking (as allowed by the Practice Guidance) and those which feed renewable energy back into the National Grid.

Some OPD dwellings have achieved an Energy Performance Certificate of better than 100 out of 100 for both energy efficiency and environmental impact. For comparison, National Well-being Indicator number 33 refers to the percentage of houses with a performance of 65 or above. One OPD house is now a certified “Passive House”, meeting the most stringent building standard for efficiency.

Structures are subject to **Building Regulations** in the same way as any other new dwelling. OPD dwellings often use unconventional methods of construction that are not covered by the “Approved Documents”, but are able to evidence their compliance with the regulations in innovative ways. As ecological design becomes more mainstream, more evidence is available to support, for example, the insulation value of materials such as hempcrete and straw bale. Solutions for off-grid water and waste treatment are being tested and shared. The requirement for automatic fire suppression systems such as sprinklers has been a problem and caused extra expense for some off-grid dwellings without access to high pressure mains water.

SNAPSHOT ZERO CARBON CONSTRUCTION

“When we looked at moving back to Wales, we explored many different options but the appeal of building our own house always won out. Recycled glass forms the basis of the floor and hempcrete was the material of choice for the walls, giving us high insulative value, relatively low embodied energy and using UK grown hemp. The collaborative effort of literally shaping the house with our own hands and those of many volunteers, friends and family has been our favourite part of the build. We really feel the imprint of all of our helpers on the house. Visually, the use of a lime render exterior will echo traditional Welsh cottage aesthetics whilst the larch cladding, milled just down the road from local timber, helps the house blend into the landscape. Seeing the house take its place on the farm, in fields that I have grown up in, is an amazing process.”

Willow Murton, Cryn Fryn OPD, Penuwch

Photo by Willow Murton



2.12 REFLECTIONS ON THE FIVE-YEAR SETUP PHASE

The requirement to demonstrate that all OPD essential criteria are met, within a period of five years, takes a huge amount of work. Those taking on a One Planet Development are highly-motivated, capable and resourceful, and they have already met the challenge of writing, submitting and defending an OPD Management Plan to the satisfaction of the planning system. Nevertheless, respondents to our survey highlighted the strain and effort involved in doing such a lot of activities in five years. Many people would consider building a house the challenge of a lifetime: OPDs take this on in addition to setting up a land-based business, growing a large proportion of their own food, reducing their ecological impact, improving habitats and biodiversity, and engaging with the local community. And all of these are in addition to more universal challenges such as raising a family or, in the last few years, coping with the impact of a global pandemic and economic uncertainty.

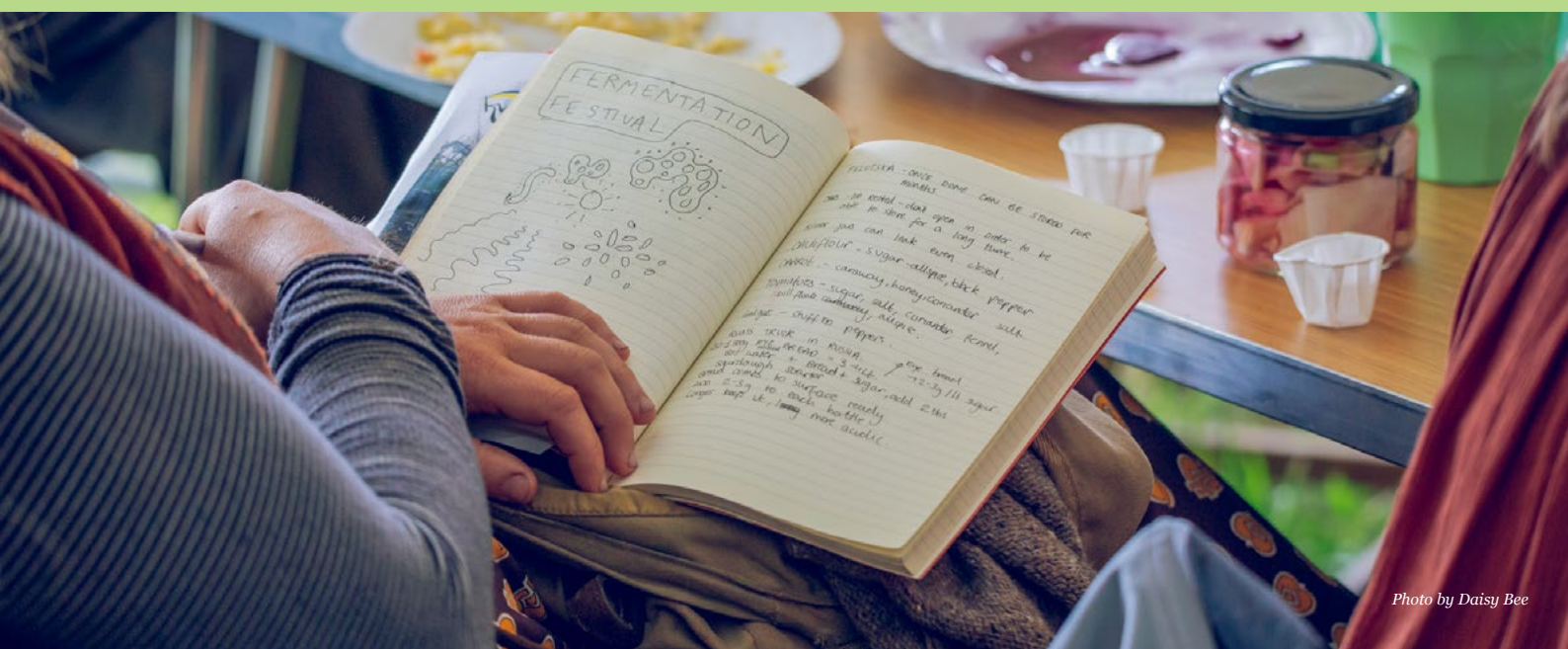
One specific criticism of the five year period is the difficulty of producing tree crops (including fuel) within that time scale. Respondents reported that the pressure of the five year timescale sometimes encouraged less appropriate choices, such as

- Choosing dwarfing rootstocks for fruit trees such as apples, which will fruit within five years but may not be strong enough to survive in the longer term.
- Choosing very short rotation coppice trees (primarily willow) which will give a timber harvest in five years but might be less appropriate for the site than a mixed longer-rotation coppice.

Respondents also had plans for continued development of the site beyond five years, showing that the establishment of the site would not be fully complete at this point. As tree crops and new horticultural areas become more established and businesses continue to develop new markets and customers, the productivity of many sites could be expected to increase significantly beyond five years. Ecological improvements to sites are also long-term changes having full effect over a period much longer than five years.

Several OPDs have reported adverse impacts of the Covid-19 pandemic specifically, referring to Long Covid, bereavement, or business impacts. Some of these OPDs had engaged with their planning department to discuss the impacts and negotiated some consideration or allowance, for example a delay of one year in the reporting. We discuss this aspect further under the framework of Equality, Diversity and Inclusion in Section 4, below.

