AGENDA ITEM NO.

ISLE OF ANGLESEY COUNTY COUNCIL	
Report to	**Meeting of the Board of Commissioners**
Date	**3rd October 2011**
Subject	**Energy Island Programme: Potential Outcomes and Performance Measures**
Portfolio Holder(s)	**Commissioner Alex Aldridge**
Lead Officer(s)	**Sash Wynn Davies (Energy Island Programme Director)**
Contact Officer	**Rhys L Jones (Project Development Officer, Economic Development Unit)**

Nature and reason for reporting

To secure Commissioners Board endorsement for the Energy Island Programme (EIP) Potential Outcome and Performance Measures and to seek agreement that the potential outcomes and performance measures become material evidence base for any future IACC policy formulation, such as the Community Plan and Local Development Plan.

A – Introduction / Background / Issues

Introduction

The vision of the EIP is to create a world renowned centre of excellence for Research & Development, production and servicing of low carbon sustainable energy. Through fully capitalising on the opportunities associated with the energy sector, the EIP has the potential to deliver transformational economic, social and environmental benefits for Anglesey and North West Wales.

With the proposed new nuclear build at Wylfa, the Round 3 Offshore wind farm developments and other major energy related schemes the potential opportunities for Anglesey and the sub-region are significant. However, without knowing the base case (i.e. where we are now) and where we would like to be in 2025 it is nearly impossible to measure the impacts and success of the EIP.

Background

In January 2011, the IACC commissioned ESYS Consulting to review and assess the targets and potential outcomes of Energy Island Programme schemes and to establish key performance indicators for the period up to 2025.

Through economic modeling/forecasting, the Study established a base case (i.e. Anglesey's current socio-economic position) and three scenarios of what the Island's economy may look like in 2025 should Energy Island schemes come to fruition. The identified scenarios were; 1) job projections from Wylfa nuclear new build; 2) Wylfa new build & job gains from other EIP initiatives; and, 3) Wylfa new build and maximum job gains from other EIP initiatives.

These scenarios were benchmarked against the base case and the net additional impacts of the EIP were measured. Only by knowing where we are now (i.e. base case), and where we would like to be (the projected scenarios), can detailed actions be devised and prioritised in order to help deliver these outcomes. This is a separate exercise currently underway through the EIP business planning process utilising the respective work streams.

Issues

Given the scale of the proposed new nuclear build at Wylfa and other Energy Island related schemes, the Report concluded that the EIP can make a major step change in terms of its contribution to the economy, community and environment of the Island. The scale of the impact therefore means that the targets and performance measures identified are not only applicable to EIP and the wider economy, but they are also transferable to other service areas in future planning and policy formulation to secure shared and complementary outcomes and optimal utilisation of IACC resources.

It is therefore recommended that the potential outcomes and performance measures are supported and the Report becomes material evidence base for any future IACC policy formulation, including Strategic Planning Policy and the joint LDP with Gwynedd Council.

B - Considerations

The ESYS Report (Appendix A) builds on the North Wales Labour Market Study 2010 and utilised the latest available socio-economic forecasting data, and has been validated by the Welsh Government Economic Advisory Service. This data can be

held and updated on any data sharing system the Council may procure. For example, the baseline data and projections should inform future policy on employment land requirements, transport infrastructure investments, skills and training needs etc.

C – Implications and Impacts		
1	**Finance / Section 151**	No Observations
2	**Legal / Monitoring Officer**	
3	**Human Resources**	
4	**Property Services** (see notes – separate document)	
5	**Information and Communications Technology (ICT)**	
6	**Equality** (see notes – separate document)	
7	**Anti-poverty and Social** (see notes – separate document)	
8	**Communication** (see notes – separate document)	
9	**Consultation** (see notes – separate document)	
10	**Economic**	
11	**Environmental** (see notes – separate document)	

C – Implications and Impacts		
12	**Crime and Disorder** (see notes – separate document)	
13	**Outcome Agreements**	

CH - Summary

In summary, this Report clearly demonstrates the significant potential of Wylfa and other Energy Island related schemes. Without these performance indicators, it would be extremely difficult to measure the socio-economic impacts (and opportunities) of the mainly private sector schemes, and ultimately the success of the Energy Island Programme and its key facilitation role.

Due to this once in a generation opportunity, the transformational benefits to the Island could be profound. The scale and diversity of these benefits means that the outcomes identified can benefit other policy and service areas, who should adopt the performance measures to ensure focus and consistency, avoiding duplication. The Potential Outcomes and Performance Measures Report should therefore be adopted as an evidence base and best practice for future planning & policy formulation and performance measurement where a common set of outcomes are being pursued.

The key outcome measures identified in the Study were:

- An increase of 10-13% in GVA over and above base case / Welsh trend to 2025;
- 2,000 net additional jobs to 2025, plus up to an additional 6,000 construction jobs;
- Reduction in out-migration of younger people – with 16-24 year olds as % of overall population stabilising at 10%;
- A reduction in unemployment rates which should start to converge (and possibly fall below) the rate for Wales;
- Upskill the workforce leading to a minimum of 3% increase in the proportion of the workforce (over 2008 levels) for the SOCs (Standard Occupational Classification) 1-3;
- Flourishing local culture with the proportion of Welsh language speakers being maintained at the current level, with between 60-65% of the population (aged 3+) able to speak Welsh.

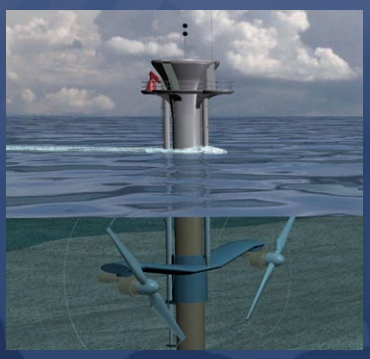
D - Recommendation
• To note and endorse the contents of the Potential Outcomes and Performance Measures Report. • To agree that the Potential Outcomes and Performance Measures Report should be adopted as evidence base and best practice for any future IACC policy formulation, such as the Community Plan and Local Development Plan.

Rhys Lloyd Jones
Project Development Officer – Economic Development
07/09/2011

Appendices:
Appendix A - Potential Outcomes & Performance Measures - Final Report (August 2011)

Background papers
None.

Anglesey Energy Island Programme



Potential Outcomes and Performance Measures

Anglesey County Council

Final Report

August 2011

CYNGOR SIR YNYS MÔN ISLE OF ANGLESEY COUNTY COUNCIL

YNYS YNNI MÔN ANGLESEY ENERGY ISLAND

Energy Island Programme

Potential Outcomes and Performance Measures

Report Prepared By:

ESYS *Consulting Ltd*
Economics and Business

Warwick CV35 9JS
01789 47 00 66

August 2011

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introduction

Esys Consulting Ltd has been commissioned by Anglesey County Council to review and assess the targets and potential outcomes which form the basis of a Legacy Framework for Energy Island related schemes through measureable outcomes in the form of key performance indicators. This Framework will help address the long term structural economic and social problems that face Anglesey through the opportunities offered by low carbon technology.

The problems facing the Anglesey economy are discussed further in this report (**->key challenges facing Anglesey)**, including the continuing reliance on (relatively low technology) manufacturing and especially food processing. Employment in manufacturing has declined significantly during the recession with the notable closure of Anglesey Aluminium (AAM) and loss of high value jobs. Whilst the decommissioning of the existing Wylfa nuclear plant has been delayed, nevertheless this will lead to the loss of further high value employment on the island.

Underlying these difficulties is the issue of peripherality. Anglesey is truly one of the most peripheral economies in the UK and this is reinforced by its physical detachment from the mainland (albeit that it is served by the A55 and Port connections to Ireland). Perhaps one of the major difficulties facing peripheral economies like Anglesey is not necessarily the rate at which they lose jobs but the ability to generate new employment – especially in higher value sectors. In this respect the closure of Wylfa and AAM represents a major blow to the Anglesey economy. Nevertheless, these events have to some extent only extended the longer term trend towards a greater reliance on other areas – notably the coastal strip / Menai Hub – to generate new employment. Meanwhile employment density on the island remains relatively low. In many ways the Anglesey economy on its present trajectory has all the hall marks of a fairly moribund economy in long term structural decline.

Economic decline has of course more widespread ramifications on the community. It leaves in its wake pockets of deprivation, especially in Holyhead. The limited number of jobs available further manifests itself in terms of demographic movements, with the tendency for higher skilled

more motivated elements of the workforce – and especially younger people – to move from the island.

This in turn affects the overall demographic and cultural character of the island, with potentially significant longer term impacts on the Welsh language.

Meanwhile, the decline of the local economy tends to mean that residents need to travel further for jobs with the attendant tendency for an increasing proportion of the housing stock to be taken by more affluent commuters, in-migrants and the retired. This in turn can tend to exacerbate problems of housing affordability, putting further pressure on younger people to move out of the area.

These are difficult and inter-locking problems. However, there are also opportunities not least in terms of the unique opportunity arising from investment in a potential new nuclear build at Wylfa and associated opportunities to develop a low carbon economy as explored in recent work for the Council by URS[1]. This provides arguably a unique opportunity to address some of the difficulties inevitably associated with Europe's more peripheral economies where geographical distance from markets impacts on overall competitiveness and levels of entrepreneurialism.

In order to maximise the opportunities presented by a potential new nuclear build (and other major energy related developments) the County Council have developed the 'Energy Island Programme (EIP).' The EIP vision is to create a world-renowned centre of excellence for R&D, production, and servicing of low carbon energy.

As part of this programme, a Framework is in the process of being developed to identify, mitigate and secure the potential outcomes, risks and impacts - social, economic and environmental - associated with this ambitious vision.

The Anglesey Energy Island Programme

The Anglesey Energy Island Programme is intended to attract new, high quality energy-related jobs to Anglesey over the next two decades. Formally launched by the then Deputy First Minister Ieuan Wyn Jones AM in June 2010, the Programme is co-ordinated by the Economic Development Unit of the Isle of Anglesey County Council (IACC).

The Energy Island vision is to create a world-renowned centre of excellence for the production, demonstration and servicing of low carbon energy.

[1] Source: URS Energy Island Study

The objectives include:

1. **Production** – Investing in new low carbon energy production to help secure a stable energy future for Wales
2. **Demonstration** – Establishing world-class facilities to place Anglesey as a leading location for low carbon energy innovation and demonstration
3. **Servicing** – Ensuring that local companies and people benefit and take advantage of opportunities from new energy investments.

The centrepiece of the Anglesey Energy Island Programme is the potential development of a new nuclear build at Wylfa. However, it is also hoped to attract companies who will develop renewable energy technologies including wind (on and offshore), tidal, biomass as well as nuclear.

Wylfa nuclear power station

The current Wylfa nuclear power station has a generating capacity of just under 1GW and supplies base load electricity to the UK national grid, however, the plant is due to close at the end of 2010 although an extension for Wylfa to the end of 2012 has now been approved.

Meanwhile, a prospective new nuclear power plant, Wylfa B, is being planned by Horizon Nuclear Power, a joint venture between the German energy giants RWE and EON. Horizon has confirmed that in 2013 they will be applying for planning consent for a new nuclear reactor at Wylfa.

Horizon plans to commission a new plant at Wylfa Head, adjacent to the existing Wylfa A site, and to generate around 3.2 GW of electricity. Horizon is in talks with two international companies, Westinghouse from the USA and French firm Areva, who are in the process of securing licences for their reactor designs in Britain.

Further details on the economic potential provided by the plant are set out later in this report (**->see base case projections).**

Renewables

The huge potential of wind energy is another key part of the Anglesey Energy Island Programme, and while there are already three wind farms on the island, there are major plans to build a large wind farm 15km offshore to the north of Anglesey, as the Irish Sea Zone licence was awarded to Centrica Renewable Energy and has a potential yield of around 4.2 GW.

The island could act as a centre for manufacturing and maintaining the wind energy infrastructure including the towers and blades, given the port facilities at Holyhead.

A massive 750 MW offshore wind farm development is already being constructed at Gwynt-y-Mor, about 12-15 miles east of the Anglesey coast, where around 250 wind turbines will be installed. This project received the green light from the UK Government's Department of Energy and Climate Change.

Another area of renewable energy is tidal power and a joint venture between npower renewable and MCT called Seagen Wales is looking to install a 10.5 MW tidal turbine farm in the Langdon ridge between the Skerries and Carmel Head in North West Anglesey. Seven 1.5 MW Seagen turbines would be attached to the seabed in about 25 metres of some of the most tidal stretches around UK coastal waters. A planning application has already been submitted for this development.

Another source of energy being considered is biomass, and Anglesey Aluminium Metal Renewables Limited has applied for permission to construct a 300 MW biomass plant on unused land at the former aluminium smelter site outside Holyhead. A jetty is available at nearby Holyhead Port to receive the specially designed cargo ships that would import wood pellets and chips sourced from roots and branches from carefully controlled timber production in North America.

In October 2009 the company applied to the UK Government for permission to build the power plant under s.36 of the Electricity Act for a project which it says should over the lifetime of the project be carbon neutral.

Programme phasing

A recent study by the Council[2] identified the need to focus on a limited number of opportunities that capable of delivering the right 'mix' of ambition, impact and profile.

The key elements of the Energy Island Framework are:

- *Short term*: Large and small scale biomass installations and supporting energy crops, energy efficiency measures, and micro generation. Initial discussion and negotiation to maximise opportunities from Offshore wind Irish Sea Round 3 Zone.

[2] Energy Island: Potential Opportunities and Economic Impacts, URS. May 2010.

- *Medium to long term*: New build at Wylfa up to 3.2 GW, implementation of tidal project at Skerries, offshore wind base at Holyhead Port and the replanting of existing onshore wind farms.
- *Long term*: Tidal power expansion and development of the hydrogen economy

Key Outcomes from the Programme

The analysis of outcomes suggests that the Programme can make a major step change in terms of its contribution to the economy, community and environment of the Island, including:

- An increase of 10-13% in GVA over and above base case / Welsh trend to 2025
- Create up to 2,000 net additional jobs to 2025, plus up to an additional 6,000 construction jobs.
- Reducing out-migration of younger people – with 16-24 year olds as % of overall population stabilising at 10%
- A reduction in unemployment rates which should start to converge (and possibly fall below) the rate for Wales
- Upskill the workforce leading at minimum to a 3% increase in the proportion of the workforce (over 2008 levels) for the SOCs 1-3
- The proportion of JSA claimants reduces to that of Wales
- Activity rates are anticipated to rise to at least 1% above that for Wales
- Long term unemployment is expected to fall to the average for Wales overall
- The Programme should also assist in retaining a flourishing local culture with the proportion of Welsh language speakers being maintained at the current level, with between 60-65% of the population (aged 3+) able to speak Welsh
- Investment in the housing stock will result in the level of housing need as evidence by the IMD housing domain showing a marked improvement relative to Wales. This should be further reflected in a more vibrant housing market with house price data showing sustained improvement relative to Wales
- Importantly, the Programme can make an important contribution to a low carbon future by influencing people's behaviour and attitudes. Hence it is anticipated that carbon emissions will reduce from above to below the average for Wales.

Study objectives

The overall purpose of the study is to contribute to the development of the Energy Island Framework to ensure it is realistic, achievable and importantly measurable.

This requires consideration of what the Anglesey economy might look like in the absence of the key energy island components (ie the counterfactual case) as a basis for identifying the likely economic impacts. This analysis will be used to inform the assessment of anticipated outcomes.

This is achieved principally through the use of the Esys economic model **(-> described in further detail in the methodology section below**), which has the additional benefit of having already been used to inform a broader analysis of sub-regional economic and labour market changes. This facilitates some quantitative analysis of outcomes and also then provides a broader context for assessing the wider significance of these impacts.

The principal elements of the study comprise:

- Update the economic baseline
- Prepare employment projections – with / without energy island
- Assess the key risks associated with the programme
- Detail likely labour market impacts
- Identify the key performance indicators for measuring progress in relation to desired outcomes in a Legacy Framework.

Methodology

The study has integrated economic and spatial considerations in the development of an Employment Model. The diagram below illustrates the main components of the Microsoft Excel-based Employment Projection Model developed for this study.

The model input component combines the following features:

1. Historic employment levels by 2007 CAS ward and chosen industrial breakdown (based on SIC classifications).

   It should be noted that employment figures have been sourced from Annual Business Inquiry (ABI) workplace-based data and converted to Full Time Equivalent (FTE) figures, counting each part time position as 0.5 of a full time position, hence FTEs = Full Time Jobs + ½[Part Time Jobs]. The Model has been updated to include 2009 data.

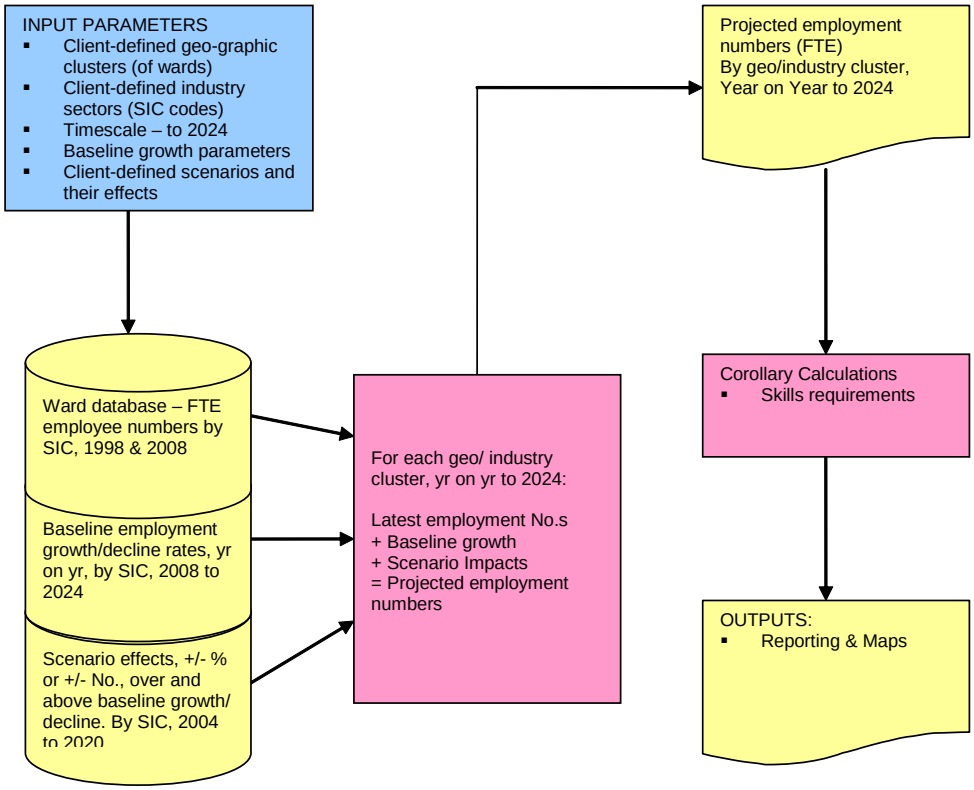
2. Alternative growth rate vectors of rates (per annum percentages) for the industrial classifications.

3. Scenario affects – these may either be an absolute number of FTE jobs by which to alter the projected number of positions to reflect such things as one off closures/openings, or as a percentage adjustment to growth rates to reflect such changes as policies aimed at accelerating growth in particular industrial sectors.

The model uses this information and underlying assumptions in projecting FTE WORKPLACE-based employment figures for user defined geographic and industrial clusters, from 2008 to 2024. The further into the future projections are made, the higher the level of uncertainty associated with them.

It should be noted that the projections do not represent what WILL happen in the future but - given general trends – what might happen in the absence of interventions. It is to be used as a guide for policy making and not as a definitive forecast of futures.

The Employment Model



(NB: Baseline updated to use 2009 data and not 2008 as detailed below)

Employment Baseline

The baseline includes ward-level workplace-based employment data for the sub region for 2009 for all 1 digit SIC 2007 codes. The data is converted to Full Time Equivalents (FTE = FT + 1/2PT).

Growth Rates

In order to project future employment levels, it is necessary to make assumptions about the annual rate of growth for individual sectors in the area.

Report Structure

The remainder of this report is structured as follows:

Section 2	sets out the key challenges facing the Anglesey economy
Section 3	details the base case projection (the counterfactual)
Section 4	examines several scenarios around the base case, focused around elements of Energy Island Framework
Section 5	assesses the Energy Island the 'net additional' impacts over and above the base case
Section 6	outlines the potential labour market impacts
Section 7	reviews the Anglesey Energy Island Framework outcomes outlined by the Council in light of the analysis undertaken
Section 8	discusses the principal risks to deliverability within a structured risk assessment and mitigation framework
Section 9	identifies key performance indicators for monitoring the implementation of the energy island framework.

key challenges for anglesey

This section comprises a brief review of the baseline data for Anglesey, focusing on its economic structure and performance over a longer period, as well salient social characteristics. The analysis presented draws from secondary data sources, principally ABI, BRES and other ONS statistics, as well as key studies of the Anglesey economy. In presenting a picture of the longer term development this section aims to present a coherent narrative, as well as an overview of the principal long term challenges facing the local economy, which the Anglesey Island Programme is intended to address.

