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# An Economic Impact Assessment for the A496 Llanbedr Access Improvement and Snowdonia Aerospace Centre Development

CYNGOR GWYNEDD COUNCIL

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# Glossary and Abbreviations

| | |
|---|---|
| Additionality | An impact arising from an intervention is additional if it would not have occurred in the absence of the intervention. |
| Agglomeration effects | The benefits firms obtain when they locate near to each other. These effects are related to the concepts of economies of scale and network effects |
| Deadweight | Output that would have occurred without the intervention. |
| Displacement | The proportion of intervention outputs accounted for by reduced outputs elsewhere in the target area. |
| FTE | Full Time Equivalent - used to convert the hours worked by several part-time employees into the hours worked by full-time employees |
| GDP | Gross Domestic Product - the total value of goods produced and services provided in an area, industry or sector. |
| GVA | Gross Value Added - the value of goods and services produced in an area, industry or sector. GVA is a component of GDP. In summary: GVA + taxes on products - subsidies on products = GDP |
| Intervention | Project, programme or policy implemented or supported by the public sector to achieve its objectives |
| LAE | Llanbedr Airfield Estates – lease holders of the airfield |
| Leakage | The proportion of outputs that benefit those outside of the intervention's target area or group. |
| MoD | Ministry of Defence |
| MRO | Maintenance, Repair and Overhaul |
| Multiplier | Further economic activity (jobs, expenditure or income) associated with additional local income, local supplier purchases and longer term effects. |
| ONS | Office of National Statistics |
| Reference Case | The position in terms of target outputs over a set period of time if the intervention did not take place. |
| RPAS | Remotely Piloted Aircraft Systems – also sometimes referred to as Unmanned Aircraft Systems or 'Drones' |
| SMR | Small Modular Nuclear Reactor |
| Substitution | Where a firm substitutes one activity for a similar activity (such as recruiting a different job applicant) to take advantage of public sector assistance. |
| Target area | The area within which the benefits will be assessed. |
| WelTAG | Welsh Transport Planning and Appraisal Guidance |

# Contents

# Executive Summary

Introduction

Llanbedr Airfield is the site of the Snowdonia Aerospace Centre and is part of the Snowdonia Enterprise Zone. There has been an investment of in the region of £1.5million on the site since it was designated part of the Enterprise Zone. This funding was used to upgrade the infrastructure at the site and there are plans for its further development. However there are constraints in the existent infrastructure as all traffic to the airfield must pass through Llanbedr village which can create a bottleneck of traffic. Proposals are in place to address this issue by constructing a new route for all traffic travelling along the A496 avoiding the village centre and improving access to the airfield. The existing links would be maintained allowing local traffic to continue using the current route through Llanbedr.

As well as the potential benefit to the airfield, it has been argued that such developments would enhance the access to the village, could improve the environmental quality of the village and improve safety for pedestrians and cyclists. However the potential negative economic impact on the village has also been considered alongside the potential positive benefits associated with the further development of the airfield. Hence the need for this economic impact assessment study.

This research builds upon a number of previous studies that have considered new uses for Llanbedr Airfield and the economic potential of the site. Those studies provided the starting point for the assessments in this report with additional desk research and primary research being undertaken to update and supplement the data within the reports. This included a telephone survey of 44 local businesses to collect data to inform the economic impact assessment.

Context

- Positive indicators, including low rates of unemployment, should not hide the fact that the economy in the Dwyfor Meirionnydd sub-region faces significant economic challenges such as low wages and a comparatively high rate of part-time jobs. The area is also arguably over dependent on the agriculture and tourism sectors.
- The completion of the decommissioning of Trawsfynydd Nuclear Power Station over the next few years is a substantial threat to the economy of the sub-region due to its important role in the area in economic terms.
- There are plans for developments at the site of the Nuclear Power Station but they are unlikely to mitigate the economic impact of the completion of the decommissioning process in the short-term.
- It is anticipated that both the RPAS and Space sectors will grow substantially over coming years.
- A change of approach was announced by UK Government in mid-2016 whereby they will now support rules that would allow a commercial spaceport to be built at any suitable location, rather than continuing with the previous competition to select a single Spaceport in the UK.

Scenarios and economic impact assessment

Three scenarios for developments at Llanbedr Airfield have been assessed by this study:

**Scenario 1**:

the implementation of the scheme to improve the road access to the airfield only.

**Scenario 2**:

the implementation of the access improvement scheme plus further development on the airfield site.

**Scenario 3**:

the implementation of the access improvement scheme plus the development of a spaceport on the airfield site.

The key findings are:

1. The investment that has already taken place at Llanbedr Airfield has contributed to achieving the 'medium' economic impacts anticipated by a previous study of the economic potential of the site; its value as an economic asset has already increased in recent years.
2. The baseline (current situation) net additional jobs supported at Llanbedr Airfield is 50 local jobs and almost £1.9m of local income. At a Wales level it is estimated at 70 jobs and £2.6m GVA[1].
3. The direct economic impact of roadworks to improve access to the airfield *as a stand-alone intervention* (Scenario 1) would be limited. However it is anticipated that there could be some regression from the current position should the access improvement scheme not be implemented.
4. For Scenario 2, our analysis indicates an estimated potential increase of 25 net[2] additional jobs locally (raising the total associated with the site to 75) and nearly £1m of additional local income (increasing the total to approximately £2m). At a Wales level this additional income increases to circa £1.3m (a total of £3.9m) with an estimated total of 45 additional jobs supported (a total of 115).
5. Our assessment for Scenario 3 indicates an estimated increase of 59 net additional jobs locally (increasing the total to 109 jobs) and over £2.3m of net additional local income (raising the total to £4.2m). At a Wales level the total number of jobs associated with the airfield would increase to an estimated 170 jobs and c. £6.4m.

[1] It should be noted that Appendix 1 includes estimates for the economic impact at a local, South Gwynedd / Meirionnydd, Wales and UK level for the baseline and each of the scenarios.

[2] Total jobs estimated for this scenario minus the baseline position.

<u>Conclusion</u>

This study has found that direct economic impact of proposed roadworks in and around Llanbedr a stand-alone intervention is limited. However, it is unfair to assess the proposed access improvement scheme as a standalone intervention. Its purpose is to support, or more specifically de-risk, further investment and development at the airfield, including the potential development of spaceport facilities. As such, it should be considered as part of a much broader intervention and investment in the development of the site.

The development of Llanbedr Airfield is one of the very few opportunities in the area to diversify and develop the local economy in a way which could make a significant difference. It has several unique selling points which make the site attractive to the industry and substantial growth is forecast for the foreseeable future in both the RPAS and Space sectors.

The possibility that some of the economic impact anticipated within this assessment could occur regardless of the proposed improvements to the access to the site needs to be considered; the competitive advantages of the airfield (such as the segregated airspace) mean that the site is attractive to the RPAS sector regardless of the poor access by road. Indeed, some of the plans for the development of RPAS activity at the site are not dependent on any improvements to the road access taking place. However, the poor road access to the site inevitably creates a risk to the development and is likely to ultimately be a constraining factor to the development of the site. That, in turn, creates a risk that the private sector may not be willing to invest further in the development of the site. The scheme's proposed improvements to the access of the site could eliminate that risk but at a cost.

The potential for the development of the airfield to have further catalytic impacts on the local area should also not be discounted, although they are difficult to accurately estimate. They include further development in the RPAS sector (our estimates are conservative), the potential development of an associated specialist supply chain (developed around activities on the airfield) and growth in the wider local service economy including accommodation, leisure, retail and so on.

# 1 Introduction

In July 2016 Wavehill were commissioned by Gwynedd Council to undertake an economic impact assessment of several scenarios related to proposed roadworks to improve access to the site of Llanbedr Airfield. This is the final report for that study.

## 1.1 Background

Llanbedr is a small village with a population of around 650 in the south of Gwynedd sitting between the towns of Harlech and Barmouth on the A496 (see Figure 1.1). In terms of employers the village includes two general stores, a butcher, a hardware store, a hair and beauty salon, several guesthouses and a public house. Alongside agriculture, tourism is a key part of the local economy as the area is within Snowdonia National Park and Llanbedr itself is close to the popular tourist destination and designated conservation area of Mochras (Shell Island).

Llanbedr airfield is located approximately 1.6km to the west of the village (see Figure 1.1). It is a former Ministry of Defence (MoD) airfield which was opened as an RAF camp in 1941 and subsequently used by British and Allied Forces during World War II. In 2004, the MoD ceased operations leaving the site to be mothballed. It was subsequently sold to the former Welsh Development Agency (now part of Welsh Government) and is currently on long lease to Llanbedr Airfield Estates (LAE). The airfield has three runways, a 2.2km main runway plus 1.4km and 1.3km runways, and benefits from segregated airspace covering 424 square miles (1,100 square km) inland which is linked to a further 2,741 square miles (7,100 square km) over sea and coast (see Figure 1.1).

Enterprise Zones are designated areas across Wales where the Welsh Government is seeking to create the best possible conditions for business in certain sectors to locate and grow. Llanbedr Airfield, specifically the Snowdonia Aerospace Centre which is located on the airfield, is part of the Snowdonia Enterprise Zone and has been identified as a site for aerospace related businesses. The segregated airspace within the area was a contributory factor for the designation of Enterprise Zone status and is instrumental to plans for Remotely Piloted Aircraft Systems (RPAS) testing and development at the Snowdonia Aerospace Centre. This, along with the areas low population density, was also a key factor in the site being identified a potential location of a Spaceport in the UK.

## 1.2 This study

There has been an investment of in the region of £1.5million on the site since it was designated part of the Snowdonia Enterprise Zone. This funding was used to upgrade the infrastructure at the site and there are plans for the further development of the site. Ensuring that the transport links to the site are of a suitable standard to be able to deal with an increase in the volume and type of traffic likely to occur as a result further development of the site is an issue that needs to be considered.

There are constraints in the existent infrastructure which can create a bottleneck of traffic at Llanbedr village as all traffic to the airfield must pass through. Proposals are in place to address this issue by constructing a new route for all traffic travelling along the A496 avoiding the village centre and improving access to the airfield. The existing links would be maintained allowing local traffic to continue using the current route through Llanbedr.

As well as the potential benefit to the airfield, it had been argued that such developments would enhance the access to the village, could improve the environmental quality of the village and improve safety for pedestrians and cyclists. However, the potential negative economic impact on the village has also to been considered alongside the potential positive benefits associated with the further development of the airfield. Hence the need for this economic impact assessment study.

Figure 1.1: Maps showing the location of Llanbedr, the airfield and segregated airspace

# 2 Methodology

This research builds upon several previous studies that have considered new uses for Llanbedr Airfield and the economic potential of the site:

- *Llanbedr Masterplan (2013):* The purpose of the Masterplan was to explore the potential uses for the site and provide a viable approach for the development of the Airfield.
- *Llanbedr Airfield Economic Impact Assessment (2014):* An economic impact assessment for the Masterplan was produced the following year.
- *Llanbedr Spaceport Economic Impact Assessment (2015):* The purpose of this study was to identify and quantify the economic potential of a Spaceport at Llanbedr.
- *WelTAG[3] Planning Stage Report (2016):* This study investigated options for improving the road access to the site.

Those studies provided the starting point for the assessments in this report with additional desk research and primary research being undertaken to update and supplement the data within the reports.

The following primary research undertaken as part of this study:

- Interviews and discussions with key stakeholders including Snowdonia Enterprise Zone Board Members, Gwynedd Council staff and elected members, Welsh Government officials and the lease holders of the airfield; and

- A telephone survey of 44 local business[4] to collect data to inform the economic impact assessment including:
  - Seven businesses located on the airfield
  - Six businesses within or very close to the village of Llanbedr
  - Seventeen businesses in and around villages to the north (Llanfair) and south (Dyffryn Ardudwy) of Llanbedr
  - Fourteen businesses based in or around Harlech (further north) and Barmouth (further south)

This assessment attempts to update and refine the estimates produced in the previous studies without undermining their fundamental integrity. Therefore, as much as possible of this previous work is used to support the assessments in this report. However, it is important to note that the objectives of these earlier assessments were to explore the impacts of these development opportunities rather than measuring the impact of improved access to the site which is the focus of this study.