“Those taking on a One Planet Development are highly-motivated, capable and resourceful”





“Many people would consider building a house the challenge of a lifetime: OPDs take this on in addition to setting up a land-based business, growing a large proportion of their own food, reducing their ecological impact, improving habitats and biodiversity, and engaging with the local community.”

SNAPSHOT AN INTENSE FIVE YEARS

“The dream of living ecologically with minimum impact on the planet’s resources is something that has always been at the core of our ethical outlook in life.

We submitted our year 5 report in March 2022 showing how we have thoroughly transformed a green field into a smallholding that continues to grow into a multi-layered environment that feeds us, nurtures our well-being, increases biodiversity and hopefully shows others that it is possible to live a ‘modern’ life on the resources of ‘one planet’. Our oat milk business has been successful from the word go, with more demand than we can fulfil. Our customers are so supportive about the project and happy they can buy a product that is very low carbon and is zero-waste.

Building an eco-house from scratch as well as a land-based business, while managing a day job and raising our two children has been a titanic effort and the toughest challenge of our life. Doing the reports each year has been an unexpectedly good experience as it has forced us to reflect in detail on how much our lifestyle has changed and what we have managed to achieve in such a short amount of time.”

Silvia Tippins, Tŷ Gwennol OPD, Llanboidy

Photo by Silvia Tippins



2.13 INNOVATION, LEARNING AND LEADERSHIP

Taking on a One Planet Development involves going beyond “normal” ways of doing things. Developing different solutions to the challenge of living a modern life with very low environmental impact, OPD sites demonstrate creative leadership in household-scale low-carbon innovation. Examples include:

Energy demand shifting and radical behaviour change

Living with the seasonal peaks and dips in energy availability is necessary for all OPDs, even those connected to the mains electricity grid. Behavioural shifts such as deciding when or how to cook meals, when to do laundry or washing, and reducing consumption when necessary, closely match demand to the peak generation hours. As most OPDs rely strongly on solar electricity, this includes taking advantage of long summer days to heat water or preserve produce, as well as reducing demand by switching off all unnecessary appliances in the darker winter months. Adaptation to these daily and seasonal cycles of energy use and storage challenges the mainstream perception that households cannot accept much-lesser behaviour changes to maintain the robustness of a grid with a high proportion of renewables.

Creative renewable energy systems

In addition, some OPDs with particular technical skill or interest have pioneered specific small-scale renewable energy innovations, including an experimental home-made hydro generator, direct solar cooking and processing (such as solar herb drying, solar beeswax extraction), and production of household-scale renewable gas for cooking in a biodigester (see Snapshot).

Adaptation to temperature extremes

Highly insulated OPD houses are generally comfortable in both summer and winter, requiring little active heating or cooling. OPD residents report that passive solar design including the use of window shading in summer, porches to keep cold draughts out in winter, thermal mass, and passive ventilation strategies all contribute to very good dwelling performance in a range of conditions.

“OPD sites demonstrate creative leadership in household-scale low-carbon innovation.”

Seasonal eating, food preservation and storage

Being required to produce a large proportion of their own food on site, OPDs have to eat a primarily seasonal diet. This requires adaptation of recipes and cooking methods to suit the available resources. Kitchen gardens extend the harvest season of particular fresh crops by use of different cultivars, successional planting, and covered cropping, but there are still gluts and times of scarcity. To extend the usage of the same crops, food storage and preservation methods are needed - and many OPDs do not have sufficient winter electricity or space just to drop foods into the freezer. Low-energy storage methods include drying, canning, salting, preserving and fermentation.

Grey water treatment and nutrient recycling systems

The OPD requirement to deal with waste on site as far as possible also creates a resource: cardboard, garden organic matter, kitchen scraps and livestock bedding are all used for compost to maintain the fertility of horticultural areas. Human waste can be safely composted and assimilated on site under tree crops. Grey water is treated by reed beds or biological septic tanks. OPDs are trialling different approaches to household scale waste management and sharing their experience.



In addition, **One Planet Developments contribute to networked leadership, sharing best practice in low-carbon innovation at a wider or commercial scale.** Examples include:

◆ The Wales Seed Hub

This startup venture is a cooperative of Welsh growers, working together to market, pack and distribute seed. The Wales Seed Hub produces open-pollinated seed grown on Welsh farms using agroecological practices and aiming to increase seed diversity in Wales. They try to grow varieties that are not widely available elsewhere and grow well in the Welsh climate. Several OPDs have been involved as founding members of the Wales Seed Hub, first taking a training course and now growing and selling seed as part of their land-based income. In collaboration with the Gaia Foundation.

◆ Festival of Fermentation

Organised by Parc y Dderwen OPD in collaboration with the Landworkers Alliance, this festival brought together hundreds of enthusiasts for fermented food and drinks of all kinds. The programme included skill sharing workshops and guest speaker Sandor Katz (arranged by publisher Chelsea Green), as well as plenty of social time for networking and enjoying the beautiful site.

◆ The One Planet produce label scheme

Products from One Planet Developments are in high demand for their ecological credentials. There is a One Planet produce label scheme, currently in a pilot phase with a small number of producers. As more OPDs reach the stage of having significant produce available locally, the intention is to scale up the scheme to have its own website and marketing strategy, to help OPDs work together and boost demand for sustainable local produce.



SNAPSHOT LOW CARBON INNOVATION

“After discovering that we could use a plastic tank full of bacteria to turn food waste into cooking gas we just had to try it ourselves. The result is Biff the Biodigester. A low-tech, low maintenance vat of microscopic life that’s been making free carbon-neutral fuel for us since 2018. We don’t really know how much bottled gas we haven’t bought because of Biff, but it’s a significant amount and it’s definitely helped us reduce our use of fossil fuels and thus our ecological footprint. It’s hopefully also helped those who’ve come on our Build Your Own Biodigester courses to do the same. We haven’t quite succeeded in getting a biodigester in every British home yet, but proving the system works in the UK has generated a lot of interest and there are definitely more now than there were before we built ours.”

Matthew Watkinson, Beeview Farm OPD, Newport



Photo by Matthew Watkinson

2.14 INTERNATIONAL LEADERSHIP

One Planet Development is looked upon favourably from outside Wales and has inspired similar policies elsewhere. The One Planet Council has interacted with various officials and processes in other countries, and continues to pursue outreach opportunities such as the Open Week and this report, to raise the profile of OPD.

In England, the new **Dartmoor** Local Plan 2018-2038 (adopted in 2021) includes a policy for Low Impact Residential Development (3.1.2) which is adapted from the Welsh OPD policy. A Climate Emergency Development Plan Document submitted by **Cornwall** Council is currently under examination by the Planning Inspectorate and includes a policy for Regenerative Low Impact Development (AL.1), also adapted from OPD. Other English councils including **Forest of Dean** have also expressed interest in replicating the OPD policy locally.

The One Planet Council has assisted with research supporting the development of a Non-Executive Bill Proposal (or Private Member's Bill) for One Planet Development in **Northern Ireland**. We have also hosted a research visit to an OPD by a Member of Parliament from **Aotearoa / New Zealand**.