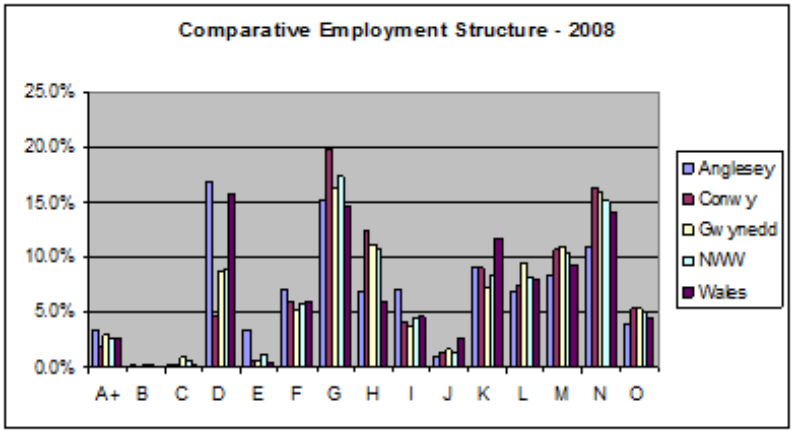
The baseline data is also of particular relevance to providing the CONTEXT for – and informing the assessment of – EIP impacts, as well as potentially informing an assessment of the RELEVANCE and scope of interventions.

Industrial Structure

Anglesey has an adverse industrial structure, with a strong dependence on production and transport activities, including concentrations of relatively low value manufacturing.

Anglesey has a distinct economy with greater reliance on manufacturing

It is evident that Anglesey has distinctive economic structure relative to the rest of the sub-region. The local economy is much more significantly skewed towards production activities – manufacturing, electricity generation, construction and also transport.



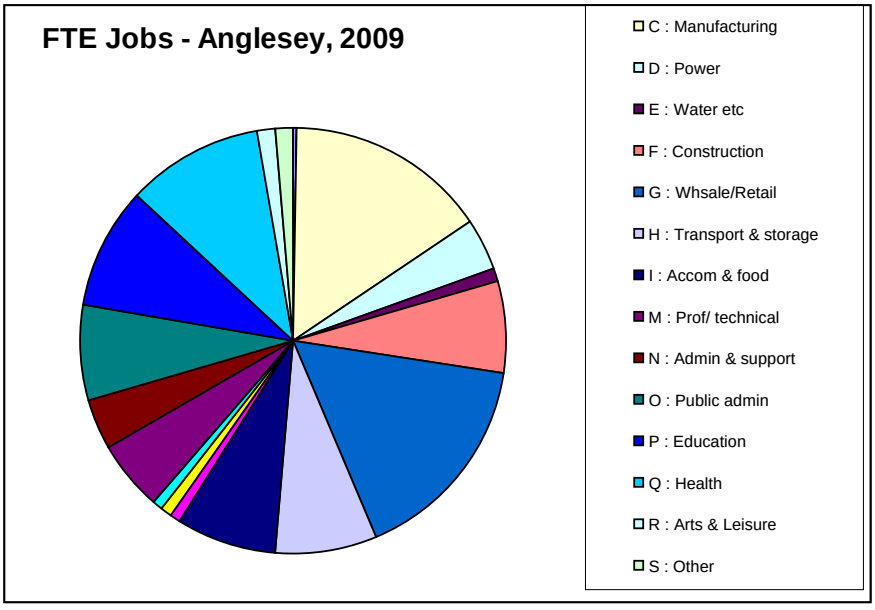
This has implications in terms of tracing through the impact of the recession which has had strong sectoral effects albeit the vulnerable sectors have changed over time.

Profile of the Anglesey Economic 2009

Full Time Equivalent Jobs on Anglesey

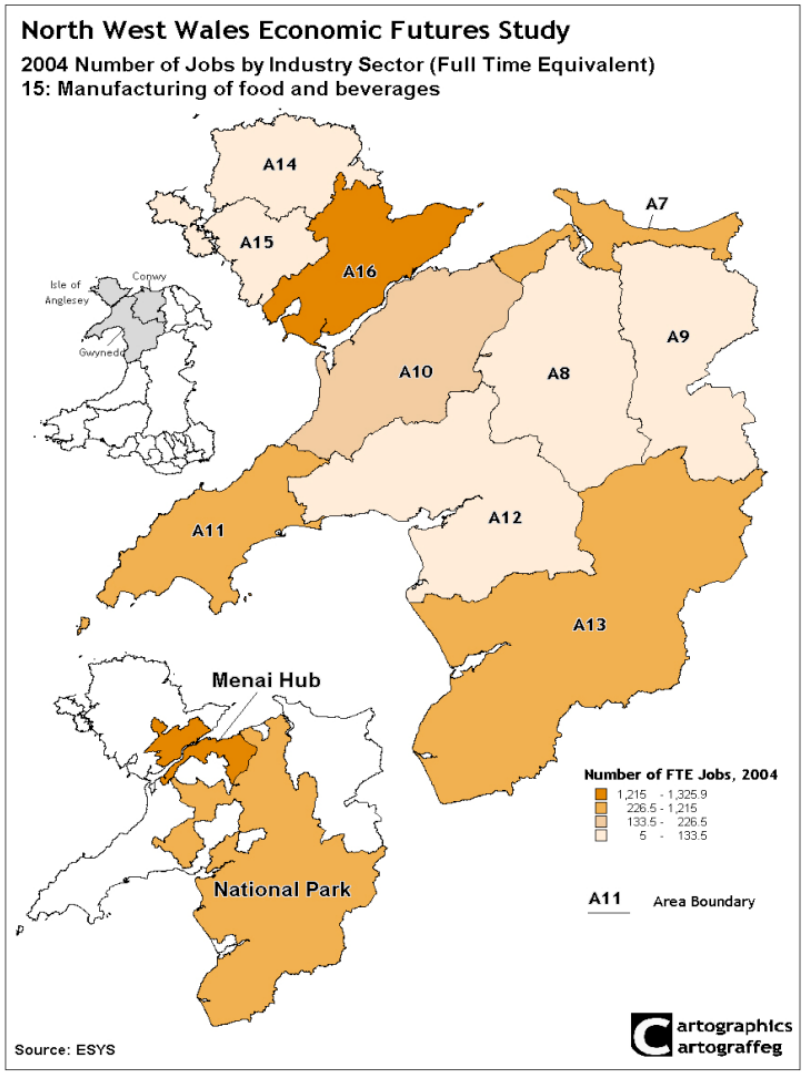
Industry	2008	2009
A : Agriculture, forestry and fishing		<50
B : Mining and quarrying	Soft Supp	<50
C : Manufacturing	2,800	2,400
D : Electricity, gas, steam and air conditioning supply	Hard Supp	700
E : Water supply; sewerage, waste management and remediation activities	200	200
F : Construction	1,100	1,100
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,400	2,600
H : Transportation and storage	1,100	1,300
I : Accommodation and food service activities	1,100	1,200
J : Information and communication	100	100
K : Financial and insurance activities	100	200
L : Real estate activities	100	100
M : Professional, scientific and technical activities	900	800
N : Administrative and support service activities	300	600
O : Public administration and defence; compulsory social security	1,100	1,200
P : Education	1,400	1,500
Q : Human health and social work activities	1,800	1,600
R : Arts, entertainment and recreation	200	200
S : Other service activities	300	200
Column Total	**15,600**	**16,000**

Source: Business Register & Employment Survey, ONS. Data rounded to nearest 100 as required.
Hard Suppression = suppression of data deemed 'disclosive'
Soft suppression = suppression to prevent disclosive data from being deduced.



Within manufacturing analysis indicates that a high proportion of employment is relatively low value, food processing is especially important

Previous analysis demonstrated the underlying vulnerability of the Anglesey economy. [3] This stems from its overall industrial structure but also from the specific nature of sub-sectors represented. For example, in manufacturing there has been and remains a strong representation of medium/low and low technology activity. The map below illustrates the significance in 2004 of food manufacturing in southern Anglesey. Employment here is often relatively vulnerable and is also relatively low paying.



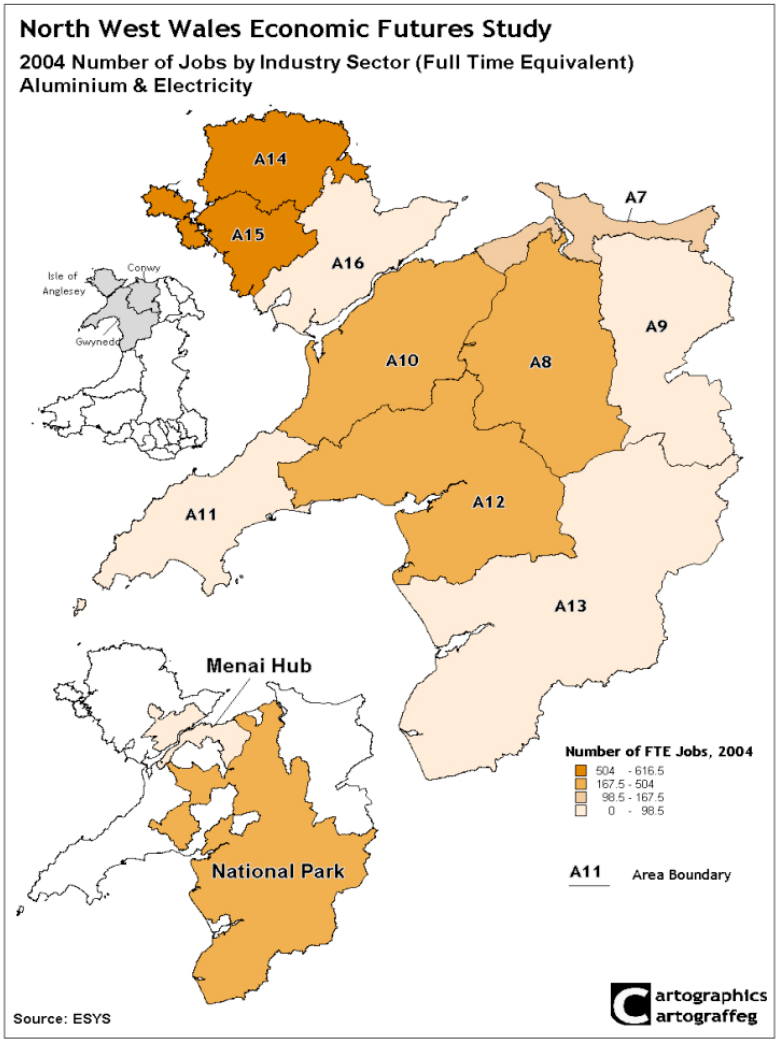
[3] Welsh Assembly Government. North West Wales Economic Futures Study, 2006.

Anglesey also contains many high value activities not least nuclear power production making it a relatively high value economy overall

Equally, the local economy also has a number of very high value added jobs which collectively mean that the average gross value added per employee overall in Anglesey is quite reasonable.

The significance of this more high value added employment is demonstrated in the map below which although somewhat dated indicates the significance of employment at Wylfa alongside the relatively high value jobs at Anglesey Aluminium, prior to its closure in 2010.

However, its further reveals a vulnerability, given the high level of dependence on this one plant in a relatively remote and peripheral part of northern Anglesey. This has been underlined with the plans to decommission Wylfa in 2013, slightly later than originally scheduled.



However, because it is a SMALL economy relative to population, Anglesey has a low level of GVA per head & dependence on other areas for jobs

GVA per head of population or as an index (relating to UK as a whole) are good measures of local prosperity and relative economic improvement/decline. Unfortunately sub-regional measures of GVA are released several years later – hence the latest data available currently is for 2008. Regional level results for 2009 have been announced – these show the Welsh economy having declined in size to £44.5 bn. The UK's GVA declined by a similar proportion. Welsh GVA per head in 2009 also declined to £14,842. The table below illustrates Anglesey's GVA trends and illustrates that although Anglesey's relative performance has improved, it is still very low at only 55% of the UK level – traditionally the lowest GVA per head of any authority in the UK.

Sub-regional Gross Value Added (GVA) by Welsh economic region
Source: Welsh Assembly Government

Year		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Measure	**Area**										
Total £ million	Wales	30,912	32,068	33,658	35,355	37,299	38,993	40,485	42,424	44,541	45,514
	North Wales	7,041	7,234	7,556	7,918	8,297	8,639	8,928	9,313	9,711	9,852
	Mid Wales	1,298	1,351	1,421	1,526	1,619	1,665	1,662	1,682	1,699	1,705
	South West Wales	8,015	8,255	8,596	9,021	9,551	10,113	10,681	11,293	11,899	12,151
	South East Wales	14,558	15,229	16,084	16,890	17,831	18,576	19,214	20,136	21,231	21,805
	Isle of Anglesey	***479***	***509***	***551***	***589***	***631***	***664***	***693***	***731***	***764***	***780***
	Gwynedd	1,066	1,099	1,173	1,263	1,355	1,424	1,472	1,530	1,586	1,620
	Conwy and Denbighshire	1,752	1,806	1,884	1,980	2,102	2,218	2,298	2,388	2,485	2,543
	Flintshire and Wrexham	3,744	3,820	3,948	4,086	4,209	4,333	4,465	4,664	4,876	4,909
£ per head	Wales	10,657	11,032	11,565	12,115	12,735	13,247	13,723	14,323	14,966	15,222
	North Wales	10,702	10,937	11,369	11,879	12,405	12,867	13,292	13,835	14,365	14,532
	Mid Wales	10,330	10,708	11,245	12,004	12,643	12,905	12,815	12,911	12,974	12,952
	South West Wales	9,462	9,736	10,129	10,588	11,143	11,737	12,371	13,026	13,642	13,861
	South East Wales	11,463	11,978	12,659	13,273	13,988	14,496	14,948	15,590	16,371	16,724
	Isle of Anglesey	***7,050***	***7,489***	***8,121***	***8,686***	***9,269***	***9,719***	***10,121***	***10,651***	***11,110***	***11,333***
	Gwynedd	9,159	9,418	10,039	10,770	11,505	12,033	12,465	12,928	13,378	13,664
	Conwy and Denbighshire	8,768	8,975	9,292	9,708	10,263	10,769	11,163	11,583	11,983	12,218
	Flintshire and Wrexham	13,677	13,863	14,244	14,722	15,130	15,541	15,988	16,657	17,332	17,382
Index (UK=100)	Wales	77.3	77.1	77.1	76.7	76.2	75.5	75.7	75.2	74.6	74.1
	North Wales	77.7	76.4	75.8	75.2	74.2	73.3	73.4	72.6	71.6	70.7
	Mid Wales	75	74.8	75	76	75.7	73.6	70.7	67.8	64.7	63.1
	South West Wales	68.7	68.1	67.5	67	66.7	66.9	68.3	68.4	68	67.5
	South East Wales	83.2	83.7	84.4	84	83.7	82.6	82.5	81.8	81.6	81.4
	Isle of Anglesey	***51.2***	***52.4***	***54.1***	***55***	***55.5***	***55.4***	***55.8***	***55.9***	***55.4***	***55.2***
	Gwynedd	66.5	65.8	66.9	68.2	68.9	68.6	68.8	67.8	66.7	66.5
	Conwy and Denbighshire	63.6	62.7	61.9	61.5	61.4	61.4	61.6	60.8	59.7	59.5
	Flintshire and Wrexham	99.3	96.9	94.9	93.2	90.6	88.6	88.2	87.4	86.4	84.6

Note: On a residence (rather than workplace) basis show Anglesey has done relatively well compared to Wales. However, this reflects the preference for relatively affluent commuters to reside on the Island and work elsewhere, reflecting the central point made above that the economy of the island is relatively small, which in part also explains why the level of self employment is high.

Economic Performance

The underlying structural problems of the Anglesey economy which were clearly evident pre-recession are reflected in aspects of its performance in recent years. Perhaps the major problem is less the loss of jobs, but more the inability to benefit and diversify into new growth sectors of employment. This to some extent is typical of more peripheral areas where levels of entrepreneurial activity tended to be lower and market pressures generally weaker.

Recent economic development history 2004-2008 underlines longer term problems of performance with Anglesey experiencing decline during a period of overall growth

Employment change over the period 2004 – 2008 shows that the sub-region overall out-performed Wales with a 5.1% increase in the number of jobs. However, whilst Gwynedd faired the best, followed by Conwy, Anglesey actually saw a decline in jobs (-1.2%). This reflects some of the weaknesses in its underlying economic structure highlighted in the 2006 Economic Futures analysis and specifically the dependence on relatively low value manufacturing activities.

< = values less than +/- 50	**Wales**	**NW Wales**	**Anglesey**	**Conwy**	**Gwynedd**
Significant sectors:	**D,G,N**	**G,N,H&M**	**D,G,N**	**G,N,H**	**G,N,H&M**
Absolute Change in FTEs 2004 to 2008 (rounded to nearest 100):					
A+: Agriculture, Incl 0100	4,600	400	100	100	200
B : Fishing	200	<	<	<	<
C : Mining and quarrying	200	300	<	<	300
D : Manufacturing	-15,100	-600	-200	-400	<
E : Electricity, gas and water supply	-1,100	-100	<	100	-200
F : Construction	7,000	500	<	300	100
G : Wholesale & Retail	-900	300	<	-100	400
H : Hotels and restaurants	3,400	1,300	<	100	1,300
I : Transport, storage, comms	-3,000	600	100	100	400
J : Financial intermediation	-100	<	<	-100	100
K : Real estate, renting, business	25,100	1,100	<	700	300
L : Public administration and defence	5,400	600	200	-100	500
M : Education	-1,800	-700	-400	400	-600
N : Health and social work	5,300	1,300	100	500	700
O : Social and personal services	-4,100	-800	-100	<	-700
All Sectors:	**25,100**	**4,200**	**-200**	**1,600**	**2,800**
% Change in All FTE Jobs:	**2.6%**	**5.1%**	**-1.2%**	**5.3%**	**7.6%**

The recession has accelerated the process of structural adjustment…

Over the period of the recession 2009-2010 employment is estimated to have contracted by around -5% overall. A large number of jobs lost are concentrated in manufacturing, which accounts for around two-thirds of the job numbers lost during the recession; a large proportion of these jobs will have been accounted for by the closure of AAM in 2009, impacting mainly on Anglesey North. Anglesey has been vulnerable due to the significance of lower technology activities.

…..with employment in manufacturing falling dramatically

However, recession has significantly impacted on the sector accelerating longer term structural changes. It is estimated that from 2008 – 2010 something in the order of 900 (32%) of manufacturing jobs in Anglesey have been lost over the period. Anglesey has been especially exposed, not only due to the significance of manufacturing here, but also reflecting the importance of many lower value activities.

Closures include Eastman Chemicals in Llangefni, Eaton Electric and Anglesey Aluminium both based in Holyhead. The latter has resulted in the loss of nearly 390 jobs. Welsh Country Foods is restructuring with additional job losses in Gaerwen at Menai Electrical. Further job losses have been announced in Gwynedd at Rehau Plastics with the closure of Gleneagle Furniture involving the loss of 65 jobs.

Although looking forward …

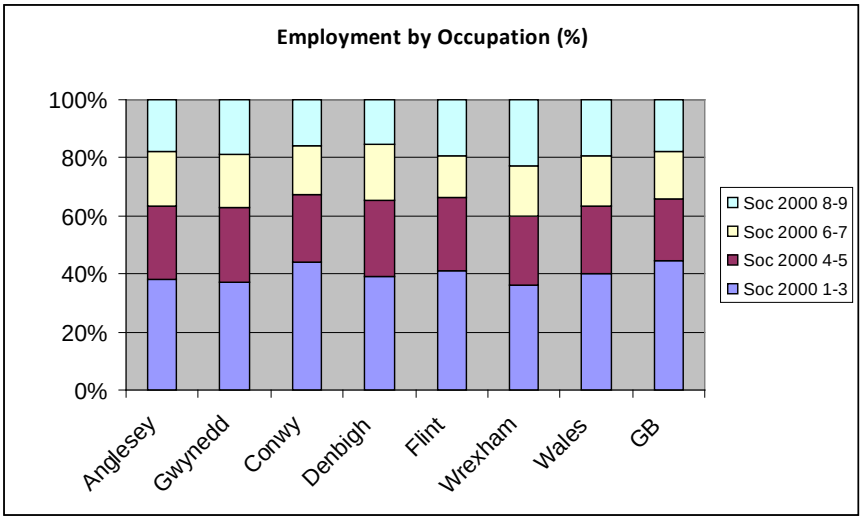
The depreciation of the pound in late 2007 – 2008 will help improve the competitiveness of industry. Moreover, manufacturing employment has performed well, particularly in relation to the attraction of inward investors both in high value and more traditional manufacturing sectors such as food processing. Easy access to markets in Ireland can be an advantage. For example, French bakery firm PV France has recently announced its intention to re-locate from its current UK base in Merseyside to Llangefni. The firm envisages around 105 jobs being created in the first stage, its ambitious plans to expand into growth markets in Ireland and Sweden and may provide scope for further employment later.

Labour Market Characteristics

Reflecting the overall industrial structure, Anglesey has some weaknesses – for example earnings tend to be lower on average in part reflecting the absence of corporates and high value service occupations – but its labour force is reasonable well qualified and higher level jobs are well represented in its occupational structure (workplace based).

