



**Annual Monitoring Report  
For  
Tir y Gafel Ecovillage**

**1<sup>st</sup> January 2012 – 31<sup>st</sup> December 2012**



## **Contents**

### **1. Framework for this report**

### **2. Summary of Key Findings**

### **3. Performance against Management objectives**

1. All building and infrastructure development will have a small ecological impact.
2. The natural wealth and biodiversity of the land will be enhanced.
3. The settlement will become integrated into the local community and will be an asset to the local economy.
4. The project will offer the opportunity of affordable housing.
5. There will be an effective traffic reducing strategy in place.
6. The settlement will welcome visitors and provide an educational experience.
7. The project will provide a support infrastructure for land based sustainable livelihoods to develop.
8. The project will conduct and publish research about the development.
9. The development will embrace and support the Welsh language.

- **Appendix 1: Household need and plot productivity calculation**
- **Appendix 2: Traffic data**
- **Appendix 3: Guidelines for household need and productivity calculation**

## 1. Framework for this report

This is the third annual monitoring report for the Tir y Gafel eco-village. The format is derived in part from the planning condition 3 (August 2009) and in part from the layout proposed in the settlement's Management Plan.

### From the Lammas planning conditions:

- 3) No later than 1<sup>st</sup> April each year, commencing in the second year after development commences, the occupiers of the site shall submit to the local planning authority a written report giving details of the activities carried out during the previous twelve months, setting out performance against the management objectives included within the Management Plan, and the number of vehicle trips generated by the development. In the event that the report identifies that any objective has not been met, or that the number of vehicle trips exceeds the targets set in the Traffic Management Plan, a supplementary report setting out corrective or mitigating measures shall be submitted to the local planning authority no later than 1<sup>st</sup> July of that year. Those measures shall be implemented in accordance with the supplementary report.

### From the Tir y Gafel Management Plan:

#### 10. Monitoring Arrangements

The society will produce an Annual Monitoring report. A copy of this report will be sent to Pembrokeshire County Council. The report will give a general description of the projects activities over the preceding 12 months. It will then chart the project's progress against a well-defined set of performance indicators. It will conclude with a resolution for future targets and propose changes to management practices.

##### 10.1. Performance Indicators

###### 1. Annual

- Ecological Footprint Assessment (SEI)
- 75% Productivity target
- Traffic volume and density
- Management objectives evaluation
- Welsh language integration

###### 2. Long term (4 year)

These performance indicators will be evaluated every 4 years due to the long term nature of their improvement program

- Soil health
- Biodiversity
- Number of new trees planted (accumulative)
- length of new hedgerow planted (accumulative)
- Number of new ponds installed (accumulative)

###### 3. Variable

- Grey Water systems

## **2. Summary of Key Findings**

### **Household Need Calculation**

- ⤴ **42.48%** of household needs were met from the site in 2012 (as compared to 9% in 2010 & 19.37% in 2011). This is considered to be on track for the production of 75% of household needs from land-based activities by the end of 2014 (year 5).

### **Traffic Monitoring**

- ⤴ The number of traffic movements in 2012 was **11,174**. This was well within the limit of 25,278 traffic movements set for year 3 in the Tir y Gafel traffic management plan.

### **Ecological Footprint**

- ⤴ The Tir y Gafel site is considered to have an ecological footprint of **1.7 global hectares/capita** (as compared to 2.55 global hectares/capita in 2010 & 2.39 global hectares/capita in 2011). This is well below the Welsh average of 4.41gha/cap and Tir y Gafel is on course to have a much lower ecological footprint by the end of 2014.

## **Key Achievements in 2012**

- The installation of the hydro-electric turbine and the availability of 240v electricity across the entire site.
- The use of Yr Hwb for courses, events and meetings
- Plot holders settling into and developing their plots with a marked increase in productivity this year.

### **3. Performance against Management Objectives**

#### **All building and infrastructure development will have a small ecological impact.**

Any structure/building will need the approval of the Society as well as the local planning authority. The Society's planning procedure will be exclusively concerned with the low-impact nature of the development and as such will need a full set of plans/drawings/specifications for approval.

The Society will ensure that all development is in accordance with the aims and policies set out within this management plan. The project as a whole will endeavour to aspire to a one planet ecological footprint, and therefore residents will need to be willing to have their dwellings and lifestyles analysed for research. The results of this will be fed back to inform household practice.