OPD PLANNING APPLICATIONS 2010-2021

A survey of evidence about the outcomes of One Planet Development planning applications.

OPD PLANNING APPLICATIONS 2010-2021

3

This section reviews the statistics and experiences of OPD planning applications. We thank Brett Sanders of Coventry University who collated development management data as part of his PhD research¹ and has kindly made it available for use here.

3.1 NUMBERS OF APPLICATIONS

To our knowledge, 11 of the 25 Local Planning Authority (LPA) areas in Wales had decided 63 One Planet Development applications by the end of 2021, of which 39 (62%) had so far resulted in planning consent. The table in Figure 3.1 shows the number in each of these 11 areas, and the outcome for those applications which had a decision. Note that applications may progress to appeal with or without determination, and some were still pending a decision at the time of writing, so this is a snapshot at a point in time rather than a summary of completed applications.

“11 of the 25 Local Planning Authority (LPA) areas in Wales had decided 63 One Planet Development applications by the end of 2021, of which 39 (62%) had so far resulted in planning consent.”

¹ *Towards an Ecotopia? An assessment of Wales's One Planet Development policy as a facilitator of open countryside low impact developments, 2010-2021.* PhD thesis by Brett Sanders, Coventry University, 2022.

FIGURE 3.1 NUMBERS AND OUTCOMES OF OPD APPLICATIONS

Figure 3.1: Table showing the total numbers and outcomes of OPD applications in each LPA area to the end of 2021. Note that applications may progress to appeal with or without determination, and some were still pending a decision or appeal decision, so the total number by LPA is not always equal to the sum of the other columns. Data kindly provided by Brett Sanders of Coventry University.

LOCAL AUTHORITY	TOTAL	APPROVED LOCALLY	REFUSED LOCALLY	APPROVED AT APPEAL	WITHDRAWN/CANCELLED
PEMBROKESHIRE	19	9	8	3	2
CARMARTHENSHIRE	14	8	4	2	2
PEMBS COAST NPA	11	5	5	1	1
CEREDIGION	8	6	2	0	0
POWYS	4	2	1	0	1
BRECON BEACONS NPA	1	1	0	0	0
CAERPHILLY	1	1	0	0	0
DENBIGHSHIRE	1	1	0	0	0
MONMOUTHSHIRE	1	0	1	0	0
BRIDGEND	1	0	0	0	1
NEWPORT	2	0	1	0	1
TOTAL	63	33	22	6	8

As we observed above, there is a concentration of OPD applications in the South-West of Wales in Pembrokeshire, Pembrokeshire Coast National Park, Carmarthenshire and Ceredigion. Almost all applications are for single unit smallholdings, with only one multi-unit application (Rhiw Las, Carmarthenshire, refused locally but appeal allowed in 2016 with award of costs).

These figures show that about half of OPD applications have been passed by the LPA directly (either by a planning committee or delegated officer decision) and about a third refused, with the remainder either withdrawn or still awaiting a decision. Of the refusals, about a third have successfully appealed and some others still had appeals in progress at the time of writing.

“About half of OPD applications have been passed by the LPA directly (either by a planning committee or delegated officer decision) and about a third refused, with the remainder either withdrawn or still awaiting a decision.”

Photo by Natasha Cartwright





3.2 TIME TAKEN FOR APPLICATION DECISIONS

The time taken by LPAs to determine (either approve or refuse) OPD applications is shown in Figure 3.2. Note that the figure only includes those which have reached a determination - several councils had OPD applications still awaiting a decision. While there is a lot of variation in these figures and a small number of applications have been determined within the 8-week period, the majority take considerably longer. Though there are only a small

number of data points, there seems to have been a period (2010-2016) when applications took a long time due to being the first OPD applications received by an LPA and the time required for officers to become familiar with the policy. Then there was a period (2017-2019) when some applications were being processed more quickly. Recently (2020-date), there appears to be a trend in the opposite direction and applications are taking longer again.

FIGURE 3.2 TIME TAKEN TO DECIDE OPD APPLICATIONS

Figure 3.2: Table showing the average time to determination of OPD applications, by LPA area. The national target for determination of applications is 8 weeks. Data kindly provided by Brett Sanders of Coventry University.

LOCAL AUTHORITY	OPD APPLICATIONS DETERMINED	AVERAGE TIME TAKEN FOR DETERMINATION
ALL LPA AVERAGE	55	68 WEEKS
NATIONAL TARGET (for determination of planning applications)	-	8 WEEKS
PEMBROKESHIRE	17	39 WEEKS
CARMARTHENSHIRE	12	48 WEEKS
PEMBROKESHIRE COAST NPA	10	31 WEEKS
CEREDIGION	8	41 WEEKS
POWYS	3	93 WEEKS
CAERPHILLY	1	56 WEEKS
BRECON BEACONS NPA	1	21 WEEKS
DENBIGHSHIRE	1	107 WEEKS
MONMOUTHSHIRE	1	181 WEEKS
NEWPORT	1	65 WEEKS

In addition to the time profiled in Figure 3.2, some successful applicants report experiencing further delays after the initial determination before they are issued with a decision notice and able to commence development. Figure 3.3 shows the time taken to confirm further details. These vary between different applications and different LPAs, but can include SUDS (sustainable drainage) applications, submission of nutrient management plans, and finalisation of a Section 106 Agreement or Unilateral Undertaking. Some LPAs do not require any of these and applicants can begin development immediately.



