

Dyfodol y Cambria - Planning for Change

Public engagement on landscape and ecosystem futures in the Cambrian Mountains region of Wales



**A Report from
Resources for Change
April 2011**

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EXECUTIVE SUMMARY

Report on a public engagement / dialogue project in the Cambrian Mountains.
Public Engagement on Landscape and Ecosystem Futures

Background

The Dyfodol y Cambria dialogue grows out of the involvement of the Countryside Council for Wales (CCW) in the Cambrian Mountains Initiative (CMI) which is a partnership between government and regional agencies that seeks to build a prosperous economic future for the communities of the region based around their inter-relationship with the special Cambrian Mountains landscape. It does this through 4 main work strands:

- working with land managers and producers to add value to local produce;
- valuing the local environment and the ecosystems goods and services that it provides;
- promoting tourism and highlighting the special landscape and sense of place the area offers;
- working with the communities of the necklace of settlements that surround the deeply rural upland area.

The Cambrian Mountains are a distinctive upland area forming the backbone or heartland of Wales. Running from the borders of Snowdonia National Park and Machynlleth in the north to the Brechfa Forest in the south. A large section of the rural community is still highly dependent on farming for a living.

In conjunction with Landuse Consultants and Bangor University, CCW recently undertook a Defra funded 'Adaptive Landscapes' Case Study that examined the potential to increase the adaptation of biodiversity to climate change and improve the delivery of other key ecosystem services. The study (based in the north western edge of the Cambrian Mountains), used a spatial model – Polyscape. This utilises Geographical Information Systems (GIS) to integrate the knowledge of local and technical experts with spatial environmental data to explore the opportunities for enhancing the synergistic delivery of biodiversity and other ecosystem services at a landscape scale.

This Engagement Purpose

In order to investigate Ecosystem Goods and Services (EGS) issues and use of the Polyscape approach with the widest possible range of stakeholders, CCW engaged with the Sciencewise Expert Resource Centre (ERC¹) to deliver the present **Public Engagement on Landscape and Ecosystem Futures** public engagement / dialogue project. The aim of the project was to explore the public's perceptions and opinions about climate related landscape change, and the potential opportunities for change in the range of ecosystem goods and services available in the Cambrian Mountains over the coming decades, as well as the wider policy implications.

¹ "The Sciencewise Expert Resource Centre (ERC) funded by the Department for Business, Innovation and Skills (BIS), helps policy makers to understand and use public dialogue to inspire, inform and improve policy decisions around science and technology. It consists of a comprehensive online resource of information, advice and guidance together with a wide range of support services aimed at policy makers and all the different stakeholders involved in science and technology policy making, including the public. The Sciencewise- ERC also provides co-funding to Government departments and agencies to develop and commission public dialogue activities. www.sciencewise-erc.org.uk<<http://www.sciencewise-erc.org.uk>> "

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This report summarises this engagement project which had a number of key questions for the public:

1. What value does the public place on current ecosystems goods and services?
2. What are the public's hopes and fears in respect to possible changes to these ecosystem goods and services over the next 10-20 years, as mediated by: Direct climate change; Mitigation or adaptation activities; Government policy; Population; Market forces?
3. What are their preferred scenarios for land use policy / management, given the range of policy options available?
4. Where are the key trade-offs between different options and how should these be handled?
5. What are the public's perceptions of the key problems and challenges in the implementation of these policy / management options and what ideas do they have for improved (fairer, more effective, better value, etc) implementation?
6. How do the public feel they should be engaged in these issues going forward?

To deliver the required engagement work, CCW contracted with Resources for Change (R4C) to design and run a series of workshops in the study area, which replicated that used by the Adaptive Landscapes project.

The Engagement Process

In developing a conversation around these questions the work also aimed to:

- Identify what the communities feel they can do differently to contribute to this;
- Develop a greater level of local awareness and resilience to climate change within local communities;
- Build capacity in local groups to engage further;
- Learn lessons for replicating the engagement more widely

The decision around the specific engagement methods and design were then largely defined by the time available. The primary elements were:

- To work through local community organisations, Menter Groups.
- To take a participatory approach based on a conversation around 'change'.
- To run an initial set of workshops with local people to discuss issues of most concern to them.
- To utilise innovative methodologies around the visualisation and valuation of EGS
- To ensure a representative spread of local people in each area and reach beyond 'usual suspects'.
- To run a set of interactive street consultation activities to ratify the results of the workshops against a wider audience,.
- To run a second workshop bringing all participants together with delivery and policy stakeholders to investigate the ways forward, combining local and national priorities.

The Results of the Engagement

What value does the public place on current ecosystems goods and services?

In broad terms people in the study area understand and value EGS, with the regulatory roles of EGS being the most poorly understood.

What are the public's hopes and fears in respect to possible changes to these ecosystem goods and services over the next 10-20 years, as mediated by: Direct climate change; Mitigation or adaptation activities; Government policy; Population; Market forces?

There is a need for discussions to be held at a more local level to support the identification of local solutions to national issues, thereby ensuring they are appropriate locally, cross-sectoral and delivered in a way that is locally applicable.

Food and energy production will continue to be an important EGS.

The inflexibility and inappropriate nature of some planning regulation lacking local applicability.

Continuing increase in leisure time and reflected in recreation and tourism demands on EGS.

This creates both an impact and a business opportunity.

What are their preferred scenarios for land use policy / management, given the range of policy options available?

There should be a national (or wider) framework which outlines national need supported by fiscal and other incentives (though some believe that the market place should be less manipulated), which are delivered and applied as appropriate locally. This would be orchestrated through local level land use planning and dialogue using visualisation tools such as Polyscape.

Views on where support from tax revenue should be used.

This is perhaps the question that was least well answered. In broad terms the messages were less specific about how taxes should be spent and more about how the decisions over tax spend should be made. Some common trends were:

- EGS value is masked by the wide range of interventions – fiscal, regulatory and other.
- That whilst the framework for delivery should be set nationally, the allocation of funds and other interventions should be more locally discussed, delivered and controlled.
- A widely debated issue was the level to which the market should be 'left alone', how realistic this is within the global economy and how non-market EGS are supported.

The role of land use planning tools, exemplified by the Polyscape tool.

It was clear that tools like Polyscape help stakeholders see their landscape in a different light.

This enables them to envisage the consequences of change, provides a useful means of promoting dialogue and helps to focus in on key issues.

In terms of Polyscape itself, the dialogue suggests that:

- the tool provides a valuable, visual support to effective dialogue and decision making.
- the tool should not be used in isolation - say between landowners and grant officers - but should be part of a more sophisticated conversation involving all those with a 'stake' in the management of the local landscape.
- the tool needs to be made available to both sides in a negotiation – so that one side does not have control over the 'rules' used.

Where are the key trade-offs between different options and how should these be handled?

All of the EGS were seen as being trade-offs and the decisions on these were not clear cut. More important perhaps was the clear message that these discussion should be more regular, more sophisticated, involve a wide range of people and be happening at the local level. In addition, the identification of solutions and the mechanisms for achieving them should be devolved down to a more local level.

What are the public's perceptions of the key problems and challenges in the implementation of these policy / management options and what ideas do they have for improved (fairer, more effective, better value, etc) implementation?

In short, greater localisation of decision making within a broad national framework.

What needs to change in Policy?

Policy needs to be developed over a longer timeframe and not be based around short term political timescales and short funding periods;

Policy discussions need to be taken down to the local level to have relevance and be 'tested' - or 'ground truthed' - against the reality on the ground;

Policy needs to create guiding frameworks, with greater autonomy in local people finding local solutions for delivery.

What needs to change in management?

The Polyscape tool and the dialogue process could be used to support discussion around complex issues such as future agri-environmental scheme development and in support of the development of the market place in ecosystems goods and services generally. This will require smaller numbers of people being involved in more detailed discussions than is currently the norm with existing consultation methods.

How do the public feel they should be engaged in these issues going forward?

The general overall message arising from the dialogue was that people wish to be involved in more sophisticated, ongoing discussions across a broad range of stakeholders and topics. This is a clear moving away from the current 'interest group' and 'single issue' focus of many dialogues and decision processes. The process needs to embrace a broad cross section of stakeholders - land use dialogue needs to move beyond the farm yard.

The delivery of this project in the Cambrians suggests that the key elements for success in a dialogue of this type are:

- The value of using **change** as the focus for discussion;
- The need for careful design and facilitation and the focussing of the conversation;
- The interactive nature of the techniques used;
- The importance of visual presentation within the workshop environment;
- The need for dialogue to continue - this requires a 'host', 'time' and sufficient resources.

What Next?

From the start of this dialogue, the team were clear that they wished to design a process that could deliver continued engagement after the completion of the current project. The driver for this is both the need not to leave the stakeholders engaged in the project 'hanging', and the desire to develop a mechanism that can lead to greater engagement of the public with the aims of the Cambrian Mountains Initiative (CMI). This will enhance understanding of the potential for the market in ecosystem goods and services to become a significant driver of the economy of the region.

The Cambrian Mountains are felt to be an excellent area for continuing the development of this way of working because there is a clearly defined area; proven local interest and engagement; the local Menter groups are now involved and part of the process. It could be tested at scale

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over whole of the Cambrian Mountains area, over a sustained period of time, and even complimented by a similar process being trialled in a more urban / peri-urban setting, such as the Networked Environment Region work in South East Wales. Polyscape would provide an important visualisation tool to support this developing dialogue.

Already ongoing / completed:

- A debrief and feedback on the process and its results to Elin Jones, Minister for Rural Affairs, Welsh Assembly Government - February 2011;
- Attendance and presentation of the first stage of the process at the Natural Capital Initiative workshop - February 2011;
- A presentation to Defra - 17th March;
- Agreement for a proposed follow up presentation to the Welsh Assembly

The main areas of discussion for taking the process forward include:

Local level conversations

Trial the Polyscape tool as a farm level planning tool

- In dialogue with individual landowners and using existing funding mechanisms (such as the Glastir woodland management grant).
- As part of a broader dialogue around local land use and the impacts on all stakeholders – landowners, businesses, residents, tourism providers, etc.
- Consider the use of Polyscape as a specific discussion tool for key land use issues such as agri-environmental support

Delivering change

Change is a continuing process and is informed by many approaches including observation, science and local knowledge. Traditionally we have tried to answer questions of change from the point of view of science; however, science alone cannot answer the question if the wrong question is asked (and even then its limitations should be recognised). Wider engagement in the investigation of change helps to define the right questions to be discussed or investigated. Then this knowledge can inform a debate on solutions which may be appropriate, supported by the Polyscape visualisation. Such a dialogue process is both more sophisticated and time consuming, but is ongoing and iterative.

A land use change approach based on dialogue needs a range of alternative delivery mechanisms. Some of these may include grant or other fiscal support, but not all. Where fiscal support is an option, alternatives such as locally administered ‘financial pots’ need to be considered / trialled². These could use a grant ‘pot’, supplemented or supported by a number of community managed fiscal tools such as a revolving funds and community share schemes. However, no single method was identified and it is likely there will need to be further discussions and trials of locally applicable and manageable options.

² Reverse auctions were also discussed where applicants bid to deliver an EGS service the public wish to ‘buy’. Views on the values and applicability of this method were varied.

1. INTRODUCTION

The Dyfodol y Cambria dialogue grows out of the involvement of CCW in the Cambrian Mountains Initiative (CMI) which is a partnership between government and regional agencies that seeks to build a prosperous economic future for the communities of the region based around their inter-relationship with the special Cambrian Mountains landscape. It does this through four main work strands:

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- valuing the local environment and the ecosystems goods and services that it provides;
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The Cambrian Mountains are a distinctive upland area forming the backbone or heartland of Wales. Running from the borders of Snowdonia National Park and Machynlleth in the north to the Brechfa Forest in the south, they are an area of generally unspoilt upland landscape that supports valued habitats and species and ways of farming that have roots stretching back to the Middle Ages. A large section of the rural community is still highly dependent on farming for a living.

The future of the Cambrian Mountains is uncertain, due in large part to a decline in the prosperity and purpose of its rural communities. However, the importance of the environment to economic and social wellbeing is increasingly being realised. The environment forms our natural life support system and supplies a wide range of environmental benefits and services (referred to by the Welsh Assembly Government as Ecosystem Goods and Services - EGS).

Many of these EGS are now realised to be of fundamental importance in the face of climate change. The storage of carbon in the soil and the capturing of carbon dioxide (CO₂) from the atmosphere (carbon sequestration) by plants, including those of peat bogs, can help reduce the causes of climate change. Sound environmental management can assist in ameliorating the inevitable consequences of climate change - for example helping to reduce flooding and maintaining the purity of water for public water supply in the face of more extreme weather conditions.

In supporting the CMI, CCW is seeking to assist the development of the Welsh Assembly Government's initiative, 'A Living Wales - a new Natural Environment Framework for Wales'. The 'NEF' is all about developing a new contract between environmental managers and regulators, industry and commerce, and the public, and seeks to consider economy, ecology and society together. The new approach is based on the Ecosystem Approach: a concept that the environment is our 'life support system', providing us with valuable goods and services that contribute around £8.8 billion a year to the Welsh economy.

The aligning of the CMI with the development of a market place in EGS is seen as key to the future development of the Initiative and the future prosperity of the Cambrian Mountains. The CMI has a vision of the Cambrians becoming a trial area that can test both public understanding

of the EGS concept, and develop practical tools and measures that can draw forth the latent value of the landscape and the natural processes that shape the mountains.

As part of this Ecosystem approach and in conjunction with Landuse Consultants and Bangor University, CCW recently undertook a Defra funded 'Adaptive Landscapes' Case Study that examined the potential to increase the adaptation of biodiversity to climate change and improve the delivery of other key ecosystem services through practical measures at a landscape scale in a transitional landscape from lowland to upland. The study was based on a project area on the north western edge of the Cambrian Mountains.

The aim of the case study was to:

- Demonstrate the application of theoretical models and climate change adaptation principles for biodiversity to enable the adaptation of biodiversity to climate change in the Project Area;
- Assess the practicality and value of proposed landscape scale adaptation measures in the Project Area on the basis of practical experience that has included discussions with the farming community on suitability of alternative approaches; and
- Contribute to guidance for policy makers, planners and land managers (primarily farmers) to help them to plan, create, maintain and adaptively manage landscapes that enable biodiversity to adapt to climate change.

The Adaptive Landscapes project used a spatial model – Polyscape - to visualise and compare the spatial impact of land use scenarios developed during the study. Polyscape is an approach which uses Geographical Information Systems (GIS) to integrate the knowledge of local and technical experts with readily available spatial environmental data, to explore the opportunities for enhancing the synergistic delivery of biodiversity and other ecosystem services at a landscape scale. The Polyscape mapping tool was designed principally as a negotiation tool to facilitate a dialogue between land use planners and practitioners. Currently most decision-making about land use change takes place at field and farm scales (predominantly by farmers to meet their livelihood needs). Meanwhile the policy community influences these decisions through indirect routes such as subsidy and legislation. Rarely do these two communities engage with one another on specifics. Polyscape provides a means of presenting the information to inform a dialogue process for bottom-up / top-down engagement.

But Polyscape is simply a decision support tool that can assist in a structured response to difficult decisions over land use. Given that land use in the area affects virtually everyone, it is first necessary to present the underlying issues to the widest possible range of stakeholders in such a manner that any decisions that may need to be taken are formulated and framed in conjunction with those who have to implement or ultimately pay for them. This required Polyscape to be trialed within a wider engagement decision making process from local to policy level. In order to undertake this work, CCW engaged with the Sciencewise Expert Resource Centre (ERC³) to deliver the present **Public Engagement on Landscape and Ecosystem Futures** public engagement / dialogue project. The aim of the project was to explore the public's perceptions and opinions about climate related landscape change, and the potential

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opportunities for change in the range of ecosystem goods and services available in the Cambrian Mountains over the coming decades.

The engagement project had a number of key questions for the public:

1. What value does the public place on current ecosystems goods and services?
2. What are the public's hopes and fears in respect to possible changes to these ecosystem goods and services over the next 10-20 years, as mediated by:
 - Direct climate change,
 - Mitigation or adaptation activities
 - Government policy
 - Population
 - Market forces
3. What are their preferred scenarios for land use policy / management, given the range of policy options available?
4. Where are the key trade-offs between different options and how should these be handled.
5. What are the public's perceptions of the key problems and challenges in the implementation of these policy / management options and what ideas do they have for improved (fairer, more effective, better value, etc) implementation?
6. How do the public feel they should be engaged in these issues going forward?

In developing a conversation around these questions the work also aimed to:

- Identify what the communities feel they can do differently to contribute to this;
- Develop a greater level of local awareness and resilience to the climate change within local communities;
- Build capacity in local groups to engage further;
- Learn lessons for replicating the engagement more widely

To deliver the required engagement work, CCW contracted with **Resources for Change** (R4C) to design and run a series of workshops in the study area, which replicated that used by the Adaptive Landscapes project, namely the river catchments of the Rhiedol, Clarach, Leri, Clettwr and Cuellan in the north western corner of the Cambrian Mountains (see map below).

Study Area



It was felt by the team that this area is geographically large enough to be meaningful, whilst also working at a social level (defining an area where people knew and worked together on a reasonably regular basis, though covering a number of settlements from small rural to urban, and hill to coastal).

It was also decided to focus the discussion on the farmed landscape to avoid expansion into the current coastal and marine debates which would move too far away from the Polyscape mapping work (which it was intended to assess as well as be used to help inform the debate) and would potentially create too broad a debate within the limited time.

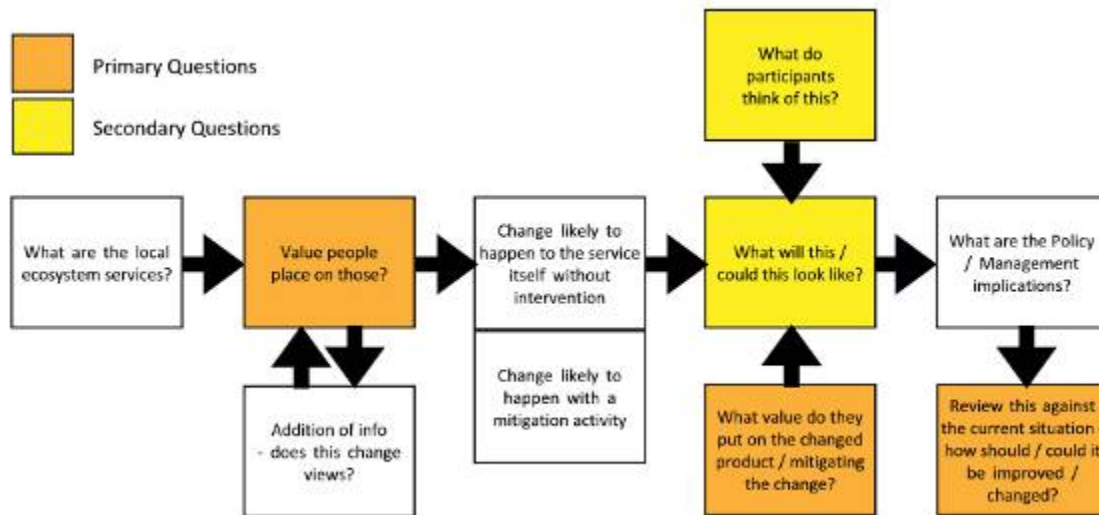
The approach followed by Resources for Change was:

- To use a participatory, deliberative approach to developing a dialogue around EGS, its value and future management.
- To use the concept of change as a starting point for these discussions.
- To try and establish a base-line in regard to public perception of EGS;

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- To see if that perception changed following receipt of information on what is meant by EGS, and the types of landscape adaptation that we are likely to see as we seek to mitigate and adapt to change;
- To gauge the value, or level of concern, the public attach to such adaptation and mitigation measures.

This follows the decision process outlined by the following diagram:



From this starting point the project went on to develop discussions around change and the value people place on the use of mapping and other visualisation tools to support the decision making process.

The first part of the dialogue sought to inform current thinking on what constitutes EGS and to test the public's willingness to pay for them, whether directly through taxation / subsidy or through paying a premium for produce that originates in a more environmentally sustainable managed landscape. This is a sophisticated dialogue and one that has only been initiated by the present process.

The second stage of the process then built on this dialogue to investigate the value and relevance of land use planning and finally the changes needed in EGS policy and EGS management as well as changes needed in public engagement to improve the use and management of EGS in the future.

2. WORKSHOP PLANNING & PROCESS

R4C engaged in a series of meetings with the client (CCW) and the match-funder (Sciencewise - ERC) in order to develop an engagement plan for the project.

We decided to use the **concept of change** as a way of engaging people in a wide ranging discussion around issues of concern and interest to them. It was felt this would allow local issues to be raised and discussed; be they international issues such as climate change or local issues of flooding or social changes through to the influence of grants and subsidies, or planning.

Using change as a starting point carried no judgement of value, allowed cross-sectoral discussions, did not by implication place value or lead the discussion and finally did not confine discussion to climate change alone. It was also felt that the concept of change allowed participants to mentally start from any aspect; aesthetic, utilitarian, political or other.

It was our intention that through the dialogue process of discussion, participants shared learning and understanding which leads to information transfer, common learning and informed joint decision making. Such an approach allowed equal status in the process for 'local experts' (including long term residents, those with intimate knowledge of their area, land owners and farmers) as well as outside experts (exemplified by scientists, policy makers, managers).