[3] Welsh Transport Planning and Appraisal Guidance
[4] The contacts for businesses on the airfield were provided by LAE via the Welsh Government. The other business contacts were sourced from a business database provider. This generated a total of 146 contacts which were split into four groups as described above. Within those groups, contacts were randomised prior to contact with as many interviews as possible undertaken given the resource available and time constraints for undertaking the research.

# 3 Context

**Key points**

- Positive indicators, including low rates of unemployment, should not hide the fact that the economy in the Dwyfor Meirionnydd sub-region faces significant economic challenges including low wages and a comparatively high rate of part-time jobs. The area is also arguably over dependent on the agriculture and tourism sectors.
- The completion of the decommissioning of Trawsfynydd Nuclear Power Station over the next few years is a substantial threat to the economy of the sub-region.
- There are plans for developments at the site of the Nuclear Power Station but they are unlikely to mitigate the economic impact of the completion of the decommissioning process in the immediate future.
- It is anticipated that both the RPAS and Space sectors will grow substantially over coming years.
- A change of approach was announced by UK Government in mid-2016 whereby they will now support rules that would allow a commercial spaceport to be built at any suitable location, rather than continuing with the previous competition to select a single Spaceport in the UK.

## 3.1 Introduction

This chapter provides context for the discussion that follows beginning with a brief overview of the economy in Dwyfor Meirionnydd, the sub-region within which Llanbedr sits. A more detailed review of the economic data available for Llanbedr, Dwyfor Meirionnydd and Gwynedd can be found in Appendix 5. There follows a brief overview of two of the sectors which feature most prominently in the discussion that follows, RPAS and the Space Sector.

## 3.2 Economic Overview

Llanbedr is a small community and a sparsely populated, rural area with a population density of 0.2 persons per hectare[5]. In that sense, it is typical of the sub-region Dwyfor Meirionnydd (shown in the map below) (0.3 per ha) and Gwynedd (0.5 per ha). This compares to a rate of 1.5 persons per hectare for Wales.

Population estimate data from the ONS suggests that Gwynedd has an older population when compared to Wales and especially when compared to the UK as a whole. A greater proportion of Gwynedd residents (22.4%) fall into the 65+ age group compared to just over 20% in Wales and under 18% in the UK. This shows that whilst an ageing population is a challenge for Wales as a whole, it is even more acute in Gwynedd.

[5] QS102EW - Population density, 2011 Census

Figure 3.1: Map showing the Dwyfor Meirionnydd sub-region


*Source: National Assembly for Wales: Members' Research Service*

Gross Value Added (GVA) per capita is a primary indicator of a region's economic performance. Per that measure, Gwynedd has been outperforming Wales in each of the last four years of available data (from 2011 to 2014), and increasingly so. In the latest set of data for 2014 (provisional), Gwynedd outperformed Wales by more than £1,000 GVA per capita, and has increased from £15.4k in 2010 to £18.6k in 2014, compared to Wales increasing from £15.5k in 2010 to £17.6k in 2014. However, the fact that GVA per capita at a UK level has been consistently far higher than in Gwynedd and Wales needs to be noted. Data for *GVA per filled job* can also be used as a measure of productivity. In contrast to the data for GVA per capita, Gwynedd experienced a lower level of productivity throughout this period in comparison to both the West Wales and the Valleys area and Wales possibly because of high numbers of those living elsewhere traveling into Gwynedd to work. Again, the fact that productivity is significantly below the UK level should be noted.

The data suggests that the wider sub-region of Dwyfor Meirionnydd can be considered to be performing reasonably well in labour market terms compared to Wales. The sub-region has a slightly lower percentage of the population who are economically in-active (23.1% compared to 24.7%)[6] and a lower claimant count (1.1% compared to 2.2%)[7].

[6] Source: ONS annual population survey
[7] Source: ONS Claimant count (2016)

The percentage of the population that is retired is noticeably higher in Dwyfor Meirionnydd than for Wales as a whole (21.3% compared to 15.3%)[8].

However, these positive figures are somewhat misleading as the data available for earnings[9] shows that the median gross weekly pay in Dwyfor Meirionnydd is the lowest for a constituency area in Wales. The proportion of the workforce who are employed on a part-time basis is another indicator as to the quality of jobs in an area; in Dwyfor Meirionnydd, the proportion is estimated at 33% compared to 29% for Wales as a whole[10].

Turning our attention to businesses, in Dwyfor Meirionnydd they are slightly more likely to be micro-enterprises (less than 10 employees) with 91.6% falling into this category compared to 88.8% for Wales. Conversely, the proportion of businesses falling into the medium-sized category (50 to 249) were twice as high in Wales with 1.3% in this category compared to 0.6% in Dwyfor Meirionnydd. Finally, there were no large businesses (more than 250 employees) in Dwyfor Meirionnydd while 0.3% of Welsh businesses fall into this category[11]. There is therefore a high dependency in the area on micro-enterprises.

The rural nature of the area is evident when looking at the sectors in which the businesses are operating; three in ten (30%) are in the 'agriculture, forestry & fishing sector', which is more than twice as high as the rate in Wales overall (14%). The other prominent sector in the area is 'accommodation & food services'; 13% of businesses in Dwyfor Meirionnydd operate in this sector compared to 9% in Wales as a whole.

ONS data is also available for the tourism industry by combining several SIC codes (defined using guidelines from the UN World Tourism Organisation[12]). ONS have used this data to calculate the proportion of main and second jobs in the tourism industry at NUTS 3[13] areas for 2013-2014 (average of two years' data). This data demonstrates the importance of the tourism sector to Gwynedd as the county has the highest proportion of jobs dependent on the industry in Wales (15%). Indeed, the full set of data for all UK NUTS 3 areas (excluding Northern Ireland) shows that Gwynedd is fourth in a list of 135 areas in terms of the proportion of main and second jobs in tourism industries. Furthermore, the Welsh Government tourism profiles of Local Authorities indicate that Gwynedd has the third highest level of GVA directly related to expenditure in the tourism industries of any of the 12 NUTS 3 areas in Wales.[14]

[8] It should also be noted the data is broken down into a small sample size for Gwynedd and Dwyfor Meirionnydd, and therefore has a relatively high confidence interval (ranging from 7% to 10%). The results should therefore be treated with a degree of caution.

[9] ONS Annual Survey of Hours and Earnings - resident analysis, 2015

[10] The small sample size for Dwyfor Meirionnydd and Gwynedd and the relatively high confidence interval this causes (7.3% to 14.9%) should again be noted.

[11] ONS UK Business Counts - Enterprises, 2015

[12] The following tourism industries are included: Accommodation for Visitors; Food and Beverage Serving Activities; Passenger Transport; Travel Agencies; Vehicle Hire etc.; and Cultural, Sports, Recreation and Conference Activities.

[13] The third level of European Nomenclature of Territorial Units for Statistics (NUTS) in Wales are groups of unitary authorities.

[14] Welsh Government Statistics for Wales (2013) Local authority tourism profiles, 2010-2012: Gwynedd. Available online at: http://gov.wale450s/statistics-and-research/local-aut4hority-tourism-profiles/?lang=en

### 3.2.1 The decommissioning of Trawsfynydd Nuclear Power Station

Trawsfynydd Nuclear Power Station continues to play a key role in the economy of Dwyfor Meirionnydd and the wider labour market area. A recent report by Arup for Gwynedd Council[15] underlines the economic importance of the Power Station; according to the report it accounts for 3% of all employment in Dwyfor Meirionnydd and supports jobs that are generally highly-skilled and highly-paid in comparison to the local average. Therefore, it is considered likely that the completion of decommissioning and closure of the Power Station by 2020 could have a profound effect on the local labour market. We understand that a reasonable trajectory of employment at the Station from 2016 to 2020 will be from circa 250 people to below 100. This impact of the decrease in workforce employment associated with decommissioning is heightened by the associated reduced opportunity for both the specialist supply chain (developed around decommissioning) and the service economy or 'wider supply chain'[16].

Potential for developments at the Trasfynydd site, also part of the Snowdonia Enterprise Zone, are being explored such as prospective scenarios for a Small Modular Nuclear Reactor (SMR) or datacentre development at the site. If they came to fruition such developments, and particularly the development of an SMR, would mitigate some of the economic impact as the decommissioning of the Nuclear Power Station comes to an end. However, our understanding is that such a scenario is unlikely to be fully realised until around 2030 at the earliest meaning that it is unlikely to address more immediate challenges within the local economy.

## 3.3 Key Sectors within the Discussion

Two of the main sectors discussed in the following section are RPAS and the Space Sector. As context for that discussion, there follows a very brief overview of those sectors.

### 3.3.1 Remotely Piloted Aircraft Systems (RPAS)

Terms commonly used to describe RPAS include drones, Unmanned Aerial Vehicles (UAV), or Unmanned Aircraft Systems (UAS). The term UAV includes Remotely Piloted Aircraft Systems (RPAS) as well as autonomous aircraft which can operate without the intervention of a pilot. Many view the use of the term 'drone' as inaccurate and misleading, as it fails to capture either their purpose or degree of technological sophistication[17].

RPAS are no longer used solely by the military. In the UK alone there are now hundreds of companies, mainly SMEs, using RPAS to provide a range of services including photography, land surveying, building inspection and crop analysis.

[15] Arup (2016) Trawsfynydd Nuclear Power Station, Economic impact assessment of the completion of decommissioning. A report for Gwynedd Council
[16] Ibid.
[17] Source: European Union Committee - Seventh Report: Civilian Use of Drones in the EU http://www.publications.parliament.uk/pa/ld201415/ldselect/ldeucom/122/12205.htm

Teal Group[18] analysts predict that the civil segment of the industry will be *"the most dynamic growth sector of the world aerospace industry this decade"* [19]. This is due to the emergence of the commercial market, demand from governments to use RPAS technology as part of their border control processes and consumer drone growth. Teal Group's 2016 World Civil UAS Market Profile and Forecast estimates that non-military UAS production will increase from $2.6 billion worldwide in 2016 to $10.9 billion in 2025 and the market will total $65 billion[20]. However, despite growth in RPAS commercial applications, as of 2014 the military operations still accounted for 95% of activity[21].

The civil and commercial applications of RPAS in Europe are still in their infancy and have been hindered by regulation, and the barriers they face in terms of the density of air traffic. These barriers mainly affect the developed world and, according to a Welsh Government paper, due to the lower levels of regulation in areas outside of the developed world *"the civil and para-public use of UAV systems is becoming more widespread"*. This suggests that if these barriers could be overcome, there is significant growth potential for the commercial segment of RPAS in Europe.

### 3.3.2 Space Sector

The space sector consists of a wide range of activities, including companies involved in manufacturing satellites, providing communications, broadcasting services and finding practical applications for data produced from space vehicles.

In a UK Government consultation paper published in 2014, entitled 'Supporting Commercial Spaceplane Operations in the UK', it is stated that the global space economy is expected to be worth £400bn by 2030 and it is hoped the UK will take a 10% (£40bn) market share[22]. According to a London Economics report on the UK space economy, 'The Case for Space 2015', the market was already worth £11.8bn in 2012/13 and had trebled since the turn of the century illustrating that this is a rapidly developing market[23]:

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[18] Teal Group is a team of analysts and service professionals that research and publish information on the aerospace and defence industry.

[19] Teal Group Press Release July 8 2016, http://www.tealgroup.com/index.php/about-teal-group-corporation/press-releases/129-teal-group-predicts-worldwide-civil-uas-production-will-total-65-billion-in-its-2016-uas-market-profile-and-forecast

[20] Ibid.

[21] Welsh Government Llanbedr Airfield: Economic Impact Assessment, Arup, 12 June 2014, p.12

[22] UK Government Consultation, 'Supporting Commercial Spaceplane Operations in the UK', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/360448/spaceport-consultation.pdf

[23] London Economic, July 2015, 'The Case for Space 2015, The impact of space on the UK economy', http://www.ukspace.org/wp-content/uploads/2015/07/LE-Case-for-Space-2015-Full-Report.pdf

> *It is forecast that 140 satellites with launch mass over 50 kg will be launched on average each year over the decade for governments and commercial companies[24]. The increase in the number of satellites would be significantly higher if two mega-constellation projects for small communications satellites were included in the forecast. The 1,400-satellite count over the decade already includes 350 satellites to be deployed by ten commercial constellations into low or medium Earth orbits for communication or Earth observation.*

It is forecast that governments in 60 countries will be responsible for 75% of the $255 billion in revenues expected from the manufacturing and launch of these 1,400 satellites over the next decade. Nearly 90% of the government market will remain concentrated in the ten countries with an established space industry. In the commercial space sector, Euroconsult anticipates a total of 550 satellites will be launched over the decade by 40 companies. The ten commercial constellations to be launched into non-geostationary orbits for communications services and Earth observation imagery should represent a market of $1.3 billion per year on average over the decade.