FIGURE 3.3 TIME TAKEN TO AGREE FURTHER DETAILS AFTER APPROVAL OF APPLICATION

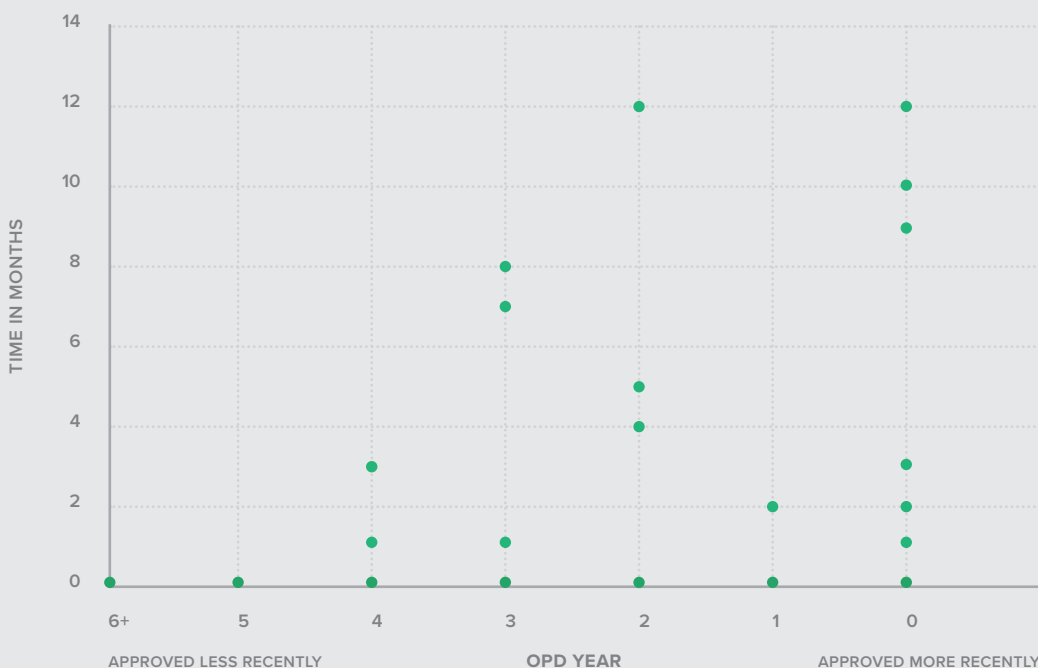


Figure 3.3: Time taken to agree further details after approval of application (months). While some successful applicants are able to begin development quickly after approval, others experience long delays confirming further details. Those approved more recently have experienced longer delays.



3.3 OUTCOMES OF APPLICATIONS

Figure 3.3 shows the outcome of applications decided locally by officer decision and by planning committees. Delegated decisions include a larger number of refusals (58%), and only 20% of these win at appeal. Planning committee decisions include a larger number of approvals (76%), and also have a much higher rate of approval at appeal, mainly due to the instances where a planning committee has refused permission against an officer recommendation of approval.

So far, two out of three cases where councillors have gone against a planning officer recommendation of approval have been successful at appeal (another is awaiting a decision). This suggests that planning committees would benefit from further training to ensure that they are aware of the specific requirements of the OPD policy.

FIGURE 3.4 OUTCOMES OF OPD APPLICATIONS BY DETERMINATION TYPE

Figure 3.4: Table showing the result of determinations made by delegated officers (first row) and by planning committees (second row). Data kindly provided by Brett Sanders of Coventry University, who also holds more detailed data by LPA available on request. *Two of the three allowed at appeal, and the one awaiting a decision, were refused against officer recommendation.

	NUMBER	APPROVED	REFUSED	REFUSED AGAINST OFFICER RECOMMENDATION	ALLOWED AT APPEAL	AWAITING APPEAL DECISION
DETERMINED BY DELEGATED DECISION	26	11 (42%)	15 (58%)	-	3	1
DETERMINED BY PLANNING COMMITTEE	29	22 (76%)	7 (24%)	4	3*	1*

3.4 APPLICANTS' EXPERIENCE OF NAVIGATING THE PLANNING SYSTEM

Our survey asked OPD residents about their experience of the planning system. It should be noted immediately that there is a positive bias to our results, having surveyed only successful applicants and not unsuccessful ones. The main issue raised was the time taken for determination and the emotional, physical and financial strain this puts on families awaiting a decision. **An average determination time of 68 weeks (16 months) in our view is unacceptably long**, especially in the context of an 8-week target. OPD applicants engage with the planning system in good faith, are encouraged to spend time, energy and money putting together a comprehensive Management Plan, and are then often left to wait months and years with little communication. Meanwhile, applicants report that the delay has affected their personal relationships with family and with neighbours, has made business plans less viable and caused problems with registration for local schools, in addition to the stress caused by uncertainty.

Figure 3.5 shows a word cloud generated from all 36 responses to our survey question about how applicants would describe their experience of the planning process. There is an opportunity to improve the well-being of OPD applicants, and save time and effort for LPAs, by reducing the complexity of the application process such that the 8-week determination period is more routinely achieved. Doing so would also improve the accessibility of the policy to a more diverse range of potential applicants, as we highlight in section 4.1 on Equality, Diversity and Inclusion.

Although the experience of the initial application is somewhat negative, most applicants (92%) report a positive or neutral relationship with the LPA after gaining permission.

“There is an opportunity to improve the well-being of OPD applicants, and save time and effort for LPAs, by reducing the complexity of the application process such that the 8-week determination period is more routinely achieved.”

FIGURE 3.5 SUCCESSFUL APPLICANTS' EXPERIENCE OF THE PLANNING SYSTEM



Figure 3.5: Word cloud summarising the reported experiences of successful OPD applicants (“What three words describe your experience of the planning application process?”). 36 responses in total.

RESOLVING CHALLENGES FOR ONE PLANET DEVELOPMENT

*Our recommendations for improvements
to policy and practice.*

RESOLVING CHALLENGES FOR ONE PLANET DEVELOPMENT

4

Drawing on the evidence presented above, this section considers how One Planet Development could be a more effective policy instrument in support of sustainable development in Wales, making specific recommendations for improvements to policy and practices. We begin with a review of Equality, Diversity and Inclusion considerations relating to the OPD policy, and frame our recommendations around these conclusions.

4.1. EQUALITY, DIVERSITY AND INCLUSION (EDI)

Due to the low numbers of OPD households, we are not able to present detailed diversity monitoring figures. However, we have the following reflections on existing EDI considerations for the policy and suggestions for improvement.

The One Planet Development policy is not by nature exclusive: in principle, it is available to all residents of Wales. However, some aspects of the policy do result in barriers for certain groups of people.

1. The requirement to produce a detailed Management Plan (most are 50-100 pages long) and have it scrutinised in detail by planning officers, committee and external consultants. This is difficult for potential applicants who struggle with writing, such as those with dyslexia or neurodivergent characteristics. It is also difficult for those who are unfamiliar with bureaucratic language, such as those from working class or disadvantaged backgrounds or who left formal education early. The policy is therefore more accessible to those with a strong background in formal education. This should not be the case: there is no evidence that a strong background in formal education is a good predictor of successful land-based living. To address this bias, the **production of an OPD Management Plan should be made less complex**, while retaining confidence that key areas are assessed rigorously. For instance, **accepting previous gardening or building experience as evidence of practical competence**.

2. The lack of clarity about how Management Plans should deal with disability, illness, injury or personal circumstances such as mental health challenges, bereavement etc. The OPD guidance indicates that all of the OPD essential criteria should be met in perpetuity, without regard to health or personal circumstances. The policy is therefore more accessible to able-bodied people and those with favourable personal circumstances. While disabled people would have to produce a Management Plan which

acknowledges the nature of any limitations on the activities on site, **there should be more active consideration of inclusivity in the assessment of OPD criteria**, with specific reference to the Equality Act (2010) and more recent EDI frameworks. Any OPD resident may become disabled at any time, so this is a priority both for new OPDs and for existing residents. For instance, there could be a more explicit prioritisation of requirements, putting the Ecological Footprint and ecological benefits at the centre.