Employment by occupation

Analysis of employment by occupational structure indicates that Anglesey has a much lower proportion of high value professional and managerial occupations than either Wales or GB, but a slightly higher proportion of occupational groups 4-7, reflecting especially the significance of skilled trades and personal, sales and customer services.



Employment by Occupation (Jul 2009 – Jun 2010

	Anglesey (numbers)	Anglesey (%)	Wales (%)	Great Britain (%)
Soc 2000 major group 1-3	11,300	37.9	40.3	44.4
1 Managers and senior officials	3,200	10.8	13.0	15.7
2 Professional occupations	3,100	10.3	12.5	13.9
3 Associate professional & technical	5,000	16.5	14.5	14.6
Soc 2000 major group 4-5	7,600	25.5	23.1	21.6
4 Administrative & secretarial	3,200	10.5	10.8	11.1
5 Skilled trades occupations	4,400	14.7	12.2	10.4
Soc 2000 major group 6-7	5,700	19.0	17.5	16.3
6 Personal service occupations	3,300	10.8	9.8	8.8
7 Sales and customer service occs	2,400	8.0	7.6	7.4
Soc 2000 major group 8-9	5,300	17.6	19.2	17.8
8 Process plant & machine operatives	2,400	7.8	7.3	6.6
9 Elementary occupations	2,900	9.7	11.8	11.1

Source: ONS annual population survey

Notes:Numbers and % are for those of 16+

Qualifications

In terms of qualifications, the pattern follows logically from the industrial and occupational structure of the local economy. Significantly, there is a slightly higher proportion of the working age population than GB, although slightly less than Wales. There is also a smaller proportion of the resident population qualified to NVQ level 4 and above compared to Wales or GB.

For NVQ levels 1 to 3 and above, there is a much higher proportion of the Anglesey working age population compared to either Wales or GB qualified to this level. The detailed figures are shown in the table below.

Qualifications Jan 2009-Dec 2009

No. and % are for those aged 16-64

	Anglesey (numbers)	Anglesey (%)	Wales (%)	Great Britain (%)
NVQ4 and above	10,800	26.0	27.3	29.9
NVQ3 and above	20,900	50.1	47.4	49.3
NVQ2 and above	27,900	67.0	64.7	65.4
NVQ1 and above	33,300	79.9	77.5	78.9
Other qualifications	2,700	6.6	7.7	8.8
No qualifications	5,600	13.5	14.8	12.3

Source: ONS annual population survey

Earnings by workplace

Earnings by workplace in Anglesey are relatively low as detailed in the table below. This holds true for males and females. However, placing this in the context of the region it is also evident that male earnings are high, exceeding those in all other parts of the region with the exception of Wrexham and Flintshire. Female earnings are however the lowest in the region.

2010 Weekly Earnings	Anglesey (pounds)	Wales (pounds)	Great Britain (pounds)
Gross weekly pay			
Full-time workers	440.0	456.4	501.8
Male full-time workers	452.9	490.3	541.9
Female full-time workers	353.1	405.8	440.0

Source: ONS annual survey of hours and earnings - resident analysis

Median earnings in pounds for employees living in the area

Economic Geography: the impact of distance on competitiveness – towards a conceptual understanding

The concept of peripherality

Perhaps the major economic development issue facing Anglesey is that of peripherality and its distance from / to markets. Peripherality refers to those areas which are relatively isolated, less accessible and often characterised by mountainous less accessible terrain and linked to this population and business sparsity. Peripherality is associated with several market failures resulting in economies which tend to be less productive.

The concept is supported by both qualitative evidence as well as multivariate statistical analysis. Peripherality has been a key theme in economic geography and points to the continuing importance of geographical location as a hindrance to economic development, as well as the continued relevance of policies to address the issue. [4]

Causal mechanisms

Academic research highlights two key causal elements. The first is increased travel and transport cost resulting from remoteness relative to the main centres of population and economic activity. The second is the absence of agglomeration economies (arising from external economies of scale), enjoyed by less remote locations.

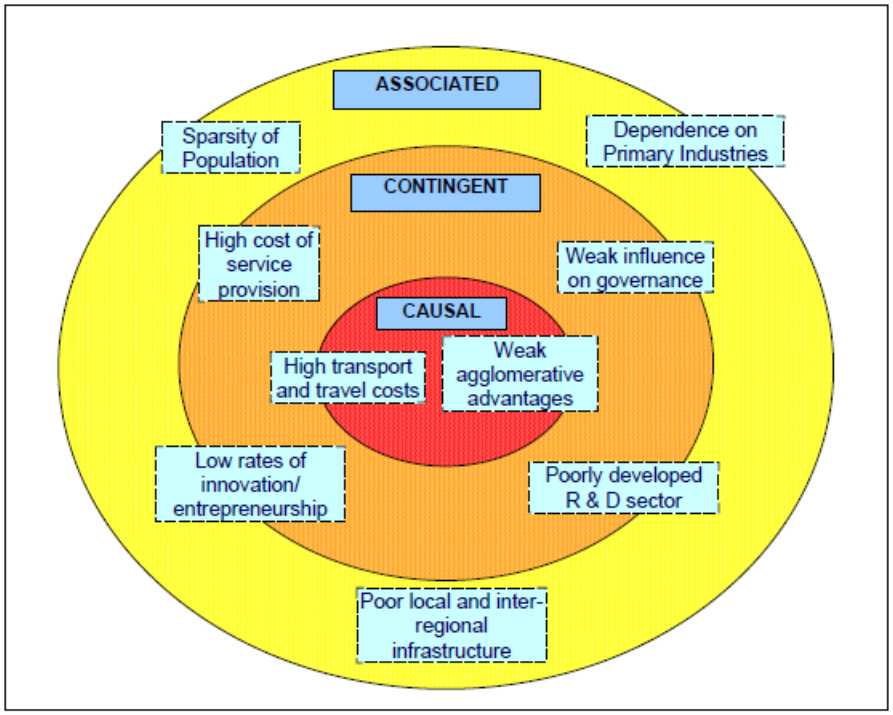
The two key elements are interdependent through transport costs. Thus distance impacts upon competitiveness both directly – additional cost to market - and indirectly, as firms are less able to derive shared benefits from clustering. It is this clustering and proximity factors which are strongly associated with a competitive environment encouraging entrepreneurship and innovation. Service provision also tends to be more costly in remoter areas and this has been investigated in some depth in respect of the provision of for example health services.

Other factors associated with peripherality, although the causal link is less direct, include sparsity of population, a dependence on primary industries, poorly developed local and inter-regional infrastructure, poorly developed research and development sector, and frequently a lack of influence in the wider governance arena.

[4] Europe at the Margins: EU Regional Policy, Peripherality and Rurality. Regional Studies Association, Angers, 15-16th April 2004. Slippery or Soft? Is Peripherality Changing? Andrew K Copus and Marsaili MacLeod.

The diagram below illustrates the various elements which are classified into three broad groups, causal, contingent and associated (although the boundaries between the second and third are very hard to draw).

Elements of Peripherality



Source: Andrew K Copus and Marsaili MacLeod, April 2004.

The concept of peripherality remains a valid one and as a theoretical framework is helpful in examining aspects of the Anglesey economy. The issues of distance, limited economies of agglomeration and weaker competitive environment should be capable of empirical investigation. Generally, peripheral economies would be expected to exhibit:

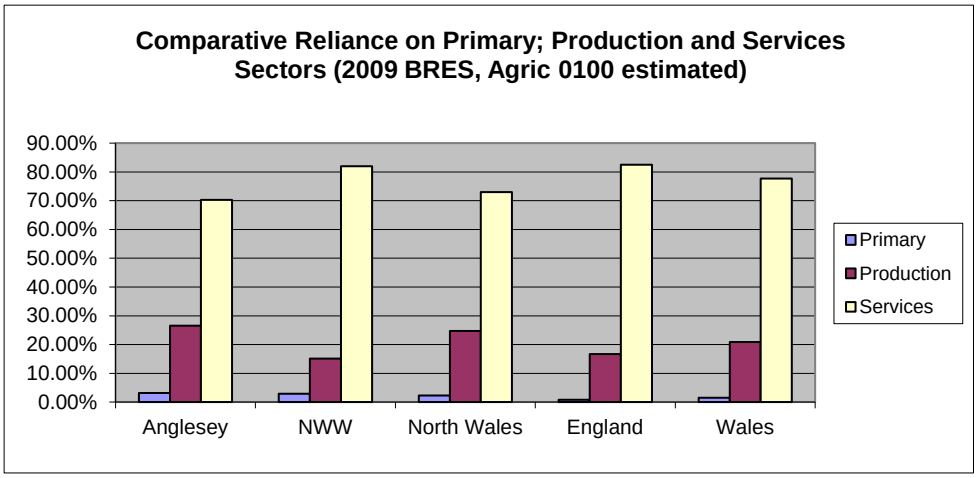
- Greater levels of dependence on primary industries
- Lower rates of entrepreneurship and innovation
- Relatively low population density and associated with this relatively low business density (and hence limited agglomeration economies)
- Less efficient labour markets, reflected in for example higher levels of long term unemployment.

Although detailed primary research into these various aspects falls beyond the scope of this study, some commentary is provided below of a selection of indicators which underline the relevance of peripherality to Anglesey.

This is IMPORTANT because a compelling conceptual framework can help to provide the basis for both identifying **underlying causal factors and provide a more comprehensive, holistic and compelling set of policy prescriptions.**

Importance of primary industries

The significance of primary industries is demonstrated in the chart below. Collectively the sector accounts for over 3% of employment in Anglesey, compared to less than 1% for England and 1.4% for Wales. An important aspect of this is the much smaller proportion of employment accounted for the by the service sector in Anglesey – just 70% - compared to over 80% for England.



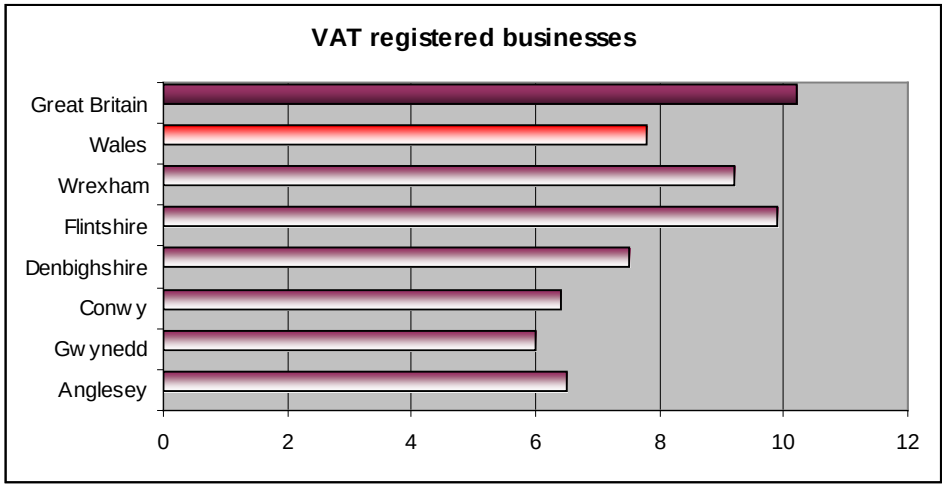
Lower rates of entrepreneurship and employment 'churn'

There is a strong and positive relationship between levels of 'churn' in the economy and economic performance. The continual entry and exit of plants and firms is thought to be crucial to the growth of an economy. This process - known as economic churn - is thought to impact on industry productivity through increased competition leading to greater cost efficiency. It can also facilitate creative destruction whereby more innovative firms enter the market, replacing existing incumbent firms using current technologies. [5]

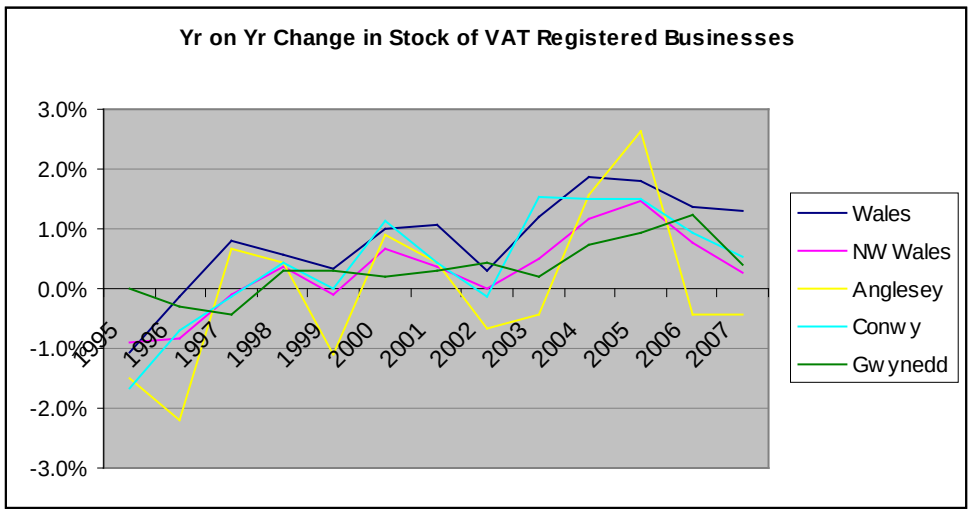
Whilst the registration rate[6] for 2007 is lower than the GB average in each of the local authority areas across North Wales, and only in Flintshire and Wrexham does it exceed the average for Wales, it is notably lower in Anglesey and Gwynedd.

[5] Catherine Robinson, Brigid O'Leary, Ana Rincon Business start-ups, closures and economic churn: A review of the literature. Final report. Small Business Service, 23rd August 2006.

[6] The VAT/PAYE data on new business formation shows a more positive picture for Anglesey and is a broader measures of new business starts. However, VAT data is preferred because the latter includes many micro small / sole traders of very limited economic significance.



Looking at longer term trends (1996-2007) in relation to the overall change in the stock of businesses it is evident that Anglesey exhibits a persistently lower level of new firm formation compared to Wales or for that matter other better connected parts of the sub-region such as Conwy.



Low job density and hence limited agglomeration economies

Along with low population density, peripheral regions tend to have a low job density linked to the absence of strong economies of agglomeration. The figures for the North Wales region are in line with or above that for Wales. The exception to this is Anglesey where the figure is markedly lower than that for Wales and GB.

Job Density – Anglesey, Wales and GB 2009

Anglesey (density)	Wales (density)	Great Britain (density)
0.6	0.71	0.79

High levels of self-employment

A further aspect of peripherality is the relatively high level of self-employment. Although this may appear to be counter-intuitive it frequently reflects the absence of other paid job opportunities and more limited number of employers in remoter regions. These jobs are however frequently of necessity and tend to be associated with relatively low pay and insecure conditions. The data here further illustrates this showing a strong east – west divide, with levels of self-employment much higher in the remoter north west Wales than the north east.

Jul 2009 – Jun 2010	Anglesey (numbers)	Anglesey (%)	Wales (%)	Great Britain (%)
All people				
Economically active†	31,800	73.7	72.8	76.4
In employment†	30,100	69.7	66.8	70.4
Employees†	25,200	58.6	58.0	60.9
Self employed†	4,500	10.2	8.2	9.0
Unemployed (model-based)§	2,400	7.3	8.1	7.7

Source: ONS annual population survey

High levels of worklessness and inactivity

Associated with weaker competitive conditions and lower levels of job density and employment creation, peripheral regions tend to have higher rates of worklessness.

This is evident in the table below which demonstrates that Anglesey has a much higher inactivity rate than for GB (getting on for an additional 3%), but importantly it has a higher proportion of the economically inactive not wanting a job. Although it is not absolutely clear why this should be the case, it may well reflect a longer term response to the limited number of jobs and low level of wages for those jobs available locally.

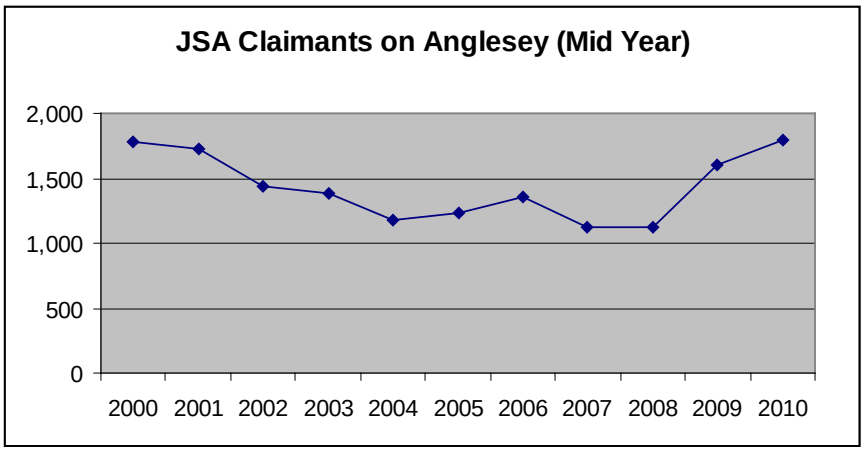
Economic inactivity (July-09 to June-10)

	Anglesey (numbers)	Anglesey (%)	Wales (%)	Great Britain (%)
All people				
Economically inactive	11,000	26.3	27.2	23.6
Wanting a job	2,200	5.2	6.6	5.7
Not wanting a job	8,900	21.1	20.6	18.0

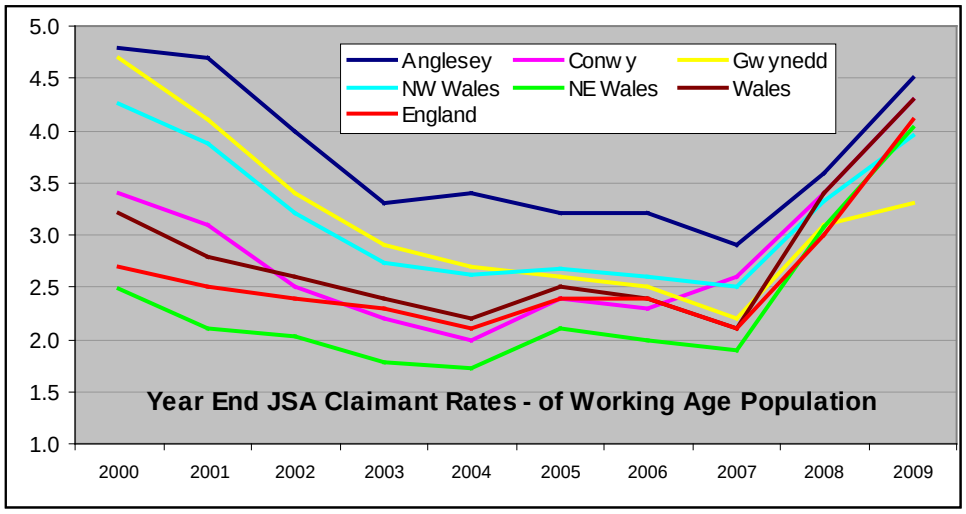
Source: ONS annual population survey
Numbers and % are for those of aged 16-64
% is a proportion of resident population of area aged 16-64

Higher levels of (long term) unemployment

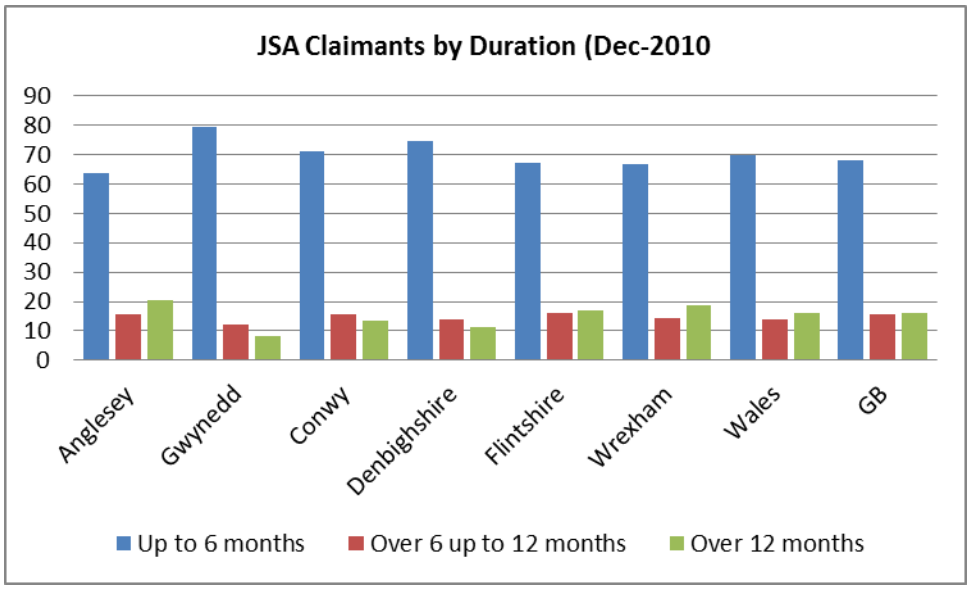
A specific aspect worth picking up on in this respect relates to unemployment. Not surprisingly claimant rates have been rising through the recession as detailed in the chart below.



As the chart below illustrates, looking at the rates in comparison to other comparator areas it is evident that the rates for Anglesey are much higher than other parts of the sub-region and have been consistently higher for a longer period. This is another reflection of peripherality and general 'softness' in the labour market.