There have been a small number of space tourists since the turn of the century, organised by the US based private spaceflight company Space Adventures. However, to date, this has only been possible for extremely wealthy individuals, costing between $20–40 million on each occasion.

It is expected that the commercial spaceflight market and space tourism will be transformed soon, with the development of spaceplanes expected to transform the costs of satellite launches. To this end, a small number of companies have been set up in recent years as part of this emerging market, such as Virgin Galactic and XCOR Aerospace.

The *British Commercial Spaceport Competition* was a plan by the UK Government to select a site, build a commercial spaceport and have it in operation by 2018. Although six sites (including Llanbedr) were shortlisted for possible selection by 2015, the competition was ended without a selection in May 2016 and replaced by a statement from the UK Government regulatory agency that they would support rules that would allow a commercial spaceport to be built at any suitable location. The Modern Transport Bill asserted that this change was part of an aim to *"secure low-cost access to space for our world-leading small and micro satellite industry"*, including helping drive through the complex legislation needed to certify space vehicles and their safe operation within UK airspace. Although no concrete timelines are given, the Bill notes *"enabling a first UK space port… within the life of the parliament",* meaning that a space port could potentially be functioning by 2020 when the current parliamentary term ends.

[24] Source: Euroconsult - http://www.euroconsult-ec.com/sat-manuf-launch

# 4 Scenarios and Economic Impact Assessment

**Key points**

- The investment that has already taken place at Llanbedr Airfield has contributed to achieving the medium economic impacts anticipated in the 2014 EIA of the masterplan for the site.
- The baseline (current situation) net additional jobs supported at Llanbedr Airfield is of the order of 50 local jobs and near £1.9m of local income. At a Wales level, it is estimated at 70 jobs and £2.6m.
- The direct economic impact of roadworks to improve access to the airfield *as a stand-alone intervention* (Scenario 1) would be limited if any. However, it is anticipated that there could be some regression from the current position should the access improvement scheme not be implemented.
- Scenario 2 considers further development of airfield site in addition to the access improvement scheme. In this instance our analysis indicates an estimated increase of 25 net additional jobs locally (raising the total associated with the site to 75) and almost £1m of additional local income (increasing the total to approaching £2m). At a Wales level this increases to c.£1.3m (a total of £3.9m) with an estimated total of 45.5 additional jobs supported (a total of 115).
- Scenario 3 assesses the potential economic impact of the development of a spaceport at the site along with the access improvement scheme. Our assessment indicates an estimated increase of 59 net additional jobs locally (increasing the total to 109 jobs) and over £2.3m of net additional local income (raising the total to £4.2m). At a Wales level the total number of jobs associated with the airfield would increase to an estimated 170 jobs and c. £6.4m of additional income.

## 4.1 Introduction

This chapter first sets out an assessment of the baseline position in the area before describing the three scenarios for developments at Llanbedr Airfield that have been assessed.

## 4.2 Baseline (the Reference Case)

As noted in the introduction, Llanbedr is a small rural village with a limited number of small scale local employers including two general stores, a butcher, a hardware store, a hair and beauty salon, several guesthouses and a public house. The Shell Island campsite just outside Llanbedr is a well-known, significant tourist destination[25].

[25] Gwynedd Consultancy (YGC) (2015) Snowdonia Enterprise Zone, Llanbedr Access Improvement WelTAG Study. A report for Gwynedd Council

Until relatively recently, there had been little significant activity on the site of the airfield since the departure of the MoD in 2004. The hangars, airside buildings and infrastructure have been used sporadically, as and when aircraft arrive or depart from the site. However, as noted in the introduction, an investment of over £1.5m has been made in the site since it was designated as part of Snowdonia Enterprise Zone with a view to developing the Snowdonia Aerospace Centre, and laying the foundations to attract further investment and jobs. Several businesses are now based at the site operating in a wide range of different sectors including aviation, manufacturing, storage services and property development.

Table 4.1 notes our baseline estimates with regards to jobs for the assessments that follow. It is important to note that these are the gross figures, representing the total number of jobs sustained in the local area before factors such as leakage and multipliers are considered.

Table 4.1: Baseline estimates for the locality (gross)

| **Activity** | **FTE jobs** |
|---|---|
| Airport | 2 |
| RPAS | 14.5 |
| MRO | 0 |
| Business park | 35 |
| Accommodation | 3 |
| *Total* | *54.5* |

The activities noted in the table above are for the airfield and are based on the assessment of the activities that could be undertaken on the site within the 2013 Masterplan which is being used as a basis for our assessments throughout this report.

The key assumptions underpinning the baseline assessment for the local area are shown in the table below. The same table can be found for each of the spatial areas[26] under consideration within our assessment in Appendix 1.

This is an assessment of the baseline (or the current situation) so deadweight, displacement and substitution are not factors in the analysis. The key assumptions in this instance are that high leakage rates are assumed for the current RPAS activity and all the activities are assumed to draw high local multiplier effects.

RPAS activity on the site is ‘campaign based’ which means that the business in question is in Llanbedr only for the duration of the testing that they are using the airfield as a base for. The actual location of their business is elsewhere meaning that a large proportion of the benefit of that activity on the airfield ‘leaks’ out of the area. In other words, there is only benefit to the local economy during the relatively short period which they are in Llanbedr.

[26] The assessment has been conducted at the Llanbedr / Airfield, South Gwynedd / Meirionnydd, Wales and UK levels.

Table 4.2: Additionality assumptions for the baseline assessment (local area)

| Activity | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | n/a | n/a | n/a | None | High |
| RPAS | n/a | n/a | n/a | V. high | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | n/a | n/a | n/a | None | High |
| Accommodation | n/a | n/a | n/a | None | High |

The baseline results, taking account of these assumptions, are shown in Table 4.3. The baseline net additional jobs supported at Llanbedr Airfield is estimated at 50 local jobs and nearly £1.9m of local income. At a Wales level, it is estimated at 70 jobs and £2.6m. A full suite of the outputs and outcomes referring to the baseline assessment are also included in Appendix 1.

Table 4.3: Baseline assessment – local area

| Activity | Base | Deadweight | Displacement | Substitution | Leakage (i.e. 1- LR) | Multiplier | Net Add. Jobs (FTE) | GVA estimate |
|---|---|---|---|---|---|---|---|---|
| Airport | 2 | 1 | 1 | 1 | 1 | 1.15 | **2** | **£85,956** |
| RPAS | 14.5 | 1 | 1 | 1 | 0.25 | 1.15 | **4** | **£155,794** |
| MRO | 0 | n/a | n/a | n/a | n/a | n/a | - | - |
| Bus park | 35 | 1 | 1 | 1 | 1 | 1.15 | **40** | **£1,504,223** |
| Accommodation | 3 | 1 | 1 | 1 | 1 | 1.15 | **3** | **£128,933** |
| ***Total*** | 54.5 | | | | | | **50** | **£1,874,906** |

It is important to put any economic impact assessment figures into context. In this instance, the GVA figures noted above need to be considered in the context of a total GVA for Gwynedd of £2,275 million, and Wales of £54,336 million. [27]

[27] Source: https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/Regional-Accounts/Gross-Value-Added-GDP

## 4.3 Scenario 1: Access Improvement Scheme Only

### 4.3.1 The scenario

The main issues identified in the past which have been associated with local transport movements in and around Llanbedr involve congestion and safety concerns associated with traffic travelling along the A496 through the centre of Llanbedr, and seasonal holiday traffic accessing Mochras (Shell Island) via Mochras Road and its junction with the A496. The key constraint to transport access for Llanbedr Airfield is also the junction with Mochras Road and the A496 in the centre of Llanbedr.

The preferred option for improving access to the airfield[28] would involve the construction of a new route for all traffic travelling along the A496 which would avoid the village centre. However local traffic would still be able to use the current route through Llanbedr as the existing A496 and Mochras Road links would be maintained.

It is argued that, as well as improving access to the airfield, the proposed development would benefit the local area by improving the north-south connectivity to employment sources and commercial businesses by providing an alternative to travelling through Llanbedr and the associated constraints. It would also create a more attractive environment within the village for pedestrians and cyclists. However, it is recognised that businesses in Llanbedr could be adversely affected by a reduced volume of traffic passing through the village, although it has also been argued that reduced congestion / traffic flows through Llanbedr would provide improved opportunity to encourage passers-by to spend time in the village.

It is important to note that this scenario only considers the potential economic impact of the road access improvement scheme. Any potential developments on the airfield (other than changes to existing businesses located on the site because of the improved access) which would be associated with the improved access are not considered until we look at Scenario 2. Further, the economic impact of the construction phase of any scheme has not been considered within this assessment because such an impact will be temporary.

### 4.3.2 Economic impact assessment

Transport is a great enabler and is fundamental to the efficiency of any economy. The importance of transport to the Welsh economy is set out within the Wales Transport Strategy – Connecting Wales[29], which recognises that a good transport system is central to achieving a vibrant economy.

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[28] YGC (2016) Snowdonia Enterprise zone, Llanbedr access improvements WelTAG study - planning stage and appraisal (stage 1) report

[29] Welsh Government (2008) Wales Transport Strategy One Wales: Connecting the Nation, Wales

There is however much debate around whether road infrastructure investment projects directly enable economic development with a lack of clear and persuasive evidence either way. Supporters of road investment point to the effects of good quality transport links on competitiveness, on how transport affects costs and the extent to which new infrastructure has reduced operating costs[30]. Indeed, transport is regularly cited by businesses as an important factor in determining the location of industrial or commercial premises. A Department for Transport (2004) report, The Importance of Transport in Business' Location Decisions, concluded that transport is an influential, but not the only or even the most important, reason for business location decisions[31]. Good transport links, both internal and external, are part of a portfolio of area assets that potential investors consider when making location decisions[32].

**Factors in location making decisions:**

- Existing production facilities – care of labour force;
- Labour availability;
- Labour relations;
- Labour suitability – experience in a similar industry;
- Wages levels;
- Site availability;
- Transport infrastructure;
- Government financial and other assistance; and
- Amenities – housing, sports, culture, leisure, shopping.

*Source: Cole (2005) Applied Transport Economics – Policy, Management & Decision Making*

However, it is not conclusive that improving transport infrastructure will lead directly to economic growth. The Standing Advisory Committee on Trunk Road Assessment (SACTRA) report on transport and the economy (1999) found that there was only limited statistical and case study evidence on the type and size of effects resulting from changes in transport costs. The report concluded that while theoretical effects can exist none of them are guaranteed[33].

[30] CBI (2003) The UK as a place to do business: Is transport holding the UK back? Confederation of British Industry, London.
[31] Department of Transport (2004) The Importance of Transport in Business' Location Decisions – Scoping Study, London
[32] Ibid.
[33] The Standing Advisory Committee on Trunk Road Assessment (1999) Transport and the Economy (1999), HMSO, London.

The economic argument in favour of road infrastructure projects is substantially stronger if the improvement is linked to a broader development of an employment site, as is the case in Llanbedr. New and improved roads have an important role in opening up development but they do not guarantee economic growth. Investment in roads is also not sufficient on its own to encourage economic growth and therefore needs to be part of a wider strategy to promote economic development at national, regional and local level. Transport is a complimentary factor and only represents one element of a package of improvements designed to revive economic activity, to increase employment levels, and to attract new investment or expand existing industries[34] [35].

It is important to again note that our assessment of Scenario 1 assumes that there are no ancillary developments on the Airfield; any such developments are considered as part of the assessment of Scenario 2. This assessment considered the likely impact of the proposed roadworks only. Further, the short-term economic impact of the construction phase has not been considered.