Another important objective was to develop the capacity in the project area and create potential for the dialogue to continue after the current contract. Therefore it was agreed to work with existing community groups in designing and delivering the engagement process. The three 'Menter'⁴ organisations contracted with by R4C were, Eco Dyfi (covering Machynlleth to Talybont in the north of the study area), Menter a Busnes (linking businesses across the area) and Pentir Pumlumon (covering the Ponterwyd and Devils Bridge communities in the south). It was agreed that working through these groups would be an effective way to engage with a broad sector of the communities, utilising existing networks, and building on existing local knowledge. It would also provide the opportunity to develop skills within those groups to enable them to take forward the initial work within their communities.

It was agreed by the partners that the delivery of the project would consist of a series of workshops, supported by further consultation at street stalls in various locations around Aberystwyth, the only town in the study area. An initial round of three workshops were supported by the Menter group leaders, whose role was to identify and communicate with potential stakeholders, organise workshop venues and take a hand in the delivery of the workshops.

The Menter group leaders were asked to compile a list of approximately twenty people who they felt covered the range of interests and backgrounds representative of their community (supported by a broad suggested range of stakeholder types supplied by R4C). They were asked to consider age, gender, interests, profession, whether they worked on the land, etc. R4C then emailed each person a bilingual letter (see appendix) briefly explaining the aim and objectives of

⁴ Menter- meaning 'enterprise' / 'initiative' in Welsh. In this context therefore, community or rural business development organisations working in the voluntary sector.

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the project and inviting them to participate in the workshop. The Menter group leaders followed up the emails by phoning round the people on their list in the days before their 'event'.

It was acknowledged that this manner of recruiting participants was selective and could lead to a certain bias in the composition of the stakeholders attending the workshops. R4C thus designed the content of the street stalls in Aberystwyth to act as a control. Participation at the three venues chosen for the street stalls was completely random. The three locations chosen were on the high street and at the town's Cooperative and Morrison's stores.

The materials developed for both the workshops and the street stalls were bilingual, providing the opportunity for participants to communicate through the medium of Welsh.

The first round of workshops was followed by a second workshop designed to bring together all of the people participating in the first stage with an invited list of key people from relevant public bodies and the local authority. The objective was to bring 'professionals', with a role to play in developing policy, together with lay-people who had attained a certain level of knowledge about Ecosystems Goods and Services and the need to take adaptive landscape decisions to mitigate against the affects of climate change. It was hoped that the dialogue at the second workshop would enhance the understanding of these issues amongst the stakeholder group, while similarly informing the policy makers about the willingness and capacity of a cross section of the public to consider complex issues and contribute meaningfully towards the development of policy. In this second workshop the Polyscape model was presented as one way of facilitating this interaction.

3. FIRST ROUND OF WORKSHOPS

Thirty six participants engaged in the first round of three workshops; with the second and third groups comprised of a far greater proportion of those earning their income from agriculture and related activities.

Eco Dyfi: Nine participants including a County Councillor, hotelier, web designer and an ecologist. Others were involved in a range of community groups and activities.

Menter a Busnes: Eleven Participants working mainly in agriculture, one in tourism and one in renewable energy development.

Pentir Pumlumon: Sixteen participants. This more isolated, rural area was demonstrated in composition of the group; who were all involved work in the environment; farming, tourism, forestry, angling, archaeology, agricultural research, footpaths contractor.

Supplementary incomes were through service provision such as translation and training consultancy.

Participants were invited to take part in a series of activities⁵:

3.1. Exercise 1

The facilitator invited participants to compile a list of - *What benefits do you think we get from the environment?* - to elicit an initial discussion around the participants' understanding of the meaning of EGS. As people contributed the support facilitator took flip-chart notes. A broad list of 'benefits' was drawn up and helped to start group discussion:

Eco Dyfi	Menter a Busnes	Pentir Pumlumon
<ul style="list-style-type: none"> • Fresh Air • Exercise • Recreation • Peace • Wellbeing • Swimming • Low stress • Community – neighbourliness • Low crime rate (insurance) • Good schools • Dark skies • Few temptations to spend • History & Heritage – continuity • Culture • Interesting landscape • Wildlife and natural history • Natural resources – water, sea, wind, • Free recreation - surfing, mountain biking 	<ul style="list-style-type: none"> • Landscape (variety) • Feel good factor • Diversity • Clean air • Water management • Social networks • Energy – hydro/wind • Timber – trees • Managed environment • Income • Peaceful – slow life • No commute • Tourism • Wildlife value • Remote • Heritage • Sense of belonging 	<ul style="list-style-type: none"> • Electricity (wind/water/sun and sea) • Food • Amenities • Sport • Timber • Carbon Store • Wool • Tourism • Water • Education/healthcare • Rock/minerals • Recreation • Firewood

⁵ See step by step method sheets in the Appendices.

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<ul style="list-style-type: none"> • Lamb • Wild food • Aesthetic pleasure • Local food • Access to countryside • Organic farming • natural sounds • Low (light) pollution • Horse riding Space – no crowds • Clean(ish) beaches • Beauty • Less traffic • Rare species • Isolation • Firewood & biomass • Other energy – wind , solar, hydro, geothermal, GSH 		
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These initial scoping discussions showed that people very quickly understood the meaning of EGS, in broad terms; though knowledge of the specifics was more variable.

Perhaps the greatest range of understanding of Ecosystem Goods and Services came from the Eco Dyfi, the group who had the least participants working in the environment. This however is the only one of the Menter groups with environmental sustainability being a major part of its work. The number of energy related comments is not surprising since there is a significant amount of discussion happening in the Cambrian Mountains area relating to hydro and wind generation. Missing from all discussions were the regulating roles of the natural environment.

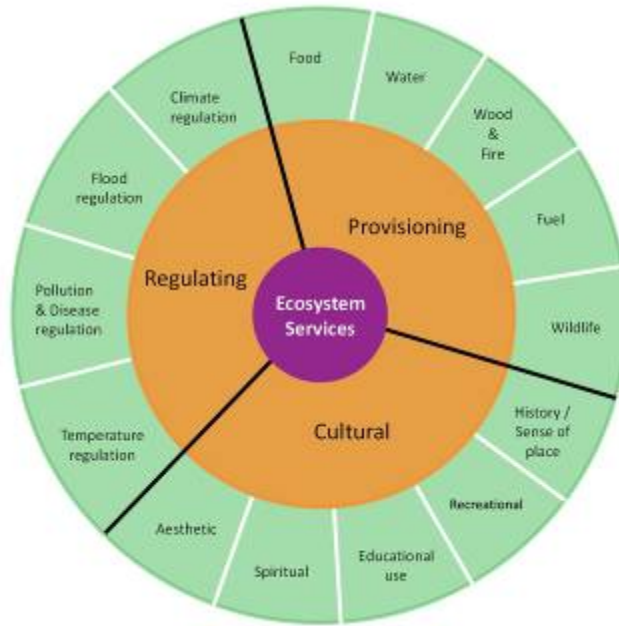
3.2. Exercise 2

Based on this initial demonstration of understanding, participants were then introduced to a structured view of EGS as demonstrated by the ‘wheel’ diagram below. This allowed us to introduce missing areas of benefit, in particular the regulating roles.

The exercise was intended to illicit the value that they, **as individuals** would put on a range of EGS. The issue of attributing ‘value’ is complex, since the term has many meanings (financial, personal, aesthetic, comparative value, intrinsic value, etc). It was therefore decided to approach this through two exercises, one a simple scoring approach and the other, a financial approach.

First of all, participants were given score cards with stars (1, 2 and 3 stars; where 3 is high value and 1 is low value) in order to ‘score’ each EGS.

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Using the 'wheel' above, participants individually scored each topic⁶ by placing one of the star score cards on each topic.

Results are listed below with the number of participants in each group brackets next to the group name:

Service	Eco Dyfi (9)	Menter a Busnes (11)	Pentir Pumlumon (16)
Food	29	31	30
Water	27	32	41
Wood & Fibre	16	24	22
Fuel	12	28	26
Wildlife	24	28	33
History & Sense of place	18	31	29
Recreational	28	25	36
Educational use	12	24	28
Spiritual	14	16	25
Aesthetic	26	24	33
Temperature regulation	6	13	17
Pollution and disease regulation	6	21	30
Flood regulation	12	20	32
Climate regulation	11	17	33

⁶ It was decided to present the attributes of EGS that were effectively outputs for people. This meant the supporting attributes of EGS were not listed in the valuation exercises since they underpin the other attributes / outputs.

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There followed a brief discussion of how the participants felt whilst undertaking the exercise. The main issue discussed was to clarify the regulatory roles of EGS which was the area which participants had most difficulty understanding. This is perhaps reflected in the relatively lower scores. There were no other significant trends of differences in scoring, and it should be noted that the higher overall scores simply reflect larger group size.

Discussion at this stage was deliberately limited so as not to affect the next exercise.

3.3. Exercise 3

Participants then took part in a discussion exercise within the group on each table (between four and seven people), using a pre-prepared chart to guide the discussion and completing it as each table saw fit. The purpose of this exercise was to consider: ecosystem services; local examples of goods and services and their uses; examples of what is changing or will change and; examples of why it might be changing. The intention was that through the discussion a degree of peer to peer learning would take place, awareness would be raised and this in turn could lead to a change in participant perceptions of 'value'.

As an example, the chart and comments from the **Eco Dyfi group, Table 1 is below**; the full written up notes for all groups and tables are in the appendix.

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, beef farming, local shops, allotments/gardens, farmers markets	Fewer animals Local shops closing down More demand for home grown veg./local produce	Change to EU grants Supermarkets price/PO closures Price/value/taste/sense of achievement Food miles, fashion, fuel prices.
• Water	Agriculture Fishing: sea & river Leisure Flooding Clean water No local control of water services	Questioning lack of local fish/seafood Local flooding, cutting off service provision, lack of maintenance, increase in population Should be changed to WAG	Price led – produce exported Raise road/rail levels/better maintenance LDP
• Wood and fibre	Timber production	Use of biomass/wood burning stoves	Local demand
• Fuel	Windpower Biomass Hydro-electric Solar panels	More wind farms Increased demand More interest	Government policy – green issues Council policy/Assembly policy

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			Feed in tariffs
• Wildlife	Recreation Pheasant/wildfowl shoots Osprey RSPB		
Regulating services			
• Climate regulation	Peat	Development of wind farms on peat	
• Flood regulation	Vegetation, Peat	Deforestation RSPB removing drains	End of lifestyle Increase wetlands for wildlife SUDS – sustainable urban drainage scheme
• Pollution and disease regulation	Biodiversity	Water acidity	deforestation mixed planting – more deciduous
• Temperature regulation	Drinking water, changing biodiversity		
Cultural services			
• Aesthetic	The view Old villages – local architecture	Will be ruined by wind farms and houses. More new buildings not all sympathetic	Planning system needs to be changed
• Spiritual	Landscape character	Hospital closures	An increasing interest causing inward migration.
• Educational use	Natural and cultural heritage, yoga schools	Development of forest schools, fewer field classes, local schools: eco-education	Health and safety, educational policy
• Recreational use	Active pursuits	Mountain biking, fly-fishing, clay pigeon shooting, walking, new reefs (Borth)	Forestry bike trails, marketing, more interest in active recreation (healthy and cheap), Coastal path
• History and sense of place	Welsh history, industrial history, family history, welsh language classes	More interest, re-visiting old family roots, plugging into local <i>cymdeithau</i> (society)	EU funding like ‘Spirit of the miner’, ‘Reborn’ Fashion, better access to information

These discussions raised a number of issues:

- The complexity and inter-relatedness of the subject(s) and issues. There is a need for more time to really discuss these inter-relationships between EGS and other factors.
- Through the conversations there was an increase in the understanding and relating discussion around the regulatory roles of EGS and what this really means.
- The number of factors effecting change in EGS are numerous and many of the most significant immediate changes actually relate to direct interventions in the market, grants, taxation, regulation and other measures. This to some extent masks and even confuses the impacts of climate and other long term changes.
- Many of the drivers for change are beyond local control and this is challenged since participants do not feel they should / need to be.

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- Food and its production will continue to be an important EGS and its production remains fundamental with current global population trends. This raised some concern with the pressures on farming and the ageing nature of the farming population.
- The inflexibility and inappropriate nature of some planning regulation.
- There is a continuing increase in leisure time and this is reflected in recreation and tourism demands on EGS. This places both impact and opportunity.

In broad terms, many of the trends were felt to be demonstrating a loss of local control over their own future which needs to be redressed.

3.4. Exercise 4

Following the opportunity to discuss the issues with their colleagues the participants were asked to repeat the second exercise. This gave an understanding of any changes in perceived values following the opportunity to share views and knowledge with others on their table.

The table below shows the results of the second star scoring exercise:

Service	Eco Dyfi	Menter a Busnes	Pentir Pumlumon
Food	19	34	43
Water	13	29	42
Wood & Fibre	14	25	17
Fuel	15	32	38
Wildlife	20	24	29
History & Sense of place	16	28	33
Recreational	21	28	29
Educational use	10	29	22
Spiritual	13	20	23
Aesthetic	17	26	30
Temperature regulation	3	18	16
Pollution and disease regulation	9	24	26
Flood regulation	16	14	27
Climate regulation	10	26	22

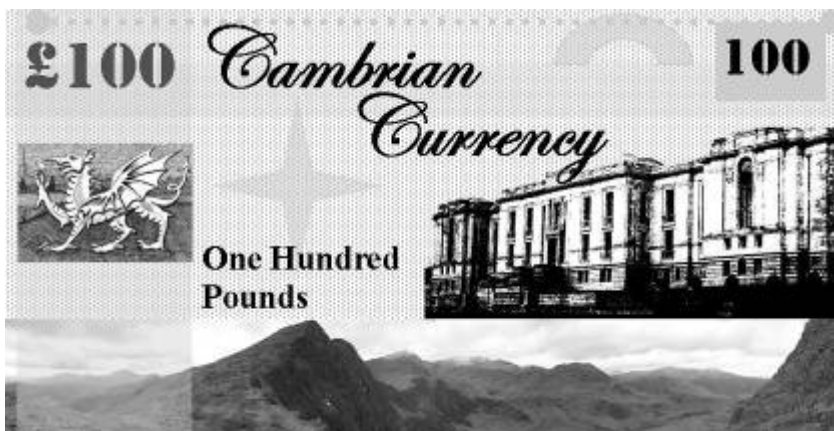
It is notable that there are no significant differences between the two scoring exercises, despite the discussion. When challenged, participants did not feel that the discussions had significantly changed their views. This is very likely to be partly due to the limited time available for discussion; the limitations on information provision; and the depth to which topics could be explored. Perhaps the only noticeable change from the first exercise was the reduced scores for the more regulatory roles of EGS (with the exception of Climate regulation). The reasons for this were unclear, though discussions suggested they may in part reflect the fact that these benefits were often felt to be realised elsewhere, outside these particular communities.

3.5. Exercise 5

Having considered the intrinsic value of the study area, the facilitators then asked the participants to consider the monetary value they would give to these same topics. Each

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participant was invited to 'spend' £2,000 of their taxes. The facilitators distributed 'Cambrian currency' (see below). The practicality of this exercise helped the participants to engage with the concept of determining how public money should be spent to support services that they had already identified as having a value to them as individuals. The exercise showed whether this monetary value bore any relation to how participants had said that they valued the EGS.



The chart below shows the value (in £) given to the topics by each of the three groups:

Service	Eco Dyfi	Menter a Busnes	Pentir Pumlumon
Food	800	5700	5800
Water	1400	2000	3400
Wood & Fibre	700	700	1000
Fuel	1100	3100	2400
Wildlife	1100	2000	1900
History & Sense of place	600	1900	1900
Recreational	900	2200	2400
Educational use	2800	2200	3800
Spiritual	400	200	1700
Aesthetic	1300	800	1800
Temperature regulation	0	0	100
Pollution and disease regulation	600	1100	1300
Flood regulation	1700	700	2000
Climate regulation	800	2700	1500

The comparative differences in spend between groups was again due to the different group sizes. There were however a number of emerging issues raised through the exercise, including:

- Temperature regulation continued to score poorly, however other aspects of regulation gained greater weight and indicate a sentiment that there is a need to spend in these areas.
- Not all participants felt comfortable with taxes been spent on some or all of the EGS, and in fact one participants in the Eco Dyfi group was unwilling to 'spend her taxes' on the identified topics giving an under-spend of £1,900 in the group overall.

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- There was a lot of discussion around the role of financial support in areas which people felt the market should deliver directly such as food and fuel. There are some noticeable differences between the groups in this respect, especially over supporting the growing of food.
- The high score for education is masked by a confusion between spend on education generally and spend on education around EGS or the educational value of EGS.

3.6. Summing up

The plenary summing up gave the opportunity for participants to consider whether they felt that their views had changed throughout the process. They also considered what they had learned from others. The main comments are recorded below:

- Values and Money are different
- Some things don't need money e.g. protecting the landscape
- Underestimate the impact of farming on things like this
- Money can have more influence on some things than others
- Some things can be done by individuals by themselves e.g. fuel. Others need community e.g. Flood defence
- What should we influence? E.g. fish being taken to sell them miles away
- Everything is clouded by subsidy. It is hard to understand and follow current expenditure
- We need to look further into the future
- There is a significant amount of analysis needed to understand and inform change
- The value of EGS relates significantly to other agendas (it was noted that the exercise was not comparative)
- As we discussed and consequently understood, the more the scores change. (This was not significantly reflected in the star score exercise but was discussed later in the workshop process and some felt it would increase with longer, more sophisticated discussion).
- The money exercise allowed a greater deal of control as a percentage of the of total compared with the limitations of 1-3 stars
- There is a need for greater transparency
- These are vast topics. There is a need for more joined up / holistic thinking as the links between subjects are fundamentally important
- There needs to be a combination of consulting with experts and the public
- Value and spending on some EGS e.g. water is effected by the current over regulation

3.7. Final individual exercise

At the end of the evening participants were invited to complete individual cards: *If you could change one thing about how we use and manage land, what would it be?*

Responses are listed below:

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- Ensure sufficient food supplies for a growing population
- Protect the beauty and peace, our most precious resource
- No idea!
- Not subsidise land management strategies that are detrimental to long term maintenance of ecosystem integrity/services/functions
- Look towards the future, work with the large companies coming in so they understand the values of the local people. Sustainability for the future not just the beauty of now, because some of it needs to be sacrificed
- I think I would encourage community projects/development
- I would like to see more integrated land management to conserve natural habitats, the landscape and access.
- Remove subsidies – wind energy, farming, transfer to market economy land management
- Stop the loss of farmland to non-agricultural use. If this is impractical – stop the loss of the most fertile land (e.g. to building)
- Policies on land use were governed by what the population as a whole require and not what a minion of policy makers think they need.
- Regulation for long term environmental sustainability
- Less government regulation with more focus on food production
- Develop transport to open up the countryside
- More woodland
- More wildlife management in the wider countryside
- Increase education in the countryside for small children
- Provide more oil wells
- No more wind farms
- More local food especially grants to grow veg.
- Less red tape and bureaucracy in agriculture, less bureaucracy and hurdles in planning and developing small renewable energy generation (usually government institutions)
- Consider the view of local people rather than senior officers who have no idea of local conditions.
- Sustainable land use and protecting it for future generations
- To allow the individual to utilise the land as they wish and maintain the land to its original state
- Integrated land management: address the land ownership contrast between the evergreen blocks of conifers and the vast swathes of molinia – better integration, diversity and tress in the right landscape aesthetic location
- Less regulation especially with regards to farming and woodland creation
- Encourage vegetable production
- Preserve the landscape as it is now – no more industrialisation!
- Treat it as a living organism
- Cut the red tape and protect the environment and people
- Use it efficiently
- Have a joined up thinking for all government policy
- It must be managed in a sustainable manner
- Increase thoughtful conservation
- Cease building wind turbines and their associated intrusions
- Improve the use of workable land through agriculture, make better use of unmanageable land (recreation, timber, wildlife)
- Improve workable, and make sure it is there for the next generation to farm. Turn scrubland into recreational use.
- To boost as much as possible the number of land based micro enterprises through creating the biggest economic output for local people – based on local skills.

On leaving participants were provided with two bilingual A4 information sheets, one giving more details on the process we would be following; and the other one a simple explanation of EGS (see Appendix).

3.8. Summary of the first Workshops

Due to the limited time and nature of the exercise, it is not possible to draw any firm conclusions. However there were a few emerging indications which include:

- People in the study area understand and value EGS
- The regulatory roles of EGS are perhaps the most poorly understood, however discussion raised awareness and led to greater attributed value (highlighted in the financial exercise particularly).
- There needs to be more sophisticated cross-sectoral debate
- Discussions need to be at a more local level and support the identification of local solutions to national issues which are more locally applicable
- Values need to be considered as intrinsic values, comparative values with non EGS (not done in these exercises) and financial values. The latter is currently hard to understand due to the distortions in market, grants, regulation and other factors.

4. STREET STALLS

It was important that the views collected by this project should be as representative of the local population as possible. Three interactive street stalls were threefold held as experience has shown the benefit of this approach, which when well planned and resourced can reach a good cross-section of the population. The street stalls also ensured that the views of the local urban population were included in the study.

Stalls were held on the main street in Aberystwyth, and at the two main supermarkets. People were invited to complete a 'questionnaire' using pin boards⁷.



The stalls attracted a large number of people. Fifteen Women and seventeen men were surveyed, their ages ranged from under sixteen to over sixty five. Only six lived outside the study area. Sixteen lived in the town and twelve in surrounding villages, whilst others were from rural areas. The majority were not employed in jobs involving the land. Full results are in the appendix.