3. The cost. Financial costs to the OPD applicant include the cost of land and infrastructure, the cost of a planning application and any related consultancy (such as SUDS approval, legal costs, and so on), the cost of building a house and business, and the cost of living while waiting for an application to be decided. These mount into tens if not hundreds of thousands of pounds. We have not surveyed costs in detail for reason of privacy, but this is often raised by potential applicants as a great concern. The policy is therefore more accessible to those with significant initial capital to buy in to a project. This could be improved by reducing the requirements to provide external consultants' reports, or reducing the fee or time taken to assess planning applications. More significantly, this barrier could be reduced by encouraging multi-unit applications with alternative tenure arrangements (leasehold or rent-to-buy), or by making land available from local councils for OPD projects similar to a farm tenancy.

- 4. Lack of consideration of the Welsh language.** The OPD policy has no requirements regarding the impact on the Welsh language. Our survey suggests that the impact of OPDs in Welsh-speaking areas is positive, demonstrating a high degree of commitment to the Welsh language, Welsh learning and Welsh-medium education. However, there remains a scepticism about OPD in Welsh-speaking communities. This skewed perception reduces the attractiveness of the policy to Welsh-speaking individuals. To correct this imbalance, there should be more specific encouragement offered, for example by **listing Welsh language, active Welsh learning, and Welsh-medium education as contributory OPD criteria.**
- 5. Time taken to assess applications.** Our survey revealed that the average time taken for an application to be approved is 16 months, with several taking over two years. This is unacceptably long given that the target time for assessment of planning applications is 8 weeks. There are several implications of the delay for EDI, the biggest being the financial and emotional costs of living with uncertainty for such a long time. Applicants put a great deal of work into submitted applications and their lives are effectively on hold while waiting for approval. There is no reason for applications to take such a long time to decide. Again this results in the policy being made inaccessible to those with less financial capital, from a working class or disadvantaged background, or with children/dependents at home. We note that the applications that take longest to decide are typically those with no obvious reasons for refusal (those with clear deficiencies are rejected swiftly). We recommend that **the Welsh Government should review LPA procedures for assessing OPD applications, and provide new statutory guidance,** with the aim of avoiding long delays which are burdensome and stressful for both applicant and planning department. It is clear that many planning departments are under stress at the moment, and that some delays are unavoidable, but the present situation makes the policy inaccessible to some of those who could most benefit from it. Our overall recommendation to reduce the complexity of OPD applications will also make assessment quicker.
- 6. Lack of personal privacy.** The OPD Management Plan and subsequent annual reports can include a lot of personal details, and statutory guidance is not available regarding

the privacy of this information. This could result in the policy being less attractive to anyone whose circumstances are unconventional in any way, or who prefers not to make their personal information available to others, or who has intrusive or aggressive neighbours who might make use of that information, or who has been a victim of stalking, intimidation, or domestic violence. We recommend that **Welsh Government should work with the Information Commissioner's Office and LPAs to provide a clear privacy statement** which sets out who will have access to the information provided by OPDs. We also recommend that as a part of the update to the Practice Guidance, **reporting requirements should be reviewed with EDI considerations in mind** and reducing sensitive information requested to a minimum. Applicants should consider specifically labelling information as confidential where appropriate.

- 7.** All of the above considerations also result in lack of accessibility to black and ethnic minority applicants, who are already disadvantaged by lack of access to rural areas and the countryside. The above suggestions for improvement would improve accessibility to these communities as well.
- 8.** While we have not collected detailed data, OPD applications and approvals appear to be well-balanced with respect to male and female applicants. Some concerns have been raised about authorities questioning the competence of single female applicants to carry out a land-based management plan. We do not have evidence about LGBT+, nonbinary or transgender applicants but we believe that some of the above considerations also result in lack of accessibility to these minorities as well and that the above recommendations will improve the situation.
- 9.** Lack of diversity in the countryside is a more general concern, and we support efforts to address this.

The daunting nature of the policy for potential applicants is evident from the fact that there have been only a few dozen applications for One Planet Development planning permission in the whole of Wales in over ten years since the policy was introduced. If the above recommendations were adopted in full, we expect that there would be a larger and more diverse cohort of applications for One Planet Development sites.



Photo by Tao Wimbush

4.2 ADDRESSING LOCAL PLANNING AUTHORITY CONCERNS

The One Planet Council has hosted multiple training courses on One Planet Development for planning officers and professionals, most recently an online course in October 2020 which was attended by planning officers from Carmarthenshire, Brecon Beacons NPA, Neath Port Talbot, Swansea, Powys and Denbighshire as well as three independent consultants. We have also provided informal advice for planners, planning consultants and others involved with the planning process and have responded to public statements about OPD by Councillors.

Concerns expressed by planning officers about the OPD policy fall mainly into the following categories, though they do not all apply to all planning departments:

- ◆ **Workload concerns**, given reduced planning department budgets and the additional squeeze on officer time that has taken place during the pandemic with some working from home or on reduced hours, and others redeployed to pandemic response. This is unrelated to the specifics of OPD but is clearly problematic.
- ◆ **Lack of expertise**. An OPD Management Plan covers many different areas including energy, water, waste, food production, Ecological Footprinting, biodiversity, zero carbon buildings, and a business plan. One Planet Development often uses non-standard approaches to meet these requirements. Many officers felt unequipped to assess all of the details. There was a tendency to focus on the business plan rather than other elements, as it is the most familiar. Officers referred to Rural Enterprise Dwellings which are evaluated against standard agricultural figures such as the John Nix Handbook, and understood that OPD is different but did not have a clear idea of where to begin. Some LPAs have begun to outsource OPD determinations to external consultants. While this would be a reasonable course of action if the constraint were officer time rather than money, we note that in principle it should be achievable for all OPD applications to be determined in-house and that reduction in complexity of the application process would support that.
- ◆ **Lack of clarity about responsibility for ongoing reporting, and enforcement in the event of failure**. The five-year “trial period” was cited by officers as a useful backstop to the initial assessment, but they questioned how the reporting process would identify and enforce against sites which fail to meet the criteria. They did not consider it sustainable to have to look at reports from previously-permitted OPD sites in addition to existing workload. Reporting is further covered in section 4.4 below.
- ◆ **Elected members’ lack of understanding of the OPD policy and requirements**. We hope that the present report will contribute to a better understanding both of the requirements and of the contributions of OPD sites to local priorities. We welcome further engagement from elected members about the OPD policy and how it could be implemented more effectively. We note that where applications are rejected without substantive reasons for refusal, appeals may be accompanied by applications for costs and waste resources for both applicant and council.

4.3 REDUCING THE TIME FOR DETERMINATION OF APPLICATIONS

We recommended above that the Welsh Government should work with local authorities to review LPA procedures for assessing OPD applications, and incorporate procedural recommendations into the new statutory guidance, and that the Welsh Government should offer further funding or targeted support or training for LPAs, to improve their ability to assess OPD applications. But there are also other delays in the system which can be addressed with targeted action.