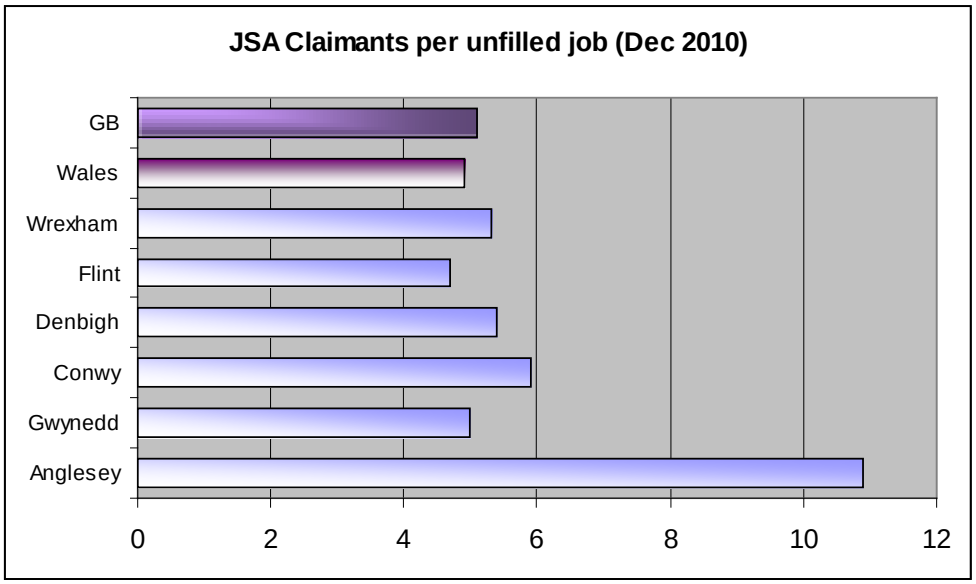
Importantly, these differences are also evident when looking at long term claimant rates (over 12 months). This is a particularly local issue specifically affecting Anglesey (most likely to reflect limited demand) and Wrexham (possibly more likely to reflect skills mismatch). This underlines the extent to which it is more difficult to get a job in remoter rural economies when individuals fall out of the labour market. Hence the figure for Anglesey is higher than all other areas and is indicative of lower levels of labour demand.



Limited level of vacancies in relation to job seekers

This point is further evidenced by figures on the number of JSA claimants per unfilled jobcentre vacancy. [7]

The chart below demonstrates most vividly that even whilst the figure is higher in each of the North Wales local authority areas than for Wales, with the exception of Flintshire, the figure is markedly higher for Anglesey.



[7] Note: Only about 40% of all vacancies are registered with JC+ so this may not be an accurate picture in absolute terms. However, the relative position may well be reasonably reflected.

Wider social expressions of economic malaise

The structural economic problems facing Anglesey are further reflected in social trends, particularly levels of deprivation and demographic decline.

Concentrations of deprivation in remote communities

Existing deprivation is high around Holyhead and Amlwch to the north of the Island, as is the level of out-migration of young people and aging of the population.

This is illustrated in the following table taken from the Index of Multiple Deprivation (IMD). It highlights the proportion of Super Output Areas (SOAs) that fall within the top 25% of the most deprived SOAs in Wales. Looking at the 25% threshold some clear concentrations of deprivation exist.

In proportional terms levels of deprivation are high in Anglesey West – mainly Holyhead (followed by Conwy key centres, Caernarfon and Bangor). This further underlines the specific problems facing Anglesey and its remoter urban areas where there is a notable contrast with conditions prevailing in the rest of the sub-region.

Proportion of Area's SOAs in National Top 25% Most Deprived

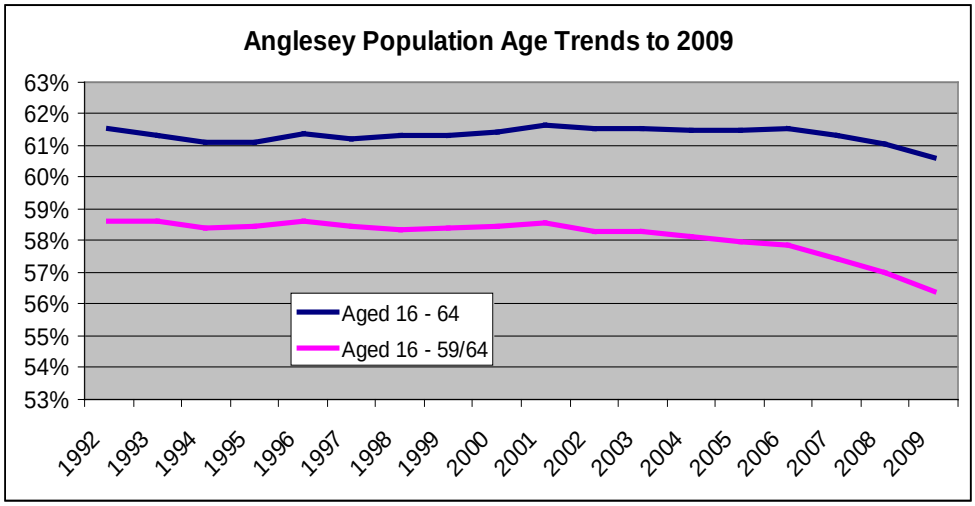
		No. SOAs	WIMD 2005	Income	Employ -ment	Health	Educ- ation
A07	Key centres	60	18%	22%	12%	13%	15%
A08	Rural western	7					
A09	Rural Eastern	4				25%	
	Conwy	**71**	**15%**	**19%**	**10%**	**12%**	**13%**
A10	Arfon & Clynnog	35	11%	14%	11%	9%	9%
A11	Pen Llyn	11					
A12	P'mg-Ffestiniog	14		7%		7%	
A13	De Meirionnydd	15				7%	
	Gwynedd	**75**	**5%**	**8%**	**5%**	**7%**	**4%**
A14	North	8		13%	13%		
A15	West	18	33%	33%	22%	11%	22%
A16	South	18	6%	6%	6%	6%	6%
	Anglesey	**44**	**16%**	**18%**	**14%**	**7%**	**11%**
	Sub-region	**190**	**12%**	**14%**	**9%**	**9%**	**9%**

Population decline loss of younger people, aging demographic

A particularly important indicator of those communities suffering long term economic decline is demographic change.

In Anglesey, although the proportion of 16-64 year olds has remained fairly constant, at around 61-62% of the population, it has dipped in the past few years. The proportion which traditionally has been classed as "working aged" (16 to 59 for women and 16 to 64 for men) has followed the same trend but dropped more in recent years – from 58% in 2005 to 56% in 2009.

At the other end of the age scale, young adults (18 to 24) made up about 9% of the Island's population in 1992, dropping to 7% by 1996 and only recovering slightly to 8% since 2008.



Cultural impacts – distinctive economy, environment & culture

The other point worth noting in this context is the very distinctive culture of Anglesey, reflected especially in the very high proportion of Welsh language speakers. This brings into sharp focus concerns around the decline of the local economy and with it the out-migration of younger people. Over time failure to address these structural economic problems might also pose a threat to the unique culture and language of the area.

base case projection

This section sets out the likely trajectory of the Anglesey economy should there be NO energy island or replacement for the Wylfa nuclear reactor. The projections presented in this report have been updated to incorporate the latest 2009 BRES employment figures and also make allowance for the anticipated cuts in public spending. The Base Case has also been updated to include accelerated decommissioning of Trawsfynydd and delayed decommissioning of Wylfa nuclear power stations. Known manufacturing losses (Anglesey Aluminium etc) are in both the 2010 and 2011 Base Cases. Appendix I outlines the key assumptions and Appendix II outlines the rationale behind the revised public sector growth rates. The detailed results are set out in the table below.

Base Case FTE Job Projections

A2 Anglesey, Total FTE Jobs	**2008**	**2009**	**2011**	**2016**	**2021**	**2025**	**08 to 25**	**% chg**
A+: Agriculture, Fishing and Forestry	500	500	500	400	300	300	-200	-44%
B : Mining and quarrying	<	<	<	<	<	<	<	-60%
A to B - Primary Industries	SS	500	500	400	400	300	SS	-45%
C : Manufacturing	2,800	2,400	1,800	1,700	1,500	1,400	-1,400	-49%
D : Electricity, gas, steam and air conditioning supply	!	700	700	500	300	SS	-300	-53%
E : Water supply; sewerage, waste management and remediation activities	200	200	200	200	200	200	<	8%
F : Construction	1,100	1,100	1,000	1,100	1,200	1,200	100	6%
C to F – Production	SS	4,400	3,700	3,400	3,200	3,100	SS	-34%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,400	2,600	2,500	2,600	2,700	2,700	300	14%
H : Transportation and storage	1,100	1,300	1,200	1,300	1,300	1,300	200	20%
I : Accommodation and food service activities	1,100	1,200	1,200	1,200	1,300	1,300	200	18%
J : Information and communication	100	100	100	100	100	100	<	37%
K : Financial and insurance activities	100	200	100	100	100	200	<	18%
L : Real estate activities	100	100	100	100	100	100	<	-7%
M : Professional, scientific and technical activities	900	800	800	800	900	900	<	1%
N : Administrative and support service activities	300	600	600	600	600	600	300	106%
O : Public administration and defence; compulsory social security	1,100	1,200	1,000	1,000	1,000	1,000	-100	-11%
P : Education	1,400	1,500	1,500	1,500	1,500	1,600	200	14%
Q : Human health and social work activities	1,800	1,600	1,700	1,700	1,800	1,900	100	5%
R : Arts, entertainment and recreation	200	200	200	200	200	200	<	9%
S : Other service activities	300	200	200	200	200	200	<	-12%
G to S – Services	11,000	11,700	11,400	11,600	11,900	12,200	1,300	11%
TOTAL EMPLOYMENT	**16,200**	**16,700**	**15,600**	**15,500**	**15,500**	**15,600**	**-600**	**-3.5%**

NOTES: Figures rounded to the nearest 100, as required by ONS; < indicates a value which is smaller than + or – 50; ! indicates a value which is deemed by ONS to be disclosive and hence must be suppressed; and SS indicates values which have had 'soft suppression' applied, as required by ONS to prevent disclosive figures from being derived.

Overall Employment Trends to 2025

The chart below illustrates the overall employment trends. A key point to note here is the rise in employment 2008 to 2009 which is based on BRES data for both time periods. This is there on actual rather than modelled data and remains somewhat at odds given this covers a period of deep recession which includes a significant contraction in manufacturing employment. This trend remains UNEXPLAINED and appears slightly perverse and whilst may be an accurate reflection of reality might also be the result of errors in the source data, most likely postcode errors.

Looking at the trends overall three periods can be distinguished :

Recession impacts 2009 – 2010

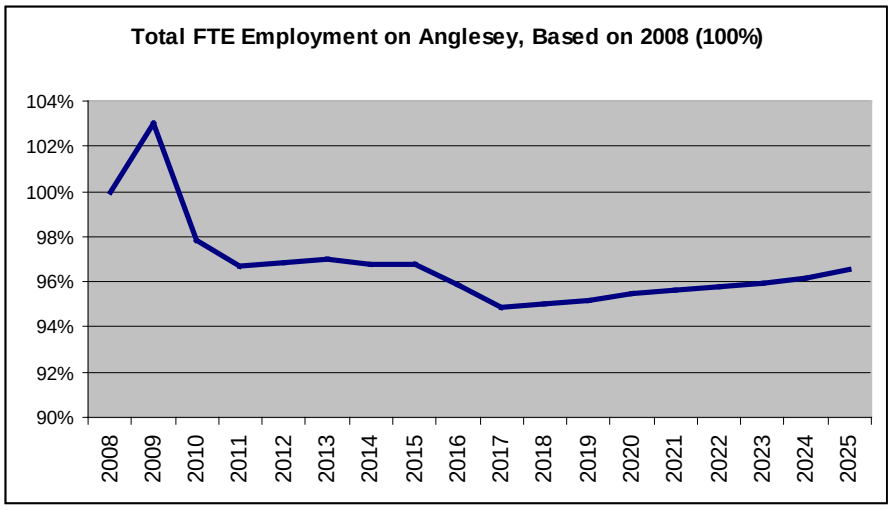
A strong decline in employment occurred from 2009 to 2010 with the loss of around 800 jobs, around 4.8% of employment. A significant proportion of these jobs were lost in manufacturing, strongly related to the closure of Anglesey Aluminium (AAM). Manufacturing employment declined by 23% over this period, a startling drop.

Economy flat lines 2011 – 2016

From 2011 to 2016 employment remains at broadly the same level, reflecting the strong public spend cuts which are front loaded in 2011 and constrain growth, added to which are the effects of Wylfa decommissioning which have a significant dampening effect on the economy over this period.

Sluggish recovery from 2017 onwards

The economy start to grow in employment terms from 2017 onwards. However, the key point here is that there is a loss of 4% of employment at the end of the projection period compared to the base year of 2008.



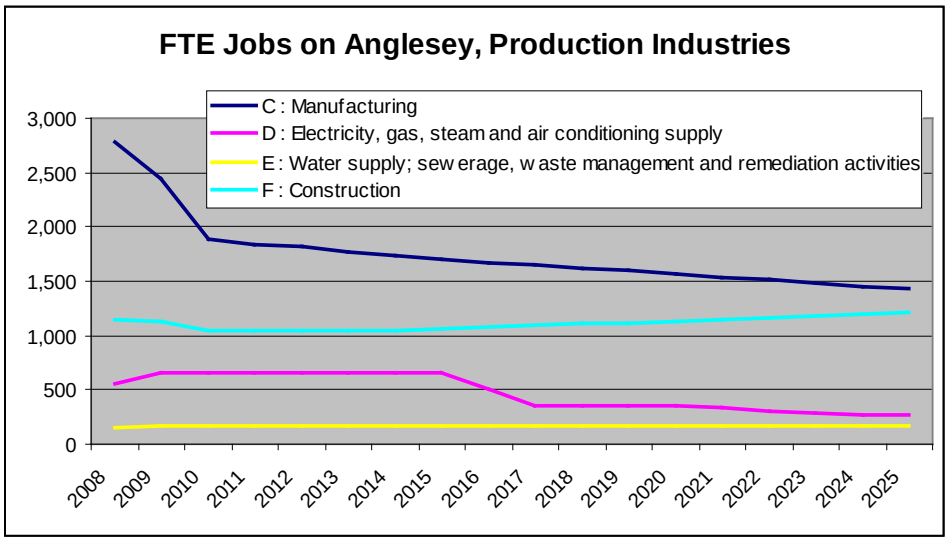
Production Industries

The trends in production industries are illustrated in the chart below. There is some continuing decline of manufacturing employment although this clearly reduces from the significant reduction in employment experienced over the course of the recession.

There is a very real debate around how far sterling depreciation might significantly improve the long term competitiveness and employment prospects in the manufacturing sector. There is undoubtedly some truth to this with export led manufacturing performing especially strongly following the depreciation of sterling experienced in 2007 and 2008. However, there remains a question as to what might happen to future exchange rates as the markets react to Coalitions drive to reduce the Budget deficit – which may well result in some upward pressure on sterling. However, it might certainly be the case that the projections represent a lower rather than upper ceiling in terms of future employment in the manufacturing sector.

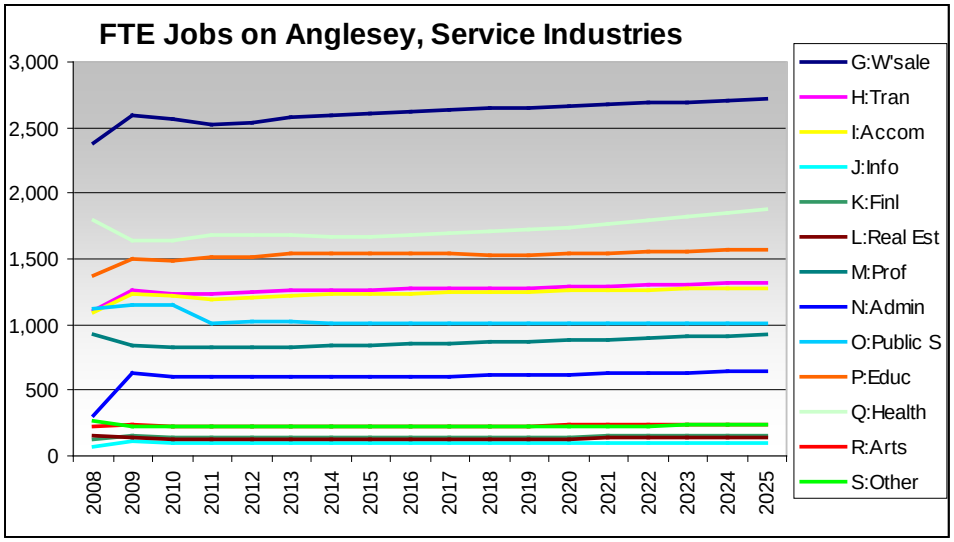
Although it could be argued that improved rates of growth should be adopted for the manufacturing sector, to some extent this is reflected in the scenarios – where additional Energy Island employment is generated in the production sector. Additionally, it should be pointed out that improved rates of growth in manufacturing have an smaller effect as the size of the sector has shrunk significantly – now representing just over 10% of employment in the local economy post –recession.

The other key point to note is the significant drop in employment in 2016 as a result of the decommissioning of Wylfa. This will have a significant multiplier effect on the local economy as wages and GVA per employee are relatively high.



Service Industries

The service sector trends are illustrated on the chart overleaf. This shows the much lower level of growth for the service sector which is consistent with the 'rebalancing' of the economy. Of particular note is the limited growth in public administration going forward. This represents a marked change from the position over the past decade or so when public sector employment has grown rapidly. Some growth is evident in wholesale and retail activities and health.



An economy in long term structural economic decline ?

Overall the trends suggest an economy in long term structural decline. This reflects both the limited presence of growth sectors, but more importantly the decline and loss of traditional staple sector including energy generation and a significant slug of manufacturing capacity in the recession.

Whilst there might be expected to be growth in the tourism and hospitality sectors, as well as self employment, these are both relatively low paid sectors.

The net result is an economy that in employment terms – even assuming the benefits of sterling depreciation in many activities are not fully factored in – would struggle in the projection period to return to the level of employment at the start of the period.

This underlines the significance of the Anglesey Energy Island Framework and associated outcomes.

scenario analysis

Scenario 1 FTE Job Projections: Wylfa New Reactor

The Base Case Scenario 1 assumes that a new reactor is built at Wylfa but that all other things remain as per the Base Case (ie. no additional jobs from the non-nuclear Energy Island Initiatives).

We have built in to this Scenario the predicted operational and construction jobs from the new-build, as provided by Magnox. These are not reproduced here due to confidentiality. The additional construction and operational jobs also create some indirect and induced employment, which have been taken into account in the projections. It is important to emphasise that the projections are WORKPLACE based and makes no assumption about who takes up this employment.

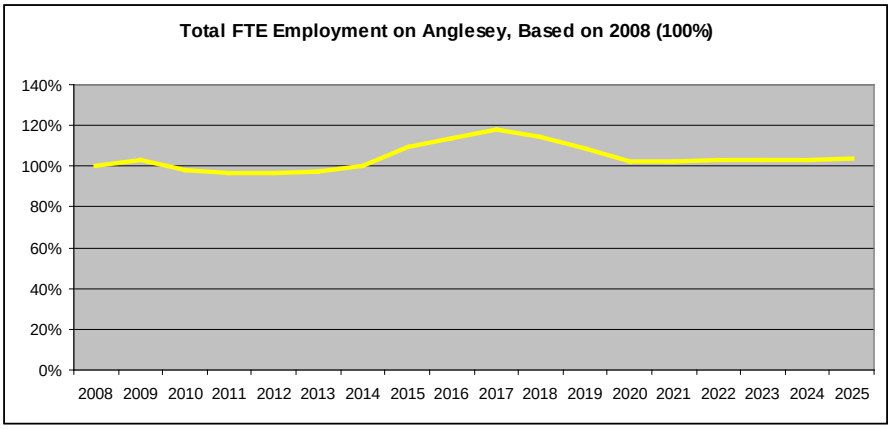
The chart below illustrates the Scenario 1 projected employment levels on Anglesey (workplace based):

A2 Anglesey, Total FTE Jobs	2008	2009	2011	2016	2021	2025	08 to 25	% chg
A+: Agriculture, Fishing and Forestry	500	500	500	400	300	300	-200	-47%
B : Mining and quarrying	<	<	<	<	<	<	<	-116%
A to B - Primary Industries	SS	500	500	400	400	300	SS	-50%
C : Manufacturing	2,800	2,400	1,800	1,700	1,500	1,400	-1,300	-73%
D : Electricity, gas, steam and air conditioning supply	!	700	700	900	1,200	SS	600	86%
E : Water supply; sewerage, waste management and remediation activities	200	200	200	200	200	200	<	7%
F : Construction	1,100	1,100	1,000	3,300	1,300	1,400	200	20%
C to F – Production	SS	4,400	3,700	6,100	4,200	4,100	SS	-15%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,400	2,600	2,500	2,700	2,700	2,700	300	13%
H : Transportation and storage	1,100	1,300	1,200	1,300	1,300	1,300	200	19%
I : Accommodation and food service activities	1,100	1,200	1,200	1,300	1,300	1,300	200	17%
J : Information and communication	100	100	100	100	100	100	<	42%
K : Financial and insurance activities	100	200	100	200	200	200	<	25%
L : Real estate activities	100	100	100	200	100	200	<	3%
M : Professional, scientific and technical activities	900	800	800	900	900	900	<	2%
N : Administrative and support service activities	300	600	600	600	600	700	300	57%
O : Public administration and defence; compulsory social security	1,100	1,200	1,000	1,000	1,000	1,000	<	-12%
P : Education	1,400	1,500	1,500	1,500	1,500	1,600	200	13%
Q : Human health and social work activities	1,800	1,600	1,700	1,700	1,800	1,900	100	5%
R : Arts, entertainment and recreation	200	200	200	200	200	200	<	11%
S : Other service activities	300	200	200	200	200	200	<	-12%
G to S – Services	11,000	11,700	11,400	12,000	12,000	12,300	1,400	12%
TOTAL EMPLOYMENT	**16,200**	**16,700**	**15,600**	**18,400**	**16,600**	**16,700**	**600**	**3.6%**

NOTES: Figures rounded to the nearest 100, as required by ONS; < indicates a value which is smaller than + or – 50; ! indicates a value which is deemed by ONS to be disclosive and hence must be suppressed; and SS indicates values which have had 'soft suppression' applied, as required by ONS to prevent disclosive figures from being derived.