Our principal conclusion in respect to Scenario 1 is that the development of improved road access to the airfield site would be neutral in regards to its economic impact. Our interviews with local businesses found that some businesses based on the airfield would benefit from the development. However, it was also found that some negative impact was also likely in particular within the village of Llanbedr (see Appendix 2). This, along with the desk research undertaken as part of the study, leads to our conclusion that the impact is likely to be neutral.

It would however seem clear that the access road to and from the Airfield is currently prohibitive to the extent that it is reasonable to foresee that there would be a potential contraction on the site should the proposed improvements not take place. Whilst it is difficult to be precise about the impact this would have, our considered view is that this would reduce the net outputs locally by around 10% or 5 jobs and c.£200k of net income locally (with little prospect of any other development in the local area to fill this gap).

[34] Cole (1984) Alternative locations for a Nissan Car Manufacturing Plant, Alwyd County Council, Yr Wyddgng, Wales
[35] Cole (2005) Applied Transport Economics – Policy, Management & Decision Making, Kogan Page, London

## 4.4 Scenario 2: Access Improvement Scheme Plus Development at the Airfield Site

### 4.4.1 The scenario

To briefly recap, the 2013 Masterplan provided an outline approach to future development of the airfield and has been used as a basis for our assessment in this scenario. It is important to recognise that the Masterplan was developed largely on a supply-led basis with limited work undertaken to understand likely demand and/or future take up on the site.

Three potential future uses were identified:

a) Business and Enterprise Park;
b) Maintenance, repair and overhaul (MRO); and
c) Remotely piloted aircraft systems (RPAS).

An economic impact assessment of the Masterplan followed in 2014 which assessed the possible impact of the potential development of the site (hereafter referred to as EIA 2014). This study has used that assessment as its starting point; updating the figures as appropriate whilst also seeking to link the potential developments to the road / access improvement scheme to the assessment.

### 4.4.2 Economic impact assessment

It would seem clear that the main impact that would emerge from the proposed improved access relates specifically to the further development of RPAS activities at the airfield. It could be argued that these potential developments are not reliant on the improvement of road access to the site – the other competitive advantages of the site (specifically the segregated airspace within the area) are strong enough to make the site attractive to potential RPAS users despite the poor road access. However, it is apparent that the poor current access to the site does create a risk to the potential development and somewhat diminishes the competitive advantage of the site’s other assets.

At the same time, improved road access would likely consolidate the employment in the airfield rather than induce huge increases. MRO activity identified within the Masterplan would be assessed towards the low scenario of the 2014 EIA forecast conditional on the RPAS development meaning that no jobs / activity is forecast in this respects within our assessment; lack of fit with the RPAS (and spaceport) sector development being prioritised being the crucial factor.

There are one or two key tenants on the business park which are currently negatively affected by the access to the site and this is thought to be precluding further investment in these businesses – though it is unclear to what extent this would induce greater employment than is already on the site. We have assumed a c.10% increase for our purposes here.

Table 4.4: Direct local jobs impact assessment for Scenario 2

| Activity | FTE Jobs |
|---|---|
| Airport | 8 |
| RPAS | 50 |
| MRO | 0 |
| Business park | 39 |
| Accommodation | 3 |
| *Total* | *100* |

Key additionality assumptions associated with our assessment of Scenario 2 are detailed in the table below with reference to the local impact. Again, this has been repeated for each of the spatial areas under consideration for this assessment (see Appendix 1).

Table 4.5: Additionality Assumptions: Scenario 2 (local area impact)

| Activity | Dead-Weight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

These assumptions have been applied to the direct job estimates noted above for this scenario minus the direct baseline estimates. The baseline provides the reference case and therefore, to measure the marginal impact of this specific scenario, this must be deducted from gross direct estimates. What follows is a measure of the marginal impact of these developments (i.e. over and above the baseline).

Adopting these additionality assumptions with scrupulous application of the Green Book, Government additionality guides[36] and reference to the previous EIA reports the following summarises the impact results of Scenario 2 for the Llanbedr / Airfield (local) area.

[36] Homes & Counties Agency (2014) Additionality Guide, Forth Edition

Table 4.6: Scenario 2 Assessment (local area impact)

| Activity | Net direct change | Deadweight | Displacement | Substitution | Leakage | Multiplier | Net Jobs (FTE) | GVA est. |
|---|---|---|---|---|---|---|---|---|
| Airport | 6 | 0.9 | 1 | 1 | 0.9 | 1.15 | 6 | £ 208,872 |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.5 | 1.15 | 15 | £ 572,142 |
| MRO | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.15 | 5 | £ 171,911 |
| Accommodation | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| *Total* | *45.5* | | | | | | *25* | *£ 952,925* |

Our analysis indicates an estimated increase of 25 net additional jobs locally (raising the total to 75) and c.£1m of additional local income (increasing the total to nearly £2m). The total net additional economic value, or contribution of the Llanbedr Airfield, at the Wales level is c.£1.3m (a total of £3.9m) with an estimated total of 45.5 additional jobs supported (a total of 115). A full suite of the outputs and outcomes referring to the Scenario 2 assessment can be seen in Appendix 1.

## 4.5 Scenario 3: Access Improvement Scheme Plus Development of a Spaceport

### 4.5.1 The scenario

Scenario 3 builds on Scenario 2 by adding a spaceport to the development of the airfield. Again, to briefly re-cap, Llanbedr Airfield has been identified as a potential site for a UK spaceport. Alongside the Masterplan discussed as part of the assessment of the previous scenario, an economic impact assessment was undertaken to seek to identify and quantify the economic potential of a spaceport at the location. The assessment (hereafter referred to as 'EIA 2015') was intended to provide confidence to the Welsh Government that the return on investment to Wales justifies its continuing promotion of the site, considering the risks associated with the growth of an emerging sector.

The main 'end uses' for the site were again identified as part of the analysis and they were:

a) RPAS operations and supporting infrastructure[37];
b) Spaceport operations, including spaceflights, a visitor centre, and supporting infrastructure; and
c) Satellite Launching and supporting infrastructure.

Consultations, observations and our own review of evidence indicates that the aspirations described in the EIA 2015 report regarding a spaceport function in Llanbedr need to be adjusted to reflect the current situation. Our assessment is that the development of a spaceport in Llanbedr would be much lower key than previously assessed with considerably less throughput, certainly in terms of visitor numbers which have been scaled back considerably from he estimates in the EIA 2015. However, the lack of certainty relating to how a spaceport in Llanbedr could operate still exists and needs to be acknowledged. In the absence of more definitive information and research available then we have applied the revisions noted in the table below (see Appendix 3 for the original forecasts).

[37] It should be noted that, for the purposes of the analysis in this report, we're assuming that the RPAS activity discussed under the spaceport scenario is additive to that discussed under Scenario 2.

Table 4.7: Adjusted spaceport end-use activities and scale

| End use | Activity and scale |
|---|---|
| Spaceport – passenger flights | • Basic operations on a permanent basis plus additional spaceplane activities – a more extensive maintenance provision and hospitality facilities<br>• Accommodation attached to a visitor centre which can be used by workers and passengers<br>• Pre-flight training centre operator using Llanbedr on a permanent basis<br>• 300 passengers per year in 2020 increasing to 400 passengers per year from 2022 and sustaining until 2030[38] |
| Spaceport – visitor centre | • Viewing deck and educational facilities for school trips<br>• 200 visitors per launch[39] – 10 passengers per launch[40] at a rate of 30 launches per year would therefore result in ~6,000 in year 2020 rising to ~8,000 by 2022 |
| Satellite launching | • Basic satellite launching facilities with a clean room<br>• Satellite launching operator uses Llanbedr on a temporary basis<br>• 10 satellite launches per year |
| RPAS | • RPAS operator permanently locate staff at Llanbedr – academy proposition<br>• RPAS operated all year around |
| Associated development | • Business park of related industries (aerospace cluster development) |

### 4.5.2 Economic impact assessment

It is important to note that it would seem clear that, without improvement to the road access to the airfield, the spaceport scenario is almost certainly a not viable. Therefore, it is perhaps right to assert that without the road redevelopment this is not even a scenario.

[38] This implies multiple launches per day given the potential climatic constraints in this area. It is unclear how feasible this would be in real practical terms.
[39] 300 people attended the launch of the VG in Mojave in 2009.
[40] Virgin Galactic was scheduled to carry 6 passengers at 2500 mph to sub-orbital space – 10 would seem a reasonable estimate for the purposes here.

The revised direct job estimates are presented in Table 4.8. They represent the annual (full-time equivalent) on-site employment once the spaceport is fully operational (assumed to be 2022). Again, it is important to note that some of the on-site employment at the spaceport would be temporary such as employment associated with campaigns of RPAS testing or spacecraft launching. Technical staff working on these temporary campaigns are likely to be people whose permanent place of work / residence is in another region of the UK or further afield. In this context 'local content' refers to the jobs considered to be 'available' to the local workforce and the duration of the role. For example, spaceport operations and maintenance staff would be more likely to live locally for year around operations than half year operations.

Table 4.8: Direct local jobs impact assessment for Scenario 3

| Activity | On-site direct jobs (FTE) | Local content jobs |
|---|---|---|
| Airport | 21 | 19 |
| RPAS | 50 | 9 |
| Spaceport | 36 | 6 |
| Satellite Launching | 2 | 0 |
| Visitor Centre | 2 | 2 |
| Business park | 39 | 39 |
| Accommodation | 3 | 3 |
| *Total* | *153* | *78* |

The table below outlines the additionality assumptions for Spaceport and associated developments again with reference to the local impact (i.e. Llanbedr / Airfield). Whilst investment in the Spaceport is complementary to the development of RPAS activity, in the absence of the Spaceport, a level of RPAS activity is expected to result in any case.

Table 4.9: Additionality Assumptions: Scenario 3 (local area impact)

| Activity | Dead-Weight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| Spaceport | Low | None | None | High | High |
| Satellite Launching | low | None | None | High | High |
| Visitor Centre | Low | None | None | None | High |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

The outturn impacts from applying these assumptions at the local level are summarised in Table 4.10. The results below also include the impact of induced spending by visitors to the area.

It is assumed that, despite the potential requirement to re-route paths and relocate holiday facilities for this scenario, these impacts are transitory and therefore it is implied there are no net gains and losses. The assessment considers the end of project impacts and the outturns are at current market prices where appropriate.

Table 4.10: Scenario 3 Assessment (local area impact)

| Activity | Net direct change | Deadweight | Displacement | Substitution | Leakage | Multiplier | Net Jobs (FTE) | GVA est (£) |
|---|---|---|---|---|---|---|---|---|
| Airport | 19 | 0.9 | 1 | 1 | 0.9 | 1.15 | 18 | £661,428 |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.5 | 1.15 | 15 | £572,142 |
| Spaceport | 36 | 0.9 | 1 | 1 | 0.5 | 1.15 | 19 | £696,240 |
| Satellite Launching | 2 | 0.9 | 1 | 1 | 0.5 | 1.15 | 1 | £38,680 |
| Visitor Centre | 2 | 0.9 | 1 | 1 | 1 | 1.15 | 2 | £77,360 |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.15 | 5 | £171,911 |
| Accommodation | 0 | n/a | n/a | n/a | n/a | n/a | n/a | £0 |
| *Total* | *98.5* | | | | | | *59* | *£2,330,994* |

The impact of an enhanced Airfield with Spaceport development as noted above indicates an estimated increase of 59 net additional jobs locally and over £2.3m of net additional local income. The estimated total value of the Airfield with a new road under Scenario 3 would suggest over double the current economic contribution to 109 local jobs in total and £4.2m of GVA / income.

Under this scenario the total net additional economic value or contribution of the Llanbedr Airfield at the Wales level is estimated at c.£3.8m with an estimated total of close to 100 additional jobs supported. Therefore, the total value of the Airfield under Scenario 3 at the Wales level is estimated at c.£6.4m and 170 jobs. Again, a full suite of the outputs and outcomes referring to the Scenario 2 assessment are also included in Appendix 1.

# 5 Conclusion

Whilst levels of unemployment may be low, the economy in the Dwyfor Meirionnydd sub-region faces significant economic challenges including low wages and a comparatively high rate of part-time jobs. The area also continues to be somewhat dependent on the agriculture and tourism sectors, which is likely to be a major contributing factor to the low wage, part-time nature of the local economy.