*The Society considers that all buildings and structures built to date on site are low-impact. All construction within the project has had a small ecological footprint, with decisions being carefully weighed up to strike a balance between function, embodied energy, lifespan, carbon footprint and regulatory requirements (for example building regulations).*

*During 2012 three families on the site were subject to enforcement action from Building Control at Pembrokeshire County Council. Inherent within this enforcement action was the desire of Tir y Gafel residents to build with as small an ecological footprint as possible balanced against the need for buildings to comply with Building Regulations. Both sides worked towards a resolution in 2012 and by mid-summer a resolution had been reached for all three structures. No prosecutions were forthcoming. Working towards a solution took up a significant amount of time and energy for those residents involved.*

*Nonetheless work has continued on building barns and other ancillary structures such as sheds with the emphasis on using locally sourced materials and are therefore considered to be low-impact.*

*As for the two previous years an ecological footprint assessment was undertaken for each of the nine households.*

***The total ecological footprint for the development for 2012 was calculated as 1.7 global hectares per capita (gha/cap) compared with 2.55gha/cap for 2010 and 2.39gha/cap in 2011).***

*The amount of global resources available per person is currently considered to be 1.88gha/cap. Wales' ecological footprint in 2006 was estimated at 4.41gha/cap. The Welsh Nation could be considered as having a 2.35 planet footprint in 2006.*

***The Tir y Gafel project could be considered as having a 0.9 planet footprint in 2012 compared to a 1.27 planet footprint in 2011 and a 1.36 planet footprint in 2010.***

*In previous years this calculation was undertaken by an outside consultant using figures supplied by residents. This year the on-line One Planet Development calculator was used. This, plus guidelines, can be found at:*

<http://wales.gov.uk/topics/planning/policy/guidanceandleaflets/oneplanet/?lang=en>

## **The natural wealth and biodiversity of the land will be enhanced.**

During site and building works care will be taken not to cause any environmental damage. Any areas of notable environmental value (e.g. broadleaf woodland, hedgerows, and wetland) will be acknowledged and incorporated into the site plan in such a way as to conserve and preserve their natural value. Any existing wildlife corridors will be noted and conserved. Lammass will in effect be creating a network of small fields/forestry plots that will each be managed individually. In time, many individual ecosystems will establish themselves on the site leading to what Lammass expects to be an impressive increase in biodiversity.

*The Tir y Gafel site continues in its huge transition from pasture to a mosaic of different ecosystems.*

- ✧ *A substantial amount of tree planting continues to be undertaken across the site with over 7500 trees now planted.*
- ✧ *The millpond continues to be managed for biodiversity and wildlife through a policy of maintaining water levels, regulating algal blooms and cultivating an attitude of appreciation and conservation. It contains a healthy population of trout, as well as supporting a range of breeding waterfowl (including Canada Goose which, despite being considered a problem invasive species, are nonetheless accepted by virtue of their numbers being naturally limited by the small area of the millpond itself and by virtue of their benign effect on native flora and fauna). The millpond hosts a large population of breeding toads (toads are now listed as a UK Biodiversity Action Plan priority species). The millpond is also a valuable feeding ground for bats (a European protected species). Otters have also been sited using the millpond (another European protected species).*
- ✧ *Five new ponds were dug in 2012 bringing the number of new ponds on site to a total of 14.*
- ✧ *Approximately 274 metres of new hedgerow has been planted in 2012. This brings the total new-plant hedgerow on site to 2144m thus far.*
- ✧ *Tir y Gafel residents continued with their voluntary conservation effort to eradicate Japanese Knotweed from the woodland area, where it has taken a hold around the Ffynnon Deg spring. This is an ongoing initiative which will continue over the next few years.*
- *Work continued in the woodland as per the Woodland Management Plan; restoring overstood hazel coppice and opening up rides in order to regenerate and diversify the woodland. Wildlife habitat through brashwood and replanting with oak and ash has been a primary focus. In addition timber yields were harvested for building, firewood and craft.*

## **The settlement will become integrated into the local community and will be an asset the local economy.**

We recognise the importance of open negotiations and consultations with local people in order to foster the spirit of mutual understanding and respect. We hope that the low-impact nature of the development, coupled with the many local benefits, will lead to local people appreciating the advantages of the development.



Local benefits will include:

- A boost for local businesses - Owing to the project's low impact ethos, residents will naturally shop locally and make full use of local businesses, products and trades. Visitors to the settlement will also be encouraged to shop locally.
- Rights of way – The project will create a network of footpaths for public use through the site, opening up the land for walkers.
- Affordable housing – There will be a provision of affordable housing for people with low impact aspirations.
- Local economy - The settlement will add to the local economy by offering a range of skills, crafts and produce. The Society will encourage businesses developed within the settlement to consult locally in order to complement, rather than compete with, existing small businesses in neighbouring towns and villages.
- Public transport provision – The Lammas minibus will be available for local people to use.
- A part-time shop and café facility.