Questions asked were similar to those addressed through the workshops but in a form appropriate for the venues.

⁷ Details of the pinboards are in Appendices

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Ecosystem Service	Is it changing?		Is this important / a concern for you?	
	Yes	No	Yes	No
Food	25	0	21	2
Water	13	13	13	10
Wood & Fibre	22	3	20	3
Fuel	22	2	21	2
Wildlife	23	1	20	3
Climate Regulation	16	3	17	2
Flood Regulation	18	4	15	5
Pollution & disease regulation	22	1	22	2
Fuel	15	3	15	4
Aesthetic	21	3	22	1
Spiritual	19	3	17	3
Educational Use	21	3	20	1
Recreational use	22	3	22	3
History & sense of place	24	1	19	6

Again participants were invited to spend their £2000 in taxes – this proved a great attraction and encouraged others to come to the stall and take part.

The results of the exercise showed:

Ecosystem Service	£
Food	4300
Water	3300
Wood & Fibre	1800
Fuel	3300
Wildlife	5000
Climate Regulation	3500
Flood Regulation	3600
Pollution & disease regulation	6300
Fuel	1000
Aesthetic	1500
Spiritual	2800
Educational Use	3000
Recreational use	3900
History & sense of place	3700

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Perhaps the most significant difference here compared with the workshops is the relative importance and consequent 'spend' placed on pollution and disease regulation. Many of the others suggest participants had related to more of an 'enjoyment' than a 'production' relationship with EGS, though food still scores highly.

Participants were invited to complete a comment card with three questions:

1. Do you think we manage our land well? (To which twelve responded "YES" and thirteen responded "NO"; two were undecided.)
2. Do you think we plan the use of our land well? (To which eight responded "YES" seventeen responded "NO" and two were undecided)
3. If you could change one thing about how we use and manage our land, what would it be? This question gave a broad range of responses:

- Take more from profit making enterprises to support the ecosystems that they make profit from.
- Fast food outlets should have a levy or local scheme to clean up the hedgerows – 5 minutes out of town and they are strewn with debris
- Better bridle paths and public access, sectioned off where livestock present
- Make biodiversity the number one priority
- Stop building on land
- The bureaucracy of it all
- Respect for what has gone before and for what we need in the future
- The grants need supervision so wealthy landowners get less and cannot, as happened now, build outside the village boundaries and destroy the view. We need to encourage eco houses for our future and our children
- Environmental education for farmers to be part of Glastir scheme
- More local representation in large scale landscape changes e.g. wind farms/deforestation
- Better awareness within the local population of broader projects etc within the county and our land in general
- Presently the land is managed.
- An encouragement of varied agricultural use = using national funds and policy to encourage diversity. An extension of support for the environment
- An endeavour to involve young people
- To put more homes in a safer place and to take more care of our wildlife and our heritage
- Manage the land truly sustainably
- Increased communication with locals and less red tape = reduced costs
- Increase biodiversity – don't cut the hedgerows and grass so frequently
- Ease of access
- More awareness of resources and effective management
- More areas of special wildlife-protection and raised awareness
- More use of land towards tourism
- Hydro electric?
- Look after woodland and hedgerows
- More wind farms, alternative fuels and GM crops

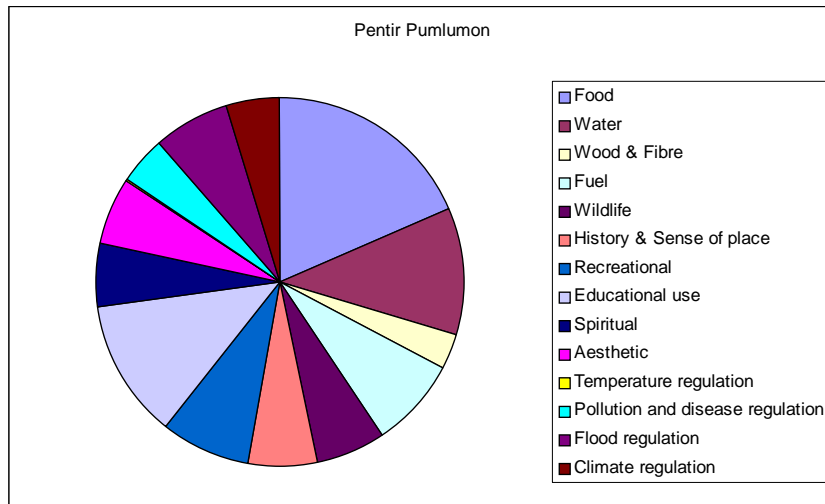
4.1. Summary of street stalls responses

Drawing together the results of the first workshops and the street stalls gives a broadly similar picture. Predictably perhaps, the results from the individual workshops varied depending upon

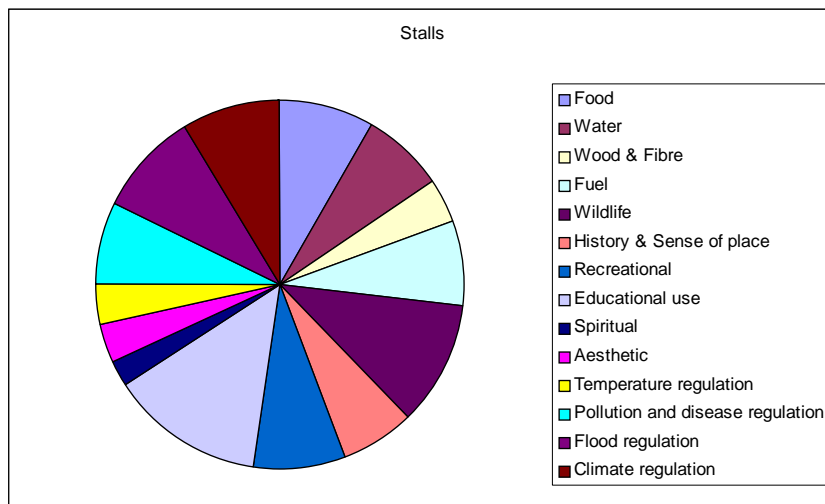
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their location and level of direct engagement with agriculture. For example food scored highly in the agriculturally dominated groups. Equally, the street stalls held in the urban area gave recreation, education, culture and wildlife higher relative scores. Interestingly, education scored highly when combining the results, though this is likely to be due to confusion in interpretation of education as education in general (a very big issue with rural school closures) and education as a result of EGS.

The following graphs show how different areas weighted their scoring. Pentir Pumlumon which is based in a very rural location in the centre of the project area gave the following scores with a high weighting on food production



The street stalls held in Aberystwyth⁸, gave a more even spread, with education and wildlife being noticeably higher :



⁸ (also a university town and home to the National library for Wales)

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The other significant feature of the street stalls was the level of interest in EGS and the understanding of the meaning of EGS. People did not need significant explanation and they immediately recognised the importance of EGS. There was not the same opportunity as in the workshops to host a discussion so it was not possible to look at the impact of information and discussions on the values people gave.

As with the workshops, there was strong feedback from the facilitators that opportunity for further discussion and debate would be most welcome. Respondents suggested that normally this opportunity is only provided when there are externally driven agendas, such as planning applications.

The second workshop went on to provide an opportunity for the discussion and debate to continue.

5. SECOND WORKSHOP – VISION FOR THE FUTURE

Information and invitations were sent to a wide contact list: all invitees from the first workshops and those providing email addresses at the street stalls were invited (See appendix).

Forty five people attended the second workshop, held at the Welsh Assembly Government building in Aberystwyth. All attendees were provided with a name badge with a coloured spot and each of the six tables comprised of approximately seven participants with the same coloured spot. This method ensured that participants would be with people from different backgrounds and interests and who they may not know.

Scribes were identified in advance for each table, and were asked not to contribute to the debate, but to try to ensure that they wrote down the views of those in their group. A series of exercises throughout the day gave much food for thought and debate continued through lunch and at the end of the day, with requests for follow-up.

5.1. Presentation – summary update

A brief summary of the results of the 1st workshop and the results of the street stalls was presented and graphs were also mounted on the wall for further consideration throughout the course of the day.



5.2. What might form components of good land use planning in the future?

Groups were asked to identify individually what they think is needed to enable positive change towards resilience. Individuals responded on post-it notes and stuck them onto a group flip chart.

The following table provides a summary of the main issues raised in discussion, drawn together by summarising the main comments into common themes or issues. For a full version please see the appendices.

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Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • Restrictions/regulations • Rural depopulations • Counter-productive land-use incentives • Wind farms • Land abandonment • Top down management from central government • Intensification of agriculture 	<ul style="list-style-type: none"> • Address Rural poverty • Encouraging tourism • Consultation at ground level • Profile raising of the area • Environmental education/awareness raising • Conservation • Food production • Safeguarding community 'assets'
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • Planning policy to be devolved/more responsive • Better use of land for food production • Localised control • Micro-generation schemes • Public awareness of ecosystem services / attitudes to the environment • Better engagement with local communities • Subsidies/farm support that reflects environment/ecosystem • Meat valued at a higher level 	<ul style="list-style-type: none"> • Housing provision for young • Co-operation (business and organizational) • Better Research and development • Investment in rural communities • Better use of woodland • Long term resilience planning • Upgrade Electricity Grid • Greater recognition of EGS and their relationships to each other • Catchment/community approach to EGS • Flood control • Renewable energy production (though wind not popular)

This raised a broad range of issues which are not analysed here since they informed the later debate around what could be done. There are a few clear emerging agendas including:

- Localisation of decision making;
- Less restrictive environment defined by planning and Policy delivery allowing identification of local solutions;
- Better informed debate across local to policy level, over a longer time period;
- Improved cross-sectoral and organisational dialogue;
- Greater discussion of long term, not short term issues and delivery;
- A broad range of local agricultural and other EGS issues which would need further discussion and refining;
- A range of areas which would benefit from business development support, specifically in the tourism sector.

5.3. Presentation - Land Use planning, Polyscape tool

Robert Deane of Landuse Consultants and Tim Pagella of Bangor University then gave a presentation on the Adaptive Landscapes project within the study area, and introduced the Polyscape GIS based mapping tool developed by the project.

Polyscape works as a decision making support tool that uses a user-defined set of rules to identify areas where there are opportunities for land use change (or where current land use should be maintained or enhanced). In developing the case study for the Cambrians, four land use change scenarios had been examined. Each of the scenarios was designed to optimise the

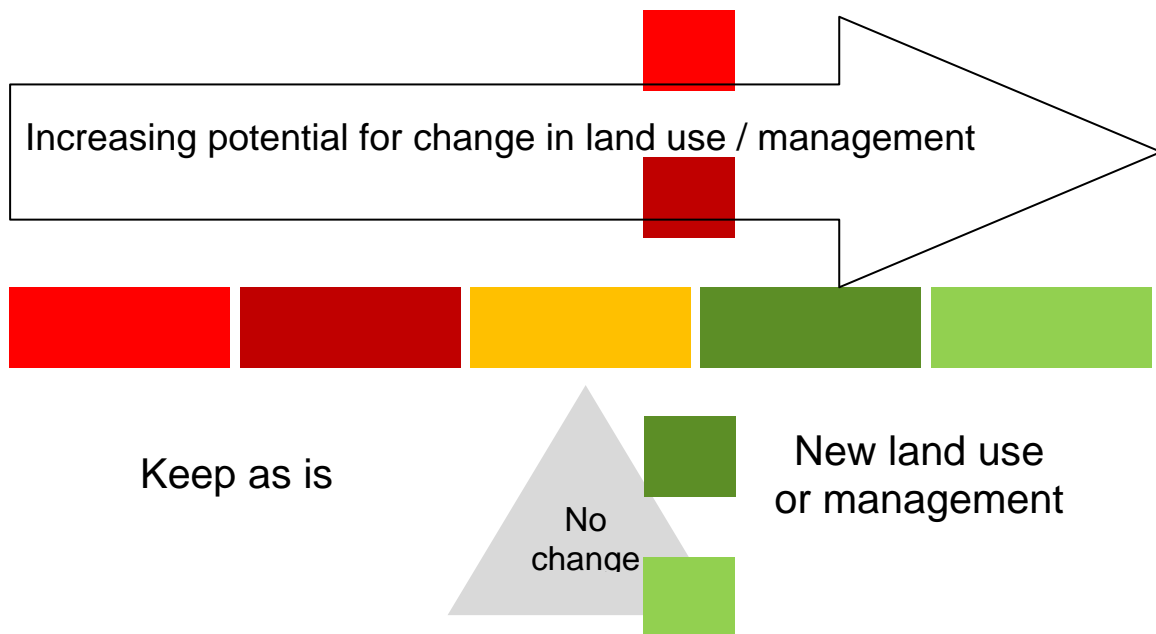
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provision of a different natural function (ecosystem goods and services). The four functions used were:

- Biodiversity adaptation,
- Agricultural productivity,
- Reducing flood run-off, and
- Carbon storage.

The tool is adaptable to a range of scenarios and allows overlaying of scenarios to identify areas where it may be possible / desirable to trade off different types of land use to produce more favourable outcomes, depending on the perceived aim.

Using a traffic light approach, the maps produced gave a spatial representation of current land use – in broad terms across the whole study area, and also focussing on individual farm units - where adaptive land use changes could be best targeted.



The consultants having explained the Polyscape tool, stakeholders agreed that it:

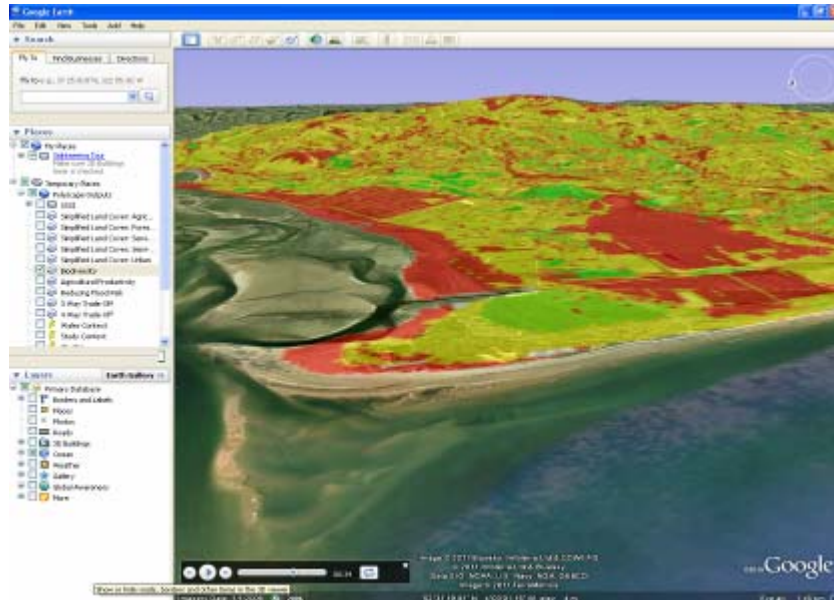
- Provides a way of visualising assumptions about the value of land and potential land use change;
- Enables comparison of different ecosystem goods and service provision
- Stimulates debate – Polyscape is a negotiation tool, it doesn't provide the answers itself
- Can be used interactively – especially with Google Earth

However, it was clearly stated that the tool relies on:

- Good underlying data (although poor data can be enhanced during ensuing rounds of stakeholder negotiation)
- Assumptions on the benefits provided by different types of land

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- The rigour of the 'rules' used to when overlaying different scenarios



5.4. Views on the value of this type of computer modelling approach.

The groups discussed the value of the Polyscape type of model and its value and recorded their views on a flip chart. Where certain views were not held by the whole group a (D) was placed beside the comment.

<p>SCOPE AND CRITERIA USED?</p> <p>- Data used not amiable varied.</p> <p>Dangers for policy makers + influencers</p> <p>Thought provoking - encourage engagement</p>	<p>WHAT IS USEFUL?</p> <p>V. useful for EAW, looking at area, to influence land use for flood control</p> <p>Potential for planting more woodland.</p> <p>Knowledge + skills - not answer - add that last.</p> <p>Communication</p> <p>public perception</p>
<p>WHAT IS NOT USEFUL?</p> <p>Lack of data leads to confusion and false interpretation.</p> <p>Scatter gun approach.</p> <p>Could raise expectations but not follow through</p>	<p>WHAT IS MISSING?</p> <p>Insufficient data - model only.</p> <p>Only 4 svs selected - lots more scenarios to look at.</p> <p>Value judgement - diff to build these into model</p> <p>Communication, - improved</p>

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The following table provides a summary of the main issues raised in discussion, drawn together by summarising the main comments into common themes or issues. For a full version please see the appendices.

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> Doesn't reflect complexity: broad brush Needs to be verified locally Business requires financial justification too Change of government = change of finances 	<ul style="list-style-type: none"> Stimulates discussion through visualization Useful tool for negotiation Bigger scale land management Open source Accessible Could be used by local landowners/farmers Encourages engagement
What is not useful?	What is missing?
<ul style="list-style-type: none"> Who owns the tool? May mislead politicians Could encourage less consultation Potential to mislead / be misinterpreted 	<ul style="list-style-type: none"> Not specific enough – needs proofing on the ground Local economy data Geo-diversity / designated areas Place names so easy to understand what you are looking at Renewable energy Scenario analysis / research & development

In broad terms Polyscape was very well received as a useful visualisation and discussion tool, offering fact based insights to the negotiation process. Its ability to be used to map a wide variety of EGS uses was recognised for different decision making discussions. It was also recognised as potentially valuable in informing from Policy to farm scale management.

In the subsequent plenary discussion, whilst it was clear participants wanted to investigate the Polyscape tool further, and particularly which 'layers' were most appropriate, there was a consensus that it provided extremely valuable insights for further debate and decision making at all levels.

5.5. Land use planning options

Participants were asked to consider options for planning future land use. To aid the discussion three options were presented:

1. A broadly planned landscape using methods like the Polyscape model
2. No plan, no support, leave change to market forces
3. A guiding framework of preferred uses (but not a location plan) with reverse auctioning.

Options were analysed to a common set of criteria, with groups able to add further additional criteria if they wished. The group scribe recorded comments on a matrix against criteria; writing comments in each box.

The following table provides a summary of the main issues raised in discussion, drawn together by summarising the main comments into common themes or issues. For a full version please see the appendices.

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Criteria	Option 1 - A broadly planned landscape using methods like the Polyscape model	Option 2 - No plan, no support, leave change to market forces	Option 3 - A guiding framework of preferred uses (but not a location plan) with reverse auctioning
Economic impact	Limiting / restrictive Wide objectives	A 'free for all': negative Limited long-term benefits	Flexible but focused
Social impact (inc. cultural etc)	Positive and negative	Negative impact	Needed
Environmental impact	Ideal but could be too rigid	Detrimental	More inclusive and flexible
Ability to integrate all the 'needs'	Many environmental gains stem from similar action	Limited and poor outcomes	Potentially difficult to integrate farmers needs
Deliver national needs and objectives?	Ideal Helps Policy makers visualize what they are doing	No achievement	Limited
Deliver local community needs and objectives?	Limited Incorporate local knowledge	Very detrimental to local economies	Ideal
Deliver land owner needs and objectives?	Inflexible, too directive	Too vulnerable to global market force, no support	Most sensible
Realistic to implement?	Buy-in required Needs elements of market forces	Unrealistic	Most expensive to implement but best outcome
Realistic cost ?	Expensive in short term but potentially long-term sustainable	No initial costs but expensive mistakes	Expensive running costs
Who would deliver it?	LA role	Global markets	National agencies
Whose plan is it? Who sets the objectives?	Westminster		Locally

Once the groups had considered the options they selected their preferred option and created a bullet point list of the main proposed feature of a land use planning tool.

The following table provides a summary of the main issues raised in discussion, drawn together by summarising the main comments into common themes or issues. For a full version please see the appendices.

Should contain	Should not contain
<ul style="list-style-type: none"> Flexibility Long term aims and aspirations Local buy-in: a bottom up policy which fits with national/European plans Financial scheme to pay for environmental 	<ul style="list-style-type: none"> Top down prescription Unhelpful subsidies Subsidies for doing nothing Policies that are always changing To many tiers/levels

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measures <ul style="list-style-type: none"> • Balance between food security and environmentally sustainable land uses • Local dialogue • Polyscape useful tool • Better co-operation 	
--	--

These two exercises generated a wide range of ideas, however, there was insufficient time within the session to take them to any real conclusion. The trends identified in earlier exercises around localism and engagement remain much the same. Further work is now needed to draw out viable delivery mechanisms, into which these ideas can be fed. This is taken further in the next section.

5.6. What is needed to enable resilience of the local ecosystem?

Participants were asked to consider what would need to change in:

- a. Policy
- b. Management delivery
- c. Engagement

The following table provides a summary of the main issues raised in discussion, drawn together by summarising the main comments into common themes or issues. For a full version please see the appendices.