Trawsfynydd Nuclear Power Station has been a key part of the local economy in regards to the number and type of jobs that it has sustained since it started service in 1965. Whilst the number of jobs has already decreased as the station has been decommissioned[41], the completion of the decommissioning is likely to have a substantial impact on the local economy if those jobs cannot be replaced. Whilst there is potential for developments on the Trawsfynydd site that would mitigate this impact, they are unlikely to be realised within the next decade.

The development of the Snowdonia Aviation Centre at Llanbedr Airfield is one of the very few opportunities in the area to diversify and develop the local economy in a way which could make a significant difference. It has several unique selling points which make the site attractive to the industry and substantial growth is forecast for the foreseeable future in both the RPAS and Space sectors.

The investment that has taken place on the airfield in recent years would already seem to have made a difference with the baseline (current situation) net additional jobs supported by Llanbedr Airfield being in the region of 50 and near £1.9m of local income; at a Wales level, it is estimated at 70 jobs and £2.6m. Such momentum needs to be maintained.

Our assessment suggests that the economic impact of roadworks to improve access to the airfield *as a stand-alone intervention* (Scenario 1) would be neutral; some businesses would benefit (especially those located on the airfield) but some negative impact is also likely, for example on businesses based within Llanbedr. However, it is anticipated that there is the potential for some regression from the current position on the airfield should the access improvement scheme not progress; in other words, some of the progress that has been made in recent times because of the investment on the airfield could be lost.

Scenario 2 changes the intervention by adding further development on airfield site (based on elements of the previously developed Masterplan) to the access improvement scheme. In this instance our analysis, primarily based on the development of the RPAS service provision on the site, indicates an estimated increase of 25 net additional jobs locally (raising the total associated with the site to 75) and c.£1m of additional local income (increasing the total to nearly £2m). At a Wales level this increases to c.£1.3m (a total of £3.9m) with an estimated total of 45.5 additional jobs supported (a total of 115).

[41] Electricity generation ceased in 1991 with the permanent shut down being announced in 1993.

The possibility that some of the growth anticipated within the assessment could occur regardless of the proposed improvements to the access to the site needs to be considered; the competitive advantages of the airfield (such as the segregated airspace) mean that the site is attractive to the RPAS sector regardless of the poor access by road. Indeed, some of the plans for the development of RPAS activity at the site are not dependent on any improvements to the road access taking place. However, the poor road access to the site would inevitably create a risk to the development and ultimately it is likely to be a constraining factor to the development of the site. This, in turn, creates a risk that the private sector may not be willing to invest further in the development of the site. The proposed improvement to the access of the site is a scheme that could eliminate that risk but at a cost.

The following is an extract from the summary of the ERDF programme for Wales 2016-2020 which essentially describes the situation in Llanbedr:

> *This programme [ERDF] therefore does not aim to solve the problems identified in isolation, but seeks to improve the conditions for that wider investment to take place by other actors, in particular the private sector. It aims to do this through addressing some of the bottlenecks and barriers to growth and helping de-risk investment opportunities.*

It is important to note that no improvement in the road access to the airfield would arguably mean that the spaceport scenario (scenario 3) would be unviable. The situation has also been changed by the announcement in mid-2016 that the UK Government would support rules that would allow a commercial spaceport to be built at any suitable location rather than the previous plan to select a single location for the UK Spaceport. This changes what a spaceport in Llanbedr will potentially look like, increases the likelihood of multiple ports in the UK and hence is likely to result in greater competition for ‘spaceport business’ in the UK. This amplifies the need to address any risks that are likely to constrain the attractiveness of Llanbedr airfield as a location (i.e. the poor access by road).

Our impact assessment, which is considerably more conservative than previous assessments based on a reduction in the anticipated tourism associated with the type of spaceport which could be developed in Llanbedr, indicates an estimated increase of 59 net additional jobs locally (increasing the total generated by the airfield site to 109 jobs) and over £2.3m of net additional local income (raising the total to £4.2m). At a Wales level the total number of jobs associated with the airfield would increase to an estimated 170 jobs and c. £6.4m.

To conclude, this study has found that the direct economic impact of proposed roadworks in and around Llanbedr to improve access to the nearby airfield as a stand-alone intervention is limited. However, it is unfair to assess the roadworks as a standalone intervention. Its purpose is to support, or more specifically de-risk, further investment and development at the airfield including the potential development of spaceport facilities. As such, it should be considered as part of a much broader intervention and investment in the development of the site.

The potential for the development of the airfield to have further catalytic impacts in the local area should also not be discounted although they are difficult to accurately estimate. They include further development in the RPAS sector (our estimates are conservative), the potential development of an associated specialist supply chain (developed around activities on the airfield) and growth in the wider local service economy including accommodation, leisure, retail and so on.

# Appendix 1: Scenario Impact Assessment Tables

## Scenario 1

### Local level Impact

**Llanbedr / Airfield area - Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | n/a | n/a | n/a | n/a | High |
| RPAS | n/a | n/a | n/a | V high | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | n/a | n/a | n/a | None | High |
| Accommodation | n/a | n/a | n/a | n/a | High |

**Llanbedr / Airfield area – Impact**

| **Activity** | **Baseline** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 2 | 1 | 1 | 1 | 1 | 1.15 | **2** | **£85,956** |
| RPAS | 14.5 | 1 | 1 | 1 | 0.25 | 1.15 | **4** | **£155,794** |
| MRO | 0 | n/a | n/a | n/a | n/a | n/a | **n/a** | |
| Business park | 35 | 1 | 1 | 1 | 1 | 1.15 | **40** | **£1,504,223** |
| Accommodation | 3 | 1 | 1 | 1 | 1 | 1.15 | **3** | **£128,933** |
| ***Total*** | ***54.5*** | | | | | | **50** | **£1,874,906** |

## South Gwynedd /Meirionnydd

**Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | n/a | n/a | n/a | n/a | High |
| RPAS | n/a | n/a | n/a | V High | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | n/a | n/a | n/a | n/a | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**South Gwynedd /Meirionnydd - Impact**

| **Activity** | **Baseline** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 2 | 1 | 1 | 1 | 1 | 1.35 | **3** | **£100,904** |
| RPAS | 14.5 | 1 | 1 | 1 | 0.25 | 1.35 | **5** | **£182,889** |
| MRO | 0 | n/a | n/a | n/a | n/a | n/a | **n/a** | |
| Business park | 35 | 1 | 1 | 1 | 1 | 1.35 | **47** | **£1,765,827** |
| Accommodation | 3 | 1 | 1 | 1 | 1 | 1.35 | **4** | **£151,357** |
| **Total** | **54.5** | | | | | | **59** | **£2,200,977** |

## Wales

**Wales - Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | n/a | n/a | n/a | n/a | Medium |
| RPAS | n/a | n/a | n/a | High | Medium |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | n/a | n/a | n/a | n/a | Medium |
| Accommodation | n/a | n/a | n/a | n/a | Low |

**Wales - Impact**

| **Activity** | **Baseline** | Deadweight | Displacement | Substitution | Leakage | Multiplier. | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 2 | 1 | 1 | 1 | 1 | 1.5 | **3** | **£112,116** |
| RPAS | 14.5 | 1 | 1 | 1 | 0.5 | 1.5 | **11** | **£406,420** |
| MRO | 0 | 1 | 1 | 1 | 1 | | **n/a** | |
| Business park | 35 | 1 | 1 | 1 | 1 | 1.5 | **53** | **£1,962,030** |
| Accommodation | 3 | 1 | 1 | 1 | 1 | 1.3 | **4** | **£145,751** |
| ***Total*** | ***54.5*** | | | | | | **70** | **£2,626,317** |

## UK

**UK – Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | n/a | n/a | n/a | n/a | Low |
| RPAS | n/a | n/a | n/a | none | Medium |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | n/a | n/a | n/a | n/a | Low |
| Accommodation | n/a | n/a | n/a | n/a | Low |

**UK - Impact**

| ***Activity*** | ***Baseline*** | Deadweight | Displacement. | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 2 | 1 | 1 | 1 | 1 | 1.91 | **4** | **£142,761** |
| RPAS | 14.5 | 1 | 1 | 1 | 1 | 2.2 | **32** | **£1,192,167** |
| MRO | 0 | 1 | 1 | 1 | 1 | | **n/a** | |
| Business park | 35 | 1 | 1 | 1 | 1 | 1.91 | **67** | **£2,498,318** |
| Accommodation | 3 | 1 | 1 | 1 | 1 | 1.91 | **6** | **£214,142** |
| ***Total*** | ***54.5*** | | | | | | **108** | **£4,047,387** |

# Scenario 2

## Local level Impact

**Llanbedr / Airfield area – S2 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**Llanbedr / Airfield area – S2 Impact**

| Activity | Scenario 2 - Net change | Deadweight | Displacement. | Substitution | Leakage | Multiplier | Net Additional Jobs | GVA est. |
|---|---|---|---|---|---|---|---|---|
| Airport | 6 | 0.9 | 1 | 1 | 0.9 | 1.15 | **6** | **£ 208,872** |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.5 | 1.15 | **15** | **£ 572,142** |
| MRO | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.15 | **5** | **£ 171,911** |
| Accommodation | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Total | 45.5 | | | | | | **25** | **£ 952,925** |

## South Gwynedd /Meirionnydd

**Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**South Gwynedd /Meirionnydd – S2 Impact**

| **Activity** | **Scenario 2 - Net change** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 6 | 0.9 | 1 | 1 | 0.9 | 1.35 | **7** | **£245,198** |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.5 | 1.35 | **18** | **£671,645** |
| MRO | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.35 | **5** | **£201,809** |
| Accommodation | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Total | 45.5 | | | | | | **30** | **£1,118,651** |

## Wales

**Wales – S2 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | Medium |
| RPAS | Medium | Low | None | Medium | Medium |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | None | None | None | None | Medium |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**Wales – S2 Impact**

| Activity | Scenario 2 - Net change | Deadweight | Displacement | Substitution | Leakage | Multiplier | Net Additional Jobs | GVA est. |
|---|---|---|---|---|---|---|---|---|
| Airport | 6 | 0.9 | 1 | 1 | 0.9 | 1.5 | **7** | **£272,442** |
| RPAS | 35.5 | 0.75 | 0.75 | 1 | 0.75 | 1.5 | **22** | **£839,556** |
| MRO | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.5 | **6** | **£224,232** |
| Accommodation | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Total | 45.5 | | | | | | **36** | **£1,336,230** |

## UK

**UK – S2 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | None | Medium |
| RPAS | Low | Medium | None | None | High |
| MRO | n/a | n/a | n/a | n/a | n/a |
| Business park | None | None | None | None | Low |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**UK – S2 Impact**

| Activity | Scenario 2 - Net change | Deadweight | Displacement | Substitution | Leakage | Multiplier | Net Additional Jobs | GVA est. |
|---|---|---|---|---|---|---|---|---|
| Airport | 6 | 0.9 | 1 | 1 | 1 | 2.2 | **12** | **£443,979** |
| RPAS | 35.5 | 0.9 | 0.5 | 1 | 1 | 2.49 | **40** | **£1,486,574** |
| MRO | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.91 | **8** | **£285,522** |
| Accommodation | 0 | 0 | 0 | 0 | 0 | 0 | **0** | **£0** |
| Total | 45.5 | | | | | | **59** | **£2,216,076** |

# Scenario 3

## Local level Impact

**Llanbedr / Airfield area – S3 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| Spaceport | Low | None | None | High | High |
| Satellite Launching | Low | None | None | High | High |
| Visitor Centre | Low | None | None | None | High |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**Llanbedr / Airfield area – S3 Impact**

| **Activity** | **Scenario 3 - Net change** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 19 | 0.9 | 1 | 1 | 0.9 | 1.15 | **18** | **£661,428** |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.5 | 1.15 | **15** | **£572,142** |
| Spaceport | 36 | 0.9 | 1 | 1 | 0.5 | 1.15 | **19** | **£696,240** |
| Satellite Launching | 2 | 0.9 | 1 | 1 | 0.5 | 1.15 | **1** | **£38,680** |
| Visitor Centre | 2 | 0.9 | 1 | 1 | 1 | 1.15 | **2** | **£77,360** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.15 | **5** | **£171,911** |
| Accommodation | 0 | n/a | n/a | n/a | n/a | n/a | **n/a** | **£0** |
| Total | 98.5 | | | | | | **59** | **£2,330,994** |