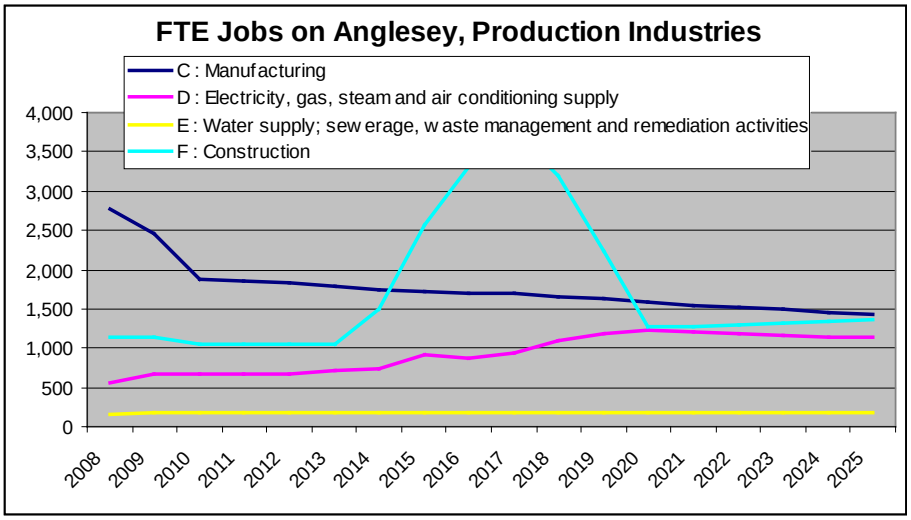
Employment Trends with a new reactor

The overall employment trends are illustrated in the chart below. This represents a significant improvement on the base case, although still sees the economy remain broadly stagnant in employment terms over the projection period. This is perhaps more POSITIVE than it looks given the significant level of capacity taken out during the recession.



Production Industries

The sub-sectoral trends are illustrated in the chart below, with a significant although temporary increase in construction related employment. Importantly there is a steady growth of employment in the electricity generation sector from 2014/15 onwards.



The Wylfa new-build effect is very evident in this graph, which shows a large peak in construction jobs around 2017 and job numbers in the Utility industries rising from 2015. Service sector employment remains broadly the same with some slight uplift on a few categories from indirect employment resulting from the additional Utility & Construction jobs from the Wylfa new build.

Scenario 2a FTE Job Projections: Wylfa New-Build & Job gains from Other Energy Island Initiatives

Scenario 2a is equivalent to Scenario 1 PLUS an estimate of jobs created via non-nuclear Energy Island initiatives taking into account some analysis of probability. This provides an estimate along more conservative / pessimistic lines.

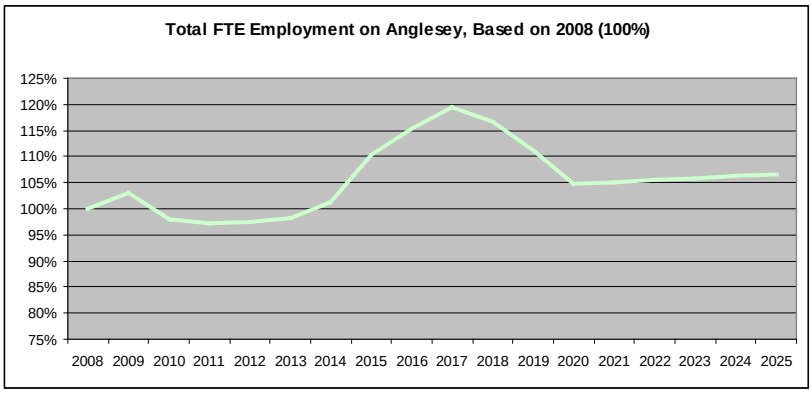
Appendix III outlines how Energy Island jobs have been estimated and applied to Scenario 2a of the model, and compares this to the revised Energy Island estimates used in Scenario 2b.

A2 Anglesey, Total FTE Jobs	2008	2009	2011	2016	2021	2025	08 to 25	% chg
A+: Agriculture, Fishing and Forestry	500	500	500	400	300	300	-200	-47%
B : Mining and quarrying	<	<	<	<	<	<	<	-116%
A to B - Primary Industries	SS	500	500	400	400	300	SS	-50%
C : Manufacturing	2,800	2,400	1,900	1,800	1,600	1,600	-1,200	-66%
D : Electricity, gas, steam and air conditioning supply	!	700	700	900	1,200	SS	600	86%
E : Water supply; sewerage, waste management and remediation activities	200	200	200	200	200	200	<	7%
F : Construction	1,100	1,100	1,000	3,300	1,300	1,400	200	20%
C to F – Production	SS	4,400	3,700	6,100	4,300	4,200	SS	-12%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,400	2,600	2,500	2,700	2,700	2,800	400	16%
H : Transportation and storage	1,100	1,300	1,200	1,300	1,300	1,300	200	19%
I : Accommodation and food service activities	1,100	1,200	1,200	1,300	1,300	1,300	200	20%
J : Information and communication	100	100	100	100	100	100	<	46%
K : Financial and insurance activities	100	200	100	200	200	200	<	28%
L : Real estate activities	100	100	200	300	300	400	200	136%
M : Professional, scientific and technical activities	900	800	800	900	900	900	<	3%
N : Administrative and support service activities	300	600	600	600	600	700	300	58%
O : Public administration and defence; compulsory social security	1,100	1,200	1,000	1,000	1,000	1,000	-100	-12%
P : Education	1,400	1,500	1,500	1,500	1,500	1,600	200	13%
Q : Human health and social work activities	1,800	1,600	1,700	1,700	1,800	1,900	100	5%
R : Arts, entertainment and recreation	200	200	200	200	200	200	<	12%
S : Other service activities	300	200	200	300	300	300	<	1%
G to S – Services	11,000	11,700	11,500	12,100	12,300	12,700	1,800	15%
TOTAL EMPLOYMENT	**16,200**	**16,700**	**15,700**	**18,700**	**17,000**	**17,200**	**1,100**	**6.8%**

NOTES: Figures rounded to the nearest 100, as required by ONS; < indicates a value which is smaller than + or – 50; ! indicates a value which is deemed by ONS to be disclosive and hence must be suppressed; and SS indicates values which have had 'soft suppression' applied, as required by ONS to prevent disclosive figures from being derived.

Employment Trends

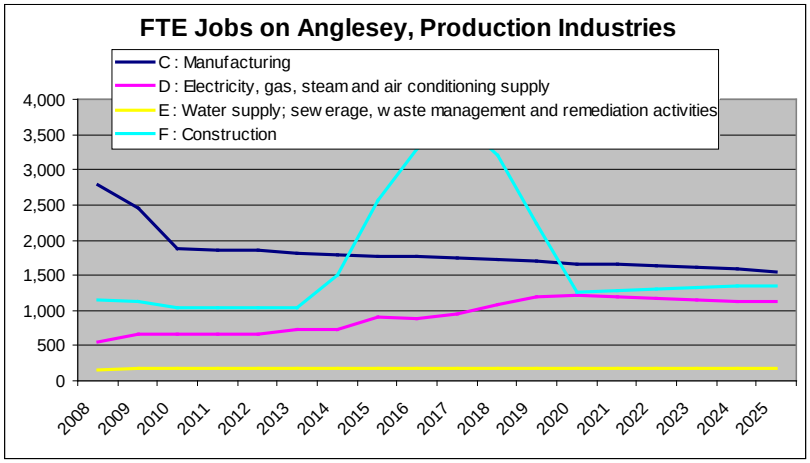
The employment trends overall are shown in the chart below. This now shows a steady uplift in the number of jobs on Anglesey from 2010 onwards, with employment at the end of the projection period significantly higher than the 2008 base year. Again, it should be remembered that this represents a very significant improvement given the loss of capacity during the course of 2009 especially in manufacturing. Overall employment increases by around 1,000, just under 7% over the period.



This chart shows a slightly higher peak in 2017 and slightly higher levels beyond that, due to additional Energy Island construction / operational jobs.

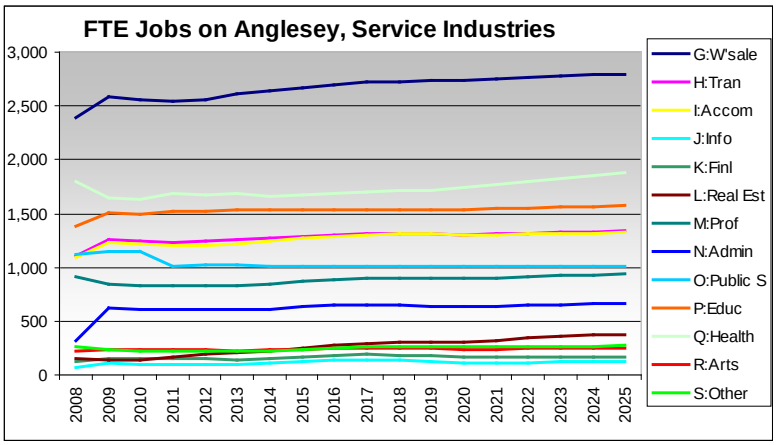
Production Industries

This Scenario provides a sharper peak in construction/installation and higher levels of manufacturing jobs than the base case.



Service Industries

The chart below illustrates the indirect effects with Wholesale, Retail & Distribution showing higher job numbers under this scenario. A few other categories show slight increases due to indirect jobs created.



Scenario 2b FTE Job Projections: Wylfa New-Build & Maximum Potential Job gains from Other Energy Island Initiatives

Scenario 2a is equivalent to Scenario 1 PLUS revised estimates of jobs created via non-nuclear Energy Island initiatives, assuming 100% of the latest potential jobs identified by consultants URS are realised. Effectively it provides a benchmark / upper limit against which to measure outcomes. This represents the optimistic Energy Island scenario.

Appendix III outlines how Energy Island jobs have been estimated and applied to Scenario 2a of the model, and compares this to the revised Energy Island estimates used in Scenario 2b.

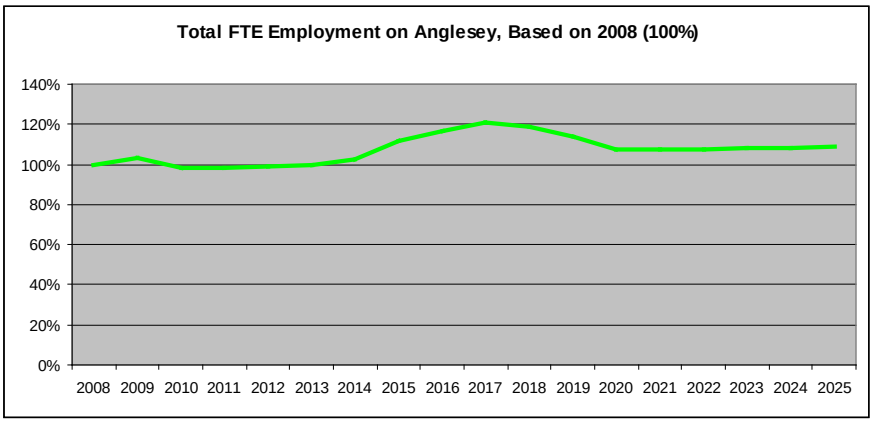
A2 Anglesey, Total FTE Jobs	2008	2009	2011	2016	2021	2025	08 to 25	% chg
A+: Agriculture, Fishing and Forestry	500	500	500	400	300	300	-200	-47%
B : Mining and quarrying	<	<	<	<	<	<	<	-116%
A to B - Primary Industries	SS	500	500	400	400	300	SS	-50%
C : Manufacturing	2,800	2,400	1,900	1,800	1,700	1,600	-1,200	-65%
D : Electricity, gas, steam and air conditioning supply	!	700	700	900	1,200	SS	600	86%
E : Water supply; sewerage, waste management and remediation activities	200	200	200	200	200	200	<	7%
F : Construction	1,100	1,100	1,100	3,300	1,300	1,400	300	23%
C to F – Production	SS	4,400	3,800	6,200	4,400	4,300	SS	-10%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,400	2,600	2,600	2,900	3,000	3,100	700	27%
H : Transportation and storage	1,100	1,300	1,200	1,300	1,300	1,300	200	20%
I : Accommodation and food service activities	1,100	1,200	1,200	1,300	1,400	1,400	300	24%
J : Information and communication	100	100	100	100	100	100	100	51%
K : Financial and insurance activities	100	200	200	200	200	200	<	32%
L : Real estate activities	100	100	200	200	200	200	100	50%
M : Professional, scientific and technical activities	900	800	800	900	900	900	<	4%
N : Administrative and support service activities	300	600	600	600	600	700	400	58%
O : Public administration and defence; compulsory social security	1,100	1,200	1,000	1,000	1,000	1,000	-100	-12%
P : Education	1,400	1,500	1,500	1,500	1,500	1,600	200	13%
Q : Human health and social work activities	1,800	1,600	1,700	1,700	1,800	1,900	100	5%
R : Arts, entertainment and recreation	200	200	200	200	200	300	<	13%
S : Other service activities	300	200	200	300	300	300	100	26%
G to S – Services	11,000	11,700	11,600	12,300	12,700	13,000	2,100	18%
TOTAL EMPLOYMENT	**16,200**	**16,700**	**15,900**	**18,900**	**17,400**	**17,600**	**1,400**	**9.0%**

NOTES: Figures rounded to the nearest 100, as required by ONS; < indicates a value which is smaller than + or – 50; ! indicates a value which is deemed by ONS to be disclosive and hence must be suppressed; and SS indicates values which have had 'soft suppression' applied, as required by ONS to prevent disclosive figures from being derived.

Employment Trends

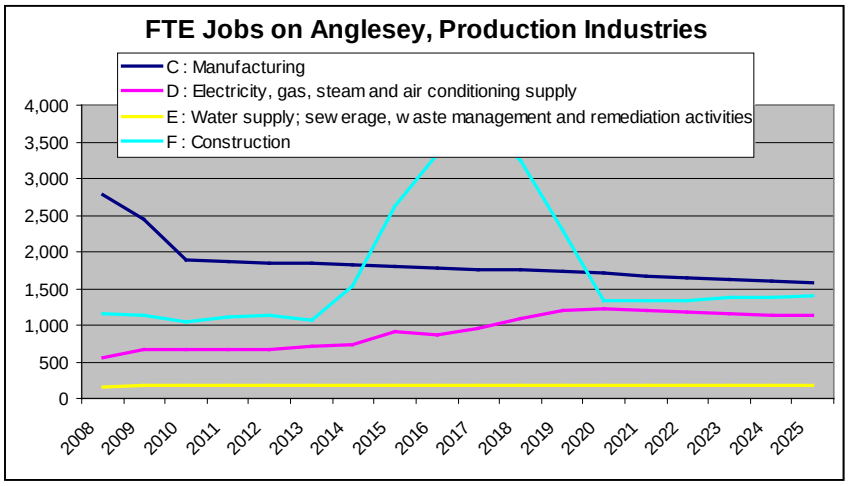
The chart below illustrates not only the replacement of Wylfa decommissioning jobs and the construction peak around 2017 from Wylfa new-build, but also an uplift of job numbers over the Base Case and Scenario 1.

It suggests that over the period 2008 to 2025, even after making allowance for the recession (ie the economy shrinking) some 1,700 jobs will be created, an 11% increase.



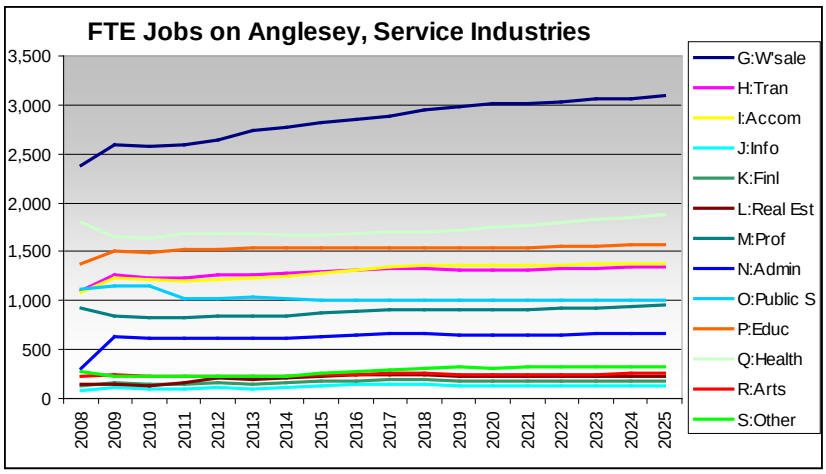
Production Industries

This chart illustrates the same patterns as Scenario 1, but higher levels of employment in manufacturing from the additional ENERGY ISLAND jobs, plus a sharper peak of construction/installation jobs.



Service Industries

The impact on the service sector from additional indirect employment is especially marked.



net additional impacts

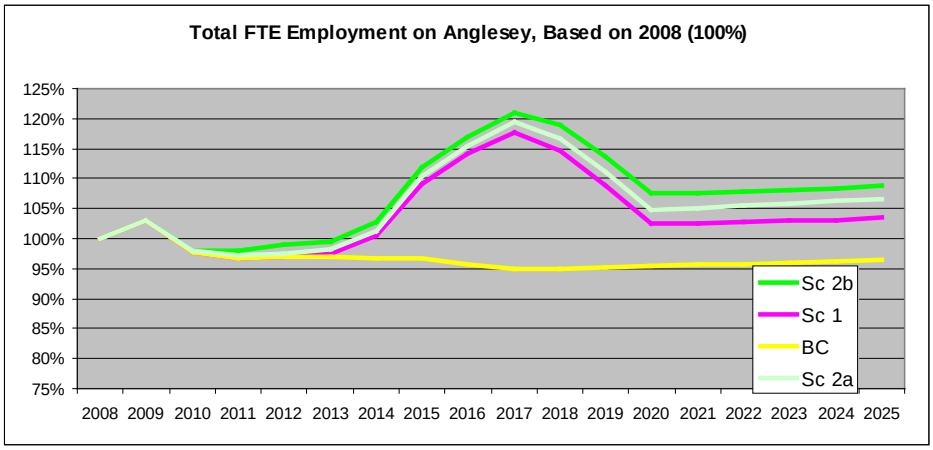
This section examines further the 'net additional' economic impacts associated with Anglesey Energy Island. It is important to bear in mind that the comparison used here is the base case – which includes the decommissioning of both power plants (Wylfa & Trawsfynydd), the impact of the recession and reductions in employment stemming from the cuts in public expenditure.

Hence the economy of Anglesey has undergone some significant shocks in the past couple of years which will extend into the near future. Compared to this definition of the 'Base Case' the impacts look reasonably significant.

However, it should be noted that a potential new nuclear build at Wylfa will in effect have a negligible impact compared to the present position (ie inclusive of an operational Wylfa), not least because a new nuclear build is more efficient and therefore requires fewer people all other things being equal. Defining the present position (with an operational reactor) as the base case would significantly reduce the impacts seen. This needs to be borne in mind when interpreting the results of the tables presented.

Net Additional Employment

The chart below compares the three scenarios, illustrating the significant difference between the Base Case and the Scenarios, but also the uplift provided comparing the least and most optimistic of the scenarios.



It can be seen that in the absence of any Energy Island initiatives (nuclear and other) coming to fruition, that job numbers are expected to decline compared to 2008 levels – falling to around 97% of 2008 levels by 2025.

By far the biggest impact on this would be the commissioning of a new nuclear build at Wylfa. This has a massive impact on Anglesey-based jobs – peaking at 118% of the 2008 level in 2017 and still managing to be at 104% of 2008 levels by 2025.

Other Energy Island initiatives could boost these levels further – to 119% and 107% respectively using the conservative (2a) scenario and to 121% and 109% respectively if the latest estimates of non-nuclear potential are fully realised.