Policy level:
<ul style="list-style-type: none"> • Use models such as Polyscape as tools/guidance to develop and influence policy • Ensure a greater emphasis on flexibility to aid projects to go forward • Faster implementation: less risk adverse • Proper engagement with practitioners • Clear informal guidance that is simple and evidence based • Radical review planning policy in Wales • Remove Westminster • Zone farming subsidies – production & environmental • A clear land management vision with integration of production/environment /energy/climate change i.e. delivery of all EGS in combination • Long term policy requires consistency, future. Not only for Government period • Use existing extract to diversify, and deliver multiple outcomes • Cycle tracks, bridle paths, walking - establish communities by providing services. • Increase awareness of Cambrian Mountains as an area
Management / Delivery: (of policy guidance/governance)
<ul style="list-style-type: none"> • Flexibility and transparency • Learn by mistakes / less risk adverse • Clear responsibilities – delivery lines • Proper facilitation – and leadership – enabling role • Speed of delivery • Use technology to deliver • Less micro-management from the top: Meet local need • More joined up • Range of scales, not reliant on political boundaries

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<ul style="list-style-type: none"> • CAP reform and new markets • Government as a regulator but not necessarily a receiver or distributor of funds • Private business to pay directly to land managers in an open market • Operational framework to support farmers into the market place • Incentive - project officers to support individual ideas • Careful thought on how to integrate with existing agri-environment schemes e.g. EU funding
Engagement: <ul style="list-style-type: none"> • Proper engagement with practitioners & the community • Community leaders/'champions' • Young farmers, in the uplands • Go to community activities etc mother and toddlers • Less consultation and more participation • Use technology to gather info: fun and interactive • More power to the community councils • Ensure thorough input from specialist fields • With new markets – water companies, insurance companies, polluters • With farmers – facilitate communication between farmers and markets • Tax payer – education on the benefits of the system • Local expertise: project officers • Ability to contact, find approval, answers from landowners to highest level of government • Agri-environment expertise

Again a broad range of specific ideas were identified in this exercise. However, there was little time to really discuss the relative value or otherwise of these ideas. The general trends are developed further in the overall summary analysis section (section 6 of this report).

5.7. What happens next?

In summarising the day's workshop participants were invited to write down their thoughts on what steps should be taken next.

Comments are listed below:

- *Need to have a policy taking account of food, biodiversity, etc. to manage change – CAR & Water.*
- *Engagement won't happen in verified area.*
- *Engagement – needs a number of trained project officers with maps as a discussion tool to identify mitigations / interventions.*
- *There needs to be a radical policy and landscape planning review, built on real engagement (including the use of technology) to develop sustainable communities.*
- *There needs to be localised management and delivery, supported by 'joined up' agencies providing incentives rather than prescriptions.*
- *Engagement needs to be approached flexibility, over realistic timescales and with effective facilitation*
- *The process should follow the steps - Gather, filter, decide, implement.*

5.8. Summary of Workshop 2

The workshop covered a broad range of issues, many of local relevance. All of the write ups are in the appendices. We concentrate here on drawing out the main messages of wider relevance in terms of engaging people in EGS dialogue and land use decision making.

In this respect, the main points arising were:

Policy

- Policy discussions need to be informed by greater stakeholder debate.
- Policy needs to set broad frameworks defining ‘needs’ or directives, but leave local decision making to identify the best approach for delivering the policy. This should include giving greater ability to local areas to spend, and to decide what and where to spend, to ensure they deliver policy needs.
- Decision making (including policy formulation) needs to follow a process which allows engagement to be real. This follows a traditional project cycle approach from assessment of problems, causes and effects through to delivering actions and eventual evaluation.

Management

- Land use mapping tools (as exemplified by Polyscape) are extremely helpful in supporting both dialogue and decision making. Stakeholders should be involved in discussing appropriate overlays and the development of an economic overlay was felt to be a valuable addition.
- Management and appropriate dialogue needs to work within natural areas as defined by social and geographic issues of relevance and scale to the area.

Engagement

- Stakeholders are keen to have more integrated and sophisticated conversations, not simplistic ‘yes / no’ polarised debates which do not allow proper analysis of the issues or the alternative options for addressing them.
- Discussing land use and aspects of change was a good starting point for engagement and allowed local issues to be the point of focus and so achieve local relevance in policy and management discussions.
- Times for dialogue are unrealistic and are too reliant on the time scales set by political terms. This suggests the political process is actually working against good discussion and decision making in this context, rather than underpinning and supporting it.

Finally, it was felt the Cambrians was a good ‘test bed’ for developing this work and that the present study should not be seen as a completed piece of work, but should feed into an on-going process.

6. OVERALL SUMMARY AND ANALYSIS

6.1. What value does the public place on current ecosystems goods and services?

In broad terms:

- People in the study area understand and value EGS
- The regulatory roles of EGS are perhaps the most poorly understood, however, the suggestion is that opinions, and therefore values, do change. This is based on overall impressions from the whole dialogue process. Certainly the results from the first workshop were inconclusive. It therefore appears that the longer the dialogue and the greater the opportunity for interaction between stakeholders with local knowledge and professionals bringing in external scientific knowledge, the better.

6.2. What are the public's hopes and fears in respect to possible changes to these ecosystem goods and services over the next 10-20 years, as mediated by:

- Direct climate change,
- Mitigation or adaptation activities
- Government policy
- Population
- Market forces?

In broad terms, many of the trends were felt to be demonstrating a loss of local community control over their own future, which needs to be redressed. Discussions raised a number of issues:

- There needs to be more sophisticated cross-sectoral debate due to the complexity and inter-relatedness of the subject(s) and issues. There is a need for more time to really discuss these inter-relationships between EGS and other factors.
- Discussions need to be at a more local level and support the identification of local solutions to national issues, ensuring they are appropriate locally and delivered in a way that is locally applicable.
- Through the conversations there was an increase in understanding of the regulatory roles of EGS and what this really means.
- The number of factors effecting change in EGS are numerous and many of the most significant immediate changes actually relate to direct fiscal and regulatory interventions (e.g. market manipulation, grants, taxation, regulation and other measures). This to some extent masks, and even confuses, the impacts of climate and other long term changes.
- Many of the drivers for change are beyond local control and this is challenged since participants do not feel they should / need to be. There is a general concern that whilst there should be a national (or even wider) framework, there should be a greater local autonomy in defining and applying solutions.
- Food and energy production will continue to be an important EGS and their production remains fundamental with current global population trends. This raised some concern with the pressures on farming and the ageing nature of the farming population.

- The inflexibility and inappropriate nature of some planning regulation; again felt to be due to too much remote external control with a lack of local adaptability.
- There is a continuing increase in leisure time and this is reflected in recreation and tourism demands on EGS. This represents both an impact and a business opportunity.

6.3. What are their preferred scenarios for land use policy / management, given the range of policy options available?

In broad terms there should be a national (or wider) framework which outlines national need. This would be supported by fiscal and other incentives (though there are some who believe that the market place should be less manipulated for direct goods such as fuel, food, etc), which are delivered and applied as appropriate locally. This would be orchestrated through local level land use planning, supported by local dialogue, and effective visualisation and information tools such as Polyscape. There is however a concern that these tools need a socio-economic overlay to be of real value.

Views on where support from tax revenue should be used.

This is perhaps the question that was least well answered. The limitation of time and scale of this dialogue prevented much time to be spent on detail and with such a broad range of ideas and views it is hard to be specific. Whilst there were a broad range of responses with some common trends, there was also a lot of discussion about where public money should and should not be used. There was also some discussion as to whether this should be approached through taxes. However, allowing for the need for further investigation of this aspect there were some common trends.

- There is a concern over the degree to which the EGS value is masked by the wide range of interventions – fiscal, regulatory and other.
- That whilst the framework for delivery needs should be set nationally, the allocation of funds and other interventions should be more locally discussed, delivered and controlled.
- A widely debated issue was the level to which the market should be 'left alone', how realistic this really is within the global economy and how non market aspects of EGS are identified.

In broad terms the messages were less specific about how taxes should be spent and more about how the decisions over tax spend should be made.

The role of land use planning tools, exemplified by the Polyscape tool.

It is clear from the interest and enthusiasm that this technique generated, that there is value in this exercise and that it is worth developing further. Conclusions taken from the results to this element of the workshops must of course be treated with care. However, the tool clearly provides a useful method of engaging with people and generating discussion, and it is perhaps in this light that it can serve most value in the future.

Although there was some scepticism over the 'rules' used within the development of the various scenarios within the Polyscape tool (indeed it was clear that this was another area for potential dialogue) and over the limitations around the number of scenarios that could be traded off at one time, it was clear that tools like Polyscape help stakeholders see their landscape in a

different light. It enables them to envisage the consequences of change and is a useful means of promoting dialogue and of focussing in on key issues.

In terms of Polyscape itself, the dialogue suggests that:

- The tool provides a valuable, visual support to effective dialogue and decision making.
- The tool should not be used in isolation - say between landowners and grant officers - but should be part of a more sophisticated conversation involving all those with a 'stake' in the management of the local landscape.
- The tool needs to be made available to both sides in a negotiation – so that one side does not have control over the 'rules' used.

The Polyscape tool appeared to offer the prospect of developing scenarios around local issues and concerns relating to a broad range of 'change'. There was thus potential for the tool to become a dynamic support mechanism that could model suggested changes rather than always using the same generic information set.

6.4. Where are the key trade-offs between different options and how should these be handled?

All of the EGS were seen as being trade-offs and the decisions on these were not clear cut. More important perhaps was the clear message that these discussion should be more regular, more sophisticated, involve a wide range of people and be happening at the local level. In addition, the identification of solutions and the mechanisms for achieving them should be devolved down to a more local level.

Further development of the Polyscape approach, specifically with the introduction of a socio-economic layer, was felt to offer useful insights into the negotiation over a geographic area. Participants would like to continue the dialogue that has been initiated to investigate the development of informing locally appropriate delivery mechanisms which address national needs but are locally administered and relevant. The Cambrians was felt to provide a realistic area in size, scale, diversity and range of EGS issues, as well as existing stakeholder engagement, for such a process to be piloted.

6.5. What are the public's perceptions of the key problems and challenges in the implementation of these policy / management options and what ideas do they have for improved (fairer, more effective, better value, etc) implementation?

In short, greater localisation of decision making within a broad national framework.

What needs to change in Policy?

There was a clear desire amongst stakeholders to be involved in more complex discussions around policy integration. Visualisation and interactive approaches, far from being simplistic, can be extremely effective in creating the environment to host very sophisticated discussions around the implications of policy decisions. To allow dialogue to happen, therefore:

- Policy needs to be developed over a longer timeframe than here to fore, and not be based around short term political timescales and short funding periods;

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- Policy discussions need to be taken down to the local level to have relevance and be ‘tested’ - or ‘ground truthed’ - against the reality on the ground;
- The key to the success of any dialogue is to ensure that discussion has a local focus and therefore remains relevant to the stakeholders involved. Policy needs to create guiding frameworks, but there needs to be a greater autonomy in local people finding local solutions for delivery. This is likely to involve finding new ways of delivering appropriate funding into a local area to deliver national needs in a locally appropriate way (examples discussed included reverse auctioning, but other methods need to be discussed and trialled).

What needs to change in management?

The Polyscape tool and the dialogue process could be used to support discussion around complex issues such as future agri-environmental scheme development and energy production (including windfarms), and in support of the development of the market place in ecosystems goods and services generally.

Policy makers need to enable the development of a range of visualisation and interactive tools aimed at finding local solutions, and embrace a greater range of approaches that allow policy to be delivered at the local level.

This will require an element of realism and acceptance about smaller numbers of people being involved in more detailed discussions than is currently the norm with existing consultation methods. If required, these more sophisticated discussions can be combined with periodic outreach to a wider population (as exemplified by the street stall approach) in order to ‘check’ the direction of travel and ‘test’ wider sympathy with the results of the detailed dialogue of the stakeholder groups.

6.6. How do the public feel they should be engaged in these issues going forward?

The general overall message arising from the dialogue was that people wish to be involved in more sophisticated, ongoing discussions across a broad range of stakeholders and topics. This is a clear moving away from the current ‘interest group’ and ‘single issue’ focus of many dialogues and decision processes. The process needs to embrace a broad cross section of stakeholders - land use dialogue needs to move beyond the farm yard.

The delivery of this project in the Cambrians suggests that the key elements for success in a dialogue of this type are:

- The value of using **change** as the focus for discussion;
- The need for careful design and facilitation and the focussing of the conversation;
- The interactive nature of the techniques used;
- The importance of visual presentation within the workshop environment;
- The need for dialogue to continue - this requires a ‘host’, ‘time’ and sufficient resources;

The process has shown that interactive visualisation methods can be extremely effective in bringing stakeholders from all levels of decision making together to discuss complex issues, as

well as being adapted to 'quick consultation' which can be used to 'check' with a wider audience.

The use of 'real money' discussions within the dialogue helped comprehension of the nature of some aspects of value and provided a very informative approach to discussing what needs to be done about certain land use changes of concern. It is clear that people can differentiate between what they value personally, and the need for public money to be spent wisely to ensure maximum benefit.

The approach developed in this work provides some examples of how this process may be initiated and the types of technique likely to be appropriate. The next step is to look at how to deliver ongoing, sophisticated discussions of this type 'at scale' and over time.

7. WHAT NEXT?

From the start of this dialogue the team were clear that they wished to design a process that could deliver continued engagement after the completion of the current project. The driver for this is both the need not to leave the stakeholders engaged in the project 'hanging', and the desire to develop a mechanism that can lead to greater engagement of the public with the aims of the Cambrian Mountains Initiative. This will enhance understanding of the potential for the market in ecosystems goods and service to become a significant driver of the economy of the region.

To enable this to happen, CCW, CMI and R4C have been active in trying to ensure that the learning from the process is recognised and understood. Activities have included:

- A debrief and feedback on the process and its results to Elin Jones, Rural Affairs Minister for Wales;
- Attendance and presentation of the first stage of the process at the Natural Capital Initiative invitees workshop in February 2011;
- Online evaluation with all participants to develop next steps. (Completed)
- A presentation to Defra on the 17th March;
- Agreement for a proposed follow up presentation to the Welsh Assembly

A range of ideas around the nature of future dialogues have been developing from the on-going discussions arising from the work, and it is hoped these will continue. The main areas of discussion for taking the process forward include:

7.1. Local level conversations

There needs to be trials of the Polyscape tool as a farm level planning tool. This could be done at a number of levels:

- In dialogue with individual landowners (and using existing funding mechanisms such as the Glastir woodland management grant) develop farm level discussion information and inform subsequent farm plans.
- To facilitate a broader dialogue around local EGS / land use and the impacts on all stakeholders – landowners, businesses, residents, tourism providers, etc. This would operate around a village or a local catchment to engage all those within an area, and with a direct vested interest in the use of local EGS, in a dialogue around future land use.
- Develop trials for using Polyscape as a specific discussion tool at Policy level to inform key land use issues such as agri-environmental support. Land owners and others involved in the dialogue were keen to see how the tool could be used to support dialogue between the Policy and farm scale decision making levels. This would need to sit within an engagement process from local to national decision making levels, for which this piece of work provides an initial framework on which to develop.

The Cambrians are felt to be an excellent area for continuing the development of this way of working (because it is a clearly defined area; there is proven local interest and engagement; the

local Menter groups are now involved and part of the process). It could perhaps be complimented by a similar process being trialled in a more urban / peri-urban setting such as the Networked Environment Region work in South East Wales.

7.2. Observatory of change

These local conversations need to continue and develop into an ongoing dialogue across the Cambrians towards understanding how to adapt EGS management to change, towards achieving more resilient communities. Change is a continuing process and is informed by many approaches including observation, science and local knowledge. Traditionally we have tried to answer questions of change from the point of view of science, however, science alone cannot answer the question if the wrong question is asked (and even then its limitations should be recognised). This project showed the value of involving stakeholders at all levels in dialogue so that questions are raised from different perspectives and are then informed by a range of information. The Polyscape tool can provide a visual picture which is built up between the different EGS pressures and other factors which aids in this negotiation.

The bank of knowledge built up by such a process could inform an ‘observatory’ of knowledge, which could monitor local changes and map them using Polyscape. This in turn would help inform the questions to be discussed or investigated, by providing a knowledge base to inform the necessary debate around change. This then allows an iterative conversation towards resilience and sustainability rather than single consultation interventions. Such a process would work in two directions, ensuring that policy is formed through local input, while also identifying how a national Policy can be delivered at the local level.

7.3. Delivering change

A land use change approach based on dialogue needs a range of alternative delivery mechanisms. The engagement so far has identified the need for this to be delivered more locally, at the level of the Cambrians and even below. Some of these delivery mechanisms may include grant or other fiscal support, but not all. Where fiscal support is an option; alternatives such as reverse auction⁹ and locally administered ‘financial pots’ need to be considered / trialled. These could use a grant ‘pot’, supplemented or supported by a number of community managed fiscal tools such as a revolving funds and community share schemes.

It is suggested here that a trial is developed around an issue of local relevance and concern such as flood risk management, hydro or other RES technologies. The development of such a trial will require a broader more sophisticated change dialogue across the Cambrians to finding a solution(s).

7.4. Scaling the conversation up over a wider area

There is a clear need to continue and expand the work with the existing Menter groups engaged in the delivery of the present project. This needs to take in the whole of the Cambrian Mountains area, over a sustained period of time, in order to see how the process could be used to develop discussion and reach local conclusions relevant to the objectives of the CMI (the

⁹ There were varying views of this as approach at the second workshop with some participants expressing concern they lead to collusion and cartels.

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policy maker in this context). The dialogue needs to be bounded within the national needs and objectives defined by policy, but also to inform that same policy environment. Ongoing work is needed to understand how the local engagement process developed in the Cambrians can develop an ongoing understanding of the important changes impacting on EGS and towards resilient communities.

8. APPENDICES

8.1. Workshop 1 results

Understanding and Valuing EGS Workshop Machynlleth / Ecodyfi 24.1.11

Attendees:

Sharon Walters
Loren Shaw
Cathryn Brown
Amanda Dean
Ellen ap Gwynn
Fiona Evans
Medi James
Nigel Callaghan
Jon Allen

What benefits do you think we get from the environment?

- Fresh Air
- Exercise
- Recreation
- Peace
- Wellbeing
- Swimming
- Low stress
- Community – neighbourliness
- Low crime rate (insurance)
- Good schools
- Dark skies
- Few temptations to spend
- History & Heritage – continuity
- Culture
- Interesting landscape
- Wildlife and natural history
- Natural resources – water, sea, wind,
- Free recreation - surfing, mountain biking
- Lamb
- Wild food
- Aesthetic pleasure
- Local food
- Access to countryside
- Organic farming
- Natural sounds

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- Low (light) pollution
- Horse riding
- Space – no crowds
- Clean(ish) beaches
- Beauty
- Less traffic
- Rare species
- Isolation
- Firewood & biomass
- Other energy – wind , solar, hydro, geothermal, GSH

The Value of EGS: understanding the value placed on services by participants.

Table 1

Service	Value
Food	12
Water	12
Wood & Fibre	7
Fuel	8
Wildlife	10
History & Sense of place	12
Recreational	9
Educational use	9
Spiritual	9
Aesthetic	9
Temperature regulation	4
Pollution and disease regulation	4
Flood regulation	5
Climate regulation	4

Table 2

Service	Value
Food	17
Water	15
Wood & Fibre	9
Fuel	4
Wildlife	14
History & Sense of place	6
Recreational	19
Educational use	3
Spiritual	5
Aesthetic	17
Temperature regulation	2

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Pollution and disease regulation	2
Flood regulation	7
Climate regulation	7

Discussion to build understanding and views on likely changes:

Table 1

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, beef farming, local shops, allotments/gardens, farmers markets	Fewer animals Local shops closing down More demand for home grown veg./local produce	Change to EU grants Supermarkets price/PO closures Price/value/taste/sense of achievement Food miles, fashion, fuel prices.
• Water	Agriculture Fishing: sea & river Leisure Flooding Clean water No local control of water services	Questioning lack of local fish/seafood Local flooding, cutting off service provision, lack of maintenance, increase in population Should be changed to WAG	Price led – produce exported Raise road/rail levels/better maintenance LDP
• Wood and fibre	Timber production	Use of biomass/wood burning stoves	Local demand
• Fuel	Wind power Biomass Hydro-electric Solar panels	More wind farms Increased demand More interest	Government policy – green issues Council policy/Assembly policy Feed in tariffs
• Wildlife	Recreation Pheasant/wildfowl shoots Osprey RSPB		
Regulating services			
• Climate regulation	Peat	Development of wind farms on peat	

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• Flood regulation	Vegetation, Peat	Deforestation RSPB removing drains	End of lifestyle Increase wetlands for wildlife SUDS – sustainable urban drainage scheme
• Pollution and disease regulation	Biodiversity	Water acidity	deforestation mixed planting – more deciduous
• Temperature regulation	Drinking water, changing biodiversity		
Cultural services			
• Aesthetic	The view Old villages – local architecture	Will be ruined by wind farms and houses. More new buildings not all sympathetic	Planning system needs to be changed
• Spiritual	Landscape character	Hospital closures	An increasing interest causing inward migration.
• Educational use	Natural and cultural heritage, yoga schools	Development of forest schools, fewer field classes, local schools: eco-education	Health and safety, educational policy
• Recreational use	Active pursuits	Mountain biking, fly-fishing, clay pigeon shooting, walking, new reefs (Borth)	Forestry bike trails, marketing, more interest in active recreation (healthy and cheap), Coastal path
• History and sense of place	Welsh history, industrial history, family history, welsh language classes	More interest, re-visiting old family roots, plugging into local 'cymdeithau'	EU funding like 'Spirit of the miner', 'Reborn' Fashion, better access to information

Table 2

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming Dairy Beef Own growing & production	More sheep Less stable? Increasing small holdings and polytunnels	More profitable/less profitable Depends on economic conditions. Increased awareness, food costs going up, locally more worthwhile to do it, media awareness

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• Water	Agriculture Spring water Hydro	Bottled spring water boosts Welsh image Limited locations, increased uptake	Sold worldwide Energy prices going up, feed in tariffs.
• Wood and fibre	Timber production Building materials	local resources are being used	Cost of building materials going up
• Fuel	Wind power Firewood Methane	Bigger wind turbine developments, clusters bigger, more of an impact High usage locally	Subsidies making it profitable for large companies More 'green' houses going up
• Wildlife	Recreation RSPB, CCW Cors Fochno	Social awareness is increasing and younger people are more involved	Education: young people feel they can change Affecting plant growth
Regulating services			
• Climate regulation	Peat Cors Fochno Pumlumon Cambrian Mountains	Value more, concern that wind farms will be kept off them	Companies doing it just for profit have different 'build' impact to small local schemes.
• Flood regulation	Vegetation	Increased flooding	Lack of ditch maintenance Upland management Deforestation Tidal influence High water table following the snow
• Pollution and disease regulation	Biodiversity		
• Temperature regulation	Drinking water		
Cultural services			
• Aesthetic	View Large wind turbines Conifers Improved pastures	Change the landscape	Subsidies
• Spiritual	Landscape character		
• Educational use	Natural and cultural heritage RSPB courses, Ynyslas	School informs children and encourages debate Feel this might become less	Schools are running out of money to do this Less money for recreational pursuits
• Recreational use	Active pursuits Water sports, Borth scheme, Horse riding/bridleways	Tracks are often quite difficult 4X4's often in convoys damaging the tracks	Commercial incentive Health and safety makes it difficult

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	Cycle tracks		
• History and sense of place	Welsh History		

The Value placed on a service after information: understanding if the value has changed.