*The Tir y Gafel residents are indeed, by virtue of human nature, weaving themselves into the local community. They play an active role in shopping locally and participate in local events. For example some Tir y Gafel residents have been involved in setting up the new community shop in Glandwr and one resident sits on the shop committee.*

*Lammas continues to contribute to sustainability research and planning. A Lammas member currently holds the chair of The Environment Network for Pembrokeshire and as such sits on the environmental policy strategy committee with Pembrokeshire County Council and its partners, the Pembrokeshire Environment Forum (PEF). We sincerely wish to support the PEF partners in the next task of writing the detail for the headline actions of the Single Integrated Plan (SIP), particularly providing information and experience relating to One Planet living and promoting and protecting the natural environment.*

### **The project will offer opportunity of affordable housing.**

The properties will be available in perpetuity. That is to say that when a resident leaves the project, they will sell their lease on the open market. The lease will contain the various conditions and regulations which will ensure the low-impact aims of the project will be maintained. Lammas fully expects that (due in part to these restrictive conditions and also due to the continuing availability of land on which low-impact developments can take place) the prices for such leases will fall well below market rates.

*All 9 plots were occupied for the entirety of 2012. No residents have departed. No leases were sold in 2012.*

### **There will be an effective traffic reducing strategy in place.**

The project has a well defined traffic management policy in place which takes into consideration all aspects of traffic generation. Essentially the project is an integrated residential and livelihood development which will by its nature allow residents to live a lifestyle less dependant on vehicle use. Most of the household needs will be met directly from the site. These include:

- Land-based employment
- Additional employment
- Social Networks (by the nature of community)
- Recreational provision (eg, playground for children, waking for adults)
- Services (Water, electricity, fuel)
- Livelihood support (skills and knowledge)

The regulatory mechanisms which will ensure that traffic will be minimised include:

- Residents will be required to share vehicles.
- A Society minibus will provide a link with local towns.
- The minibus will also be available for additional trips/ one-off opportunities.
- All deliveries to and from the site will be coordinated.

- Financial incentives will be used to encourage visitors to travel by public transport.
- All traffic will be monitored and reviewed on an annual basis.

*During 2012 8 vehicles were operated from Tir y Gafel by residents.*

*Residents were charged £200 pa (£16.67pcm) for running vehicles from the site as a disincentive for vehicle use.*

*One car share scheme was operated on site.*

*For the volunteer weeks, a 'Green Dragon' minibuses to was hired to ferry volunteers around.*

*Vehicle journeys to and from the project were counted by using an automated traffic counter. The automated traffic counter operated from 18<sup>th</sup> May to 31st December. Due to several technical hitches data was collected from most days during this period's but not all. Data is available for 148 days in 2012. The data for the whole year has been extrapolated from this. This traffic counter data is included in Appendix 2.*

*Average vehicle trips per week made to and from the site (noting that a return journey is 2 trips) was 215.*

*Average vehicle trips per day made to and from the site (noting that a return journey is 2 trips) was 31.*

*Total number of vehicle trips in 12 months (from January<sup>1st</sup> 2012 til December 31st 2012) was considered to be 11,174 (of which 300 were as a result of disability transport). The maximum vehicle count (as detailed in the Traffic Management Plan) is set at 25,278 per annum during the first three years (considered as the Building Phase) and 17,810 per annum thereafter. The current level of traffic generated by the Tir Y Gafel site is therefore under the allocated quota.*

## **The settlement will welcome visitors and provide an educational experience**

It is likely that the project will, due to its innovative nature, attract visitors. Most of these will be attracted to the exploration of principles of sustainability. It is important that examples of low-impact development are available for people to experience. Low-impact development offers one potential solution to the challenges of addressing climate change, limiting fossil fuel consumption, affordable housing and the farming crisis.

It is equally important to balance the project's contribution to a wider sustainability transition with the need to ensure that visitors' travel arrangements are also low-impact.

Thus the Society has a policy that welcomes visitors within a clearly defined framework, designed to minimise visitor vehicle use.

The settlement will remain open to visitors at all times, though reserves the right to implement measures designed to control visitor numbers (for example parking fees), and will endeavour to encourage the clustering of visitors on certain days when residents of the project will give guided tours of the project.

A range of information resources will be available for visitors.

Access to the settlement will be from the Llanfyrnach to Glandwr road. At the entrance to the site will be a gateway featuring a sign which will clearly display when the settlement is open and closed.

Adjacent to the car-parking area and Minibus stop will be a "Welcome Point" which will serve to inform visitors to the range of facilities available.

There will be a community hub building on the site. This will provide a meeting place for both community members and visitors. Indeed, it will be the starting point for guided walks and tours.



It will also house a part time café and a part-time shop (the trading post) from which visitors will be able to purchase produce from the locality.