In terms of total job numbers on the Island, these equate to:

Anglesey based jobs (FTES):	**Base Case**	**Scenario 1 – Wylfa**	**Scenario 2a – Wylfa + EI conservative**	**Scenario 2b – Wylfa + EI optimistic**
2017	15,300	19,000	19,300	19,600
2025	15,600	16,700	17,200	17,600

Figures rounded to nearest 100 for ONS compliance

This illustrates that the new build at Wylfa has a long term impact of an additional 1,100 jobs on the Island, over the Base Case – a 7% increase.

A modest take up of non-nuclear Energy Island initiatives (Scenario 2a) would increase this to 1,600 jobs – a 10% improvement – whilst if the maximum potential of Energy Island initiatives are realised, this increases to 2,000 jobs or a 13% improvement.

Sectoral Comparisons

The table below provides detailed sectoral comparisons between the various scenarios. It illustrates the main sectoral effects over and above the base which are mainly evident in relation to:

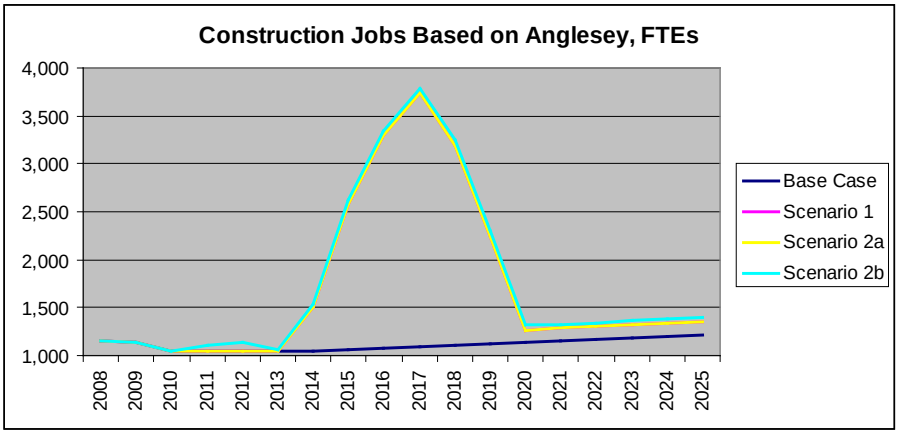
- Manufacturing – with the Energy Island initiative creating an additional 200 jobs over the base case, representing a 14% increase.
- Electricity generation – creating an additional 800 jobs over the base case representing a massive 267% increase
- Construction – which in the longer term results in an additional 200 jobs, representing a 14% increase over the base case
- Further indirect effects benefiting the wholesale and retail sectors, accommodation & food services and administrative support. The extent of the effect very much dependent on the Scenario considered.

2025 Anglesey Jobs by Industry, FTEs	Base Case	Scenario 1 Wylfa New	Scenario 2a Wylfa New + Modest EI	Scenario 2b Wylfa New + Max EI
A+: Agriculture, Fishing and Forestry	300	300	300	300
B : Mining and quarrying	<	<	<	<
C : Manufacturing	1,400	1,400	1,600	1,600
D : Electricity, gas, steam and air conditioning supply	300	1,100	1,100	1,100
E : Water supply; sewerage, waste management and remediation activities	200	200	200	200
F : Construction	1,200	1,400	1,400	1,400
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	2,700	2,700	2,800	3,100
H : Transportation and storage	1,300	1,300	1,300	1,300
I : Accommodation and food service activities	1,300	1,300	1,300	1,400
J : Information and communication	100	100	100	100
K : Financial and insurance activities	200	200	200	200
L : Real estate activities	100	200	400	200
M : Professional, scientific and technical activities	900	900	900	900
N : Administrative and support service activities	600	700	700	700
O : Public administration and defence; compulsory social security	1,000	1,000	1,000	1,000
P : Education	1,600	1,600	1,600	1,600
Q : Human health and social work activities	1,900	1,900	1,900	1,900
R : Arts, entertainment and recreation	200	200	200	300
S : Other service activities	200	200	300	300
	15,600	**16,700**	**17,200**	**17,600**

Notes: Figures rounded to nearest 100 for ONS compliance; < = Values less than 50

Construction employment

A more detailed analysis of construction jobs is illustrated below:



Note that there is no difference between Scenarios 1 and 2a: the modest non-nuclear case assumed that any construction/installation jobs would be absorbed by general growth of the sector. Scenario 2b does show a slight uplift effect on top of the Wylfa new build jobs.

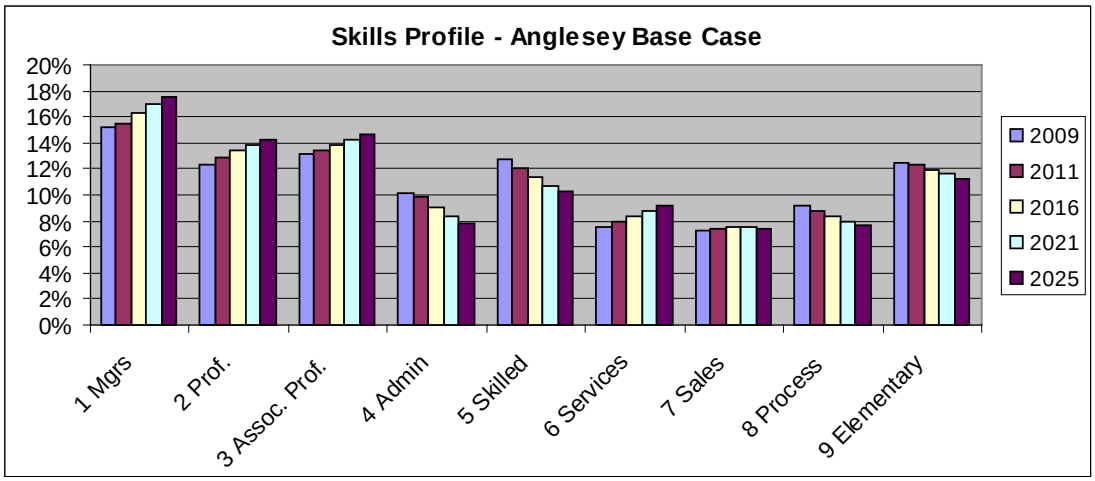
All the Scenarios show a slightly higher level of construction activity at 2025 from the Base Case: this can be explained as the long term year on year growth being boosted by the temporary construction activity between 2014 and 2019.

labour market impacts

This section details the labour market outcomes associated with the employment projections. It should be noted that in terms of indicators such as activity rates, inactivity rates and unemployment it is difficult to be precise about the effects on rates going forward. This reflects the considerable uncertainties surrounding the macro-economic outlook which could significantly impact on overall economic performance. In these instances as discussed further below, it may be better to specific RELATIVE, rather than absolute outcomes in terms of rate changes.

Occupational Change & Skills Requirements

The chart below illustrates the changing profile of skills required for jobs on Anglesey in the Base Case. It clearly illustrates demand for higher skilled groups rising whilst demand for lower skilled workers declines:

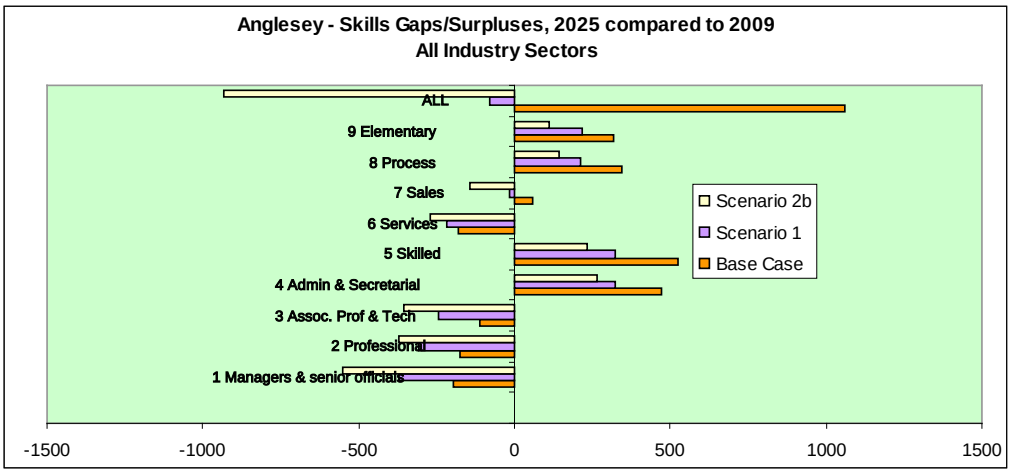


This underlines not just the significance of the employment created but also the quality of jobs and role in up-skilling the labour force. This has associated benefits both in terms of earnings but also levels of gross value added per employee achieved.

Taken from the recent labour market analysis for the Welsh Assembly, the second chart shows the supply-side gaps and surpluses for the different skill sets when comparing the makeup of 2009's workforce to 2025 demand. [8]

[8] Welsh Assembly Government. North West Wales Labour Market Analysis. April 2011.

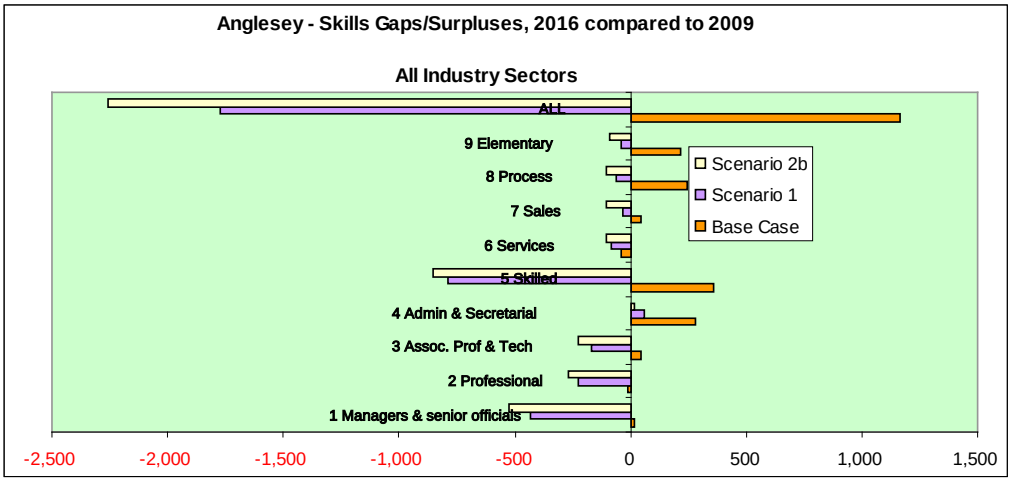
It is clear that if the makeup of the workforce does not change (in relation to skills levels) by 2025, that there will be shortages of higher skilled and service occupations in all scenarios, but more exaggeratedly so for the Energy Island scenarios. By contrast, there would be a surplus of elementary and process level workers.



This is IMPORTANT because it suggests in the absence of considerable upskilling, the new employment created might not impact on inactivity rates and unemployment in the local labour market as much as might be expected. It underlines the extent to which there is potentially a significant skills mismatch between labour force skills on Anglesey and those required.

Hence, the impacts will tend to be in relation to economic outcomes (eg GVA, employment creation), as opposed to regeneration/social outcomes (eg. unemployment, inactivity.

If we look at the picture to 2016 instead of 2025, skills gaps are prevalent in practically all categories in all bar the base case. In effect, they are more marked than in 2025. This would seem to be due to the temporary peak in construction skills required in the Energy Island scenarios.



Net Additional Effects

The net additional labour market impacts are quantified in the table below. This shows that to 2016 skills mismatches are especially marked for skilled workers, reflecting the demand for a significant number of construction workers. Looking to the longer term, the skills mismatches are most marked for professionals, managers and senior officials – very much the higher level occupations.

Skills Surpluses/Gaps - 2025 compared to 2009

	BC	S1	S2b
1 Managers & senior officials	-195	-369	-552
2 Professional	-174	-306	-371
3 Assoc. Prof & Tech	-112	-241	-354
4 Admin & Secretarial	471	324	264
5 Skilled	525	323	235
6 Services	-181	-219	-268
7 Sales	61	-18	-142
8 Process	343	212	145
9 Elementary	319	216	109
ALL	**1,057**	**-78**	**-935**

Skills Surpluses/Gaps - 2016 compared to 2009

	BC	S1	S2b
1 Managers & senior officials	16	-430	-523
2 Professional	-12	-228	-265
3 Assoc. Prof & Tech	48	-170	-229
4 Admin & Secretarial	280	59	17
5 Skilled	362	-791	-850
6 Services	-37	-82	-107
7 Sales	47	-33	-104
8 Process	245	-63	-101
9 Elementary	218	-37	-93
ALL	**1,166**	**-1,774**	**-2,255**

The role of migration and commuting on skills gaps

Obviously these charts have to be regarded with caution – they are one way of highlighting skills mismatches in the local economy / local workforce.

In reality these skills gaps will be far less marked because labour markets are considerable larger than the catchment for the local labour force and for certain highly skilled posts it is true to say labour would be drawn nationally and even internationally.

Hence in reality, there would be an influx of temporary workers, in-commuters and in-migrants to meet the short term construction demand. Additionally, the work force will change between 2009 and 2016/25, due to young people and in-migrants entering the Anglesey workforce and retirees and out-migrants leaving it. The labour market is dynamic not a static picture which the analysis presumes.

This is likely to reduce the shortages/ surpluses facing employers as illustrated here, depending on the skills levels of those entering and leaving the workforce.

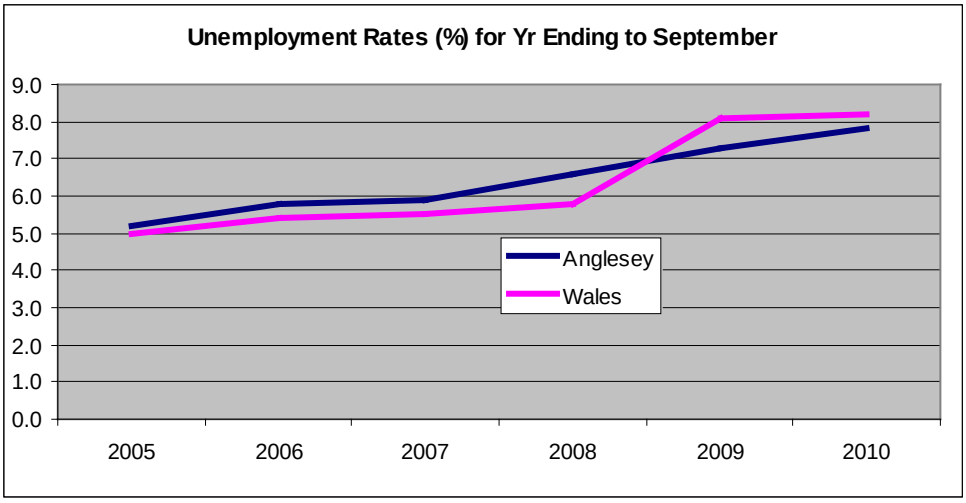
Equally, there will be some shifts in the 'other' direction, as young lesser experienced workers join the workforce and older more experienced workers retire. (This has already been highlighted as a potential issue to the nuclear industry where 50 to 70% of staff in higher occupations 1 to 4 are due to retire by 2025). [9]

Perhaps, what the analysis most pertinently highlights is the potential difference between economic and labour market outcomes. Whilst these developments should all have a very positive effect on the Anglesey economy, because of the issue of LEAKAGE, and the very integrated nature of the local economy the benefits may be significantly less in relation to labour market outcomes. This reflects the point that whilst local residents will benefit they will not benefit to the same degree, not least because of the scale of labour demand – especially in construction – and often very specialised nature of the skills required – especially in the nuclear industry.

Unemployment Rates

Turning to the potential impact on unemployment rates, between 2008 and 2009, Anglesey's unemployment rate rose sharply in comparison to Wales as a whole. The rate of increase has slowed but the overall level remains higher than UK levels.

The Energy Island initiatives would be expected to have a positive impact on Anglesey's unemployment level, relative to the whole of Wales.



Source: Labour Force Survey Model-Based Estimates of Unemployment

[9] Source: Power People: The Civil Nuclear Workforce (Cogent, 2009)

Anglesey also performs relatively poorly in relation to GB on a number of other indicators notably:

- Higher proportion of the labour force on job seekers allowance
- Higher rates of long term unemployment.

On each of these measures the position of should gradually begin to improve under the Anglesey Energy Island initiative. As previously noted, the effect will perhaps be less noticeable on labour market outcomes due to the issue of leakage.

This leaves the question of the EXTENT to which these labour market indicators might improve. This is a more difficult question to answer because of the present range of uncertainties in the economic outlook. Hence both local and national unemployment rates might remain at a high level.

However, in relative terms it would be expected that the DIFFERENTIAL between local and GB rates should reduce and indeed, the target should be for these differences to be eliminated, with rates in Anglesey possibly reducing below GB rates. A key indicator here will be the level of long term claimant rates which are notably higher.

In summary, it is suggested that the target in relation to these labour market indicators is that they should fall to – or below – observed rates for Great Britain, accepting that due to the economic outlook, there is some uncertainty as to precisely what these rates might be.

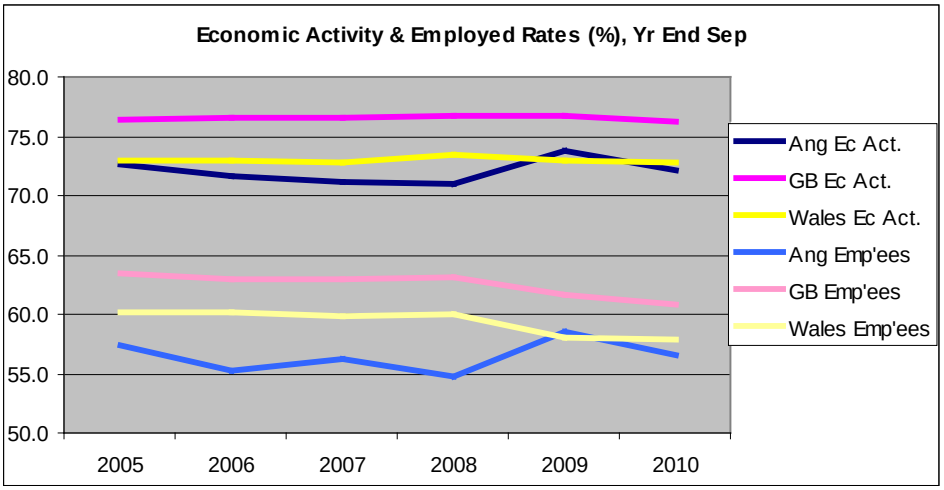
Economic Activity & Self-Employment Rates

Economic activity

There are some complications interpreting movements in certain labour market indicators. For example, unemployment may be relatively low – this might however reflect both a strength of the labour market (high labour demand) or a weakness (some individuals have come off the register having given up hope of finding employment).

It is therefore important to track a broad basket of labour market indicators. Again the target should be that these indicators start normalising with GB and / or Wales rates depending on the indicator in question.

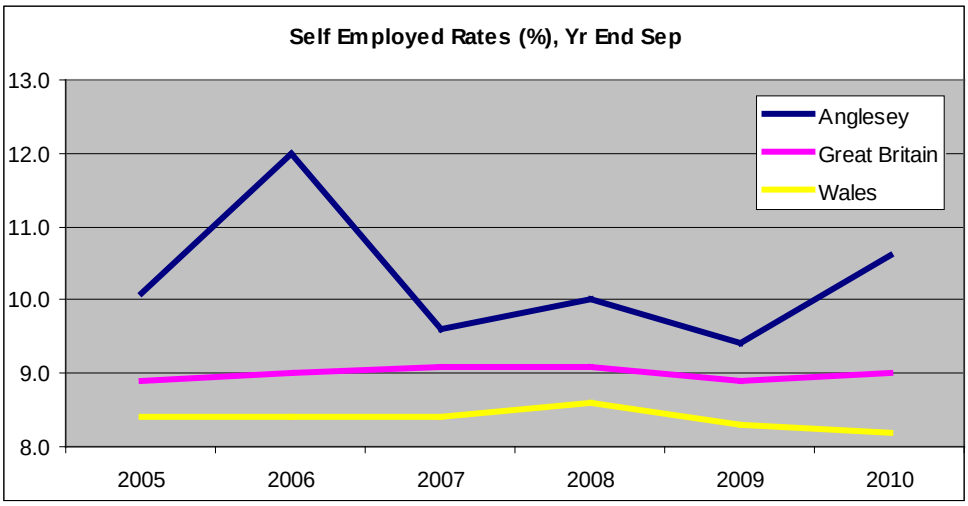
The chart below shows that Anglesey's economic activity rate is slightly below the national level, having dipped somewhat in 2008. The proportion of Anglesey residents who are employees has followed the pattern and is currently much closer to the National rate than pre 2009.



In relation to activity rates it is unlikely the rates for Anglesey would reach those in GB, however it might be expected that they should rise above the rates for Wales.

Self employment

Self-employment rates remain much higher than National levels and have risen since 2009, albeit not to the same level reached in 2006:



As waged opportunities increase there may be some commensurate reduction in self employment. This is not necessarily a bad thing, as much of this employment is of 'necessity' reflecting the lack of employment elsewhere in the local economy.