Table 1

Service	Value
Food	9
Water	7
Wood & Fibre	6
Fuel	6
Wildlife	9
History & Sense of place	12
Recreational	8
Educational use	6
Spiritual	7
Aesthetic	8
Temperature regulation	2
Pollution and disease regulation	3
Flood regulation	6
Climate regulation	3

Table 2

Service	Value
Food	10
Water	6
Wood & Fibre	8
Fuel	9
Wildlife	11
History & Sense of place	4
Recreational	13
Educational use	4
Spiritual	6
Aesthetic	9
Temperature regulation	1
Pollution and disease regulation	6
Flood regulation	10
Climate regulation	7

How to spend tax money: to see if value equates to how participants spend taxes.

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Table 1

Service	Value (£)
Food	700
Water	700
Wood & Fibre	200
Fuel	400
Wildlife	300
History & Sense of place	600
Recreational	500
Educational use	600
Spiritual	300
Aesthetic	500
Temperature regulation	
Pollution and disease regulation	500
Flood regulation	800
Climate regulation	

Table 2

Service	Value (£)
Food	100
Water	700
Wood & Fibre	500
Fuel	700
Wildlife	800
History & Sense of place	
Recreational	400
Educational use	2200
Spiritual	100
Aesthetic	800
Temperature regulation	
Pollution and disease regulation	100
Flood regulation	900
Climate regulation	800

Note: Table 2 had £1,900 underspend

Summing up: Identify any values that have changed and why.

- Values and Money are different
- Some things don't need money e.g. protecting the landscape
- Underestimate the impact of farming on things like this
- Money can have more influence on some things than others
- Some things I buy myself e.g. fuel. Others need community e.g. Flood defence

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- What should we influence? e.g. fish being taken to sale miles away
- Everything clouded by subsidy
- Need to look more into the future
- Amount, of analysis needed to understand and inform change
- Other agendas

If we could change one thing about how we use and manage land, what would it be?

- Ensure sufficient food supplies for a growing population
- Protect the beauty and peace, our most precious resource
- No idea!
- Not subsidise land management strategies that are detrimental to long term maintenance of ecosystem integrity/services/functions
- Look towards the future, work with the large companies coming in so they understand the values of the local people. Sustainability for the future, not just the beauty of now, because some of it needs to be sacrificed
- I think I would encourage community projects/development
- I would like to see more integrated land management to conserve natural habitats, the landscape and access.
- Remove subsidies – wind energy, farming, transfer to market economy land management

Aberystwyth / Menter a busnes 27.1.11 - Understanding and Valuing EGS Workshop

Attendees:

Jon Paul McCalmot
Owen Jenkin
Huw McConockie
Wynne Jones
Simon Lloyd-Williams
Ben Williams
Tudor Jones
James Raw
Ian Lycett
Ceri Jones
Wendy Davies
John Raybould

What benefits do you think we get from the environment?

- Landscape (variety)
- Feel good factor
- Diversity
- Clean air
- Water management
- Social networks

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- Energy – hydro/wind
- Timber – trees
- Managed environment
- Income
- Peaceful – slow life
- No commute
- Tourism
- Wildlife value
- Remote
- Heritage
- Sense of belonging

The Value of EGS: understanding the value placed on services by participants.

Table 1

Service	Value
Food	9
Water	8
Wood & Fibre	10
Fuel	10
Wildlife	10
History & Sense of place	11
Recreational	7
Educational use	7
Spiritual	8
Aesthetic	10
Temperature regulation	5
Pollution and disease regulation	7
Flood regulation	8
Climate regulation	5

Table 2

Service	Value
Food	13
Water	15
Wood & Fibre	9
Fuel	14
Wildlife	11
History & Sense of place	12
Recreational	10
Educational use	11
Spiritual	5
Aesthetic	12

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Temperature regulation	5
Pollution and disease regulation	10
Flood regulation	7
Climate regulation	7

Table 3

Service	Value
Food	9
Water	9
Wood & Fibre	5
Fuel	4
Wildlife	7
History & Sense of place	8
Recreational	8
Educational use	6
Spiritual	3
Aesthetic	2
Temperature regulation	3
Pollution and disease regulation	4
Flood regulation	5
Climate regulation	5

Discussion to build understanding and views on likely changes:

Table 1 [4 people – Tudor was scribe – selective writing]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming,	Fewer farmers	Ageing farmer population, increasing costs of production – level of profit, increased cost due to regulation.
• Water	Agriculture	Increasingly extreme climate conditions	Climate change
• Wood and fibre	Timber production	Increasing area requirement	Fuel demand (biomass) More private investment
• Fuel	Wind power	Increase in number of renewable energy schemes (private/self sustaining)	Government regulations re: renewables
• Wildlife	Recreation	Climate, Human intervention	

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Regulating services			
• Climate regulation	Peat	Government policy	Growing awareness
• Flood regulation	Vegetation, Peat	Government policy	Urban pressure
• Pollution and disease regulation	Biodiversity	New exotic diseases (increase in some)	Climate change Increased movement of people and arrivals
• Temperature regulation	Drinking water,	Climatic conditions	Global climate change
Cultural services			
• Aesthetic	The view	Pressure for energy services	Increasing demand
• Spiritual	Landscape character		
• Educational use	Natural and cultural heritage,		
• Recreational use	Active pursuits	Increasing leisure requirements	More time for leisure
• History and sense of place	Welsh history	Loss of local identity	TV and internet etc

Table 2 [5 people – finished five minutes before time]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming,	Demise of smaller farms, intensification of larger farms. Cost of production	Economies of scale
• Water	Agriculture		
• Wood and fibre	Timber production	increase	Price of fuel
• Fuel	Wind power	increase	FITS, price of fossil fuels
• Wildlife	Recreation	Increased diversity on uplands	Consumer awareness/demand
Regulating services			
• Climate regulation	Peat	Increased interest	
• Flood regulation	Vegetation, Peat		
• Pollution and	Biodiversity		

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disease regulation			
• Temperature regulation	Drinking water,		
Cultural services			
• Aesthetic	The view	Spoiled by wind farms	
• Spiritual	Landscape character		
• Educational use	Natural and cultural heritage,	Increasing	Education for sustainable development focus
• Recreational use	Active pursuits	increasing	Easier to get into the area, modern transport
• History and sense of place	Welsh history,	Becoming less important	Migration of people

Table 3 [4 people incl. Alun Davies CCW who was influencing decisions]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, Farmers markets	- transport costs - Increasing and improving	Fuel shortage People want to purchase locally produced food
• Water	Agriculture		
• Wood and fibre	Timber production		
• Fuel	Wind power Increased fuel costs	Less travel for business and pleasure	Greedy Arab speculators
• Wildlife	Recreation Access to countryside	Reducing with financial constraints	No money
Regulating services			
• Climate regulation	Peat Increased flooding Tree planting targets	Potentially more flooding Increased carbon sequestration	Climate change! National Assembly targets and grants
• Flood regulation	Vegetation, Peat		
• Pollution and disease regulation	Biodiversity		
• Temperature	Drinking water,		

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regulation			
Cultural services			
• Aesthetic	The view	Wind farms, caravan sites	Need for renewable energy, need for tourism
• Spiritual	Landscape character Empty chapels Hills and mountains	Conversion through sale – Cardiff benefits! Wind farms everywhere	Decline in community life Greed
• Educational use	Natural and cultural heritage, country schools	Closing communities	Financial, no jobs, house prices
• Recreational use	Active pursuits, access to countryside, language , tourism	Lack of funding to keep clear Downgrading of RUPP's Lack of jobs, homes increasing	Political pressure groups Financial constraints Activity holidays
• History and sense of place	Welsh history, Food	Loss of small business	Large conglomerates e.g. Tesco

The Value placed on a service after information: understanding if the value has changed.

Table 1

Service	Value
Food	12
Water	9
Wood & Fibre	7
Fuel	10
Wildlife	8
History & Sense of place	11
Recreational	10
Educational use	8
Spiritual	10
Aesthetic	12
Temperature regulation	5
Pollution and disease regulation	8
Flood regulation	4
Climate regulation	9

Table 2

Service	Value
Food	14
Water	12
Wood & Fibre	11

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Fuel	15
Wildlife	9
History & Sense of place	12
Recreational	10
Educational use	15
Spiritual	6
Aesthetic	11
Temperature regulation	8
Pollution and disease regulation	10
Flood regulation	5
Climate regulation	8

Table 3

Service	Value
Food	8
Water	8
Wood & Fibre	7
Fuel	7
Wildlife	7
History & Sense of place	5
Recreational	8
Educational use	6
Spiritual	4
Aesthetic	3
Temperature regulation	7
Pollution and disease regulation	6
Flood regulation	5
Climate regulation	9

How to spend tax money: to see if value equates to how participants spend taxes.

Table 1

Service	Value (£)
Food	1800
Water	300
Wood & Fibre	300
Fuel	1500
Wildlife	200
History & Sense of place	400
Recreational	200
Educational use	500

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Spiritual	200
Aesthetic	100
Temperature regulation	0
Pollution and disease regulation	300
Flood regulation	100
Climate regulation	2000

Table 2

Service	Value (£)
Food	1900
Water	400
Wood & Fibre	200
Fuel	1300
Wildlife	1500
History & Sense of place	900
Recreational	1200
Educational use	900
Spiritual	0
Aesthetic	600
Temperature regulation	0
Pollution and disease regulation	500
Flood regulation	0
Climate regulation	600

Table 3

Service	Value (£)
Food	2000
Water	1300
Wood & Fibre	200
Fuel	300
Wildlife	300
History & Sense of place	600
Recreational	500
Educational use	800
Spiritual	0
Aesthetic	100
Temperature regulation	0
Pollution and disease regulation	300
Flood regulation	600
Climate regulation	100

If we could change one thing about how we use and manage land, what would it be?

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- Stop the loss of farmland to non-agricultural use. If this is impractical – stop the loss of the most fertile land (e.g. to building)
- Policies on land use were governed by what the population as a whole require and not what a minion of policy makers think they need.
- Regulation for long term environmental sustainability
- Less government regulation with more focus on food production
- Develop transport to open up the countryside
- More woodland
- More wildlife management in the wider countryside
- Increase education in the countryside for small children
- Provide more oil wells
- No more wind farms
- No wind farms
- More local food especially grants to grow veg.
- Less red tape and bureaucracy in agriculture, less bureaucracy and hurdles in planning and developing small renewable energy generation (usually government institutions)
- Consider the view of local people rather than senior officers who have no idea of local conditions.

Devils Bridge / Pentir Pumlumon 31.1.11 - Understanding and Valuing EGS Workshop

Attendees:

Dafydd Morris Jones
Dafydd Fryer
John Wall
Gareth Chism
Jenny Dee
Iola Evans
Alister Dryburgh
Maddy Lewis
P Harper
Ian Williamson
Jenny Macue
Iwan Davies
Liz Collinson
Bill Fitches
Bob Mathews

What benefits do you think we get from the environment?

- Electricity (wind/water/sun and sea)
- Food
- Amenities
- Sport
- Timber
- Carbon Store
- Wool
- Tourism
- Water
- Education/healthcare
- Rock/minerals
- Recreation
- Firewood

The Value of EGS: understanding the value placed on services by participants.

Table 1

Service	Value
Food	13
Water	17
Wood & Fibre	12
Fuel	12
Wildlife	17

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History & Sense of place	14
Recreational	16
Educational use	11
Spiritual	16
Aesthetic	15
Temperature regulation	8
Pollution and disease regulation	16
Flood regulation	14
Climate regulation	13

Table 2

Service	Value
Food	12
Water	12
Wood & Fibre	4
Fuel	6
Wildlife	8
History & Sense of place	9
Recreational	14
Educational use	9
Spiritual	6
Aesthetic	11
Temperature regulation	6
Pollution and disease regulation	10
Flood regulation	12
Climate regulation	14

Table 3

Service	Value
Food	5
Water	12
Wood & Fibre	6
Fuel	8
Wildlife	8
History & Sense of place	6
Recreational	6
Educational use	8
Spiritual	3
Aesthetic	7
Temperature regulation	3
Pollution and disease regulation	4
Flood regulation	6

Climate regulation	6
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Discussion to build understanding and views on likely changes:

Table 1 [7 present including Wynne Jones who was scribe]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, Dairy farms, beef	Reduction in hill numbers, more scrub, more efficient, declining, reduction in suckler herd	Change in subsidy/grant Retiring Set-aside payments Less profit, imports, supermarkets Less profit, TB
• Water	Agriculture Effluent Forestry Lead	Periodic, Felling Less fish	Accidents, Improved water quality, Pollution
• Wood and fibre	Timber production, Less planting	Less felling, difficult harvesting	Price and imports, quality
• Fuel	Wind power Biomass/wood fuel Photovoltaic Oil Micro-hydro	Increasing Price changing More schemes	Subsidy – government bribery Speculators Government support Government support guarantee
• Wildlife	Recreation bees, badgers, red kite, plant life	Reducing and increasing	Reduced pollination, Government protection
Regulating services			
• Climate regulation	Peat, tree planting	Carbon catching	
• Flood regulation	Vegetation, Peat, River Rheidol, EA, Peat bugs, tree planting, coastal erosion	Increased risk, land below dam under threat, Control, wind farm development Releasing carbon	Power station control and price of energy No control Red
• Pollution and disease regulation	Biodiversity Tree disease TB	Local forests under threat Cattle farming under threat	

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• Temperature regulation	Drinking water,	More trees	
Cultural services			
• Aesthetic	The view Wind turbines/infrastructure Clear felling Poor planning Power lines	Increasing Housing development	Subsidy/greed Lack of planning authority vision
• Spiritual	Landscape character, Chapels closing Villages becoming anglicised Ribbon development in villages	Loss of local history, community suffers	
• Educational use	Natural and cultural heritage, Decline in local schools		
• Recreational use	Active pursuits Horse riding	Reduction in some areas	Riders will not ride in the hills because of wind farms
• History and sense of place	Welsh history, Local schools closing Local services in decline	Decline in language/depopulation	Economics, rising fuel prices

Table 2 [5 people]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, Beef Veg . Milk	CAP reform, less subsidy more legislation, local increase in beef production, more people producing own food, more people sourcing local food, GM increase	More subsidy to new entrants EU, Low lamb prices, loss of headage, Money, quality, pleasure, trust Lobbyists
• Water	Agriculture Power generation	Increase in Kyoto scheme, More encouragement for renewables i.e. tide energy	

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	Fishing Drinking	Increase in commercial fishing Change in private level of water consumption, increase in boreholes	
• Wood and fibre	Timber production	Biomass Increase in deforestation Increase in wood for fuel	Increase in oil prices
• Fuel	Wind power Biomass	No thank you! Increase initially in wind farms, but ultimately nuclear the way forward	
• Wildlife	Recreation	To be encouraged and protected. Red kites are becoming less scarce. Conifer plantations are creating dead areas to wildlife.	
Regulating services			
• Climate regulation	Peat	Recreate original peat bogs Questionable to carbon storage from wind farm, Increase Increase in all/any regulations Increase in tree planting	
• Flood regulation	Vegetation, Peat	Increase in intensity to weather events Increase in planting	
• Pollution and disease regulation	Biodiversity	Save the bees	
• Temperature regulation	Drinking water,		
Cultural services			
• Aesthetic	The view	Windmills impact Deforestation/reforestation Buildings/homes	
• Spiritual	Landscape	Wildness reduced due to wind farms. Increase in heath land Closure of chapels and churches	Due to decrease in sheep numbers Lack of use, money and ageing population
• Educational use	Natural and cultural heritage,		

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• Recreational use	Active pursuits	Increase in tourism	
• History and sense of place	Welsh history, local history	Locally welsh language declining in youngsters Threat of closure to rural schools	Increase in non welsh speakers moving in

Table 3 [5 people including Nick Venti – CCW representative]

Ecosystem service	Local examples of goods and services or their uses	Example ideas of what is changing or will change	Examples of why it might be changing
Provisioning services			
• Food	Sheep farming, Milk	Fewer sheep Lass production More vegetable growing	Gov policy supermarkets Gov policy
• Water	Agriculture Aquifer Reservoirs	Increasing water quality issues	Mineral pollution
• Wood and fibre	Timber production	Falling off of new planting	Gov policy (WAG)
• Fuel	Wind power Solar power Hydroelectric Biomass Ground source heat pumps	Increasing Increasing Increase in small schemes Increasing Increasing	Gov policy Subsidies available (feed in tariff etc) WAG Policy?
• Wildlife	Recreation Birds (red kites) Badgers		
Regulating services			
• Climate regulation	Peat		
• Flood regulation	Vegetation, Flood plains, Coastal processes	Building on flood plains Interfering with natural processes	Planning policy
• Pollution and disease regulation	Biodiversity, Heavy metal pollution (point sources)		
• Temperature regulation	Drinking water,		

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Cultural services			
• Aesthetic	The view	Blighted wind turbines	Gov policy and developers
• Spiritual	Landscape		
• Educational use	Natural and cultural heritage, science education e.g. geology, biology	Declining	Health and safety
• Recreational use	Active pursuits	Increasing High maintenance types may decrease (e.g. mountain biking)	More retired people / cost
• History and sense of place	Welsh history, Mining heritage	More awareness	

The Value placed on a service after information: understanding if the value has changed.

Table 1

Service	Value
Food	19
Water	20
Wood & Fibre	8
Fuel	20
Wildlife	13
History & Sense of place	17
Recreational	16
Educational use	8
Spiritual	11
Aesthetic	19
Temperature regulation	9
Pollution and disease regulation	15
Flood regulation	14
Climate regulation	10

Table 2

Service	Value
Food	15
Water	14
Wood & Fibre	4
Fuel	11
Wildlife	11
History & Sense of place	8

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Recreational	7
Educational use	5
Spiritual	9
Aesthetic	6
Temperature regulation	4
Pollution and disease regulation	5
Flood regulation	8
Climate regulation	8

Table 3

Service	Value
Food	9
Water	8
Wood & Fibre	5
Fuel	7
Wildlife	5
History & Sense of place	8
Recreational	6
Educational use	11
Spiritual	3
Aesthetic	5
Temperature regulation	3
Pollution and disease regulation	6
Flood regulation	5
Climate regulation	4

How to spend tax money: to see if value equates to how participants spend taxes.

Table 1

Service	Value (£)
Food	3300
Water	1200
Wood & Fibre	100
Fuel	1500
Wildlife	700
History & Sense of place	1200
Recreational	1400
Educational use	1600
Spiritual	600
Aesthetic	600
Temperature regulation	

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Pollution and disease regulation	200
Flood regulation	1500
Climate regulation	300

Table 2

Service	Value (£)
Food	1600
Water	1000
Wood & Fibre	400
Fuel	500
Wildlife	900
History & Sense of place	600
Recreational	300
Educational use	400
Spiritual	1100
Aesthetic	800
Temperature regulation	100
Pollution and disease regulation	800
Flood regulation	300
Climate regulation	1100

Table 3

Service	Value (£)
Food	900
Water	1200
Wood & Fibre	500
Fuel	400
Wildlife	300
History & Sense of place	100
Recreational	700
Educational use	1800
Spiritual	
Aesthetic	400
Temperature regulation	
Pollution and disease regulation	300
Flood regulation	200
Climate regulation	100

Summing up: Identify any values that have changed and why.

- As we understand more the start scores changes

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- As we discussed more the star scores changed
- Money – greater deal of control a % of total rather than just 1-3 stars
- Vast topics
- Proportion/place money spent – within the sector
- Follow expenditure
- Transparency
- Joined up thinking – interlinked (links between subjects as important)
- Ideology
- Holistic thinking
- Consulting with experts and the public
- No spending on regulation i.e. water – value.
- (Because of current over regulation?)

If we could change one thing about how we use and manage land, what would it be?