*Each Saturday, from 14<sup>th</sup> April 2012 to 29th September 2012, advertised tours of the site were given by residents to members of the public. There were 26 tours in total in 2012 and approximately 450 people visited the site in this way.*

*In addition to the Saturday tours, a number of other facilitated tours were given to the following groups:*

*Ysgol y Preseli (6<sup>th</sup> form course in world development)  
Holy Name Catholic Primary School, Fishguard  
Dyfed Smallholders Association  
Bristol Permaculture Group (Shift Bristol)  
Young Farmers Club  
Community supported agriculture group from St. Davids  
A voluntary services overseas (VSO) group from Mozambique and Swansea*

*A number of events/ conferences and courses were also held at Tir y Gafel:*

*A Lammas experience volunteer week  
Family adventure camp - giving people with children opportunity to experience low impact life-style.  
Three, one week long courses on roundwood timber framing at Plas Helyg  
Two, one week long courses in cob building at Plas Helyg.  
An Eco-Village Conference  
Three courses on low-impact smallholding skills  
Wood Craft Folk (three residential stays)  
Digger and Dreamers AGM*

*In addition residents at Tir y Gafel hosted 133 volunteer placements*

## **The project will provide a support infrastructure for land based sustainable livelihoods to develop**

Each household will be required to provide at least 75% of its household needs from land based activity.

Each household will have access to the equivalent of approximately 8 acres on which to develop a land based livelihood. Residents will have exclusive use over some areas of this land, and will share other areas.

To create a sustainable land based lifestyle is enormously challenging. The farming community will affirm that in today's economic climate there is very little money to be made from the land. This coupled with the challenges of environmentally conscious living (for example, reducing one's travel needs) creates an adverse environment for low-impact smallholders. Only through establishing a sufficiently large group of low impact holdings can the potential of the project as a model for sustainable development be fully realised. Thus we are planning a settlement of 9 smallholdings.

With the momentum of the group helping to sustain the project in the long term, a local economy centered around land based productivity will flourish. A culture of low impact lifestyles will grow and provide support and inspiration both within the project and beyond.

The support services which Lammas will offer its residents include:

- The society will provide a health and safety certified kitchen for residents to process and thus add value to their food produce.
- There will be a part-time shop (trading post) and café from which residents can sell their produce.

- Residents will be able to advertise and sell produce through the Lammas website.
- If residents produce is of a sufficiently high standard, they will be able to use the Lammas logo as a marketing tool.
- Lammas will also offer each household timber from the community woodland so that the production of value-added craft can be explored.

*The proportion of household need produced from the land continues to increase steadily from year to year particularly in relation to food production.*

<i>PLOT</i>	<i>Household need</i>	<i>Needs met from site (including income)</i>	<i>Percentage of needs met</i>
<i>a</i>	11879.89	7650.51	64.4%
<i>b</i>	16558	4273.35	25.81%
<i>c</i>	12557	2825.5	22.5%
<i>d</i>	5694.1	2944.24	51.71%
<i>e</i>	11398.5	5397.35	47.35%
<i>f</i>	17532.29	5443.54	31.04%
<i>g</i>	9762	5342	54.72%
<i>h</i>	10792	7204.25	66.76%
<i>i</i>	6529.89	2545.89	38.99%

*Value placed on the total household needs for the settlement in 2012: £ 102,707.67*

*Value placed on the needs met directly from the site in 2012: £ 43,626.63*

***The settlement met 42.48% of its needs from land based activity during 2012.***

*The Tir y Gafel Management Plan does not give targets for the percentage of household needs met from the land in the first two years. However, it does give forecasts for years 3, 4 and 5. These are:*

*Year 3 41%*

*Year 4 68%*

*Year 5 100%*

*In year 1 the percentage of needs met from the site was 9%, in year 2 it was 19.37% and is now 42.48%. If land-based production continues at this rate for the following three years, Tir y Gafel can be considered to be on target to meet the 75% criteria laid down in policy 52.*

*See Appendix 1 for detailed breakdown of household need and land-based productivity'.*

## **The project will conduct and publish research about the development**

Lammas aims to promote low-impact development as a tool for realising Wales' sustainability goals. Lammas will facilitate a research team to conduct and evaluate the project's success. The research will primarily be concerned with:

1. The settlement's ecological footprint.
2. The settlement's impact on the land in terms of habitat, biodiversity and soil quality.
3. The impact of the settlement on the local economy and community.

Research will be published through a number of media to maximize accessibility and stimulate scrutiny lay, policy, planning and academic stakeholders. A monitoring report will be produced on an annual basis. In addition to this Lammas will conduct specific research projects so that the project can be used as a model for learning and the on-going development of best practice.