Some recent OPD permissions have taken a long time (months to years) to agree a form of words for a Section 106 Agreement. Older applications have highly inconsistent wording between different sites even in the same local authority area. We offer two alternative suggestions here. The first is to note that some OPD consents have not required a Section 106 Agreement at all, instead dealing with all matters by use of planning conditions. We recommend that this approach be followed more widely. Alternatively, if it is felt that a S106 is necessary, then the provision of a template Section 106 Agreement would be beneficial for all concerned and would reduce the time and cost incurred by both applicants and LPAs as well as ensuring that the requirements are consistently applied. The One Planet Council has made available a suggested form of words for a template, based on recently approved applications.

Some OPD applicants have also been requested to provide further details after the planning consent is approved, for matters which are only marginally relevant to OPD and can incur significant extra costs. The provision of drainage details under the SUDS requirement, for example, replicates at greater expense a design already described in most OPD Management Plans. Similarly, a full nutrient management plan of the scale rightly required by NRW for large livestock units would be disproportionate for the majority of OPD holdings who have already written in detail about their management of minimal household waste. If an exemption for OPD is infeasible, then **provision of a template for domestic-scale SUDS and nutrient management would be beneficial for all concerned.** The One Planet Council plans to draft suitable templates and make them publicly available.

“Provision of a template Section 106 Agreement would be beneficial for all concerned and would reduce the time and cost incurred by both applicants and LPAs as well as ensuring that the requirements are consistently applied.”



4.4 CLARIFYING ONGOING REPORTING REQUIREMENTS

The One Planet Council consider the reporting process to be an essential part of One Planet Development, for

- ◆ ensuring commitment to the principles of OPD including the Ecological Footprint, and
- ◆ research value in demonstrating the contribution of OPDs to their local area, Wales and the planet.

“When planning permission is granted, the conditions should include a clear statement of the form and timing of all reporting requirements.”



The requirement on each OPD is to submit an annual report. This is a self-assessed yearly update on progress, the format of which will usually follow a template provided in the management plan. It is not standard practice for either planning or enforcement officers to be required annually to check detailed ongoing compliance with every condition imposed on a development, and we see no reason for One Planet Development to be treated differently or to present an additional burden. However, we expect that upon receipt of annual reports, they are checked to establish that they conform to the format agreed upon granting planning permission and then an acknowledgement is given by email to the OPD. If concerns are raised about the performance of the OPD at any stage, then the submitted reports would form a basis for a more in depth audit. When planning permission is granted, the conditions should include a clear statement of the form and timing of all reporting requirements.

The One Planet Council has collated reporting data from OPD sites for this report, and recommends that a minimal template for quantitative data could be used to collect the basic information in a standard format annually, with a more detailed report capturing the overall state at Year 5 or if concerns are raised. In the absence of a national resource, the One Planet Council is exploring the possibility of maintaining a database for use in research, to support other OPD applications, to demonstrate the success of OPD against national aims, and to enable a more consistent interpretation of the reporting requirements. The quantitative and qualitative data contained in OPD reports is of great research value. We invite research students or interested collaborators to make use of this information. The privacy of personal data in reports has been discussed above in the context of Equality, Diversity and Inclusion (EDI, section 4.1).

4.5 UPDATING THE PRACTICE GUIDANCE

The OPD Practice Guidance was published in 2012 and its Essential Criteria continue to provide the basis for production and assessment of OPD Management Plans. We are broadly in agreement with the intention and implementation of the Guidance. Our suggestions for improvement relate to the Equality, Diversity and Inclusion (EDI) discussion above and to some specific areas where OPD experience has identified a problem or an ambiguity.

Our overall recommendation regarding EDI is that the Management Plan, application and monitoring process should be simplified somewhat. We recommend maintaining the rigour of key areas like the Ecological Footprint but encouraging applicants to use their own words rather than a formal or professional style, allowing past experience as evidence rather than expecting to see book numbers, and

taking into account the needs of differently-abled potential applicants. The principle is to accept that OPD applicants from a less-advantaged background or with specific challenges, may be at least as competent as those who have high levels of education and familiarity with professional language. It would also be helpful for the same reasons to expect some solutions to be common between different sites - for example, there is no need for everyone to redesign a composting system - and to expect personal elaboration only for site-specific aspects like the business plan. The outcome is likely to be shorter Management Plans, though they should still follow the same outline. When a new Practice Guidance is commissioned, the frame of reference should explicitly include EDI, the Equality Act (2010), and consultation with differently-abled potential OPD applicants including people with disabilities and from diverse backgrounds.

Since 2012, learning from OPD experience has identified a small number of areas where there is a lack of clarity which could be improved by updating the guidance.

1. **Livestock feed** is not specifically considered. Some guidance should be provided, for example to avoid allowing as “land-based” income derived from livestock fed exclusively on bought-in feed.
2. **The Minimum Needs calculation** proves to be confusing for many, especially the contribution of food costs. It should be considered whether this could be simplified, to improve the transparency and consistency of reporting.
3. Due to the reduced **carbon intensity of grid electricity** in the last decade, it may be worth clarifying that grid connections are not discouraged if they are the more sustainable option and as long as the household is a net contributor to the grid.
4. The **impacts on biodiversity**, both positive and negative, are extremely hard to measure. Specific guidance about the kinds of evidence required would be beneficial; for instance if an ecologist makes recommendations for management of an area then these should in general be followed and reported on.
5. Some indication of how to approach **allowance for personal circumstances** such as disability, illness, injury or bereavement. Several OPDs have reported adverse impacts due to the Covid pandemic and have felt strongly pressured by the OPD requirements at a difficult time.
6. Some indication of the **approach to changing life stages**, for example ageing and “retirement” or caring for small children or elderly relatives. At present all requirements apply in full in perpetuity, and there is a default focus on the more measurable aspects like business productivity. It could be explicitly clarified that footprint and ecological/ biodiversity value are a more central priority for OPD than economic productivity, for example, which could allow for semi-“retirement” from the business side of the OPD at an appropriate life stage while maintaining the rest of its contributions and requirements. An update to the Practice Guidance could look for creative solutions to this challenge.

An updated Practice Guidance would also take the opportunity to place OPD in the changing context of the climate and ecological emergencies, the well-being of Future Generations Act, post-Brexit farming support, the cost of living crisis, support for new housing in rural Wales, support for the Welsh language, and economic recovery in the wake of the Covid-19 pandemic. As our review of OPD data has shown, the policy is not just achieving site-based and household change but is acting as a catalyst and inspiration for wider rural change, though as yet on a very small scale.

A further priority for an updated Practice Guidance would be use of more inclusive imagery, drawing on existing OPD sites (which did not exist when the first Guidance was published) and other low impact developments, to represent a range of people, households, dwelling types and enterprises.



“OPD applicants from a less-advantaged background or with specific challenges, may be at least as competent as those who have high levels of education and familiarity with professional language.”