- Sustainable land use and protecting it for future generations
- To allow the individual to utilise the land as they wish and maintain the land to its original state
- Integrated land management: address the land ownership contrast between the evergreen blocks of conifers and the vast swathes of Molinia – better integration, diversity and tress in the right landscape aesthetic location
- Less regulation especially with regards to farming and woodland creation
- Encourage vegetable production
- Preserve the landscape as it is now – no more industrialisation!
- Treat it as a living organism
- Cut the red tape and protect the environment and people
- Use it efficiently
- Have a joined up thinking for all government policy
- It must be managed in a sustainable manner
- Increase thoughtful conservation
- Cease building wind turbines and their associated intrusions
- Improve the use of workable land through agriculture, make better use of unmanageable land (recreation, timber, wildlife)
- Improve workable, and make sure it is there for the next generation to farm. Turn scrubland into recreational use.
- To boost as much as possible the number of land based micro enterprises through creating the biggest economic output for local people – based on local skills.

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8.2. Street Stalls

1st Row = Street, 2nd = Co-op, 3rd = Morrisons

Age	Male	Female
Under 16	1	1
17 – 25	4	1
		1
26 – 35	3	1
		2
36 – 45	1	1
		2
46 – 55	4	1
		1
	1	1
56 – 65	1	1
	1	1
Over 65		
	1	1
	1	1

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Do you live in the Study Area?

Yes	No
6	
1	2
17	4

What Type of area do you live in?

Town	Village	Rural
2	2	2
	3	
14	7	

Does your work involve the land?

Yes	No
4	2
	3
4	6

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Ecosystem Service	Is it changing?		Is this important / a concern for you?	
	Yes	No	Yes	No
Food E.g. farming	6		5	
	3		2	1
	16	0	14	1
Water E.g. Drinking water	5	1	4	1
	2	1	2	1
	6	11	7	8
Wood & Fibre E.g. timber and firewood production	6		5	
	3		3	
	13	3	12	3
Fuel E.g. wind turbines, biomass; wood pellets	6		5	
	3		2	1
	13	2	14	1
Wildlife E.g. Wildlife enjoyment; Dyfi osprey project	6		5	
	3		3	
	14	1	12	3
Climate Regulation E.g. Peat bogs as a store for carbon	5	1	5	
	1	1	2	
	10	1	10	2
Flood Regulation E.g. Vegetation type effects run off.	6		4	1
	3		3	
	9	4	8	4

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Ecosystem Service	Is it changing?		Is this important / a concern for you?	
	Yes	No	Yes	No
Pollution & disease regulation E.g. Mixed species woodlands are less likely to be wiped out	6		5	
	3		3	
	13	1	14	2
Fuel E.g. Temperature inside a woodland can be higher than surrounding land	6		4	1
	2	1	2	1
	9	2	9	2
Aesthetic E.g. The View	4	1	5	
	3	1	3	
	14	1	14	1
Spiritual E.g. Landscape character	6		6	
	2	1	2	1
	11	2	9	2
Educational Use E.g. Natural and cultural heritage	5		5	
	3		3	
	13	3	12	1
Recreational use E.g. Walking, painting, photography	5		5	
	3		3	
	14	3	14	3
History & sense of place E.g. Welsh history & language	4	1	5	
	3		3	
	17		11	6

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Service	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Food	200	500	500		100	500		200		300	300	300		300	500	100	300		200
Water	600		200	200	100			400		500	300	300			200		200		300
Wood & fire	400	200	300	200	100		200							100		200			100
Fuel	500		600	200	100			200		300	200	200			200	300		400	100
Wildlife	900	400	400		100		300	500	500				500	300	200	300	200	400	
History/sense of place	400		200			500	200		500	400	300	400		500					100
Recreational	300		200	300	200			300	100	1000	100	300	300		100		300		100
Educational use	700	500	700	500	300		400	500	700	300		300		200	300		100	700	100
Spiritual	100		400		100								300	100					
Aesthetic			300		100			400	100	300				100		200			
Temperature Regulation			400		200	1000								100		100			400
Pollution & disease regulation	100		800		200		400		100	600	100			100		100	300	200	20-0
Flood Regulation			400		100		300			900	400	200	500	100	300		500		200
Climate regulation	100	400	300		300		200	500		400	300		400	100		200		300	200

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Comment Card responses:

4. Do you think we manage our land well?

Y = 12

N = 13

Undecided = 2

5. Do you think we plan the use of our land well?

Y = 8

N = 17

Undecided = 2

6. If you could change one thing about how we use and manage our land, what would it be?

- Take more from profit making enterprises to support the ecosystems that they make profit from.
- Fast food outlets should have a levy or local scheme to clean up the hedgerows – 5 minutes out of town and they are strewn with debris
- Better bridle paths and public access, sectioned off where livestock present
- Make biodiversity the number one priority
- Stop building on land
- The bureaucracy of it all
- Respect for what has gone before and for what we need in the future
- The grants need supervision so wealthy landowners get less and cannot, as happened now, build outside the village boundaries and destroy the view. We need to encourage eco houses for our future and our children
- Environmental education for farmers to be part of Glastir scheme
- More local representation in large scale landscape changes e.g. wind farms/deforestation
- Better awareness within the local population of broader projects etc within the county and our land in general
- Presently the land is managed.
- An encouragement of varied agricultural use = using national funds and policy to encourage diversity.
- An extension of support for the environment
- An endeavour to involve young people
- To put more homes in a safer place and to take more care of our wildlife and our heritage
- Manage the land truly sustainably
- Increased communication with locals and less red tape = reduced costs
- Increase biodiversity – don't cut the hedgerows and grass so frequently
- Ease of access
- More awareness of resources and effective management
- More areas of special wildlife-protection and raised awareness
- More use of land towards tourism
- Hydro electric?
- Look after woodland and hedgerows
- More wind farms, alternative fuels and GM crops
- Less housing on green fields

8.3. Workshop 2

Vision For the future

- What might form components of good land use planning in the future?
- Groups identify what they think is needed to enable positive change towards resilience.
- Individuals respond on post-its and stick onto communal flip chart on each group's table.

Red Group:

Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • Realisation that upland farms need to be productive and profitable to maintain families working on them – too many agri. Restrictions will deter this. • Movement of people out of the area. • Continued rural depopulation • Grant aid from Europe/WA mostly spent on admin. A greater proportion to the applicant. • Unsympathetic planning designs of houses e.g. use of more stone etc. • Negative attitude of planning department • Destruction of the habitat. • Short-term and counter productive land use incentives. 	<ul style="list-style-type: none"> • Support mechanism currently available to aid communities to address rural poverty and loss of infrastructure i.e. schools, shops, pubs etc. • Encouraging tourism to the area to promote the Cambrian mountains • Raising the profile of the Cambrian mountains • Encourage tourism and support primary industries – farming and woodland management • Continuation of consultation at ground level before legislations are agreed on • More projects like this • Using the environmental assets of the Cambrian mountains as a economic driver • Stringent planning permission for new or extensions to caravan parks • Raising the profile of the 'Cambrian Mountains' brand/identity
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • Planning policy for renewables needs to change and become easier/faster. Become more accessible and interact better. • Better use of land for food production • More expansion of production of local produce • A better means of distributing CAP payments to benefit ALL on a higher % of those living in the rural communities. • Remuneration for non-market products of our landscape. • Getting the right spatial scale for market support – one size doesn't fit all but do we have resources to tailor schemes at a very local level? • Stop draining upland bog areas • A more responsive planning system as an enabler of sustainable economic development within the Cambrian Mountains. 	<ul style="list-style-type: none"> • Local planning needs to be met so our young people can stay in the uplands • Better co-operation to bring more tourists into the area – linking all providers for their own benefit • Better links between Science (evidence) Policy (government) and the local stakeholders – especially involving local stakeholders in commissioning research and grounding policy • Designating the Cambrian Mountains as an AONB? • Investing in market towns sustaining communities vitality via the RDP • Long term resilience planning for impacts of climate change on our landscape • More use of forestry commission forests for recreation e.g. mountain biking, marked walks. • More engagement with agri-business community. • Broader use of the rural environment to encourage sustainable business to establish relaxation of certain planning requirements.

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Orange Group:

Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • Stop too much restriction on economic development in rural areas • Mono-culture – be it forestry or bland grassland • Increasing size of existing town boundaries • Wind farms – look at whole picture • Wind farm construction • Destruction of landscapes aesthetics (mainly windmills) 	<ul style="list-style-type: none"> • Discussion on the issues • Continue agri-environment schemes • Use of landscape etc., for education (primary, secondary, university & adult) • Greater awareness of value and importance of ecosystem management • Increased work on improving environmental impact of farming
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • More devolved planning to local area not to Cardiff • Subsidies either focused on food production or environment, or both • Greater self-sufficiency of food and energy • Put food production as a priority for land use. • Recognise intrinsic value of nature and wildlife (not just a service for us) • More independence for agencies from WAG control • Balance of economic values versus ecology 	<ul style="list-style-type: none"> • More diversity in land use • Local small scale housing and economic generation • Rethink boundaries – based on ecosystems rather than political • Recognition of importance of geo-diversity in ecosystems • Co-ordinating on issues – groups working together • Reduction in farm subsidies • Dialogue re level of livestock farming in relation to climate change and peak oil

Yellow Group:

Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • Land management payment systems • Wind farms (x5) • Remove Government subsidies influencing the management of land. • Stop abandonment of agricultural land to bracken • Policies forced by government • Top down micro-management (especially from central government) • Land abandonment • Community degradation • Current planning regulations • Government policies • Appropriate use e.g. dairy farming: there has been a severe reduction of land use in this area over the last two years. • Less heavy handed conservation regulation • Central micro-management 	<ul style="list-style-type: none"> • Encourage multi-use of landscape i.e. energy and food production • Financial support for food producers • Development of micro generation of all types • Support for sustainable tourism economy • Further development of heritage (incl. industrial) based tourism • Wide range of products produced: food, timber, access, tourism • Balance of direct economic outputs and amenity value • Conservation issues • Human interaction in the landscape • A landscape driven economy
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • Devolve environmental policy to WAG • Wind farm subsidies re-directed to micro-generation and small local schemes • Change planning policy to allow more people to live and work in rural areas 	<ul style="list-style-type: none"> • Development of up-graded grid connections to facilitate micro-generation • Improved ability to implement micro-generation of electricity • Market-led initiatives

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<ul style="list-style-type: none"> • More focus on community sustainability • Greater emphasis on woodland regeneration • Management /control of tourism • Greater diversity of land management • Listen to the locals 	<ul style="list-style-type: none"> • Food production sufficiency needs to be safeguarded • Reduce effect of big supermarkets/create local supermarkets • Renewable energy production but not wind!! • Developing welsh assets for benefit of local communities • Greater recognition of the value of land for delivering 'free' services such as water quality, flood control etc • Upgrade electricity grid • Externalities must be accounted for in agriculture • Tourism taught at school level.
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Blue Group:

Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • No more wind turbines (large-scale turbines) in the Mid Wales Mountains. • Stop land uses that prevent the delivery of a wide range of ecosystem services • Agri-environment schemes need to be more flexible and less prescriptive – should be linked to outcomes • Loss of rural services (Buses, Shops...) 	<ul style="list-style-type: none"> • Need to keep people in the rural areas • Farming needs to continue but given different objectives and appropriate payment linked to these objectives • 'Beautiful' landscapes • Food & water production • Maintain food production at level!
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • Change farm support systems to reflect wider ecosystems outcomes • Land ownership culture which says "I'll do what I like on my land" • Need to increase awareness, of public and business , of ecosystem services and provide incentives to allow them to protect / enhance services. • Short term thinking • Simply allowing land use to happen without consideration of impacts or even benefits • Expectation of some services provided by farmers without reward 	<ul style="list-style-type: none"> • Need to better understand impacts of peat land management on carbon • Need to attain a better understanding of the trade-offs between different ecosystem services • Planning for the end of oil production • Planning for climate change • Planning for larger UK/World population • Planning for production of energy from the peripheries of the current grid system • Community based HEP schemes • Delivery structures that bring land owners together to deliver ecosystem services over a large area e.g. whole catchments • We need to speak of food security as well as provision of ecosystem services, they are not mutually exclusive • Informing land use choices to ensure good bits and impact of bad bits are known • Landowners need to be supported for the provision of key ecosystem services

Green Group:

Needs to stop happening	Needs to continue happening
<ul style="list-style-type: none"> • Development in open countryside • Intensive non sustainable farming (x5) • Intensification of the uplands • Use of damaging chemicals/fertilisers • Wind farms • Upland communities decreasing and becoming empty • Inappropriate building standards • Power of retailers damaging farmers livelihoods • WLMP's House building in flood plains 	<ul style="list-style-type: none"> • Dialogue between statutory agencies and stakeholders to ensure more joined up implementation • Wildfowl reserves • Investment into rights of way • Progressing the local development plan, especially the issues of land use planning • Paying for water related ecosystem services – is Glastir enough? (x3) • Improve appearance of forests (x2) • Raising public awareness and informing the coastal communities of the short, medium and long term coastal defence issues for the community • Safe guarding benefits of local community welsh / events/ schooling / meeting places/ shops (x5) • Traddodiadau gwerthfawr a'r defnydd o Cymraeg (valuable traditions and the use of Welsh) • Raise awareness of the importance of sustainable development • Extensive grazing in the uplands via hill farms • More recreation opportunities • Local business opportunities • Assess benefits of agri-environment schemes – improve? • Use of non food products locally. Welsh wood and fibre etc.
Needs to change	Needs to start happening
<ul style="list-style-type: none"> • More mixed farming in the lowlands for wildlife and landscape (x2) • Change land use to grow more cereals and fruit and veg. in lowland and the right soil in Wales • Need long term multi generation planning vision • Attitudes of people to the environment • Stop closure of schools • Better evaluation • Accept real value of food – meat especially • Stop cheap meat production – increase welfare and sustainable values • New housing buildings to use more sustainable energy efficient materials • Better public information and understanding for school closures of those with less that 20 pupils • Better coastal access • More engagement with active communities • More integration between LA's and statutory bodies • Imposing vast new housing estates on small communities. 	<ul style="list-style-type: none"> • Encourage small businesses who can 'export' their skills and products • More sustainable and enhanced public transport for rural areas • Flood control (x3) • Better management of hill pony grazing • Accountability within our communities • Local food producers e.g. farmers markets • Use of solar, hydro and biomass. • More local produce (x3) • More renewable energy e.g. wind and solar (x3) • More use of existing woodland for wood fuel (x3) • Affordable housing provision (including renting) • More investment into tourism in Wales • Woodland planting for multi-purpose benefits • Facing up to major coastal erosion issues • Community engagement in land management • More R&D on land management/flooding • Easily accessible environmental capital grants for farmers e.g. dirty water systems

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	<ul style="list-style-type: none"> • Better incentives for new multiple use woodland – including Wood fuel and flood storage prevention (x2) • Better science on the influence of land management on a) flooding and b) carbon storage (x2) • Prioritise the needs of people • Support and encourage living, sustainable communities
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Land use planning

- Views on the value of this type of computer modelling approach.
- Groups discuss the model and its value
- Discuss and record onto flipchart as a group. Disputed points are recorded with a (D) beside them.

Blue Group

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> • Trade of system doesn't have the complexity of the whole ecosystem • Very broad brush. Leaves out better management options 	<ul style="list-style-type: none"> • To stimulate discussion through visualisation • Identifying land to meet WAG requirement for tree farming • Much bigger scale than simple farm management. Transparent tool for negotiation • Getting across idea of land use change and better land management over a large area
What is not useful?	What is missing?
<ul style="list-style-type: none"> • Can the tool be made available to policy makers and farmers? Who holds/owns the tool • Politicians drawing wrong conclusions from very broad-brush approach. 	<ul style="list-style-type: none"> • Scenario work needs to flow from it • How many people to feed? • What's the trade off criteria • Doesn't predict the consequences • Scenario analysis RQD • Weighting system of benefits RQD to inform trade offs • Democratic tool to allow broadening of debate in land management issues • Welly boy will tell you more than Google boy. i.e. not specific enough – needs proofing on the ground.

Yellow Group

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> Needs to be described in detail Useful tool Verified locally Good starting point 	<ul style="list-style-type: none"> Open source Accessible technology Ability to present complex information
What is not useful?	What is missing?
<ul style="list-style-type: none"> Resolution Risk of miss-interpretation Limited time to capture data Could create more dependency and less talking to people 	<ul style="list-style-type: none"> People Communities Socio-economic Transport links Tourism values

Red Group

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> Recreation – diversification – tourism e.g. Nant yr Arian 3D visual of poly-mapping makes viewing easier How many landowners want land management to tell them where to plant trees? Farming business requires justification for planting trees which requires it to be commercially financial e.g. Tir Gofal, FITS taken away after government has promised investment for years <p>Concerns:</p> <ul style="list-style-type: none"> Policies keep changing farming doesn't change Change of government = change of finances within project schemes Organic: people gone off organic, rather conventional and cheaper New Zealand: Dairy production – prices, sheep production – prices give stability and routine. 	<ul style="list-style-type: none"> Populate this area, raise economy to run recreational projects, local people, young to stay. Polly mapping available for local landowners, farmers – localisation Better use of public sector money – target expenditure: wildlife flooding, land cover Increase land production Arable planting
What is not useful?	What is missing?
<ul style="list-style-type: none"> Fragmenting farms. Farmhouse and land kept and other/more acres sold off 	<ul style="list-style-type: none"> Changes in land but what about the people, communities, employment – following on local economy Less people in Ceredigion now than in 50's Renewable energy: hydro – wood to export

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Orange Group

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> For selection of locations for protection of landscape 	<ul style="list-style-type: none"> Visualisation Starting point for discussion Aid for engaging local info Google earth fly by
What is not useful?	What is missing?
	<ul style="list-style-type: none"> Geology (fundamental to other especially soil) Geo-diversity Wind /hydro resource Designated areas e.g. statutory protection and Tan 8 Geographical annotations Place names – so we know what we’re looking at Use – limited to computer users – though can print maps Publically available on Google earth? But could people interpret it? Shouldn’t it be kept as tool for landowners? Changes can affect neighbours Opportunity to help joined up thinking – if it’s used at all – all agencies should use it.

Green Group

Scope and Criteria used?	What is useful?
<ul style="list-style-type: none"> Data used and available varied Dangerous for policy makers and influencers Thought provoking – encourage engagement 	<ul style="list-style-type: none"> Very useful for EAW, looking at area, to influence land management for flood control Potential for planting more woodland Potential for professionals (practitioners) to apply knowledge and skills – not answer – additional tool Communication Increase public perception
What is not useful?	What is missing?
<ul style="list-style-type: none"> Lack of data leads to confusion and false interpretation Scatter gun approach Could raise expectations but not follow through 	<ul style="list-style-type: none"> Insufficient data – model only Only 4 services selected – lots more services to look at Value judgment – difficult to build these into model Communication - improved

What level of planning do you feel is appropriate?

- Discuss land use planning options using the following 3 options to prompt discussion:
 - A broadly planned landscape using methods like the Polyscape model
 - No plan, no support, leave change to market forces

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- A guiding framework of preferred uses but not location plan with reverse auctioning.
- Options are analysed to a common set of criteria (though groups can add further additional criteria if they wish).
- Recorded on a matrix against criteria (comments in each box)

Green Group

Criteria	Option 1	Option 2	Option 3
Economic impact	Limiting – too restrictive	Sceptical free for all – limited long term benefits	Potential of good balance – flexible but focused – could be open to abuse
Social impact (inc. cultural etc)	Positive and negative	Few winners and potential for lots of losers	Opportunities for inhabitants enabling... negotiate
Environmental impact	Ideal	Detrimental - disastrous	More inclusive, flexible, spreading the risk
Ability to integrate all the 'needs'	Use the maps as a basis/guide for discussion and then adopt option 3 strategy	Land abandonment, limited and poor outcomes	See option 1: use knowledge and use this guiding framework
Deliver national needs and objectives?	Ideal	No chance, nil achievement	Limited
Deliver local community needs and objectives?	Limited	Could suit some but 80/20 rule applies	Ideal
Deliver land owner needs and objectives?	Inflexible	No support so no thanks	Most sensible? Preferred uses brings support and if don't want to do this can do so at own risk.
Realistic to implement?	Carrot not stick! Buy in needed. Yes with either regulation or grant aid support – prefer grants	Unrealistic due to consequences	Tools: needed here with the guiding framework: requires more effort and expense to implement – most acceptable outcome.
Realistic cost ?	Expensive short term initial costs but long term sustainable if get it correct	No initial costs but expensive mistakes	Medium start up – more expensive running costs to change and adapt
Who would deliver it?	Partners – at all levels, regulatory, government, LA planners, set a policy, local knowledge, decision makers	No one! Global markets	National agencies, broad policies. Interpretation at a detailed level.

Yellow Group

Criteria	Option 1	Option 2	Option 3
Economic impact		Negative	
Social impact (inc. cultural etc)	Might help	Negative impact on community	Guiding framework needed
Environmental impact	Could be too centrally rigid	Could have negative impact	Do not like reverse auction
Ability to integrate all the 'needs'			
Deliver national needs and objectives?	USH as guiding framework		
Deliver local community needs and objectives?		Very detrimental to rural communities	Guiding framework needed
Deliver land owner needs and objectives?	Only if it consults on the ground		Work to framework
Realistic to implement?	Yes		
Realistic cost ?	Could save money on ground work	No direct cost. Social cost could be huge	
Who would deliver it?	Local government with national guidance.		

Note: Option 1 should influence option 3.