*The Tir y Gafel site was the focus of a number of research projects in 2012 with researchers from the following universities and colleges undertaking studies on the site:*

*University of Cardiff (Energy Biographies)  
University of Aberystwyth*

*Lammas actively supports research on the project. Research reports can be found at the Lammas website (<http://www.lammas.org.uk/lowimpact/index.htm#campaign>).*

*One 2012 dissertation published is located there. This is:*

*Knowledge and other Knowledge Types in Grassroots Sustainability Initiatives: An Exploratory Case Study of a Low Impact Development in Wales by Karolina Rietzler, MSC in Environmental Governance, University of Freiburg, Germany*

*A further report published in 2012 can be found at this location:*

*A Developers Guide to One Planet Development, Paul Wimbush, 2012*

*Presentations on the project were also given to the following groupss:*

*Students at Gower College, Swansea*

*The Big Green Gathering*

*This annual monitoring report will be published online as have the previous annual monitoring reports.*

## **The development will embrace and support the Welsh language.**

Lammas recognises the importance of the Welsh language and culture in North Pembrokeshire and sees low impact development as supporting this local language and culture, united by a common connection with the land and local rural knowledge and traditions. Lammas has a Welsh Language policy to ensure its support of the Welsh Language. Whilst several proposed residents already speak or are learning Welsh, most intend to learn once they move onto the site and Lammas aims, over time to become fully bi-lingual.

*Signage around the Tir y Gafel site is bilingual.*

*Of the 17 adult residents, 8 attended Welsh classes in 2012.*

*On open days all feedback forms are bilingual and leaflets are offered in English and Welsh*

*On the Lammas website, those pages considered to be 'key' are available in Welsh.*

## Appendix 1 Household Need and Plot Productivity Calculation 2012

	Plot a		Plot b		Plot c		Plot d		Plot e		Plot f		Plot g		Plot h*		Plot i	
	Household need	from land	Household need	from land	Household need	from land	Household need	from land	Household need	from land	Household need	from land	Household need	from land	Household need	from land	Household need	from land
Domestic Wood Use	500	200	105	25	270	270	150	100	150	150	420	140	368	368	300	150	450	450
Domestic Gas Use	130	0	183	0	158	0	150	0	266	0	120	0	125	0	162	0	54	0
Domestic Electricity Use	914.69	904.41	900	867	140	55	875.24	868.74	655	655	989.29	989.29	628	628	1066	858	862.89	862.89
Provision of Water	410	410	410	410	215	161	254	254	578	578	410	410	483	483	410	410	483	483
Household Food (annual)	6531.2	3148.6	8046	746	6020	2012	2000	1000	4626	1300	8638	2493	3890	1555	4165	747.45	2600	600
Basic Household Clothing	15	0	550	0	240	0	0	0	243.5	0	250	0	380	0	350	0	0	0
Annual Dwelling Maintenance	750	700	0	0	0	0	0	0	0	0	0	0	400	360	850	850	0	0
Other overhead requirements: Telephone/Internet	480	0	730	0	760	0	250	0	780	0	1040	0	384	0	480	0	480	0
Other overhead requirements: Council Tax	600	0	616	0	600	0	452.86	0	600	0	600	0	600	30	600	0	600	0
Other overhead requirements: Service Charge, Rent plus car charge etc.	1209	0	1209	0	1209	0	1066	0	1209	0	1209	0	1209	0	1209	0	1000	0
Other overhead requirements: Transport costs (including car repairs, car tax, mot , fuel etc..	140	0	3809	0	2945	0	496	0	2291	0	2420	0	1295	0	1200	0	0	0
Other overhead requirements: Insurance (household etc.)	200	0	0	0	0	0	0	0	0	0	1440	0	0	0	0	0	0	0
<b>Total</b>	<b>11879.89</b>	<b>5363.01</b>	<b>16558</b>	<b>2048</b>	<b>12557</b>	<b>2498</b>	<b>5694.1</b>	<b>2222.74</b>	<b>11398.50</b>	<b>2683</b>	<b>17536.29</b>	<b>4032.29</b>	<b>9762</b>	<b>3424</b>	<b>10792</b>	<b>3015.45</b>	<b>6529.89</b>	<b>2395.89</b>
<b>Land Based Enterprises</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>	<b>Details</b>	<b>Value Sold</b>
<b>Produce grown or reared &amp; sold</b>	Eggs	240	Native edible plants to restaurants	1633	Sale of silage bales	237.50	Silage bales	237.50	Seed sales	600	Duck eggs	117.4	Veg. & plant sales	498	Willow cuttings/bundles	245		
	Fruit & veg	700	Vegetables, salad for low impact week	28.70	Garlic & herbs	90	Veg. & eggs	484	eggs	300	blueberries	34						
	Plants	160	Sale of Silage bales	237.50					Vegetables	316.35	flowers	80			Plants sold	38		
<b>Produce made &amp; sold</b>	Silage bales	237.50	Willow baskets, domes etc.	156.15					willow	424	dairy	280.05						
	Furniture	450									vegetables	35						
											willow	30						
<b>Income from training, courses &amp; consultancy</b>											soaps	25						
											creams	495						
											Sloe drink	19.80						
<b>Grand Total</b>	<b>11879.89</b>	<b>7650.51</b>	<b>16558</b>	<b>4273.35</b>	<b>12557</b>	<b>2825.5</b>	<b>5694.1</b>	<b>2944.24</b>	<b>11398.5</b>	<b>5397.35</b>	<b>17536.29</b>	<b>5443.54</b>	<b>9762</b>	<b>5342</b>	<b>10792</b>	<b>7204.25</b>	<b>6529.89</b>	<b>2545.89</b>