In summary, labour market outcomes will show less impact than economic outcomes. However, over time it anticipated that the differentials between local national rates and GB rates will reduce in Anglesey's favour. However, in light of the uncertainties surrounding the current economic outlook it is not possible to forecast with any certainty what these rates might look like.

potential EI programme outcomes

This section reviews the Energy Island outcomes and flows from the previous analysis which identifies the net additional economic outcomes associated with Energy Island and the scale of the labour market effects. This provides a basis for commenting on the realism, achievability and comprehensiveness of stated outcomes.

It should be noted that there are a number of wider indicators used in the Framework which will be difficult to measure. Additionally, because of the focus on economic outcomes it is difficult to draw conclusions AT THIS STAGE on the outcomes relating to : 'Flourishing local community and culture' and 'Environmental enhancement' and 'Robust infrastructure legacy'.

Hence, it is important that the proposed Legacy Framework addresses these aspects through a co-ordinated suite of evidence based policies which will underpin planning obligations to mitigate any adverse impacts of Energy Island Programme developments and to deliver sustainable community benefits.

'Vibrant Anglesey and NW Wales economy'

The stated outcomes here are as follows:

- Increase & maintain GVA post 2025
- Less net outward migration of 16-24 year olds
- Established Supply Chain links
- Attract inward investment – i.e. Anglesey to be a place where businesses will want to locate/re-locate their businesses to.

Gross Value Added

The Energy Island economic modelling shows a maximum potential to add 2,000 jobs to the Anglesey economy, an increase of around 13% based on 2008 numbers. Hence it would seem reasonable to have a target of 10 – 13% increase in absolute GVA over 2008 levels by 2025.

This underlying GVA growth which would be most appropriately benchmarked in relation to GVA growth under the Base Case AND GVA growth for Wales over the same time period ie, this level of growth would be over and above / net additional to the comparators identified.

GVA per head

However, it should be noted that in RELATIVE terms, the improvement will be less visible as other comparator areas will also be increasing their GVA. Hence, overall improvements in GVA per head would be more limited. GVA in absolute terms Anglesey would be expected to increase over and above trends in the Welsh economy. However, expressed as an index, the figure is not expected to markedly change from the current level of around 55%. However, importantly this figure should NOT deteriorate from this level. This assumes that whilst there is an increase in levels of output, to some extent this is offset – in terms of the overall level per head – by more people moving into the area.

Sub-regional Gross Value Added (GVA) by Welsh economic region
Source: Welsh Assembly Government

Year		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Measure	**Area**										
Total (£ million)	Wales	30,912	32,068	33,658	35,355	37,299	38,993	40,485	42,424	44,541	45,514
	Isle of Anglesey	***479***	***509***	***551***	***589***	***631***	***664***	***693***	***731***	***764***	***780***
£ per head	Wales	10,657	11,032	11,565	12,115	12,735	13,247	13,723	14,323	14,966	15,222
	Isle of Anglesey	***7,050***	***7,489***	***8,121***	***8,686***	***9,269***	***9,719***	***10,121***	***10,651***	***11,110***	***11,333***
Index (UK=100)	Wales	77.3	77.1	77.1	76.7	76.2	75.5	75.7	75.2	74.6	74.1
	Isle of Anglesey	***51.2***	***52.4***	***54.1***	***55***	***55.5***	***55.4***	***55.8***	***55.9***	***55.4***	***55.2***

Employment creation

Another key measure would be number of FTE jobs created in the Anglesey economy. Here targets could be informed by the Scenario 2b modelling which indicate an additional 2,000 jobs over and above the base case. These could be monitored relatively straightforwardly through planning applications, discussions with employers and the BRES data.

Retention of younger people

ONS figures suggest that for 16 to 24 year olds the proportion is broadly static. The overall working age population is also broadly static. Looking forward, the developments are not expected to directly significantly impact this outcome – although the out-migration may well have continued at a faster pace under the Base Case.

Hence under the Energy Island scenario Anglesey is expected to retain the current proportion of young people in this age cohort. There is some possibility that with increased participation in further education plus take up of indirect jobs created that there may be some small impact but not exceeding 12% of the working age population by 2025.

mid-year population estimates
ONS Crown Copyright Reserved [from Nomis on 17 April 2011]
area type local authorities: county / unitary
area name Anglesey

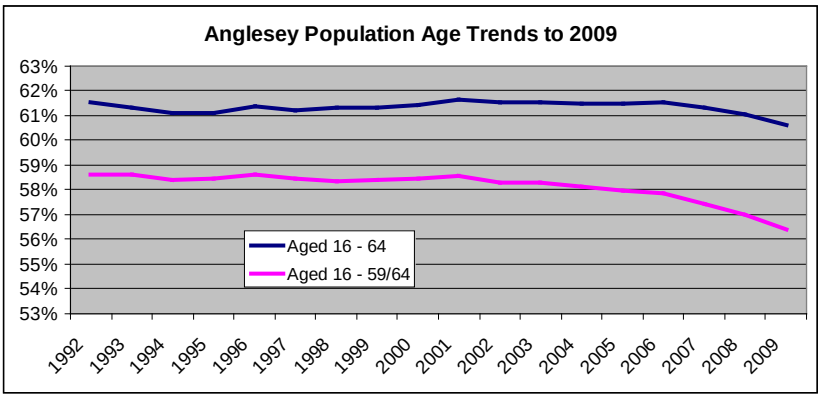
Date	Total	Aged 10 - 14 years	Aged 15 - 19 years	Aged 20 - 24 years	Est. 16 to 24	
2005	68,500	4,500	4,300	3,100	**6540**	9.55%
2006	68,600	4,400	4,300	3,300	**6740**	9.83%
2007	68,800	4,200	4,400	3,400	**6920**	10.06%
2008	68,800	4,100	4,400	3,600	**7120**	10.35%
2009	68,800	4,000	4,200	3,700	**7060**	10.26%

Inward investment

This indicator can be monitored directly and informed via consultations with investors.

Working age population growth

The new employment opportunities should lead to an influx of labour (with additional impacts on the housing market). Hence the proportion 16-64 year olds having fallen to 56% in 2009 is expected to increase to around 61-62% of the population by 2015. This is a recovery back to the levels seen in 2005, as detailed in the Baseline Report, which illustrates that although the proportion of 16-64 year olds has remained fairly constant, at around 61-62% of the population, it has dipped in the past few years.



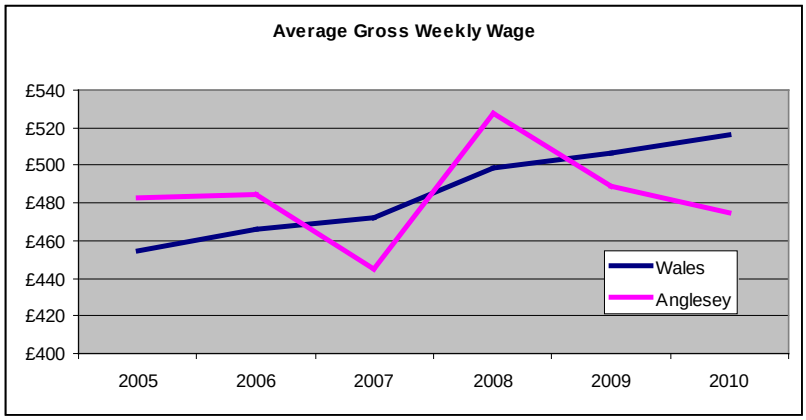
'**Increased prosperity'**

The outcomes are as follows:

- Increased average weekly earnings
- Reduce fuel poverty through promoting renewable energy (i.e. energy conservation, generation etc).
- Increased skills levels
- Decrease economic inactivity
- Attract economically active people back to the Island

Average earnings

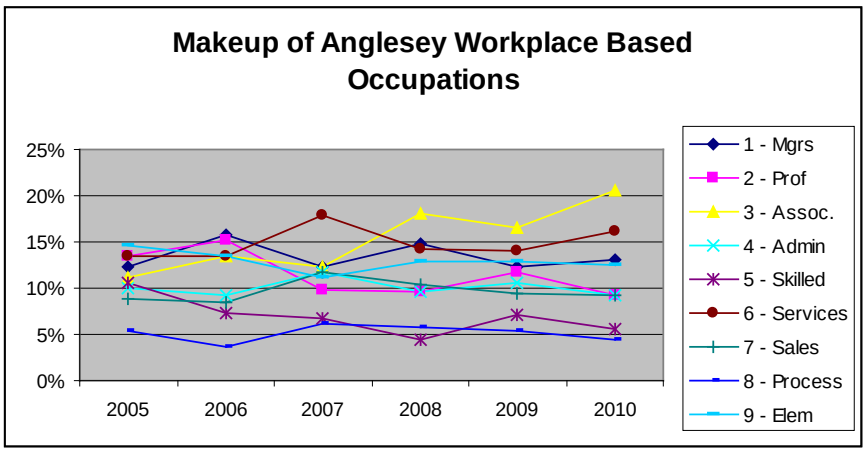
Energy Island should see an up-skilling in the jobs provided – and a corollary of this should be that the average wages should start to converge with Welsh averages overall. The trend over time is illustrated in the table below. It is difficult to be precise here, but again the expectation would be that wage rate will start to converge with – and possibly exceed – the rate for Wales.



Increasing skill levels – demand (workforce based)

The net additional increases in terms of occupations from a labour demand perspective have already been detailed (**->see labour market impacts, p43)**,

The projections include estimates of net additional effects and these are also summarized in the chart below.



Increasing skill levels – supply (residence based)

However, it is important to recognize the above projections are DEMAND based estimates and make no assumption around changing supply. However, the occupational projections for separately include an allowance for the upskilling of the workforce in line with national trends / projections. This 'upskilling effect is included in all scenarios and can be used to inform the supply side estimates.

The occupational upskilling effects have been built into the model and have developed from assumptions set out in the Warwick University Institute for Employment Research (IER) estimates of how the skills profiles (spread over the 9 occupational categories) will change on an industry by industry basis over the period 2007 to 2017. These general upskilling effects on the labour supply side are detailed in the table below. For example this illustrates that over the projection period there will be an 3% increase in managers and senior officials. This is separate from the additional employment created in the scenarios and reflects both increased skills training as well as replacement effects. The baseline figures will also need to reflect on data from the 2011 Population Census.

Labour Supply Breakdown of Required Employment Skill Levels Over Time

	2009	2011	2016	2021	2025
1 Managers & senior officials	15%	16%	16%	17%	18%
2 Professional	14%	14%	15%	15%	16%
3 Assoc. Prof & Tech	14%	15%	15%	15%	16%
4 Admin & Secretarial	10%	10%	9%	8%	7%
5 Skilled	10%	10%	9%	9%	8%
6 Services	9%	10%	10%	10%	11%
7 Sales	8%	8%	8%	7%	7%
8 Process	7%	6%	6%	6%	6%
9 Elementary	13%	13%	12%	12%	11%
	100%	**100%**	**100%**	**100%**	**100%**

Economic activity levels

These effects are dealt with more fully in the previous section (**->labour market impacts).** Labour market outcomes will show less impact than economic outcomes. Over time it anticipated that the differentials between local and GB rates will reduce in Anglesey's favour. However, in light of the uncertainties surrounding the current economic outlook it is not possible to forecast with any certainty what these rates might be. Improvements would be expected in a range of labour market indicators including : unemployment, activity/inactivity rates and long term unemployment.

risk assessment

This section reviews the principal risks to the achievement of outcomes. It follows standard risk analysis, including identification of mitigation measures and post mitigation risk assessment.

In undertaking this task we have used an appropriate risk assessment matrix. At its simplest level a risk assessment matrix or table is a simple way of ranking different potential projects in terms of their potential benefit and the likely risks or costs in implementing them. Some projects may be very attractive in terms of the potential benefits that they offer but have serious implementation difficulties. Others may be low value in impact terms but be easy to implement.

The template specifies the nature of the risk in the form of a probability matrix illustrated below. This simple matrix includes consideration both of the probability of a risk but also its impact. Those scoring 9 are the highest risk areas and require the closest monitoring.

Likelihood + Impact = Risk weighting

Risk Assessment Matrix		**Impact**		
		Low	**Medium**	**High**
Probability / likelihood	**Low**	1	3	6
	Medium	2	5	8
	High	4	7	9

Additionally, this matrix has been extended to include possible mitigation measures that might be implemented. This modifies the initial assessment and it is arguably the post-mitigation impact which is of greater concern.

The approach takes account of published good practice including notably the HM Treasury produced “Orange Book”: Management of Risk - Principles and Concepts.

The key stages in the risk management process are detailed in the chart overleaf.

Stages in Risk Management

The first stage, before the identification of the risks, is to establish:

* what are we trying to achieve?
* where are we going?
* what are our proposed outcomes?

The purpose of actions to address risks is to manage the risks down to acceptable levels rather than to eliminate them. Here there are four decisions that can be taken to manage the risks identified overleaf:

1. Terminate - a decision is made not to take a risk. Where the risks outweigh the possible benefits, terminate the risk by doing things differently and thus removing the risk, where it is feasible to do so
2. Tolerate - a decision is taken to accept the risk. This may be where the probability or impact is so low that the cost of managing it would be greater than the risk. Those risks with an overall rating of 3 and below will fall into this category.
3. Transfer - for example insurance, contracting out the provision of service or paying a third party to take it on. Of course, many areas of business and reputational risk cannot be transferred.
4. Treat (or mitigate) - in practice this is the most common response to areas of risk. Done by reducing the probability of it occurring (for example, preventative action), or by reducing the impact.

The key risks and possible mitigation measures are then detailed.

Risk Number	Area of Risk	Exposures Identified	Pre-mitigation level of risk			Risk mitigation procedure	Post-mitigation level of risk		
			Likelihood	Impact	Weighting		Likelihood	Impact	Weighting
01	Labour market	Level of local benefits are minimal as jobs created are taken by in-migrants	H	M	8	Skills training, education and awareness, supply chain development programmes	M	M	5
02	Housing	Significant in-migration pushes up house prices and increases problems of affordability for local people	M	M	5	Housing needs analysis & appropriate investment in housing stock, plus monitoring of community perspectives at a local level including councillors.	L	M	3
03	Affordable housing	Rates of new build for social housing remain low and the level of unmet need increases	H	M	8	Monitor housing waiting lists, plus investment in social housing stock	L	M	3
04	Culture	Significant in-migration has negative impact on Welsh speaking communities	M	M	5	Maximise opportunities for local people to benefit and hence reduce level of out-migration	M	M	5
05	Community	Tensions develop between in-migrants & established community, especially around access to housing	L	M	2	Education, awareness and investment in housing stock to ensure suitable supply	L	M	2
06	Economy	Significant demand for labour from Wylfa bids up local wage rates and increases skill shortages elsewhere in the economy	M	M	5	Concerted action to assess current and anticipated skill shortages and sectors at most risk, including engagement with employers, training and education institutions	L	M	2
07	Low carbon economy	Related investment in other LC sectors is not forthcoming / is limited	M	H	8	Address potential investment constraints, sites, premises, skills & infrastructure	M	M	5
08	Infrastructure	Infrastructure constraints impact on ability to attract investment	M	H	8	Potentially significant infrastructure issues to be addressed, including bridge capacity	M	M	5
09	Planning & regulatory	Significant delays to the delivery of key investments	M	H	8	Advance planning to ensure functional services are able to effectively prioritise and deliver Nuclear New build consents to investors expectations	M	M	5

Risk Number	Area of Risk	Exposures Identified	Pre-mitigation level of risk			Risk mitigation procedure	Post-mitigation level of risk		
			Likelihood	Impact	Weighting		Likelihood	Impact	Weighting
10	Low carbon environment	Failure to impact on resident behaviour	**M**	**H**	**8**	Education, awareness and leadership programmes, including engagement of schools	**M**	**M**	**5**
11	Skills policy	Difficulties in securing required level of skills investment	**M**	**H**	**8**	Establish clear priorities in local, regional and national programmes backed by Ministerial support and direction	**M**	**M**	**5**

key performance indicators

The table below sets out the KPIs proposed for Anglesey Energy Island. They form a comprehensive list of indicators covering all programme aspects – social, economic and environmental.

A number of CAVEATS are noted as follows:

1. The impacts over and above the present position may seem to be relatively limited, but as previously noted it needs to be borne in mind that:
    a. A significant amount of capacity in the local economy has been lost in the recent recession
    b. Wylfa whilst due to be commissioned is presently operational
    c. The bulk of additional employment for the Anglesey Energy Island programme is associated with a replacement Wylfa (which will have lower levels of employment).
    d. The improvements brought about by the programme need to be set in the context of a national and UK economy which is also improving year on year (increased outputs, improved skills base etc).
    e. Economic differentials between leading and lagging regions tend to reduce in recession and increase during periods of growth

    Consequently, the economic impacts of the programme should not be overstated.
2. All programme areas have been included with the exception of infrastructure. Here given the relatively 'lumpy' nature of the investment involved it has been agreed with the Council to exclude from consideration in this report.
3. The list is not EXHAUSTIVE but rather focuses on what is intended to be a manageable list of KPIs which can be relatively easily tracked, strongly relate to the outcome in question and are drawn from published data sources which are relatively easy to access.

Key Performance Indictors

	Indicator	Outcome / target
1.Vibrant Anglesey and NW Wales economy:		
1.1	Gross value added	Increase of 10-13% over and above base case / Welsh trend to 2025
1.2	GVA per head	GVA per head relative to the UK is maintained at 55%
1.3	Employment creation	Create up to 2,000 net additional jobs to 2025
1.4	Retention of younger people	16-24 year olds as % of overall population stabilises at 10%
1.5	Working age population	Proportion 16-64 year increases to 61-62% of the population by 2015.
2. Increased Prosperity		
2.1	Earnings	Rates start to converge with the rate for Wales
2.2	Skills	There is at minimum a 3% increase in the proportion of the workforce (over 2008 levels) for the SOCs 1-3
2.3	Unemployment	The proportion of JSA claimants reduces to that of Wales
2.4	Activity rates	Rise to at least 1% above that for Wales
2.5	Long term unemployment	Reduces to the average for Wales overall
3. Flourishing local culture		
3.1	Welsh language speakers	The proportion of Welsh language speakers is maintained at the current level, with between 60-65% of the population (aged 3+) able to speak Welsh
3.2	Housing need	Level of housing need as evidence by the IMD housing domain shows marked improvement relative to Wales
3.3	Vibrant housing market	Land Registry house price data shows sustained improvement relative to Wales
4. Enhanced environmental position		
4.1	Low carbon future	Carbon emissions reduce (11.3 in 2008) from above to below the average for Wales (10.8 in 2008)

conclusions

This document seeks to set out a transparent and robust analysis of the current state of the economy of Anglesey. From this baseline projections have been developed based on a number of scenarios from the Energy Island Programme.

Key Performance Indicators have been devised to measure these potential outcomes.

Whilst this provides an evidenced based objective assessment of the current and possible future position in terms of the Anglesey and wider economy, there is a need for the Legacy Framework to identify how this can be best achieved.

This is not only from the direct investment in the construction and operation & maintenance of new low carbon energy developments, but also through leveraging maximum local training, employment and supply chain opportunities from such developments.

The evidence analysis and KPI's in this report will need to inform the developments of this comprehensive Legacy Framework, utilising the Energy Island Programme's outcomes highlighted in section 7 of this report. This will need to comprise a set of defined and agreed actions flowing from the respective Energy Island Programme developments, reinforced by a series of complementary planning policies, and capable of being measured by the suggested KPI's in section 9 of this report.

These policies, both national and local, could then be used to help inform the statutory planning process in securing these developments and mitigating their potential impacts. They might also inform how actions can be devised to secure maximum long term benefits to Anglesey's communities from such investments.

appendices

A1 Key assumptions

1. BRES employment figures → Base year 2009; projections go to 2024

2. Industry Sectors considered (SIC 2007 Single Digit Codes):

A+: Agriculture, forestry and fishing, incl. estimates of agriculture 0100 jobs
B : Mining and quarrying
C : Manufacturing
D : Electricity, gas, steam and air conditioning supply
E : Water supply; sewerage, waste management and remediation activities
F : Construction
G : Wholesale and retail trade; repair of motor vehicles and motorcycles
H : Transportation and storage
I : Accommodation and food service activities
J : Information and communication
K : Financial and insurance activities
L : Real estate activities
M : Professional, scientific and technical activities
N : Administrative and support service activities
O : Public administration and defence; compulsory social security
P : Education
Q : Human health and social work activities
R : Arts, entertainment and recreation
S : Other service activities

Key sectors for this modelling are D and F, reflecting the impacts of Trawsfynydd and Wylfa. Employment due to multiplier effects is spread across the service sectors.

3. Scenarios considered:

   - Base Case: projections based on 2009, with adjustments for the following known changes:

     i. Closure of Anglesey Aluminium in 2008
     ii. Decommissioning of Trawsfynydd to accelerated timescales (to 2014)
     iii. Decommissioning of Wylfa delayed, commencing in 2013
     iv. Other known manufacturing closures post 2008 on Anglesey/ the Menai Hub

v. Net additional jobs from WAG move to Llandudno Junction
vi. Mochdre commercial park and Abergele medical centre additional jobs

- Scenario 1: Two Unit Replacement for Wylfa built, plus Base Case

(Job numbers provided by Magnox but Confidential).