## South Gwynedd /Meirionnydd

**South Gwynedd /Meirionnydd – S3 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | High |
| RPAS | Medium | None | None | High | High |
| Spaceport | Low | None | None | High | High |
| Satellite Launching | Low | None | None | High | High |
| Visitor Centre | Low | None | None | None | High |
| Business park | None | None | None | None | High |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**South Gwynedd /Meirionnydd – S3 Impact**

| **Activity** | **Scenario 3 - Net change** | Deadweight | Displacement. | Substitution. | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 19 | 0.9 | 1 | 1 | 0.9 | 1.35 | **21** | **£776,459** |
| RPAS | 35.5 | 0.75 | 1 | 1 | 0.75 | 1.35 | **27** | **£1,007,467** |
| Spaceport | 36 | 0.9 | 1 | 1 | 0.75 | 1.35 | **33** | **£1,225,988** |
| Satellite Launching | 2 | 0.9 | 1 | 1 | 0.75 | 1.35 | **2** | **£68,110** |
| Visitor Centre | 2 | 0.9 | 1 | 1 | 1 | 1.35 | **2** | **£90,814** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.35 | **5** | **£201,809** |
| Accommodation | 0 | n/a | n/a | n/a | n/a | n/a | **n/a** | **£0** |
| Total | 98.5 | | | | | | **90** | **£3,503,573** |

## Wales

**Wales – S3 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | Low | Medium |
| RPAS | Medium | Low | None | Low | Medium |
| Spaceport | Low | None | None | Medium | Medium |
| Satellite Launching | Low | None | None | Medium | Medium |
| Visitor Centre | Low | None | None | None | Medium |
| Business park | None | None | None | None | Medium |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**Wales – S3 Impact**

| **Activity** | **Scenario 3 - Net change** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 19 | 0.9 | 1 | 1 | 0.9 | 1.5 | **23** | **£862,732** |
| RPAS | 35.5 | 0.75 | 0.75 | 1 | 0.9 | 1.5 | **27** | **£1,007,467** |
| Spaceport | 36 | 0.9 | 1 | 1 | 0.75 | 1.5 | **36** | **£1,362,209** |
| Satellite Launching | 2 | 0.9 | 1 | 1 | 0.75 | 1.5 | **2** | **£75,678** |
| Visitor Centre | 2 | 0.9 | 1 | 1 | 1 | 1.5 | **3** | **£100,904** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.5 | **6** | **£224,232** |
| Accommodation | 0 | n/a | n/a | n/a | na | n/a | **n/a** | **£0** |
| Total | 98.5 | | | | | | **97** | **£3,780,918** |

## UK

**UK – S3 Assumptions**

| | Deadweight | Displacement | Substitution | Leakage | Multiplier |
|---|---|---|---|---|---|
| Airport | Low | None | None | None | Medium |
| RPAS | Low | Medium | None | None | High |
| Spaceport | None | High | None | Low | High |
| Satellite Launching | None | High | None | Low | High |
| Visitor Centre | None | High | None | None | Low |
| Business park | None | None | None | None | Low |
| Accommodation | n/a | n/a | n/a | n/a | n/a |

**UK – S3 Impact**

| **Activity** | **Scenario 3 - Net change** | Deadweight | Displacement | Substitution | Leakage | Multiplier | **Net Additional Jobs** | **GVA est.** |
|---|---|---|---|---|---|---|---|---|
| Airport | 19 | 0.9 | 1 | 1 | 1 | 2.2 | **38** | **£1,405,934** |
| RPAS | 35.5 | 0.9 | 0.5 | 1 | 1 | 2.49 | **40** | **£1,486,574** |
| Spaceport | 36 | 1 | 0.25 | 1 | 0.9 | 2.49 | **20** | **£753,756** |
| Satellite Launching | 2 | 1 | 0.25 | 1 | 0.9 | 2.49 | **1** | **£41,875** |
| Visitor Centre | 2 | 1 | 0.25 | 1 | 1 | 1.91 | **1** | **£35,690** |
| Business park | 4 | 1 | 1 | 1 | 1 | 1.91 | **8** | **£285,522** |
| Accommodation | 0 | n/a | n/a | n/a | n/a | n/a | **n/a** | **£0** |
| Total | 98.5 | | | | | | **107** | **£4,197,416** |

# Appendix 2: Findings of the Business Survey

## Introduction

Telephone interviews were undertaken with 44 local businesses to explore the economic impact of the proposed developments on their businesses including:

- Seven businesses located on the airfield
- Six businesses within or very close to the village of Llanbedr
- Seventeen businesses in and around villages to the north (Llanfair) and south (Dyffryn Ardudwy) of Llanbedr
- Fourteen businesses based in or around Harlech (further north) and Barmouth (further south)

This appendix summarises the main findings of those interviews.

## Potential impact of the road enhancement scheme

Businesses expressed mixed views on the economic impact of the road improvement scheme depending on their location and the nature of their business.

As one would expect, those located on the Airfield were generally positive highlighting how they anticipated their businesses would benefit as a result of the works. For example:

> *"We have a unit on the airfield and the traffic congestion is a nightmare - it takes 45 mins to get through Llanbedr and it's a major pinch-point. Having these improvements would greatly improve the efficiency of our business."*
>
> *"*[I've] *Never known anyplace in Britain such as Llanbedr… the whole place gets gridlocked…"*

In one instance a respondent noted that problems caused by poor access to the site had meant that they had *"lost interest in running the business and we're looking to wind down".* This is only one instance but highlights the potential negative impact of no development from the current situation.

The following is a quote highlights the potential positive and negative impact of a potential bypass of Llanbedr on local businesses:

> *"This is difficult to answer and I've been on the fence on this as there are pros and cons. We do get a lot of passing trade and our customers tell us that they didn't know we were here until they passed by. However, the traffic congestion is likely to detract from our business and in recent weeks the whole place has been gridlocked, taking one hour to get from one end of Llanbedr to the other. Overall, I think the bypass would be beneficial but only if it's done in a sensible manner e.g. signage to redirect passers-by to the village."*

Most respondents based in and around Llanbedr were however concerned about the potential negative impact of a bypass of the village on their business, the following quote being typical:

> *"Anybody who's passing you would lose, there wouldn't be any passing trade and therefore it would be a very negative impact. The business makes a lot of sales from passing trade, especially passing cyclists, and it's very important for them. It's very handy to be on the main road."*

The potential to be overly influenced by the traffic issues in the area which only occur during a relatively short period of the year was also highlighted:

> *"When I've spoken to customers, they don't think we need the bypass because there's only an issue a couple of times a year during bank holidays where it's difficult to get out because of the sheer volume of customers. Apart from that, it isn't an issue."*

Beyond Llanbedr, businesses were more likely to identify a potential positive impact as a result of the proposed road works; 19/31 anticipated a positive impact.

> *"It would remove the frustration on our customers because driving through Llanbedr can be an absolute nightmare. Our customers complain about having to spend 20 minutes to travel through the village. It's a turn-off when people visit the area for the first time and find the infrastructure so poor and it means that they're less likely to return. Also, it would make our business more efficient as it would reduce the travelling time and remove hold-ups on supplies."*

## Impact of the airfield

Respondents to the business survey were asked to consider the extent to which their business was linked to the airfield; what would be the impact on their business if the number of people employed at the airfield increased? All six businesses based on the airfield made positive comments although the scale of the benefit anticipated varied depending on the type of service / product that they provided.

The views of businesses based in or around Llanbedr was more mixed. When asked to quantify the importance of the airfield (in its current form) to their business on a scale of 1 (not very) to 5 (very important), four of the six respondents gave the lowest possible response (1), one said 4 and two said 5 (an average of 2.2 out of 5). The following are typical examples of the comments made:

> "[The airfield is] *not important for us or for Llanbedr and it won't bring any employment opportunities to local people."*
>
> *"Many people who use the airfield have stayed at the cottages."*
>
> *"Primarily because our residential guests are largely from England so it has no direct effect at all. There was one company on the site that we had used but they're no longer there."*
>
> *"We don't get many customers from there as it is, but there's great potential there."*
>
> *"There's potential if it brings people in through events such as air-shows and festivals, and from an increase in employment. We used to get a lot of trade from the airfield before it closed and it would be good to have that again."*

Views were similar when the same respondents were asked whether the development of the site would have a positive or negative impact on their business with four identifying a likely positive impact and three no impact (positive or negative).

The 31 local businesses from further afield also had mixed views with the average response when asked how important the airfield currently was for their business being 2.1 out of 5. Again, the most common response was 1 out of 5 – i.e. the airfield is not very important to their business.

However the view was more positive when those respondents were asked to anticipate the impact of an increase in employment on the site on their business with 17/31 anticipating a positive impact. This demonstrates the potential knock-on impact of a development at the airfield beyond Llanbedr itself. The others (usually tourism businesses) did not anticipate any kind of impact, good or bad.

# Appendix 3: Overview of the Original Spaceport Assessment

Source:
Arup (February, 2015) *Llanbedr Spaceport, Economic Impact Assessment;* a report for the Welsh Government

Table A3.1: Spaceport end-uses, activities and scale as set out in the EIA 2015

| End use | Activity and scale |
|---|---|
| Spaceport – passenger flights | • Operator using Llanbedr on a permanent basis<br>• Basic operations on a permanent basis plus additional spaceplane activities – a more extensive maintenance provision and hospitality facilities<br>• Accommodation attached to the visitor centre which can be used by workers and passengers<br>• Pre-flight training centre<br>• 300 passengers per year in 2020 increasing to 400 passengers per year from 2022 and sustaining until 2030 |
| Spaceport – visitor centre | • Viewing deck and educational facilities for school trips<br>• 100,000 visitors per year |
| Satellite launching | • Basic satellite launching facilities with a clean room<br>• Satellite launching operator uses Llanbedr on a temporary basis 10 satellite launches per year |
| RPAS | • RPAS operator permanently locate staff at Llanbedr – academy proposition<br>• RPAS operated all year round |
| Associated development | • Business park of related industry (aerospace cluster development) |

# Appendix 4: Review of Funding Opportunities

## Structural Funds

The ERDF programme is described in Welsh Government literature as being driven by an unequivocal focus on investments that can contribute to the creation of sustainable jobs and economic growth, with a concentration of resources in those areas where the greatest impact can be made. The approach to investment is described as to take account of the wider investment context, setting out the specific role that the programme can play in unlocking opportunities for economic growth alongside the (potentially much larger) investments of the private, public and third sectors.

> *This programme therefore does not aim to solve the problems identified in isolation, but seeks to improve the conditions for that wider investment to take place by other actors, in particular the private sector. It aims to do this through addressing some of the bottlenecks and barriers to growth and helping de-risk investment opportunities.*

**Priority Axis 1 (Research and Innovation)** is focused on the development of research, technological development and innovation. The strategy sets out areas of specialisation which can provide a focus for investments and the development of excellence and clusters. These are broadly organised under the headings of 'Grand Challenge' areas, which align with UK and EU policy priorities:

- Life Sciences and Health (for example Patient data records, Wound healing, E-health or Stem cell research);
- Advanced Engineering and Materials (e.g. Photonics, or Maintenance Repair and Overhaul in Aerospace);
- Low Carbon, Energy and Environment (e.g. Smart living, Eco innovation, or Low-carbon energy).
- The importance of ICT and the Digital Economy is also recognised as a key enabling area (e.g. trust and security and through developing world class enabling infrastructure).

The specific objectives identified are:

1. To increase the success of Welsh research institutions in attracting competitive and private research funding.
2. To increase the successful translation of research and innovation processes into new and improved commercial products, processes and services, in particular through improved technology transfer from Higher Education Institutions.

There is clearly potential for project associated with the development Llanbedr Airfield under this Priority Axis given its potential as a catalyst for research and innovation, and the references to cluster development and aerospace. The potential would be even greater should it be possible to develop a project on the site which links with a Welsh University.

Priority Axis 2 (SME Competitiveness) and 3 (Renewable Energy and Energy Efficiency) are not relevant to Llanbedr Airfield.