Total Household Need: £102,707.67

Total produced from land: £43,626.63

% Livelihood produced from land: 42.48%

\*The eldest child on this plot has now reached the age of 18 and is therefore financially independent. As he has learning difficulties he remains living at home. Therefore his household needs have not been included in the calculation

## Appendix 2: Traffic Counter Statistics 2012

Date	Traffic Movements
18/05/2012	40
19/05/2012	46
20/05/2012	24
21/05/2012	32
22/05/2012	29
23/05/2012	46
24/05/2012	45
25/05/2012	41
26/05/2012	56
27/05/2012	66
28/05/2012	24
29/05/2012	6
30/05/2012	26
31/05/2012	65
01/06/2012	42
02/06/2012	47
03/06/2012	38
04/06/2012	32
05/06/2012	39
06/06/2012	26
07/06/2012	30
08/06/2012	24
09/06/2012	24
10/06/2012	103
11/06/2012	54
12/06/2012	49
13/06/2012	64
14/06/2012	44
15/06/2012	45
16/06/2012	45
17/06/2012	49
18/06/2012	29
19/06/2012	55
20/06/2012	35
21/06/2012	40
22/06/2012	51
23/06/2012	61
24/06/2012	25
25/06/2012	44
26/06/2012	58
27/06/2012	73
28/06/2012	47



29/06/2012	65
30/06/2012	45
01/07/2012	53
02/07/2012	40
03/07/2012	40
04/07/2012	57
05/07/2012	56
06/07/2012	57
07/07/2012	48
08/07/2012	25
09/07/2012	29
30/07/2012	42
31/07/2012	67
01/08/2012	31
02/08/2012	20
03/08/2012	36
04/08/2012	21
05/08/2012	33
06/08/2012	8
07/08/2012	20
08/08/2012	28
09/08/2012	28
10/08/2012	18
11/08/2012	22
12/08/2012	33
13/08/2012	20
14/08/2012	24
15/08/2012	29
16/08/2012	36
17/08/2012	21
18/08/2012	20
19/08/2012	18
20/08/2012	10
21/08/2012	17
22/08/2012	12
23/08/2012	26
24/08/2012	18
25/08/2012	20
26/08/2012	24
27/08/2012	15
28/08/2012	18
29/08/2012	31
30/08/2012	19
31/08/2012	19
01/09/2012	27
02/09/2012	19

03/09/2012	20
04/09/2012	15
05/09/2012	18
06/09/2012	9
07/09/2012	18
08/09/2012	27
09/09/2012	19
10/09/2012	20
11/09/2012	18
12/09/2012	13
13/09/2012	22
14/09/2012	10
15/09/2012	16
16/09/2012	11
17/09/2012	17
18/09/2012	17
19/09/2012	10
20/09/2012	8
21/09/2012	12
22/09/2012	12
23/09/2012	9
24/09/2012	11
25/09/2012	10
26/09/2012	16
27/09/2012	16
13/10/2012	35
20/10/2012	35
21/10/2012	19
22/10/2012	24
23/10/2012	14
30/10/2012	23
01/11/2012	24
02/11/2012	25
03/11/2012	36
25/11/2012	37
26/11/2012	40
27/11/2012	37
28/11/2012	29
29/11/2012	26
07/12/2012	37
08/12/2012	28
14/12/2012	36
15/12/2012	41
16/12/2012	25
17/12/2012	59
18/12/2012	38

19/12/2012	33
20/12/2012	51
21/12/2012	93
22/12/2012	33
23/12/2012	30
24/12/2012	6
25/12/2012	3
26/12/2012	6
27/12/2012	10
28/12/2012	8
29/12/2012	20
31/12/2012	12

## **Appendix 3: Guidelines for the Calculation of Functional Needs February 2013**

### **Domestic Wood Requirement:**

For the provision of land-based wood it's difficult to estimate by the tonne how much wood you have as you need a really massive weighing scales. It's easier to value per m<sup>3</sup> (also apparently legal). Prices vary but I have found a website (<http://www.grangefarmlogs.co.uk>) and they use the following prices:

Seasoned Hardwood: £147/m<sup>3</sup> (this goes down to £100/m<sup>3</sup> for the delivery of larger loads)

Seasoned Larch: £99.75/m<sup>3</sup>

Of course for non-land based wood you would use the price you paid for it. It can be difficult to know the quantity you have bought. I would suggest using a price/m<sup>3</sup>. Only do the calculation for how much you have used that year, not how much you have bought in that year.