4.6 UPDATING THE ECOLOGICAL FOOTPRINT CALCULATOR

The Ecological Footprint Calculator needs to be updated. An Excel spreadsheet, it was created in 2012 to accompany the Practice Guidance. There are two primary deficiencies which we suggest could be easily addressed in a new version without significant additional research:

1. There should be a basic **correction for inflation** of prices of goods and services. This is becoming particularly urgent in 2021-22 due to the higher levels of inflation we are now seeing. As many aspects of the EFA are based on a footprint per pound spent, if the same basket of goods become ten per cent more expensive it will incorrectly appear that they have a greater ecological footprint. A basic correction could correct every price by the same approximate inflation factor.
2. **Adding a category for food purchased from other local growers.** The footprint figures for food do not distinguish between a pound spent on cheaper imported food in a supermarket and a pound spent on more expensive but lower impact food from a local source. OPDs often prioritise buying local, organic, and seasonal food to reduce their ecological impact but as they pay more for it, it appears as a higher ecological footprint in their reporting. This is a perverse incentive which should be corrected.

If the capacity existed to do more primary research, a more in-depth update would check the individual price and impact changes in different goods and services, to reflect, for example, differences in inflation across categories or the change in carbon intensity of grid electricity, and would provide new benchmarks for the Welsh average footprint (the most recent available data are from 2011) and the “One Planet” footprint.

4.7 EXPLORING ALTERNATIVE FORMS OF OPD

One Planet Development applications to date consist almost entirely of single-household developments along the model of the traditional smallholding. The exception is Rhiw Las in West Carmarthenshire, which was a coordinated application for four adjacent single-household OPDs, but they make separate reports and effectively behave as separate units with some shared infrastructure.

Nevertheless, the One Planet Council has consistently noted that other forms of OPD are permitted and possible within the framework of the policy. We would like to see a more diverse range of One Planet Development applications taking approaches such as the following:

- Multi-unit OPD with more shared infrastructure including workplaces.
- Multi-unit OPD including alternative tenancy arrangements such as leasehold or rent-to-buy, for those who cannot afford to purchase a plot outright.
- Multi-unit OPD with a community approach to the fulfilment of requirements.
- OPD owned by a land-based business rather than by an individual, such as a Community Supported Agriculture business providing accommodation in the form of an annual tenancy for an on-site grower.
- OPD as part of diversification of a more conventional farm, where the land-based business may already exist.

The One Planet Council supports organisations such as the Ecological Land Cooperative, Regenerative Settlement, and other groups who are actively working on new models for One Planet Development in Wales and beyond.

In the further evolution of the policy, we would like to see a more nuanced consideration of “Open Countryside” beyond the usual definition of settlement boundaries. One Planet Development within walking/cycling distance of an existing settlement, for instance, could be an opportunity to provide local food, services and opportunities with a particularly low ecological footprint and might put more emphasis on community contributions than on individual self-sufficiency, where OPDs with less obvious transport connections might continue the present focus on providing for their needs on site.

And there is always scope for developers to work with Local Planning Authorities to find creative solutions to meet local needs and priorities. A full or partial “One Planet” approach would be a positive attitude for any new development given the priorities of addressing climate change, improving habitats for nature, and providing sustainable economic opportunities.

“We would like to see a more diverse range of One Planet Development applications...”

4.8 ADDRESSING MYTHS AND MISCONCEPTIONS

- OPD does not require full self-sufficiency
- OPD does not require proof of a need to live on site 24/7
- An OPD can use modern resources as long as they stay within the One Planet Ecological Footprint
- External income is permitted as long as the land-based income meets the requirement
- OPD dwellings must meet the same Building Regulations as all other buildings
- OPD Management Plans can be updated to take into account changes of circumstances as long as they continue to meet the OPD requirements
- OPDs are bound legally to be a sole residence of the occupants

WHAT CAN ONE PLANET DEVELOPMENT DO FOR FUTURE GENERATIONS IN WALES?

5

Outlook for continuing to achieve further integrated benefits from OPD over the next ten years.



Photo by Daisy Bee

WHAT CAN ONE PLANET DEVELOPMENT DO FOR FUTURE GENERATIONS IN WALES?

5

The last ten years have effectively been a “pilot study” of the contributions that One Planet Development can make to rural communities and the sustainable development of Wales. Now that the results of that pilot study are available, they provide an evidence basis for the next steps.

The contributions that OPD can make are manifold. Our evidence shows that One Planet Development is helping Wales to achieve the seven aims set out in the Future Generations Act (2015):

Prosperous

OPD businesses, mostly without the benefit of any subsidy, are generating an income from marginal agricultural land. They are low carbon innovators, demonstrating local and national leadership in sustainable practices, providing employment opportunities, and supporting the development of low carbon skills for a “Net Zero” economy.

Resilient

OPD sites are interconnected with the local economy and the local ecosystem. They provide jobs, recreation, food, habitats, carbon sequestration, and beauty. As such, they improve the social, economic and ecological resilience of their communities.

Healthier

OPD residents spend time in nature, gardening and tending livestock, all of which are good for both physical and mental health. They offer these opportunities to others in various forms including tours, footpath access, employment opportunities, volunteering, skill sharing and Open Days. OPD residents also make use of active travel including walking, bicycles, electric bikes and so on, and public transport in preference to private car use.

More Equal

The aim of the “One Planet” concept is a fair share of the earth’s resources. A more equal Wales is one where the highest consumers learn to reduce their impact and a fairer share is available to all, including our future generations.

Cohesive Communities

Residents of OPDs are connected with their local communities and participate in a wide range of formal and informal community activities, from supporting pubs and post offices to acting as school governors and organising events. In addition, about half of OPD sites include children, vital to the future of rural communities and schools.

Vibrant Culture and Thriving Welsh Language

Residents of OPDs have greater than average Welsh language skills, including first-language, active learners and parents enrolling children in Welsh-medium education.

Globally Responsible

The motivation for One Planet Development is the globally responsible One Planet Ecological Footprint: using only our fair share of the earth’s resources. In addition, OPD contributes to carbon reductions via tree planting and reducing consumption to sustainable levels.

What is unique about OPD is that it delivers all of these benefits together, in an integrated way, responding sensitively to place, and without public financial support. Our recommendations seek to improve the ability of the policy to facilitate these contributions, by increasing its accessibility to all and reducing the perceived administrative burden on planning departments.

In 2030, we would like to see

◆ **More One Planet Developments**

The social, economic and environmental benefits of One Planet Developments for rural communities are clear from the above evidence. In 2030, more OPDs would provide more of those benefits, and in addition would be able to form local networks which support more ambitious projects.

◆ **Greater diversity of OPD practitioners**

Reducing the barriers to entry, with specific reference to considerations about Equality, Diversity and Inclusion, would allow people from a wider variety of social, cultural and economic backgrounds to take up One Planet Development. This would support innovation as well as inclusivity, showing the way for a One Planet ecological footprint to be achieved by all and not just a few.

◆ **Greater diversity of OPD sites**

At present most OPD sites are single-household owner-occupied smallholdings. But other models are possible. There is great potential for multi-unit groups or planned developments to contribute to the delivery of local development plans and to offer mixed tenancy arrangements which facilitate wider accessibility.