Orange Group

Note: Apply the three options to different types of environment

Criteria	Option 1	Option 2	Option 3
Economic impact Tourism depends on landscape and land use – yet tourism operators have no control over this resource			
Social impact (inc. cultural etc)			
Environmental impact			
Ability to integrate all the 'needs'			
Deliver national needs and objectives?	Trying to get to particular situation in x years time		Pace of change determined locally
Deliver local community needs and objectives?	More objective but depends on assumptions made in constructing the tool so doesn't necessarily avoid the politics		Locally managed within broad framework.
Deliver land owner needs and objectives?	Too directive – not a 'plan'.	Too vulnerable to global market force	Preferred option
Realistic to implement?			Make trade offs explicit – need explanation

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Criteria	Option 1	Option 2	Option 3
Realistic cost?	Compensation on specific areas/fields pushes the price up		More cost effective to tax payer
Who would deliver it?	Local authorities need a role – incentives and market force		
Whose plan is it? Who sets the objectives	Westminster	n/a	locally

Blue Group

Note: difficult to fill in!

Criteria	Option 1	Option 2	Option 3
Economic impact		Develops other markets such as carbon capture – offers opportunity	Results of present system will lead to cuts in spending on farms/community etc.
Social impact (inc. cultural etc)	Need to provide for population growth – in balance with environmental impact		Shrinking of communities, farmers leaving farming
Environmental impact	Joined up approach but caveats over the scenario that drive the process	i.e. develops new markets – as above	
Ability to integrate all the 'needs'	Many environmental gains stem from similar actions	Markets will find their own balance – not all needs will be catered for	
Deliver national needs and objectives?	Helps provide policy makers with a better way of visualising what they are doing		
Deliver local community needs and objectives?		Will lose farmers with knock on impact on communities etc.	
Deliver land owner needs and objectives?		No value in countryside access to farmers	Difficult to plan and manage succession of farms. No security / no Food
Realistic to implement?	An overview approach but need elements of market forces (new markets) and reverse auctioning to drive process forward	Leaves a lot to chance. Will insurance companies etc., become funders within a market forces system	
Realistic cost ?		Animal welfare may suffer	
Who would deliver it?		Land managers need things to be sustainable Will market forces develop sufficient products	Reverse auctions can end up in collusion/cartels.

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Red Group

Criteria	Option 1	Option 2	Option 3
Economic impact	Policies required to be consistent - Wide objectives: Single farm payments Tir Gofal pay to graze on certain habitat ; certain areas of support	Land management requires a certain level of strategic policy management	
Social impact (inc. cultural etc)		Forestry cam: within Wales one of the most destroying schemes. Broad leaf uplands	
Environmental impact	Ability - landowner knows farm habitat better than farm management	Not good – government loose control.... Of ability to steer good and services from landscape. Risk of higher level (e.g. EU) breaches of regulations.	
Ability to integrate all the 'needs'	Good for integration but big difference between 'advise' and 'enforce' e.g. between FC, CCW and EA and AG community		Potentially difficult to integrate farmers needs
Deliver national needs and objectives?	Tir Gofal Single farm payments Glastir Keep FC in public ownership	FC Government make a loss. Private – Coed Tamsin Sell off FC private use for communities	Engagement of delivery: WAG Glastir Tir Gofal
Deliver local community needs and objectives?	Define 'local'??? Not so good If there is support. Procurement – food, wood for sustainability – local knowledge. What's local? Encourage co-operation if you incorporate local people	Is this option better than option no. 1	Support other payments Glastir in the future
Deliver land owner needs and objectives?	Tir Gofal, ESA, Agri-environment schemes Require to view plan develop the policy mapping		
Realistic to implement?	Better co-operation of sharing knowledge and good practice		Public won't /prepare to pay for food and education in regards to graphs feedback
Realistic cost ?	Possibility		Potentially very expensive due to political

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Criteria	Option 1	Option 2	Option 3
			Does option 3 deliver all production schemes: flooding HM: Brecon challenge: trees planting
Who would deliver it?	Equal qualification qualities within organisations: admin to minimum. No more new bodies More project officers to liaise with local farmers One to One clarification, officer farm visits – feel lost without WAG Would prefer to be kept similar to project officer for Tir Gofal. Keep experience.		

Preferred land use planning option (broad terms only)

Groups then suggest their preferred option which can be one of these or a new one.

Bullet point list of main proposed features of a land use planning tool.

Green Group

Should contain	Should not contain
<ul style="list-style-type: none"> Flexibility with ground rules – a combination of option 1 & 3 Long term generational aims and aspirations – consistency Local buy in – bottom up policy with national perspective Partnership Good communication and transparent decision making Achievable with resources available Simplicity (KISS) Encouraging entrepreneurs e.g. cottage industry – micro business, local products / services – flexible and resilient. 	<ul style="list-style-type: none"> An open ended plan (pans with <u>NO</u> elastic) Top down prescription (Glastir?) not clear understanding of why Hard non-flexible boundaries – open criteria Unreachable targets Conflict with regulatory policy (needs updating)

Yellow Group

Should contain	Should not contain
<ul style="list-style-type: none"> Good local governance Fitting with Welsh National Plan Fitting in with European Local need Existing use Grant elements Social needs Cultural Transport provision – above flood level Environment and biodiversity – eco-systems Flood risks Sustainable communities Identified opportunities 	<ul style="list-style-type: none"> Top down approach Special determination Subsidies that are detrimental to land use Sham consultations Restrictions to micro generation Reverse subsidies To many tiers Agendas at cross purposes Single interest needs

Orange Group

Note: Specialists joined up agencies, localized management & delivery, Incentives not prescriptions.

Should contain	Should not contain
<ul style="list-style-type: none"> • Contentions • Dialogue • Something like Polyscape to visualise, provide AND help collection of information and stimulate dialogue • Make explicit – WG/WG, conflict, trade offs, local knowledge • Acknowledge and reward current provision of goods and services, as well as incentivising more / better. • Flexibility to cope with continuing change • Include services bought by visitors (cultural, aesthetic etc.,) as well as flood • Desire to become self-reliant (not too rigorous) Not a very local level 	<ul style="list-style-type: none"> • You must do/not do – though global imperatives are there

Scientific Objectivity vs. Democratic participation and control.

Blue Group

Should contain	Should not contain
<ul style="list-style-type: none"> • Food and environmental payments should be balanced • Polyscape as an opportunity model – for farmers and policy makers – but need to create markets around those opportunities • Scheme to pay for trade off options for environmental measures • Proper balance between food security and environmentally sustainable land uses • Overall plan – with sufficient support • Land management for environmental purposes should not impact too greatly on production • Tie up between actions done in rural areas and consequences for urban communities i.e. spreading cost • Any tool that makes it easier to join up the various services • Agree eligibility and rules for carbon offsetting and securing • Mixture of market forces and subsidies based on effective land management production. • Transitional support • More flexibility at the farm scale – not a one size fits all approach • Market mechanism to capture value of EGS 	<ul style="list-style-type: none"> • Payment for just owning land – it should be used • A single farm payment on the current basis but element of support required • No payment not to do things.

Red Group

Should contain	Should not contain
<ul style="list-style-type: none"> Sell off parts of FC for private use – use FC for community use Consistent policies with wider objectives Project officer to liaise one to one expert advice e.g. Biologist. Joining up of different bodies for farm visits – ensure project officer is qualified to deal with agri farm expertise Better co-operation – sharing knowledge and good practice Incorporate local people within policy making Sustainable Policies /management/delivery and engagement 	<ul style="list-style-type: none"> Forestry commission: keep in public sector ownership but requires tighter more stringent regulations Policies that frequently change No more levels of administration – no new bodies Biologists and expertise required Less national individuals within policy making.

What is needed to enable resilience of your local ecosystem?

- Participants to consider what needs to change in :
 - Policy changes
 - Management delivery changes
 - Engagement changes.
- Remind participants of responses from first workshop and street stalls here.
- Bullet point lists under the three headings.

Green Group

Policy level:
<ul style="list-style-type: none"> Use models such as Polyscape as tools/guidance to develop and influence policy Ensure a greater emphasis on flexibility to aid projects to go forward, sustainable development Faster implementation and increase risk taking/less risk adverse (be brave) Proper engagement with practitioners Clear informal guidance that is simple (R&D) evidence based Integration of specialists - partners
Management / Delivery: (of policy guidance/governance)
<ul style="list-style-type: none"> Flexibility and transparency Learn by mistakes / less risk adverse Clear responsibilities – delivery lines Proper facilitation – and leadership – enabling role
Engagement:
<ul style="list-style-type: none"> Proper engagement with practitioners?? Community – e.g. workshops, community champions Clear guidance on choosing champions and clear guidance for representatives Community leaders? Who are these? To different communities that are hard to reach Young farmers, in the uplands Go to community activities etc., mother and toddlers

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Additional notes:

Key message:

1. Engagement of all parties – including bottom up approved structure. Preference tools option 1. Facilitator with flexibility of guiding principles – flexible with some risk taking – time – scale important.
2. Quick Kiss. Gather, Filter, Decide, Implement. KISS

Yellow Group

Policy level:
<ul style="list-style-type: none">• Going the right way in intention• Clarification and speed of delivery• Radical review policy planning Wales• Remove Westminster• Mechanism for reviewing policy• Start with clear state• Blue sky thinking
Management / Delivery:
<ul style="list-style-type: none">• Speed of delivery• Use technology to deliver• Less micro-management from the top• Do not tell us what to do• Meet local need• Less risk averse
Engagement:
<ul style="list-style-type: none">• Ongoing process• More open discussion• Less consultation and more participation• Use technology to gather info• More power to the community councils• Economic smallholders

Orange Group

Policy level:
<ul style="list-style-type: none">• Zone farming subsidies – production & environmental = farmer can focus on objective per field• Need to adapt quickly if necessary / regularly reviewed• But with long term goals for stability
Management / Delivery:
<ul style="list-style-type: none">• More joined up: planners, CCW, EAW so businesses don't get sequential demands (or conflicting)• Range of scales, not reliant on political boundaries – often better to use lowland/upland or watershed/landscape scale
Engagement:
<ul style="list-style-type: none">• Policy makers more determined to get real engagement and use techniques that are more fun and interactive• Ensure thorough input from specialist fields• When it's true, show people their input will influence policy• Recognise role of receptors/consumers of EG&S (urban)

Blue Group

Policy level:
<ul style="list-style-type: none"> • A clear land management vision with integration of production/environment /energy/climate change i.e. delivery of all EGS in combination • We have too many policies with a small 'p' – not a joined up approach • What we do now is not sustainable • Strategies and policies should be longer term visions/commitments
Management / Delivery:
<ul style="list-style-type: none"> • CAP reform and new markets • Transitional support from CAP to build the market place • Supporting pilot projects • Government as a regulator but not necessarily a receiver or distributor of funds • Private business to pay directly to land managers in an open market • Operational framework to support farmers into the market place
Engagement:
<ul style="list-style-type: none"> • With new markets – water companies, insurance companies, polluters • With farmers – facilitate communication between farmers and markets, supply support network to provide reassurance/protection • Tax payer – education on the benefits of the system • Need to remember food and water are necessities!

Red Group

Policy level:
<ul style="list-style-type: none"> • Long term policy requires consistency, future. Not only for Government period • Use existing extracts to diversify, and deliver multiple outcomes e.g. FC (tourism) • Cycle tracks, bridle paths, walking - Mulch paths e.g. loggerheads – establish communities, bike shops, pub, shop, B&B's, accommodation, services. • Awareness of Cambrian Mountains as an area/location/destination • Help develop local branding. Signage. Wider marketing. Publicity • Mapping tool – bikes, rides, walkers – use of polymapping • Encompass tourism and green energy within the Cambrian Mountains.
Management / Delivery:
<ul style="list-style-type: none"> • Cambrian Mountains: AONB? Would AONB Designation rather than National Park, that would have more restrictions • Maps downscaled immediately to local individual land owners to make decisions regarding planting • Cash implication to create payment, national policy – Implementing their changes – How? • Incentive - project officers to support individual ideas • Careful thought on how to integrate with existing agri-environment schemes e.g. EU funding • Volunteer participation: therefore grant funded • Wider objectives within policies
Engagement:
<ul style="list-style-type: none"> • Local expertise project officers: Define: 1:30 ratio (quality – qualifies expert) • Ability to contact, find approval, answers from landowners to highest level of government • Use of polymapping tool for individual land owners. Separate maps – lead to one major map • Policies made consistent but with wider objectives • Agri-environment expertise

SUSTAINABLE: Proper connection between all three will help this.

What Happens Next?

- Need to have a policy taking account of food, biodiversity etc. manage change – CAR & Water
- Engagement won't happen in verified area
- Engagement – number of trained project officers – need maps as a discussion tool to mitigate
- Option 1 – Option 3. Radical policy and landscape planning review. Real engagement including technology and sustainable communities
- Localised management and delivery. Joined up agencies – providing incentives rather than prescriptions
- Engagement Option 1- 3. Flexibility , realistic timescales, key - right facilitators
- Gather, filter, decide, implement.

8.4. Communications

Dear ...

As part of the work that is supporting the Cambrians Mountains Initiative we are currently working on a project that is looking at how local people's knowledge and expertise can help to inform and guide government policy; with this in mind, we would like to invite you to a couple of events in January and February.

The topic we need to debate is the value of the ecosystem that comprises the landscape of the northern part of the Cambrian Mountains range. This work includes the area where you live (and work) and we believe that your views would be helpful.

We will be investigating how people understand and observe the impacts of the changes we are seeing in our climate in a practical, local context; for example, are there changes that have made you change what you are doing, or when you are undertaking certain tasks?

We will be discussing how the local landscape is used and benefits us.

We hope that you will learn some new techniques and methods about how the local rural environment can be managed to help reduce, or adapt to the local impacts of environmental, social and economic change.

We are inviting you to take part in two workshops; the first one will be held on Thursday evening, 27th January at the Menter a Busnes office, 3 Science Park, Aberystwyth, SY23 3AH at 7.30pm. This will be for a small group and will be quite informal. We will also provide you with some interesting reading matter that we hope you will make the time to go through before we meet for the second time.

Towards the end of February we will hold the second workshop and this will bring together people from the wider area; from Eglwys Fach round to Pontrhydygroes. We are also inviting Policy makers and elected representatives to join us, to gain a better knowledge of local views and expertise.

Please could you email to confirm that you would like to join us and are able to attend; should you wish to call us our numbers are below.

We do hope that you will be able to join us as we see this as a very exciting project and your views will play a significant part in shaping the work.

Yours sincerely

Alison Davies
Resources for Change
01938 555759

Anwen Williams
Menter a Busnes
01970 636299

Annwyl ...

Fel rhan o'r gwaith sy'n cefnogi Menter Mynyddoedd Cambria, ar hyn o bryd rydyn ni'n gweithio ar brosiect sy'n ceisio darganfod sut all yr wybodaeth a'r arbenigedd sydd gan bobl leol helpu i lywio a chyfrannu at bolisiau'r llywodraeth. Gyda hyn mewn cof, hoffem eich gwahodd i ddau weithdy a fydd yn cael eu cynnal yn ystod Ionawr a Chwefror.

Y pwnc y bydd angen inni ei drafod yw gwerth yr ecosystem a geir yn rhan ogleddol Mynyddoedd Cambria. Bydd y gwaith yn cynnwys yr ardal rydych chi'n byw ac yn gweithio ynddi, ac rydyn ni'n credu y gallai eich barn fod o fudd mawr.

Y nod yw ceisio darganfod sut mae pobl yn deall ac yn sylwi ar effeithiau'r newidiadau a welwn yn ein hinsawdd, mewn cyd-destun ymarferol a lleol. Er enghraifft, a oes rhai newidiadau wedi gwneud ichi newid beth rydych chi'n ei wneud neu pryd rydych chi'n gwneud tasgau arbennig?

Byddwn yn trafod sut mae'r dirwedd leol yn cael ei defnyddio a sut rydyn ni'n elwa arni.

Gobeithio y byddwch yn dysgu rhai technegau a dulliau newydd ynglŷn â sut ellir rheoli'r amgylchedd gwledig lleol er mwyn ceisio lleihau effeithiau amgylcheddol, cymdeithasol ac economaidd, neu addasu iddyn nhw.

Rydyn ni'n eich gwahodd i gymryd rhan mewn dau weithdy. Bydd y cyntaf yn cael ei gynnal nos Llun 31 Ionawr yn Hafod Arms, Pont ar Fynach am 7.30pm. Gweithdy ar gyfer criw bach o bobl fydd hwn, a bydd yn eithaf anffurfiol. Hefyd, byddwn yn rhoi deunyddiau darllen diddorol ichi – gobeithio y cewch gyfle i bori drwyddyn nhw cyn inni gyfarfod am yr eildro.

Tua diwedd mis Chwefror, byddwn yn cynnal ail weithdy. Bydd hwn yn dod â phobl o'r ardal ehangach ynghyd – o Eglwysfach i Bontrhyd-y-groes. Hefyd, byddwn yn gwahodd llunwyr polisïau a chynrychiolwyr etholedig i ymuno â ni, er mwyn cael gwell dealltwriaeth o farn ac arbenigedd trigolion yr ardal.

Os gwelwch yn dda, fedrwch yrru ebost i gadarnhau eich bod yn gallu dod. Os hoffech chi ein ffonio ni, defnyddiwch y rhifau ffôn isod.

Gobeithio'n wir y bydd modd ichi ymuno â ni, oherwydd yn ein tyb ni mae hwn yn brosiect hynod gyffrous. Mi fydd eich barn a'ch sylwadau'n siŵr o gyfrannu'n sylweddol at y gwaith.

Yn gywir

Alison Davies
Resources for Change
01938 555759

Wynne Jones
Pentir Pumlumon
07971 860316

Dyfodol y Cambria - Planning for Change

Name

Organisation

31/01/2011

Dear ,

As part of their work in support of the Cambrian Mountain's Initiative, CCW, in conjunction with Landuse Consultants and Bangor University, recently undertook a DEFRA funded Adaptive Landscapes project that looked at how the best areas for mitigation measures against the impacts of climate change could be mapped across a number of river catchments in the north-west of the Cambrian Mountains region using a computerised poly-mapping tool.

To further compliment the Adaptive Landscapes project, CCW have also contracted with Sciencewise-ERC to run public engagement into the perception and value of Ecosystems Goods and Services (EGS) in the study area.

The purpose of this dialogue is to try and establish a base line in regard to public perception of EGS; to see if that perception changes following the giving out of information on what we mean by EGS and the types of landscape adaptation that we are likely to see as we seek to mitigate the effects of climate change; and the value, or level of concern, the public attach to such mitigation measures. We thereby hope to inform current thinking on what constitutes EGS and to test the public's willingness to pay for them, whether directly through taxation / subsidy or through paying a premium for produce that originates in a more environmentally sustainable managed landscape.

The public engagement will consist of a number of introductory workshops involving a variety of stake holders drawn from the Adaptive Landscapes project study area. Having gauged initial perceptions and informed people about EGS and the issues around climate change and adaptive landscapes, we will then seek to bring the stakeholder groups together for a larger discussion on the present policy framework and the changes that will need to come about to enable the scale and type of mitigation measures that will be required from landowners / managers in future.

We trust this workshop will be of interest to you and we would like to invite you to take part in order to both help inform the dialogue, and to hear opinions that could potentially influence the development of future policy around the implementation of the EGS and climate mitigation agendas. We believe that this innovative approach provides an opportunity to draw on local knowledge and views in a structured way, while your participation will demonstrate to stakeholders that their contribution is valued and may well help to inform policy in the future.

The workshop will take place on Thursday 24th of February at the Welsh Assembly Government offices, Rodfa Padarn, Aberystwyth, commencing at 11o'clock with a predicted 3.30pm finish. Lunch will be provided.

I would be grateful if you could confirm your attendance by e-mailing Nick Venti at n.venti@ccw.gov.uk.

I trust this invitation will be of interest and I look forward to seeing you at the workshop.

Peter Davies
Cambrian Mountains Initiative

Dyfodol y Cambria - Planning for Change

Annwyl

Diolch i chi am ddod i'r gweithdy cyntaf yn Pont ar Fynach. Mae'n bleser gennym eich gwahodd i'r ail weithdy sydd i'w gynnal Ddydd Iau 24 Chwefror, o 10.30a.m. tan 4p.m. yn Adeilad Llywodraeth Cynulliad Cymru, Ffordd Parc y Llyn, Aberystwyth.

Fe fydd te a choffi ar gael pan gyrhaeddwch chi, a'r gweithdy'n dechrau'n brydlon am 11a.m. Darperir cinio. Rydym yn disgwyl i'r sesiynau orffen am 3.30p.m. pan fydd te a choffi ar gael. Os gwelwch yn dda a wnewch chi roi gwybod inni ar y ffurflen ymateb a ddarparwyd a oes gennych anghenion deiet arbennig.

Fe fydd cynrychiolwyr o Gynulliad Cenedlaethol Cymru, Cyngor Cefn Gwlad Cymru, Comisiwn Coedwigaeth Cymru, Asiantaeth yr Amgylchedd Cymru a Chyngor Ceredigion yn bresennol, ynghyd â chyrff eraill sydd â diddordeb yn y gwaith yma; felly rydyn ni'n disgwyl i'r diwrnod fod yn ddefnyddiol ac yn addysgiadol. Fe fydd cyfarfod â'ch gilydd yn rhoi cyfle ichi drafod y pynciau'n fwy eang gyda'r bobl a fu'n cymryd rhan yn y grwpiau eraill; a byddwn ninnau'n cael sicrhau y gellir cyfarwyddo polisi drwy ddefnyddio'r wybodaeth a'r profiad a ddaeth ynghyd yn y gweithdai.

Atodir y nodiadau o'r gweithdy cyntaf.