### **Domestic Gas Requirements**

If the fuel used for cooking is LPG cylinders use the price from Nick the Gas:

£54 for a 47kg cylinder (tall orange one).

### **Domestic Electricity Requirement:**

Knowing how much electricity you have used or are using can be a little tricky. You can estimate from the wattage rating on the appliance and then estimate how many hours you have used. The more fastidious amongst may even make a note of hours useage in a note book. These people should be revered although I'm not entirely convinced they actually exist. We have a gizmo that you plug in and it tells you how much electricity you are using. Anyone is welcome to borrow it.

I suggest pricing the electricity using Good Energy tariffs as they guarantee to supply 100% directly from renewable sources (so they're a bit like us aren't they?):

Standing Charge 14.43p/day (=£52.67\annum)

Unit Rate (p/kwh) 15.8p

The amount of electricity generated by the hydro-electric turbine in 2012 was 51286kwh. If this figure is divided by 10 (9 households plus the Hwb) this gives a useage of 5128kwh. It seems reasonable for each household to use this figure added to each household's electricity generation from solar panels.

It's important to note that any electicity useage off site for household functional needs e.g. launderettes, should be factored in as non-land based electricity useage.

Launderette machine uses about 1.25kwh per washing machine cycle and dryers use about 4.1kwh per drying cycle.

The following information may or may not be of use/interesting: the University of Strathclyde undertook some research into energy useage in Scotland and came up with the following figures:

Working couple 4117kwh

Single person 3084kwh

Couple with two children 5480kwh

## Provision of Water

Dŵr Cymru tariffs seem the most appropriate to use as we are in Wales.

The system is a little complicated and includes a charge for sewerage. In the past we've tended to include a cost for sewerage. It's probably fair to include this as we do deal with our own sewage.

The most practical method to calculate water useage for our situation is to use the Assessed Measure Charge. This is used in cases where Dŵr Cymru are unable to install a meter for whatever reason.

The banding is set by the number of appliances which use water in your property such as a washing machine, garden hose, garden sprinkler, dishwasher or power shower.

- **Low banding** - none or one of the above appliances.
- **Average banding** - two or more of the above appliances.

It is up to you to decide which banding is appropriate for you.

Number of people living at property	Banding	Water	Sewerage	Total annual charge 1 <sup>st</sup> April 2012 to 31 <sup>st</sup> March 2013
1	Low	£100	£154	<b>£254</b>
2	Low	£134	£194	<b>£328</b>
3 and above	Low	£171	£239	<b>£410</b>
1	Average	£115	£173	<b>£288</b>
2	Average	£157	£222	<b>£379</b>
3 and above	Average	£205	£278	<b>£483</b>

It's important to note that any water useage off site e.g. for launderettes, showers etc. should be factored in as non-land based water useage.

Showers: the flow rate of showers varies from about 5 litres per minute to about 11 litres per minute.

Launderette machine uses about 120 litres per cycle (up to 180 litres per cycle for less efficient machines).

### **Household Food:**

This calculation includes all food and drink items consumed on and off site (and during holidays) including treats such as chocolate, ice cream, crisps & alcohol. The calculation does not include tobacco.

The attached food production template may be helpful for this calculation. The simplest way to use this template is to estimate how much food you were consuming in each category prior to land-based production and then how much you were consuming once you are engaged in land based production. So, for example, you might have been spending £20/week on vegetables. Then you may have been self sufficient in vegetables for 6 months of the year. So the value of your total vegetable consumption for a whole year is £1040 of which £520 is from land-based production. Therefore 50% land-based production is for vegetables. You would do this sort of estimate for each of the categories in the food production template.

Whilst this method of broad estimates does lack a certain degree of accuracy we felt it was the most practical because not everyone has been weighing every item of produce and keeping meticulous records. Also, valuing every item of produce individually could result a situation where a family may eat nothing but wood sorrel (£150/kg) and scarlet elf cups (£100/kg) in order to achieve 75%. This would not be a reasonable approach and would not reflect the way of living we are trying to achieve (also....the health issues!)