- Scenario 2a: as Scenario 1 PLUS additional jobs over and above projected growth, are created by:

i. Bryn Cegin (Menai Hub) & Parc Cybi (Holyhead) business parks;

ii. Energy Island initiative (whilst not double counting with i)

The job numbers used for Scenario 2a for non-nuclear Energy Island initiatives are based on the (conservative) figures from the 2010 modelling.

- Scenario 2b: As Scenario 2a but using updated figures for Energy Island initiatives and assuming the potential identified by consultants URS is fully realised. i.e. Scenario 2b provides an indication of the maximum benefits which could be realised by EIF (and hence a benchmark for measuring progress against), albeit it may not be realistic to expect 100% realisation.

Appendix 3 illustrates how the Energy Island non-nuclear job numbers for Scenarios 2a and 2b have been derived.

4. Employment Growth Rates by SIC updated:

ESYS have used the following year on year growth rates by industry sector:

North West W	A+	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2008 to 09	1.50%	-0.20%	0.00%	0.00%	0.00%	-0.70%	-4.60%	-3.30%	-4.60%	-4.70%	-4.70%	-4.70%	-4.70%	1.00%	-0.16%	2.67%	2.00%	1.00%	1.00%
2009 to 10	-2.60%	-1.70%	0.00%	0.00%	0.00%	-8.22%	-0.76%	-0.86%	-0.76%	-1.03%	-1.23%	-1.23%	-1.03%	-1.10%	-0.80%	-0.80%	-0.80%	-1.23%	-1.23%
2010 to 11	-2.20%	-1.70%	-1.00%	0.00%	0.00%	-0.05%	-1.43%	-0.53%	-1.43%	-0.32%	0.24%	0.24%	-0.32%	-0.76%	-11.34%	1.90%	2.81%	-0.41%	-0.41%
2011 to 12	-3.00%	-1.60%	-0.20%	0.00%	0.00%	0.15%	0.42%	1.42%	0.42%	0.99%	0.65%	0.65%	0.99%	0.14%	0.82%	0.21%	-0.01%	-0.07%	-0.07%
2012 to 13	-3.80%	-1.70%	-1.60%	0.00%	0.00%	-0.03%	1.78%	1.08%	1.78%	0.35%	0.01%	0.01%	0.35%	0.24%	0.73%	1.36%	0.22%	0.03%	0.03%
2013 to 14	-3.30%	-1.70%	-1.00%	0.00%	0.00%	0.80%	0.90%	0.20%	0.90%	0.50%	0.50%	0.50%	0.50%	0.20%	-1.57%	0.00%	-1.20%	0.20%	0.20%
2014 to 2019	-3.46%	-1.80%	-1.46%	0.00%	0.00%	1.30%	0.46%	0.40%	0.46%	0.94%	0.94%	0.94%	0.94%	0.44%	-0.20%	-0.12%	0.66%	0.44%	0.44%
2019 to 2025	-3.66%	-1.72%	-1.90%	0.00%	0.00%	1.38%	0.38%	0.56%	0.38%	1.02%	1.02%	1.02%	1.02%	0.92%	0.04%	0.45%	1.50%	0.92%	0.92%

These rates have been based on a mix of sources including IER rates for the long term rates. Short term rates are based on empirical analysis from previous recessions and have been amended to reflect local knowledge. In addition, Public Sector Cutback impacts have been built in to the revised rates for the 2011 version of the modelling. See Annex 2 for further detail.

5. Skills data → see chapter for detailed assumptions made.

6. Indirect Employment = 20% of Direct Employment impacts, with the exception of Bryn Cegin and Parc Cybi developments where a more modest 10% indirect effects has been adopted due to the type of developments.

A2 Public sector cuts

The 2010 version of the ESYS NWW Employment Modelling pre-dated the Comprehensive Spending Review.
The Assembly has now published its final budget for 2011/12 through to 2013/14 and confirmed the savings made over the agreed 2010/11 budget. This information will be used to estimate growth/decline rates for the public sector in NWW, to be incorporated in to the base case scenario of the 2011 update to the model. It will also be used to estimate impacts on growth/decline rates for other sectors impacted by multiplier effects.

Welsh Budget Data

The charts below indicate the final budgets for 2010/11 (published Dec 2009), 2011/12 (published Feb 2011) and forecast budgets for the following two years. The figures are broken down in to three categories: Health; Education and All Else, in line with high level Public Sector SIC codes. Following the General Election in May 2010, the Welsh Government was asked to make savings of £113.5m and £49m respectively from their Revenue and Capital budgets for 2010/11.
It has recently been confirmed that these savings were met in full in 2010/11 – equivalent to 0.8% and 3.1% reductions in spend over planned levels. This has impacted spending as follows:

£'000	Original 2010-11 Budgets			£'000	2010-11 Post June 2010 CSR Savings:		
	Rev	Cap	Tot		Rev	Cap	Tot
Health	£5,887,417	£296,612	£6,184,029	→ Health	£5,840,475	£287,420	£6,127,895
Education	£1,692,892	£358,490	£2,051,382	→ Education	£1,679,394	£347,381	£2,026,775
All Else	£6,654,703	£926,137	£7,580,840	→ All Else	£6,601,643	£897,438	£7,499,081
	£14,235,012	**£1,581,239**	**£15,816,251**		**£14,121,512**	**£1,532,239**	**£15,653,751**
		Savings on Original Budgets:			-£113,500	-£49,000	-£162,500
		June Cuts:			-0.80%	-3.10%	-1.03%

Table 1a: Assembly Government's Original and Revised Budgets for Wales, 2010/11

The budgets for the next three financial years have just been published (Feb 2011) and the table below illustrates these, along with the year on year change rates:

	2011-12			2012-13			2013-14		
	Rev	**Cap**	**Tot**	**Rev**	**Cap**	**Tot**	**Rev**	**Cap**	**Tot**
Health	£6,004,768	£264,790	£6,269,558	£6,004,265	£246,293	£6,250,558	£6,017,565	£219,550	£6,237,115
Education	£1,711,332	£391,009	£2,102,341	£1,714,903	£387,024	£2,101,927	£1,738,154	£370,250	£2,108,404
All Else	£5,852,984	£777,793	£6,630,777	£5,900,855	£729,158	£6,630,013	£5,943,699	£649,804	£6,593,503
	£13,569,084	**£1,433,592**	**£15,002,676**	**£13,620,023**	**£1,362,475**	**£14,982,498**	**£13,699,418**	**£1,239,604**	**£14,939,022**
	Year on Year Changes:								
Health	2.81%	-7.87%	2.31%	-0.01%	-6.99%	-0.30%	0.22%	-10.86%	-0.22%
Education	1.90%	12.56%	3.73%	0.21%	-1.02%	-0.02%	1.36%	-4.33%	0.31%
All Else	-11.34%	-13.33%	-11.58%	0.82%	-6.25%	-0.01%	0.73%	-10.88%	-0.55%
	-3.91%	**-6.44%**	**-4.16%**	**0.38%**	**-4.96%**	**-0.13%**	**0.58%**	**-9.02%**	**-0.29%**

Table 1b: Assembly Government's Budgets for Wales, 2011/12 to 2013/14

These represent cuts of £1.93bn and £757m to Revenue and Capital spending over a four year period, compared to the original 2010/11 budget levels and ignoring inflation which increases the impact further.
The charts indicate an overall reduction of 4.16% in 2011/12 spending over 2010/11 and additional reductions of 0.13% and 0.29% in the following two years.

Impact on the NWW Employment Model's Growth Rates

Revenue spending incorporates public sector employment costs. It seems reasonable to assume that a 3.9% reduction in total revenue spend, in will lead to the same reduction in public sector employment costs and hence the number of full time equivalent (FTE) posts. In addition, the change in public sector jobs will have a multiplier effect on the number of jobs in service sectors due to the reduced spending power of individuals employed in the public sector. That is, for every X% change in Public Sector jobs, there will be a Y% change in service sector jobs. To assess the relationship between X and Y, we can look at the importance of the Public Sector as a whole:

Full Time Equivalent Jobs, 2009	**Wales**		**NW Wales**	
	No.	**%**	**No.**	**%**
A : Agriculture, forestry and fishing	12,400	1.29%	200	0.26%
B : Mining and quarrying	1,600	0.17%	400	0.44%
C : Manufacturing	130,400	13.62%	6,100	7.37%
D : Electricity, gas, steam and air conditioning supply	5,900	0.61%	1,100	1.29%
E : Water supply; sewerage, waste management and remediation activities	8,100	0.84%	900	1.06%
F : Construction	55,400	5.78%	4,800	5.77%
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	140,500	14.68%	13,900	16.80%
H : Transportation and storage	36,600	3.82%	3,300	3.93%
I : Accommodation and food service activities	55,800	5.83%	9,300	11.20%
J : Information and communication	21,000	2.19%	1,400	1.75%
K : Financial and insurance activities	27,100	2.83%	1,400	1.67%
L : Real estate activities	9,200	0.96%	800	0.98%
M : Professional, scientific and technical activities	40,900	4.27%	3,500	4.25%
N : Administrative and support service activities	58,900	6.15%	2,900	3.46%
O : Public administration and defence; compulsory social security	**81,600**	**8.53%**	**6,800**	**8.22%**
P : Education	**93,300**	**9.75%**	**9,500**	**11.44%**
Q : Human health and social work activities	**143,400**	**14.98%**	**13,000**	**15.65%**
R : Arts, entertainment and recreation	19,900	2.08%	2,300	2.79%
S : Other service activities	15,200	1.59%	1,400	1.68%
	957,200	**100.00%**	**83,000**	**100.00%**

Source: ONS Business Register & Employment Survey (BRES). Figures rounded to nearest 100 for disclosure compliance. Percentages based on non-rounded figures.

It can be seen that the Public Sector accounted for over 35% of the sub-region's total employment in 2009. A reduction in these jobs is likely to impact individuals' spending on goods from the following sectors: C; G; H; I; R & S (although reduced spend in Sector C may have limited impact on jobs as most reduced spend will be on goods manufactured outside of the sub-region).

These sectors (excluding C) accounted for 36% of the sub-region's employment in 2009. If we assume that every 10 FTE jobs in the Public Sector supports 1 FTE job in these sectors, then for every 1% change in Public Sector jobs, we might expect a related (35/36)*(1/10)=0.09% change in jobs in these sectors.
There will also be a reduction in direct revenue spend on supplies and services and the reductions in capital spend also impacts employment in the Construction (F) and Service sectors.
If we assume 60% of Revenue spend is on Supplies and Services (40% on staff costs) and 100% Capital spend is on Construction, Supplies and Services and that every £100k of external spend supports one local job in those sectors, then:

- 1% change in revenue spend = 0.6% change in revenue spend on Supplies and Services, which is equivalent to around £85m – supporting 850 'local' jobs across Wales – based on the original 2010/11 budgets. This equates to 0.24% of the jobs in sectors G to J, plus M and N.

- 1% change in capital spend = 0.5% change in capital spend on Construction (F) and 0.5% change in capital spend on other Supplies and Services, which is equivalent to around £15.8m – supporting 79 'local' construction jobs and 79 'local' services jobs across Wales – based on the original 2010/11 budgets. This equates to 0.02% of the jobs in sectors G to M and 0.14% of jobs in Construction.

Revised NWW Employment Model's Growth Rates
Putting this information all together leads to the following revised estimates of growth rates for the affected sectors:

North West Wales Sectoral Change Rates:		F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2009/10 to 2010/11	Values - 2010 Vers.	-8.00%	-1.00%	-1.10%	-1.00%	-1.20%	-1.20%	-1.20%	-1.20%	-1.30%	-1.98%	-2.02%	-1.13%	-1.30%	-1.30%
	+ Changed Consumer Spending		0.07%	0.07%	0.07%									0.07%	0.07%
	+ Changed PS Spend on Goods & Services		0.20%	0.20%	0.20%	0.20%			0.20%	0.20%					
	+ Changed PS Capital Spend	-0.22%	-0.03%	-0.03%	-0.03%	-0.03%	-0.03%	-0.03%	-0.03%						
	REVISED VALUES:	**-8.22%**	**-0.76%**	**-0.86%**	**-0.76%**	**-1.03%**	**-1.23%**	**-1.23%**	**-1.03%**	**-1.10%**	**-0.80%**	**-0.80%**	**-0.80%**	**-1.23%**	**-1.23%**
2010/11 to 2011/12	Values - 2010 Vers.	0.40%	-0.60%	0.30%	-0.60%	0.30%	0.30%	0.30%	0.30%	-0.20%	-4.52%	-1.18%	-0.37%	-0.20%	-0.20%
	+ Changed Consumer Spending		-0.21%	-0.21%	-0.21%									-0.21%	-0.21%
	+ Changed PS Spend on Goods & Services		-0.56%	-0.56%	-0.56%	-0.56%			-0.56%	-0.56%					
	+ Changed PS Capital Spend	-0.45%	-0.06%	-0.06%	-0.06%	-0.06%	-0.06%	-0.06%	-0.06%						
	REVISED VALUES:	**-0.05%**	**-1.43%**	**-0.53%**	**-1.43%**	**-0.32%**	**0.24%**	**0.24%**	**-0.32%**	**-0.76%**	**-11.34%**	**1.90%**	**2.81%**	**-0.41%**	**-0.41%**
2011/12 to 2012/13	Values - 2010 Vers.	0.50%	0.00%	1.00%	0.00%	0.70%	0.70%	0.70%	0.70%	-0.20%	-2.37%	-0.64%	-0.64%	-0.20%	-0.20%
	+ Changed Consumer Spending		0.13%	0.13%	0.13%									0.13%	0.13%
	+ Changed PS Spend on Goods & Services		0.34%	0.34%	0.34%	0.34%			0.34%	0.34%					
	+ Changed PS Capital Spend	-0.35%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%						
	REVISED VALUES:	**0.15%**	**0.42%**	**1.42%**	**0.42%**	**0.99%**	**0.65%**	**0.65%**	**0.99%**	**0.14%**	**0.82%**	**0.21%**	**-0.01%**	**-0.07%**	**-0.07%**
2012/13 to 2013/14	Values - 2010 Vers.	0.60%	1.40%	0.70%	1.40%	0.10%	0.10%	0.10%	0.10%	-0.10%	-0.95%	-0.77%	-0.82%	-0.10%	-0.10%
	+ Changed Consumer Spending		0.13%	0.13%	0.13%									0.13%	0.13%
	+ Changed PS Spend on Goods & Services		0.34%	0.34%	0.34%	0.34%			0.34%	0.34%					
	+ Changed PS Capital Spend	-0.63%	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%	-0.09%						
	REVISED VALUES:	**-0.03%**	**1.78%**	**1.08%**	**1.78%**	**0.35%**	**0.01%**	**0.01%**	**0.35%**	**0.24%**	**0.73%**	**1.36%**	**0.22%**	**0.03%**	**0.03%**

Note that whereas Public Sector Revenue spending cuts are much worse in this coming year than anticipated, but not as bad last year or the following two years, hence there are actually improvements in some years/categories. Capital spending however is much worse in all 4 years and hits Construction (F) very negatively.

A3 Energy island job numbers

Scenario 2a: Conservative Assessment

The Energy Island non-nuclear job numbers used in Scenario 2a are the conservative estimates, as used in the 2010 version of the NWW Economic Futures study, calculated based on job number estimates provided by URS as follows:

Anglesey Energy Island : Summary of Supply chain Opportunities

Energy segment	Phase	2010	2015	2020	2024	% likelihood
BIOMASS						**45%**
Direct	Construction	2	5	5	5	
Direct, indirect and induced	Construction	2	6	6	6	
Direct	Operation	16	143	156	167	75
Direct, indirect and induced	Operation	17	157	171	184	83
TIDAL						**60%**
Direct	Construction	0	3	0	18	
Direct, indirect and induced	Construction	0	3	0	23	
Direct	Operation	0	1	14	26	16
Direct, indirect and induced	Operation	0	1	15	29	17
OFFSHORE WIND						**50%**
Direct	Construction	0	15	48	0	
Direct, indirect and induced	Construction	0	20	62	0	
Direct	Operation	0	18	176	176	88
Direct, indirect and induced	Operation	0	21	202	202	101
ONSHORE WIND						**65%**
Direct	Construction	0	40	10	10	
Direct, indirect and induced	Construction	0	48	12	12	
Direct	Operation	2	4	8	10	6
Direct, indirect and induced	Operation	3	5	9	11	7
ENERGY EFFICIENCY AND MICROGENERATION						**65%**
Direct	Operation	6	29	35	35	23
Direct, indirect and induced	Operation	7	35	42	42	27
TOTALS						
Construction						
Total direct		2	62	62	33	
Total direct, indirect and induced		2	76	79	42	
Operation						**Total Likely:**
Total direct		24	196	389	414	208
Total direct, indirect and induced		27	219	440	468	236
						By 2024
Combined						
Total direct		26	258	451	447	
Total direct, indirect and induced		29	295	520	510	

Source: URS Energy Island Study

ESYS multiplied the URS job estimates by probabilities /likelihoods that the specific initiatives would happen, or how much of each initiative we might reasonably expect to happen. Thus when consolidated they gave a more realistic picture of the impact EIF might have on job numbers.

The end result was that the likely impact would be 236 additional operational jobs by 2024 (direct, indirect and indirect jobs). Construction jobs would also be created over the 20 year planning horizon, albeit these would be temporary.

Note that in this version of the URS figures, Tidal sub-sector jobs were classified as 'operations' jobs, whereas they have since revised these jobs as temporary construction/ installation jobs.

The non-nuclear Energy Island jobs were included in the modelling as part of the Parc Cybi job projections. After allowing for deadweight and displacement, 95 additional jobs was included from 2020 to 2024 in sectors Transport, Warehousing & Distribution and Manufacturing, plus and additional 10 indirect jobs.

Construction jobs resulting from the ENERGY ISLANDinitiatives were assumed to be built in to Construction sector growth rates.

Scenario 2b: Revised Assessment

A less cautious estimate of ENERGY ISLANDnon-nuclear jobs has been calculated based on the following changes:

- URS have provided their latest job number estimates
- Tidal jobs have been reclassified as Construction/ Installation rather than Operations
- There are now planning applications in for several of the major developments which make the initiatives more likely to happen.
- The timeline for some of the jobs appears to have moved forwards
- This study is for Anglesey County Council, and is concerned with providing a benchmark for measuring how much of the EIF potential is realised. Hence these revised scenario estimates presume 100% realisation, rather than applying probabilities.

The chart below illustrates how the revised job estimates are considerably higher than the 2010 version. Even before taking 2010's conservative 'likelihood' percentages in to account, the revised figures estimate considerably higher numbers on construction and installation jobs.

Although illustrated for 4 specific years below, URS have provided the figures for all years from 2009 to 2025. These have been converted by ESYS to year-on-year changes and the Direct employment assigned to Construction; Manufacturing and

Wholesale etc; whilst indirect jobs have been allocated to sectors C, G to N, and R to S. Direct Jobs from the initiaitives are presumed to be all Anglesey-based, whilst 27% of the indirect jobs are estimated to be Anglesey-based.

		2011 Updated Figures: Scenario 2b					2010 Version: Scenario 2a				
Energy Segment		**2010**	**2015**	**2020**	**2024**	**Likelihood**	**2010**	**2015**	**2020**	**2024**	**Likelihood**
BIOMASS						100%					45%
Direct	Construction	1	5	7	9		2	5	5	5	
Direct, indirect & induced	Construction	5	19	29	39		2	6	6	6	
Direct	Operations	15	131	136	139		16	143	156	167	75
Direct, indirect & induced	Operations	21	181	188	193		17	157	171	184	83
TIDAL						100%					60%
Direct	Construction	0	1	0	10		0	3	0	18	
Direct, indirect & induced	Construction	0	6	0	41		0	3	0	23	
Direct	Operations	0	1	11	21		0	1	14	26	16
Direct, indirect & induced	Operations	0	2	16	31		0	1	15	29	17
OFFSHORE WIND						100%					50%
Direct	Construction	0	8	26	0		0	15	48	0	
Direct, indirect & induced	Construction	0	37	116	0		0	20	62	0	
Direct	Operations	0	0	151	151		0	18	176	176	88
Direct, indirect & induced	Operations	0	0	227	227		0	21	202	202	101
ONSHORE WIND						100%					65%
Direct	Construction	0	20	5	5		0	40	10	10	
Direct, indirect & induced	Construction	0	91	23	23		0	48	12	12	
Direct	Operations	2	4	8	9		2	4	8	10	7
Direct, indirect & induced	Operations	3	6	12	14		3	5	9	11	7
ENERGY EFFIC. & MICRO						100%					65%
Direct	Installation	3	15	18	18						
Direct, indirect & induced	Installation	13	66	80	80						
Direct	Operations						6	29	35	35	23
Direct, indirect & induced	Operations						7	35	42	42	27
TOTALS											
Direct	Cons/Install	4	49	56	42		8	92	98	68	23
Direct, indirect & induced	Cons/Install	18	218	248	182		9	112	122	83	27
Direct	Operations	17	136	306	321		24	195	389	414	208
Direct, indirect & induced	Operations	24	189	443	465		27	219	439	468	236
COMBINED TOTALS											
Direct		21	186	362	364		32	287	487	482	231
Direct, indirect & induced		42	407	690	647		36	331	561	551	263
											jobs by 2024