**Priority Axis 4 (Connectivity and Urban Development)** however is also relevant. This priority is focused on peripherality and the lack of agglomeration effects from large urban centres being a key component of the productivity gap in Wales. The specific objectives are:

1. To address issues of peripherality and improve private investment in local areas through improvements to the functioning of the Trans-European Transport Network
2. To increase urban and labour mobility to and from key urban and employment centres
3. To contribute to Digital Agenda for Europe targets in Wales for 100% access to next generation broadband (30Mbps and above) and 50% access to 100Mbps.
4. To increase employment through investments in prioritised local or regional infrastructure supporting a regional or urban economic strategy.

As a site which has been identified as a potential key employment centre and strategic site by the Welsh Government via its inclusion within the Snowdonia Enterprise Zone, Llanbedr airfield could potentially again be supported under this Priority Axis.

We would anticipate that the development of an intervention / project which is broader than just the access improvement scheme assessed in this report would be key to the potential funding of development at Llanbedr under either of these Axis.

## Transport Grants

The Welsh Government provides Local Authorities with funding for regional transport projects. These projects must:

- Support our economic priorities for jobs and growth, for example by providing access to City Regions, Enterprise Zones, local growth zones and regeneration areas;
- Provide safe and affordable access to employment sites;
- Provide safe and easy to use transport to key facilities and services;
- Connect communities;
- Encourage healthier and sustainable travel;
- Support delivery of the Active Travel (Wales) Act 2013; and/or
- Consider the safeguarding of vulnerable groups.

The connection of any potential works to improve access to Llanbedr Airfield to the above is clear, especially in relation to the first point.

**Local Transport Fund** grants are available annually (although the guidance can potentially change) with applications being drawn from priorities identified within the Local Transport Plans[42]. Funding is paid direct to Local Authorities and is available for one financial year only. The total available for schemes across Wales for the 2016-17 financial year was £15.7m with the maximum allocation available per scheme being £1.5m. The Llanbedr Airfield scheme has already benefited from this Fund which has provided £180,000 towards the scheme development work in 2016-17[43].

We anticipate that the Fund is likely to be available for the 2017-18 financial year although, at the time of writing, guidance had not been issued by the Welsh Government. Assuming that the Fund does continue to be available, the maximum of £1.5m per scheme is likely to continue which underlines the importance of a funding scheme such as Structural Funds to any potential project in Llanbedr.

Two further local transport capital grants are available to Local Authorities from the Welsh Government for Road Safety and Safe Routes in Community (routes to schools) projects, however it is unlikely that the Llanbedr Airfield scheme would be a suitable project for either of those funds.

Looking beyond transport funding / grants, Llanbedr has not been part of any designated regeneration area so any funds from that source are not available. Funding from other sources (including the Rural Development Plan for Wales) are usually relatively small scale and not usually made available for large scale transport or capital schemes such as that being proposed in Llanbedr.

[42] Improving access to Llanbedr Airfield is identified as a priority within the Joint Transport Plan for Mid Wales: *To provide a new multi-user access road to connect the Llanbedr Airfield site to the A496. This will improve access to the Snowdonia Enterprise Zone and the connections to the others in the triangle of EZs (Anglesey and Deeside).* p. 41
http://www.tracc.gov.uk/fileadmin/user_upload/LTP-FINAL-2015/Final_Joint_LTP_for_Mid_Wales_30-01-15.pdf

[43] http://gov.wales/docs/det/general/160401-ltf-grants-2016-en.pdf

# Appendix 5: Detailed Socio-economic Analysis

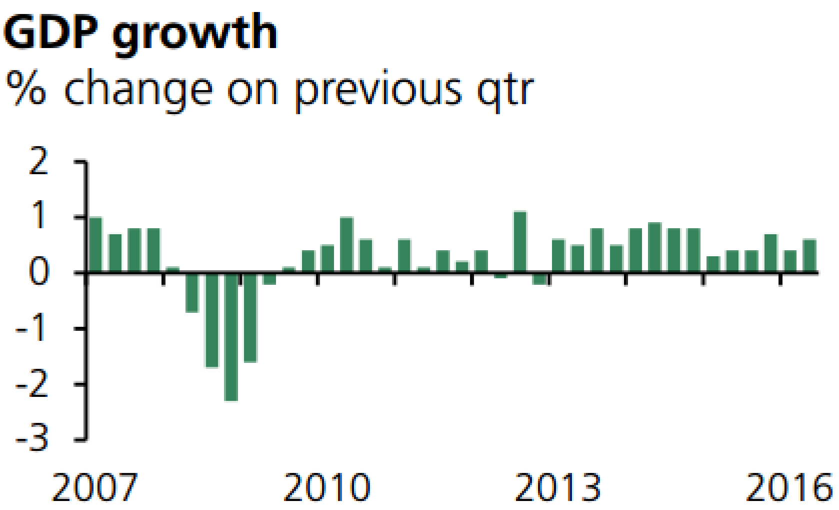
## Recent Economic Trends

This study was undertaken within a few months of the 23rd June 2016 referendum vote in the UK to leave the EU. Data suggests that the economy was in reasonably good health in the run up to the referendum:

- The employment rate in Wales, as estimated by the Labour Force Survey, was 72.2 per cent of those aged 16-64 during April to June 2016, up from 71.5 per cent a year earlier. The UK rate for the same period was 74.5 per cent, up from 73.4 per cent a year earlier.

- The unemployment rate in Wales was 4.3 per cent of the economically active population during April to June 2016, down from 5.8 per cent a year earlier. The UK rate for the same period was 4.9 per cent, the lowest rate since 2005, down from 5.6 per cent a year earlier.

- In the UK, GDP grew by 0.6% in real terms in in the second quarter (Q2) of 2016 compared with the previous quarter. This was higher than growth of 0.4% in Q1 2016.




Many economists had been predicting an immediate and significant impact on the UK economy and consumer confidence should the country vote to leave the EU. Whilst an immediate negative impact has been apparent, subsequent figures suggest that what some have described as the initial shock of the June vote has begun to dissipate. However the longer term impact is still difficult to judge; a lack of hard data on the state of the UK economy post-EU referendum coupled with forecasts for weak economic growth means caution is very much still in order.

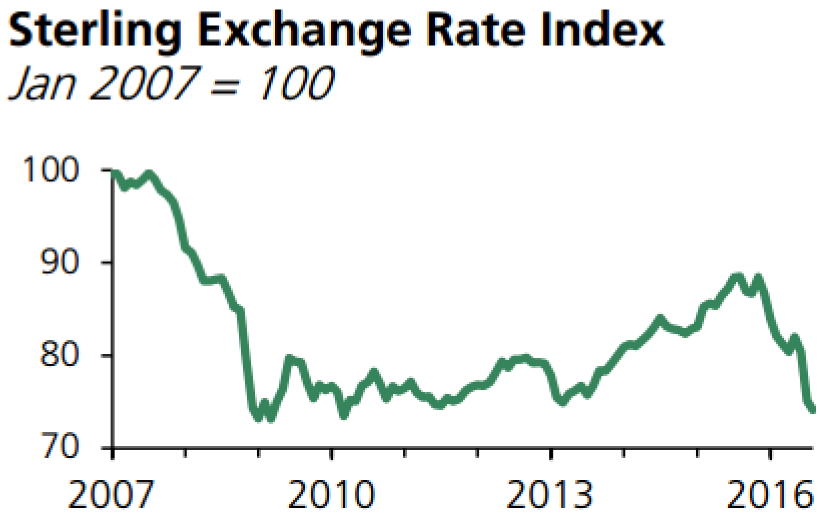
The Bank of England took a number of steps to boost the UK economy following the Brexit vote in response to indications of a slowdown in the UK economy including a cut to interest rates from 0.5% to 0.25%, the first reduction since 2009 which takes UK rates to a new record low. There was also a substantial extension of the Bank's quantitative easing programme by an extra £70bn, and a £100bn scheme to force banks to pass on the low interest rate to households and businesses.

The UK's services sector saw a record rise in August 2016; the Markit/CIPS purchasing managers' index (PMI) showed activity in UK services recorded the biggest month-on-month rise in the survey's history effectively taking services back to pre-referendum levels[44]. This sector, which is very broad including everything from financial services through to cafes and shops, accounts for about 80% of the UK economy. Confidence among UK consumers also improved in August although remained below pre-Brexit vote levels[45]; in July, the same source found that confidence dropped at its sharpest rate for more than 26 years. A recent Markit/CIPS survey suggests that the UK's manufacturing sector also rebounded sharply in August[46]. UK industrial output grew at its fastest rate for 17 years from April to June, according to the ONS which suggests that the result of the referendum has not ended / reversed the trend of growth in this sector.

The value of the pound fell dramatically the day after the referendum and since then it has remained well below pre-referendum levels. The currency's continuing weakness has been accentuated by the cut in interest rates and the Bank of England's economic stimulus measures. Against the dollar, the pound is now worth about $1.33 compared to $1.57 a year ago (a fall of 15%). Against the euro, it is now worth about €1.19 compared to €1.35 a year ago (a fall of 12%).

Figures from the ONS suggest that the fall in the value of the pound since the vote has increased the cost of imports for manufacturers. Input prices faced by manufacturers rose 4.3% in the year to July, compared with a fall of 0.5% in the year to June[47]. In the month of the referendum, Britain's trade deficit widened to £5.1bn after imports hit a new high. A weaker pound may help exporters cut some of this deficit as their products will now be cheaper, but it could also cause inflationary pressures in the UK as it will put up the costs of imports and raw materials.

[44] https://www.markiteconomics.com/Survey/PressRelease.mvc/3de4f3638ea3472bb7b986ebe0b9931d
[45] Source: GfK consumer confidence gauge
[46] https://www.markiteconomics.com/Survey/PressRelease.mvc/b2d9d18dacd14cb3a1c6b7836894b80f
[47] https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/producerpriceinflation/july2016




Longer term, besides the obvious potential effect on trade, the impact of the UKs withdrawal from the EU is likely to be on areas such as Foreign Direct Investment (FDI), the UK's contribution to the EU Budget and the effect of immigration on the labour market[48]. The effect on FDI is uncertain, with much depending on the trade arrangements reached with the EU and other countries. Access to the single market is an important determinant of FDI but by no means the only one. Outside the EU, the UK may be able to establish a regulatory regime more favourable to overseas investors, which could offset the effect of its departure.

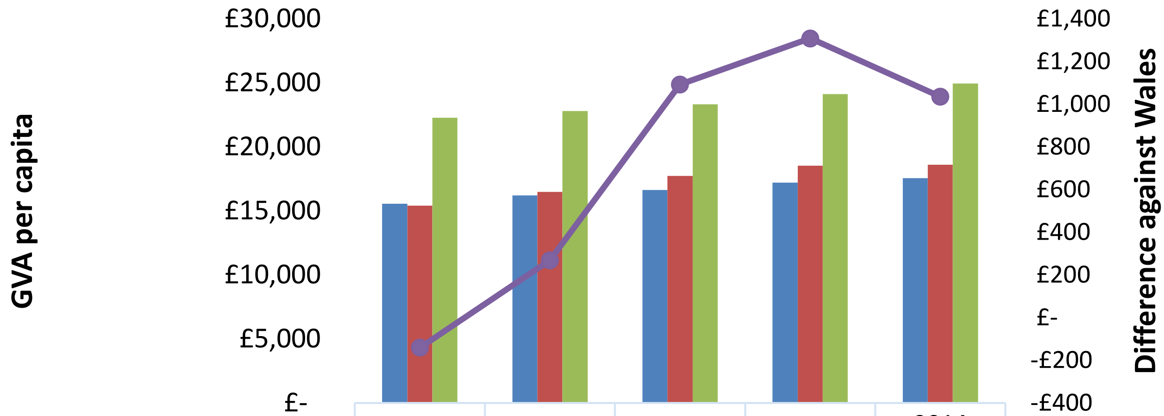
## Economic Performance

Figure A5.1 compares the economic performance of Gwynedd with Wales and the UK. It is based on GVA per capita, which is the primary indicator of the state of the economy used in the UK. The figure for 2014 is provisional and must therefore be treated with caution. This data wasn't available at a more local level but it does provide an outline as to the economic performance of the wider area.