It's important to note that costs for things such as seeds, animal feed, manure etc. should be subtracted from the value of food produced for you own household's consumption.

Don't forget to include food that your children eat for their school dinners. This will be non-land based produce if the dinners are bought.

The following figures may or may not be helpful:

Average UK spend on food per week per person in 2011 was £24.50 per person (The Guardian, 22/1/2012 data from Office of National Statistics)

Joseph Rowntree Foundation in their 2012 report say that the average weekly spend on food for a couple with two children is £131.07 and £18.38 on alcohol. The average spend per week for a lone parent with one child is £61.12 on food and £7.25 on alcohol.

It's important to note that all these figures are based on supermarket spending (e.g. Joseph Rowntree base all their figures on Tesco). If you are not habitually going to supermarkets and are shopping locally and organically your spend will be higher (organic food can be 20%-100% more expensive).

Please find attached a food production template filled with data for each category from a report by the Office of National Statistics (for 2011) on average household spending on food. You may find this useful...you may not!

### **Basic Household Clothing:**



The Joseph Rowntree Foundation calculate spending on clothing by dividing the price paid for an item by the number of years the item will last e.g. if a coat cost £50 and will last 25 years the annual cost of the coat is  $£50 \div 25 = £2/\text{year}$ .

It is perfectly acceptable to use this method for the 75% calculation.

If you annually spend more or less the same amount on clothing each year it's going to work out more or less the same as the method described above over time. Therefore, if it suits your spending patterns better, you can simply state the amount you have spent on clothing annually (it's certainly a lot easier on the brain).

This is the only category where the word "basic" is stated in the policy 52 supplementary planning guidance. It is therefore open to some interpretation. I think everyone is able to interpret this quite sensibly. So, for example, fancy dress items such as superhero outfits, fairy costumes etc. need not be included etc.

Set-up costs are excluded from the 75% calculation so any clothing bought for work purposes e.g. steel toe-cap boots, overalls etc. need not be included. Arguably some items of clothing will be for both work and everyday living purposes. Technically you could assign a portion of the cost to work and a portion to livelihood – but that's a bit fiddly isn't it?

### **Annual Dwelling Maintenance**

This is a bit of an odd one at the moment as many of us are still building. However, the cost of materials needs to be included and a value placed on any land-based materials used. It is also acceptable to value one's own time as land-based livelihood. However, it is expected that this will be assessed reasonably and honestly i.e. you can't spend all year, 8 hours a day fixing your house!

It's important to note that you cannot apportion hours to the actual build itself as this is set-up costs and set-up costs are excluded from the calculation.

### **Other Overhead Requirement: Telephone Internet**

Self explanatory, hopefully.

### **Other Overhead Requirement: Council Tax**

Self explanatory, hopefully. Should you be receiving council tax benefit payments you should still include council tax as a household need. The council tax benefit payments will count as non-land-based income.

### **Other Overhead Requirement: Service Charge, Rent, Car charge**

Self explanatory, hopefully.

### **Other Overhead Requirement: Transport Costs**

This includes all vehicle fuel costs, car repairs, MOT, tax, insurance all train and bus journeys **apart from** journeys undertaken for holidays

### **Other Overhead Requirement: Insurance (buildings, household etc.)**

Self explanatory hopefully.

### **Other Land Based Products and Services:**

In this section it's important to put down profits from your enterprise (set-up costs are not exempt here) – just like for your tax return. There are four main areas of income generation:

#### **Grown or reared produce sold**

This should be relatively straightforward to calculate. It's the price you were paid minus any costs you incurred in the production of the item.

#### **Products made and sold**

This is slightly more complicated. It's the price you were paid for the item/items minus any costs you incurred in the production of the item including the cost of any non-land based items you had to buy-in in order to make the item.

#### **Income from training and education courses, or consultancy directly linked to land based activities on the site**

It's important to note that these activities (in combination with Feed in Tariff payments) should be clearly subsidiary to the primary activity of growing and rearing produce on the land.

If a course has involved the use of your land-based materials e.g. willows, treat it as though you have sold the materials to the course and add it to your figure for grown or reared produce.

#### **Feed in Tariff payments from Hydro produced electricity**

Feed in Tariff payments (in combination with income from courses, training or consultancy) should be clearly subsidiary to the primary activity of growing and rearing produce on the land.

We haven't received and Feed in Tariff payments for 2012 so there is no need to include it in this year's calculation.

### **Exclusions**

The following are excluded from the above calculations:

- Set-up costs – These include anything to do with house building, polytunnels, purchase of tools, equipment, tree planting, compost, furniture, crockery, cutlery etc.
- Non-essential items – Holidays (and the travel involved), non-basic clothing
- Mortgage repayments for your plot