SUMMARY OF FINDINGS AND RECOMMENDATIONS

*Supporting One Planet Development
in Wales for the benefit of all.*

PERFORMANCE OF OPDs AND ONGOING OPERATION

KEY FINDINGS

- ◆ Our detailed evidence demonstrates that One Planet Developments are meeting their targets as laid out in the policy and Practice Guidance.
- ◆ One Planet Developments are operating within their fair share of the Earth's resources, having average Ecological Footprints well below the One Planet level.
- ◆ OPDs are finding, trialling and sharing innovative solutions including renewable energy, water and waste management, ecological conservation and regeneration, and zero carbon building.
- ◆ OPDs support nature and biodiversity both on- and off-site. A diverse range of habitats are created on OPD sites not despite the development but directly in order to support the provision of services for the human inhabitants: food, heating fuel, water and waste assimilation, a livelihood and a home.
- ◆ OPD households have greater than average use of the Welsh language (average levels of fluency, greater than average levels of active learning and greater than average levels of enrollment of children in Welsh-medium education).
- ◆ OPD data is an invaluable resource which is not being collated either by LPAs or the Welsh Government.

RECOMMENDATIONS FOR IMPROVEMENT

- ◆ Annual progress reports should be provided in a simple standard template (which could be an online form for convenience) and collated centrally rather than being held by individual planning officers.
- ◆ The Welsh Government should work with local authorities and the Information Commissioner's Office to create a clear privacy policy relating to the holding of personal information in OPD progress reports.
- ◆ With the consent of data submitters, anonymised quantitative data from progress reports should be made available for use in research.
- ◆ Annual progress reports should not need to be audited in detail unless concerns are raised.
- ◆ The Ecological Footprint Calculator should be updated, with the highest priority changes being to apply a correction for inflation and to add a category for the purchase of locally-grown food. The national Ecological Footprint estimate should also be updated within the next five years, to take account of changing national and international circumstances.
- ◆ An updated Practice Guidance should reframe the priorities of One Planet Development, emphasising the Ecological Footprint and value for biodiversity and nature recovery as the fundamental OPD contributions, rather than economic productivity. This change of emphasis could also facilitate creative solutions to other challenges such as the approach to changing life stages.

THE PLANNING APPLICATION PROCESS

KEY FINDINGS

- ◆ Despite considerable interest in OPD there are very low numbers of applications.
- ◆ Barriers to uptake include cost and availability of suitable land, the uncertainty involved in submitting a planning application, the paperwork involved in putting together a management plan, the costs of a planning application, and the time taken for decision.
- ◆ All of these are also barriers to Equality, Diversity and Inclusion across multiple protected characteristics and in terms of other characteristics such as neurodivergence, mental health and educational or socio-economic background.
- ◆ It is increasingly taking a very long time for LPAs to issue decisions on OPD applications (an average of 16 months), which is bad for both applicants and planners and also has negative implications for EDI. Further delays for successful applications are related to the sign off of S106 agreements, details of sustainable drainage and nutrient management.
- ◆ LPA rejections are sometimes accompanied by reasons for refusal that are not applicable to OPD (such as the open countryside location or confusion with other rural policies), resulting in the unnecessary extra cost of successful appeals.
- ◆ Procedures for assessing OPD applications vary significantly between LPA planning departments.

RECOMMENDATIONS FOR IMPROVEMENT

- ◆ The Welsh Government should commission and publish new statutory guidance (an update or replacement for the existing OPD Practice Guidance) framed by the well-being of Future Generations and the importance of Equality, Diversity and Inclusion, which reduces the complexity of OPD application and assessment and reframes the priorities. The One Planet Council has offered a set of specific recommendations for this update.
- ◆ The Welsh Government should work with local authorities to review LPA procedures for assessing OPD applications, and incorporate procedural recommendations into the new statutory guidance.
- ◆ The Welsh Government should offer further funding or targeted support or training for LPAs, to improve their ability to assess OPD applications.
- ◆ Some Local Planning Authorities should consider providing or commissioning more effective training for planning committees so that they are fully aware of the requirements of One Planet Development.
- ◆ Where a S106 undertaking is necessary in addition to planning conditions, a standard template undertaking should be provided and the same wording used by all OPD sites unless special circumstances apply. The One Planet Council has offered a template based on recently approved applications.

POTENTIAL OF OPD IN A WIDER CONTEXT

KEY FINDINGS

- One Planet Development sites show the way forward for Wales to become a One Planet Nation. The One Planet Development policy is helping Wales to achieve the aims set out in the Future Generations Act.
- What is unique about OPD is that it delivers multiple benefits together, in an integrated way, responding sensitively to place, and without public financial support.
- One Planet Development is highly regarded internationally and informs policy development in other countries.

RECOMMENDATIONS FOR IMPROVEMENT

- One Planet Developments are pioneers of nature recovery. Learning from OPD sites should be used to inform wider nature recovery frameworks.
- The OPD policy has a clear opportunity to improve with regard to Equality, Diversity and Inclusion, primarily by reducing the complexity of application and assessment. We have suggested how this can be done without compromising the standards and rigour of the policy.
- The Welsh government should work with local authorities to identify opportunities to promote One Planet Development.
- Implementing our recommendations in full would enable there to be more One Planet Developments, greater diversity of OPD practitioners, and a greater diversity of OPD sites, addressing concerns that have been identified with regard to Equality, Diversity and Inclusion and helping to achieve the goals of the Well-being of Future Generations Act.
- The One Planet Council is ready to work with the Welsh Government, Local Planning Authorities, or any interested stakeholders, on how to further the aims of One Planet Development and achieve further benefits by sharing learning and innovation more widely.

ABOUT THE ONE PLANET COUNCIL

The One Planet Council is an independent voluntary body supporting One Planet Development in Wales and beyond. The One Planet Council provides 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. We also work with those who have already made that leap, with policymakers, academics and landowners.

Broadly representative, the One Planet Council comprises people from all walks of life, including specialists with knowledge and experience in related areas of planning, building, farming, land-management, climate science, self-employment, economics and well-being.

Our aims are:

- To enable a broad range of exemplar One Planet Development projects throughout Wales, comprised of people from all walks of life.
- To see these sites serve as an inspiration to the people of Wales and beyond.

NOTABLE ACHIEVEMENTS: 2013 - 2022

- Organised and delivered expert led **OPD Training** to both local authority and independent planning officers, other professionals, and potential applicants.
- Published a series of **Position Statements** to clarify policy and practical recommendations.
- Researched and published this report, **Review of One Planet Development in Wales 2010-2021**.
- Created and organise an **Annual Open Week** for members of the public to visit and take a tour of participating OPDs.
- Created and launched an OPD **Produce Label** to help practitioners with marketing produce and crafts.
- Run regular **Open Meetings** for the general public in different parts of Wales.

The One Planet Council would like to thank all of the OPD practitioners who filled in our survey and offered their words, experiences and support. We also thank the many planning officers, councillors and planning consultants who have engaged in conversation about OPD with us

over the years, the academics who have studied OPD more formally (especially Brett Sanders, whose work is used in section 3), and all of those involved with the initial development of the OPD policy. Diolch o galon i chi gyd.



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