Edrychwn ymlaen at eich gweld yn yr ail weithdy. Mae llefydd yn gyfyngedig ac mae trefn arbennig y mae angen inni ei dilyn. Byddem yn ddiolchgar felly pe baech yn cwblhau'r daflen a atodir, gan ei dychwelyd drwy e-bost erbyn Dydd Gwener 18 Chwefror fan bellaf er mwyn inni allu trefnu cinio a sicrhau eich bod yn cael mynediad i'r maes parcio a'r adeilad.

Cofion cynnes

Dear

Thank you for attending the first workshop at Devils Bridge. We are pleased to invite you to the second workshop which is to be held on Thursday 24th February, from 10.30am until 4pm at the Welsh Assembly Government Building, Ffordd Parc y Llyn, Aberystwyth.

Tea and coffee will be available on your arrival, with the workshop starting promptly at 11am. Lunch will be provided. We expect the sessions to end at 3.30pm when tea and coffee will be available.

Please will you let us know if you have any special dietary requirements on the reply form provided.

Representatives of the National Assembly for Wales, Countryside Council for Wales, Forestry Commission Wales, Environment Agency Wales and Ceredigion Council will be attending, along with other bodies with an interest in this work; so we expect the day to be useful and informative. Meeting together will provide you with an opportunity to discuss the topics more

Dyfodol y Cambria - Planning for Change

widely with the people who took part in the other groups; and for us to ensure that the knowledge and experience brought together in the workshops can be utilised to inform policy.

The notes from the first workshop are attached.

We look forward to seeing you at the second workshop. Places are limited and there are certain procedures we need to follow, we would therefore be grateful if you would complete the attached sheet and return it by email no later than Friday 18th February so that we can arrange lunch and ensure your admittance to the car park and building.

Kind regards

8.5. Invitation list for Workshop 2

Members of the public:

Dafydd Morris Jones
Dafydd Fryer
John Wall
Alfie & Victoria Chism
Mair Jenkins
Jenny Dee
Rhodri Davies
Iola Evans
Alister Dryburgh
Maddy Lewis
Joanne Harper
Peter Harper
Ian Williamson
John Davis
Mike & Lis Collinson
Huw & Ruth Morris
Bill Fitches
Bob Mathews
Jennie Macve
Iwan Davies
Bryony Swinfen
Dave Thorpe
Geraint Jenkins
Ellen ap Gwynn
Medi James
Fiona Evans
Harry Toland
Evan Evans
Joan Reen
Ian Hosker
Lisa Tomos
Mandy Dean
Nigel Callaghan
Owen Jenkins

Sarah Roberts or David Wainwright
Sharon Walters
Wendy Fuller
Cathryn Brown
Loren Shaw
Rhys Davies
Stephen South
Peter Howells
Owen Jenkins
Ben Williams
James Raw
Tudor Jones
Dylan Jenkins
John Hopkins
Rhodri Lloyd Williams
Simon Lloyd Williams
Buddug Lewis
Delyth Morris-Jones
Ifan & Iona Davies
Gareth Lloyd
Dafydd Wyn Morgan
Nerys Lewis
Ceri Jones
Ian Lycett
Jon Paul McCalmont
Rhodri Owen Harries
Gwawr Hughes
Osian Jones
Enfys Evans YFC
Siarl Owen
Jeff Thornton
Ty Nant Family,
Huw McConochie
Wendy Davies

Officials:

Elin Jones	Assembly Member Welsh, Assembly Government
Judith Alfrey	Inspector of Ancient Monuments, CADW
Peter Davies	Chair, Climate Change Commission for Wales
Richard Siddons	Head of Grants and Regulation, Forestry Commission Wales
Rory O'Sullivan	Rural Affairs, Welsh Assembly Government
Roger Thomas	Chief Executive, CCW
Dafydd Jarrett	NFU Cymru
Clive Thomas	Head of Policy, Forestry Commission Wales
Diana Reynolds	Head of Nature Conservation and Biodiversity, Welsh Assembly Government
Ann Watkin	Head of regional Engagement, Welsh Assembly Government
Chris Lea	Head of Technical Services Division, Welsh Assembly Government
Mark Williams	MP for Ceredigion
Glyn Davies	MP for Montgomeryshire
Allan Lewis	Assistant Chief Executive of Corporate Strategies and Regeneration, Ceredigion County Council
Matthew Quinn	Head of Environment, Sustainability and Housing, Welsh Assembly Government
Alwena Watkins	Wales Spatial Plan - Manager for Central Wales Welsh Assembly Government
Mike Christie	IBERS lecturer in Environmental economics, Aberystwyth University
Simon Neale	Environment Agency
Bryan Jones	Environment Agency
Morgan Parry	Chairman, CCW
Dr Helen Cariss	Environmental Quality Lead, Forestry Commission Wales
Eirlys Lloyd	Community Partnerships Manager, Ceredigion County Council
Ray Quant	Councillor for Borth, Ceredigion County Council
Keith Davies	Head of Environmental Policy Group, CCW
Hilary Miller	Environmental Policy Group, CCW
Alun Davies	CCW
Huwel Manley,	CCW
Rob McCall,	CCW
Nick Venti.	CCW
Daniel Start,	Sciencewise
Steve Smith,	Sciencewise
Robert Deane,	LUC
Tim Pagella,	LUC
Dai Harris,	Ecologist and Environmental Advisor, Welsh Assembly Government
Peter James	Welsh Assembly Government
Estelle Bailey	Pumlumon Project Manager, Montgomeryshire Wildlife Trust

8.6. Information sheets

A summary of the process

Dyfodol y Cambria - Planning for Change?

This project is about looking at our changing ecosystem and deciding whether we should do anything about planning for changes.

Ecosystem?

‘Ecosystem’ is the term used to describe the links and interactions between all living things in a particular area and their physical environment. We are a part of these ecosystems.

- Everything we do affects the ecosystem
- Changes to the ecosystem affect us.
- The ecosystem is constantly changing.

changing land use → changing landscape → changing ecosystem

Our use of land, and therefore our landscape, is always changing. Sometimes these changes are quick, often prompted by a change in grants or subsidies such as the planting of conifers after World War I, or sometimes gradual, such as the trend towards larger stock barns for the winter.

There are also much wider forces affecting land use and the ecosystems that depend on it, causing them to change on a more fundamental basis. These forces include climate change, population growth, age distribution and movement, economic growth, energy demand and innovation. There is real concern that these forces are placing ever-increasing pressure on our finite land resource.

Some of these forces operate over a long time scale, others happen quite fast. Through our actions (and inaction) our land use responds to these forces, sometimes over long timescales, sometimes over much shorter ones.

So, do we need to plan and manage our land more deliberately to avoid the services it provides being seriously damaged by the changes?

Global issues, local consequences..... and solutions.

We can't make global changes but we can make smaller land use ones, such as how we farm and where we plant trees. Such changes, although local in nature, if planned on a wider scale, could help deal with some of the global issues that threaten us all.

Lastly, and perhaps most importantly of all, by considering the options for the future of our land now, can we develop a better future with real opportunities to develop communities that are more resilient to the buffeting of the global economy and the climate.

‘Goods and Services’ from the ecosystem.

The natural environment supplies us with many goods and services, and the landscape we see gives us an insight into how we use and benefit from these, but not the full picture.

So, what do we do?

How do we want to use the goods and services our ecosystem provides?

Do we want to protect them?

Do we want to build capacity in some services, while cutting capacity in others?

Do we want to try and plan for the changes that are happening?

If so – How? And How much are we willing to spend on doing this?

These are all really important questions for us to consider.

Do we adapt by trying to stop or control change, planning ahead for change, or just seeing what happens and reacting to it?

If we are to plan, we need to know what we are planning for.

To plan effectively, we need to consider what we want to achieve and how we think we can achieve it.

Do we want to keep our current farming systems or do we envisage moving to more intensive systems to cope with the continually rising population?

Do we want to maintain a mixed and diverse natural environment?

Does it matter if flooding increases?

Do we have a role in trying to 'store carbon'?

What would / could this look like?

How do we pay for it?

Finally, we need to consider what should be paid for from the public purse and how this is decided by future policy. As part of the conversation we want to explore what the policy for Wales should be and what is needed to improve the way it is delivered at a local level.

What are the workshops all about?

Through two workshops we will be discussing these issues.

- how the local environment benefits us;
- how the local environment can be managed to help reduce the local impacts of environmental and economic changes (including climate change);
- how well we understand the impacts of climate change at a practical level, in the local context;
- what plans we need to make and how to inform them;
- what policies are needed and how they can be supported locally.

You will gain the opportunity to:

- Influence future land management policy in Wales;
- Inform future land management in the local area;
- Create networks which could help your local business and community.

Dyfodol y Cambria - Cynllunio ar gyfer Newid?

Diben y prosiect hwn yw edrych ar ein hecosystem sy'n newid a phenderfynu a ddylem wneud unrhyw beth ynghylch cynllunio ar gyfer newid.

Ecosystem?

'Ecosystem' yw'r term a ddefnyddir i ddisgrifio'r cysylltiadau a'r rhyngweithio rhwng popeth byw mewn ardal benodol a'u hamgylchedd ffisegol. Rydym yn rhan o'r ecosystemau hyn.

- Mae popeth a wnawn yn effeithio ar yr ecosystem
- Mae newidiadau i'r ecosystem yn effeithio arnom.
- Mae'r ecosystem yn newid yn gyson.

defnydd tir sy'n newid → tirwedd sy'n newid → ecosystem sy'n newid

Mae'r defnydd a wnawn o dir, ac felly ein tirwedd, bob amser yn newid. Weithiau mae'r newidiadau hyn yn digwydd yn gyflym, wedi'u hysgogi'n aml gan newid mewn grantiau neu gymorthdaliadau megis plannu conwydd ar ôl y Rhyfel Byd Cyntaf, neu weithiau'n raddol, megis y duedd tuag at ysguboriau stoc mwy o faint ar gyfer y gaeaf.

Ceir hefyd rymoedd llawer ehangach sy'n effeithio ar y defnydd a wneir o dir a'r ecosystemau sy'n dibynnu arno, sy'n achosi newidiadau mwy sylfaenol i'r ecosystemau hynny. Mae'r grymoedd hyn yn cynnwys newid yn yr hinsawdd, poblogaeth sy'n tyfu, dosbarthiad oedran a symud, twf economaidd, y galw am ynni ac arloesi. Mae pryder gwirioneddol bod y grymoedd hyn yn rhoi mwy a mwy o bwysau ar ein hadnodd tir cyfyngedig.

Mae rhai o'r grymoedd hyn yn gweithredu dros gyfnod hir, mae eraill yn digwydd yn eithaf cyflym. Drwy'r hyn rydym yn ei wneud (ac nad ydym yn ei wneud) mae'r defnydd a wnawn o dir yn ymateb i'r grymoedd hyn, weithiau dros gyfnod hir o amser, weithiau dros gyfnod llawer byrrach.

Felly, a oes angen i ni gynllunio a rheoli ein tir yn fwy pwrpasol i sicrhau nad amherir yn sylweddol ar y gwasanaethau a ddarperir ganddo?

Materion byd-eang, canlyniadau lleol..... ac atebion.

Ni allwn wneud newidiadau byd-eang ond gallwn wneud newidiadau llai i'r defnydd a wneir o dir, megis y ffordd rydym yn ffermio ac ymhle rydym yn plannu coed. Gallai newidiadau o'r fath, er eu bod yn rhai lleol, o'u cynllunio ar raddfa ehangach, helpu i ymdrin â rhai o'r materion byd-eang sy'n ein bygwth i gyd.

Yn olaf, ac efallai yn bwysicach oll, drwy ystyried yr opsiynau ar gyfer dyfodol ein tir nawr, gallwn ddatblygu dyfodol gwell lle ceir cyfleoedd gwirioneddol i ddatblygu cymunedau sydd mewn sefyllfa well i wrthsefyll ergydion yr economi fyd-eang a'r hinsawdd.

'Nwyddau a Gwasanaethau' a ddarperir gan yr ecosystem.

Mae'r amgylchedd naturiol yn darparu llawer o nwyddau a gwasanaethau i ni, ac mae'r dirwedd a welwn yn rhoi rhyw syniad i ni o'r modd rydym yn defnyddio'r rhain ac yn cael budd ohonynt, ond nid y darlun llawn.

Felly, beth y dylem ei wneud?

Sut rydym am ddefnyddio'r nwyddau a'r gwasanaethau a ddarperir gan ein hecosystem?

A ydym am eu diogelu?

A ydym am gynyddu capasiti mewn rhai gwasanaethau, tra'n lleihau capasiti mewn eraill?

A ydym am geisio cynllunio ar gyfer y newidiadau sy'n digwydd?

Os felly – Sut? A Faint o arian rydym yn fodlon ei wario ar wneud hynny?

Mae'r rhain i gyd yn gwestiynau pwysig iawn y mae angen i ni eu hystyried.

A ddylem addasu drwy geisio atal neu reoli newid, cynllunio ymlaen llaw ar gyfer newid, neu aros i weld beth sy'n digwydd ac ymateb iddo?

Er mwyn i ni allu cynllunio, mae angen i ni wybod ar gyfer beth rydym yn cynllunio.

Er mwyn cynllunio'n effeithiol, mae angen i ni ystyried yr hyn rydym am ei gyflawni a sut y gallwn wneud hynny, yn ein barn ni.

A ydym am gadw ein systemau ffermio presennol neu a ydym yn rhagweld newid i systemau dwysach i ymdopi â'r boblogaeth sy'n tyfu'n barhaus?

A ydym am gynnal amgylchedd naturiol cymysg ac amrywiol?

A oes ots os ceir mwy o lifogydd?

A oes gennym rôl o ran ceisio 'storio carbon'?

Beth fyddai hyn (o bosibl) yn ei olygu?

Sut y byddwn yn talu amdano?

Yn olaf, mae angen i ni ystyried yr hyn y dylai'r wlad dalu amdano a sut y bydd polisi yn y dyfodol yn penderfynu ar hyn. Fel rhan o'r sgwrs, rydym am ystyried pa bolisi y dylid ei fabwysiadu i Gymru a'r hyn sydd ei angen i wella'r ffordd y caiff ei gyflawni yn lleol.

Beth yw diben y gweithdai?

Byddwn yn trafod y materion hyn mewn dau weithdy.

- sut rydym yn cael budd o'r amgylchedd lleol;
- sut y gellir rheoli'r amgylchedd lleol i helpu i leihau effeithiau lleol newidiadau amgylcheddol ac economaidd (gan gynnwys newid yn yr hinsawdd);
- pa mor dda rydym yn deall effeithiau newid yn yr hinsawdd yn ymarferol, yn y cyd-destun lleol;
- pa gynlluniau y mae angen i ni eu gwneud a sut i'w llywio;
- pa bolisiau sydd eu hangen a sut y gellir eu cefnogi'n lleol.

Cawn gyfle i:

- Dylanwadu ar bolisi rheoli tir yn y dyfodol yng Nghymru;
- Llywio'r gwaith o reoli tir yn y dyfodol yn yr ardal leol;

Creu rhwydweithiau a allai helpu eich busnes a'ch cymuned leol.

Sheet 2 – What are ecosystem Goods and Services?

Ecosystem Goods and Services

Or

What does the natural world do for you?

We are part of the natural world
(as are all other living things and the physical world of rocks, soil, water and so on)

and

we interact with it.

The natural world is always interacting - and that includes with us.

It's like a web of interactions.

And this is called the ecosystem.

- Everything we do affects the ecosystem
- Changes to the ecosystem affect us.
- The ecosystem is constantly changing.

changing land use → changing landscape → changing ecosystem

The natural world provides and supports us with everything we need to live – so, everything we do affects the world that supports us.

People are constantly studying this relationship and devising all sorts of complicated and academic ways of trying to better understand it.

Perhaps the truth is quite simple...

The sum of all these interactions is what gives us the environment that keeps us alive and hopefully gives us a happy life.

- We gain **products**, like food and fuel;
- We benefit from the **regulating effects**, like flooding being reduced by the type of vegetation cover on the land
- We benefit **culturally**, such as the mental health benefit of living in a beautiful place full of wildlife

We call all these: Ecosystem Goods and Services

All of these benefits are **supported** by the interactions between animals and plants and the physical environment, such as healthy soil and clean air.

But none of them exist alone.

If we plant trees we effect the water - how it flows and its quality - but we also effect the fuel available (wood), and the air we breathe.

So we can't just choose to do something without affecting everything else.

It is also true that we pay for things within the Ecosystem.

- We pay in a positive way - by buying the things we need from each other;
- Or through grants -paying each other to do, or not do, something for the public good;
- We also pay for mistakes - like suffering from pollution.

But in truth, how much of this do we really think about?

How often do we think about wind farms when we put on the kettle?

Or about planting more trees when there are floods?

So in truth, how much do we think about what we value in our Ecosystem – and how we pay for it?

At the moment we pay directly for some things, indirectly for others - but do we plan sufficiently?

If we pay grants to plant trees or farm sheep, do we think enough about all the affects?

Do we pay to try to stop floods or to keep wildlife?

By thinking more about the natural world - our interactions with it and how we benefit from it - perhaps we can begin to better understand the value of the goods and services it provides.

And then perhaps, we can also think about the best ways to pay for them.

Nwyddau a Gwasanaethau'r Ecosystem

Neu

Beth mae byd natur yn ei olygu i chi?

Rydyn ni'n rhan o fyd natur
(fel y mae popeth byw arall yn ogystal â byd ffisegol creigiau, pridd, dŵr ac yn y blaen)

ac

rydyn ni'n rhyngweithio ag ef.

Mae byd natur yn rhyngweithio'n gyson – ac mae hynny'n cynnwys rhyngweithio â ni.

Mae fel gwe o ryngweithio.

A dyma'r hyn a elwir yn ecosystem.

- Mae popeth a wnawn yn effeithio ar yr ecosystem
- Mae newidiadau i'r ecosystem yn effeithio arnom ni.
- Mae'r ecosystem yn newid yn gyson.

newid mewn defnydd tir → tirwedd yn newid → yr ecosystem yn newid

Mae byd natur yn darparu popeth sydd ei angen arnom i fyw, ac yn ein cynnal – felly, mae popeth rydyn ni'n ei wneud yn effeithio ar y byd sy'n ein cynnal ni.

Mae pobl yn astudio'r berthynas yma'n barhaus, ac yn dyfeisio pob mathau o ffyrdd cymhleth ac academiaidd o geisio'i deall yn well.

Efallai bod y gwirionedd yn eithaf syml...

Swm a sylwedd yr holl ryngweithio yma yw'r hyn sy'n rhoi inni'r amgylchedd sy'n ein cadw'n fyw ac sydd, gobeithio, yn rhoi bywyd hapus inni.

- Rydyn ni'n cael **cynnyrch**, megis bwyd a thanwydd;
- Rydyn ni'n cael budd o'r **effeithiau rheoleiddio**, megis lleihau gorlifo oherwydd y math o lystyfiant sydd yn gorchuddio'r tir
- Rydyn ni'n manteisio'n **ddiwylliannol**, o ran budd i'n hiechyd meddyliol o fyw mewn lle hardd llawn o fywyd gwyllt

Rydyn ni'n galw'r rhain i gyd yn: Nwyddau a Gwasanaethau'r Ecosystem

Mae'r holl fuddion yma'n cael eu **cefnogi** gan y rhyngweithio rhwng anifeiliaid a phlanhigion a'r amgylchedd ffisegol, megis pridd iach ac awyr iach.

Ond nid oes unrhyw un o'r rhain yn bodoli ar eu pen eu hunain.

Os byddwn yn plannu coed rydyn ni'n effeithio ar y dŵr – ei ansawdd a'r modd y mae'n llifo – ond rydyn ni hefyd yn effeithio ar y tanwydd a fydd ar gael (coed), a'r aer rydyn ni'n ei anadlu.

Felly allwn ni ddim dewis gwneud unrhyw beth heb effeithio ar bopeth arall.

Mae hefyd yn wir ein bod yn talu am bethau oddi fewn i'r Ecosystem.

- Rydyn ni'n talu mewn modd cadarnhaol – drwy brynu'r pethau rydyn ni eu hangen oddi wrth y naill a'r llall;
- Neu drwy grantiau – talu i'n gilydd am wneud, neu beidio â gwneud, rhywbeth er lles y cyhoedd;
- Rydyn ni hefyd yn talu am gamgymeriadau – megis dioddef oherwydd llygredd.

Ond mewn gwirionedd, am faint o hyn rydyn ni'n meddwl mewn difrif?
Pa mor aml y byddwn ni'n meddwl am ffermydd gwynt pan fyddwn yn berwi'r tegell?
Neu am blannu rhagor o goed pan fydd yna lifogydd?

Felly mewn gwirionedd, faint rydyn ni'n feddwl am yr hyn rydyn ni'n ei werthfawrogi yn ein Hecosystem – a'r modd yr ydym yn talu amdano?

Ar hyn o bryd rydyn ni'n talu'n uniongyrchol am rai pethau, yn anuniongyrchol am eraill – ond a ydym yn cynllunio digon?

Os byddwn yn talu grantiau i blannu coed neu ffermio defaid, a fyddwn yn meddwl digon am yr holl effeithiau?

A fyddwn yn talu i geisio rhwystro llifogydd neu i ddiogelu bywyd gwyllt?

Drwy feddwl mwy am fyd natur – ein rhyngweithio ag ef a pha fudd a gawn oddi wrtho – efallai y gallwn ddechrau dod i ddeall yn well werth y nwyddau a'r gwasanaethau y mae'n eu darparu.

Ac wedyn efallai, fe allwn feddwl hefyd am y ffyrdd gorau o dalu amdanynt.



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