By this measure, Gwynedd has been outperforming Wales in each of the last four years of available data (from 2011 to 2014), and increasingly so. In the latest set of data for 2014 (provisional) Gwynedd outperformed Wales by more than £1,000 GVA per capita, and has increased from £15.4k in 2010 to £18.6k in the latest year, compared to Wales increasing from £15.5k in 2010 to only £17.6k in the latest year. However, although the comparison with Welsh GVA per head makes for positive reading, comparison with UK GVA per head is less so. In each of the last five years of available data, GVA per head in the UK has been far higher than Gwynedd (by more than £5k each year).

[48] Source: House of Commons Library Briefing paper: http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7213

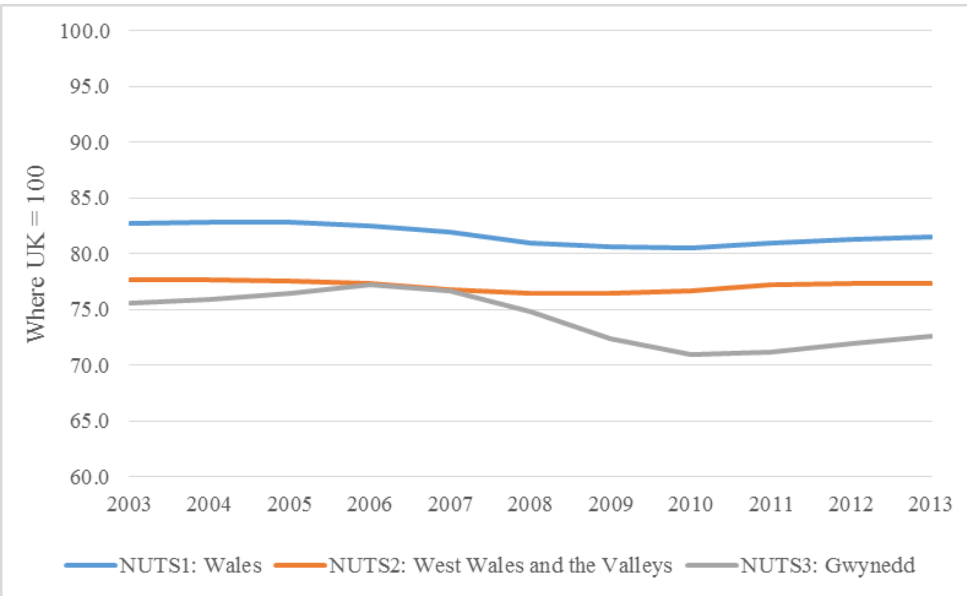
Figure A5.1: Gross Value Added per capita at current basic prices[49]




| | 2010 | 2011 | 2012 | 2013 | 2014 (provisional) |
|---|---|---|---|---|---|
| Wales | £15,554 | £16,215 | £16,649 | £17,215 | £17,573 |
| Gwynedd | £15,413 | £16,483 | £17,742 | £18,524 | £18,608 |
| UK | £22,271 | £22,806 | £23,323 | £24,131 | £24,958 |
| Difference against Wales | -£141 | £268 | £1,093 | £1,309 | £1,035 |

Data for GVA per filled job can be used as a measure of productivity. Figure A5.2 shows the index of GVA per filled job, where UK = 100, over the decade to 2013. In contrast to the data for GVA per capita, Gwynedd experienced a lower level of productivity throughout this period in comparison to both West Wales and the Valleys and Wales as a whole. Again, productivity was significantly below the UK level across all three NUTS areas.

Figure A5.2: Index of GVA per filled job where UK = 100, 2003-2013
(Source: ONS, Sub-regional Productivity)

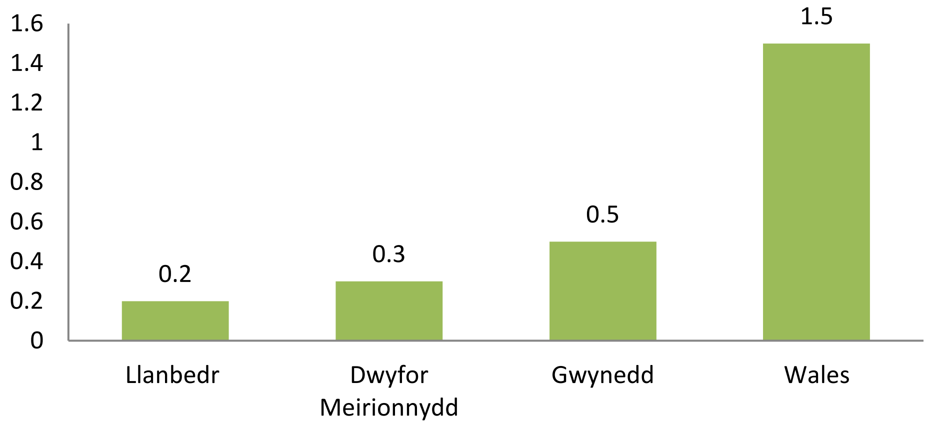



[49] ONS Gross Value Added (Income Approach) per head of population at current basic prices, 2014

# Population density

Llanbedr is a small community and a sparsely populated, rural area as demonstrated by Figure A5.3 below. This chart draws on data from the 2011 Census and shows that, at the time, there were around 7.5 times more people per hectare in Wales as a whole compared to Llanbedr (1.5 per hectare in Wales against 0.2 in Llanbedr). The wider areas of Dwyfor Meirionnydd and Gwynedd are also sparsely populated in comparison to Wales, though not to the same extent as LLanbedr.

Figure A5.3: number of persons per hectare[50]




# Employment

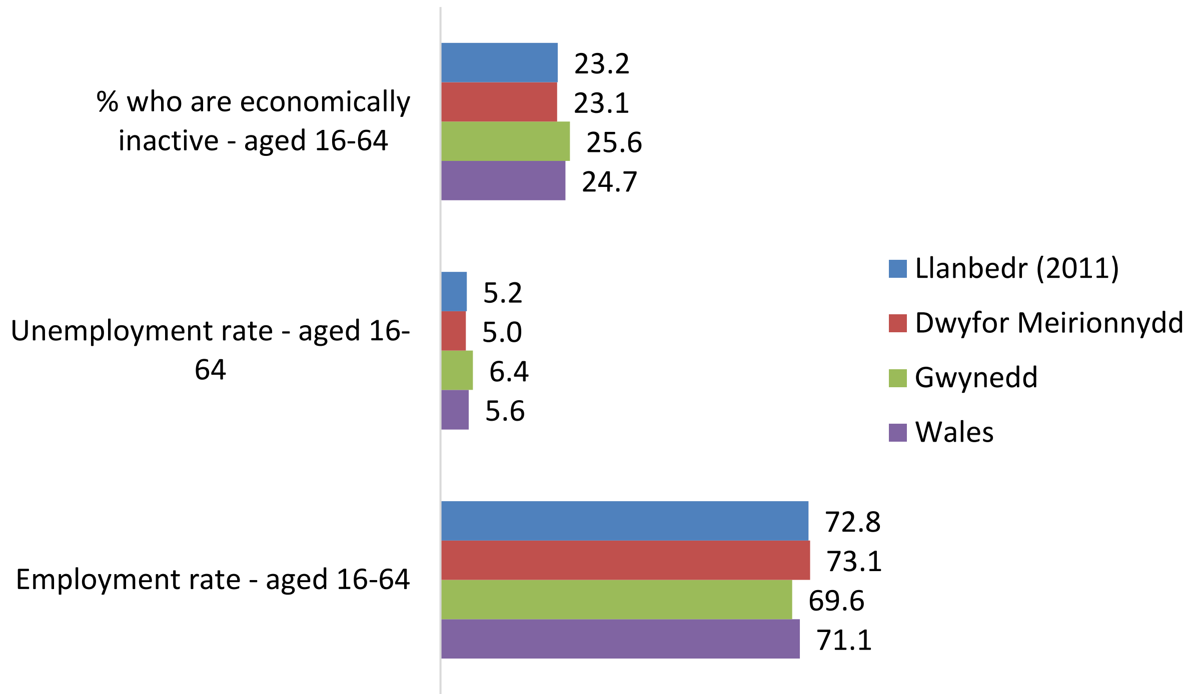
## Employment status

Figure A5.4 below illustrates the employment status of residents in Llanbedr and the wider areas, compared to Wales. This is derived from the latest Annual Population Survey (APS) (2016), with the exception of Llanbedr where data was obtained from the 2011 Census as APS is not broken down to that level.

There are only slight variations between the different areas in terms of the proportion of people who are employed, unemployed and economically inactive. Llanbedr had a slightly higher employment rate (72.8%) in 2011 than for Wales as a whole in the latest figures, and a better unemployment rate too (5.2% against 5.6%). Furthermore, there were less economically inactive people in Llanbedr in 2011 (23.2%) than in Wales in the latest figures (24.7%). However Gwynedd as a whole doesn't fare as well with a higher unemployment and economically inactive rate, and smaller employment rate than for Wales as a whole. Dwyfor Meirionnydd was the best performing area (from those highlighted below) in the latest figures, with the highest employment rate and smallest unemployment and economically inactive rates.

[50] QS102EW - Population density, 2011 Census

Figure A5.4: Employment Status from Apr 2015-Mar 2016[51]




## Quality of jobs

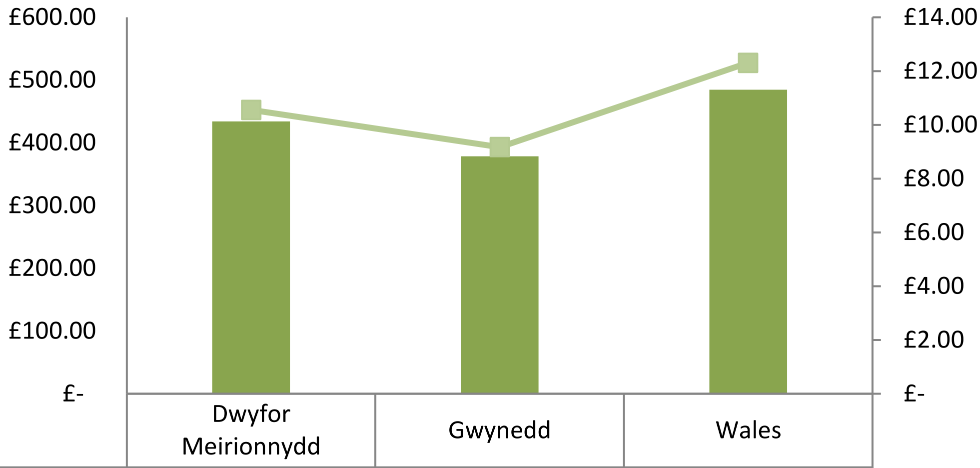
Although there was a better rate of employment in Dwyfor Meirionnydd than for Wales as a whole, ONS data presented in Figure A5.5 suggests that these are lower paid jobs. This data was obtained from the annual survey of hours and earnings and sets out the median gross weekly and hourly pay for full-time workers in Dwyfor Meirionnydd and Gwynedd, compared to Wales. The data wasn't available at the Llanbedr regional level in this survey. It should also be noted the data is broken down into a small sample size for Gwynedd and Dwyfor Meirionnydd, and therefore has a relatively high confidence interval (ranging from 7% to 10%). The results should therefore be treated with a degree of caution.

Figure A5.5 suggests that the median gross weekly pay in Dwyfor Meirionnydd was around £50 less than for Wales as a whole in 2015 (£433 compared to £484). Similarly, residents in Dwyfor Meirionnydd earned around £2 less in gross hourly pay. Earnings in Gwynedd as a whole was even less, receiving more than £100 less in gross weekly pay and more than £3 less gross hourly pay.

The last five years of available data (2011-15) shows that this has been a consistent trend with average weekly pay for full-time workers at least £50 higher in Wales than Dwyfor Meirionnydd in each year, and the average hourly pay higher in Wales each year. Earnings in Gwynedd was less than for Wales as a whole in each of the last five years too, both in terms of weekly and hourly pay.

[51] ONS annual population survey, 2016

Figure A5.5: Earnings 2015 – weekly and hourly pay[52]




| | Dwyfor Meirionnydd | Gwynedd | Wales |
|---|---|---|---|
| Weekly pay - gross | £433.90 | £378.30 | £484.40 |
| Hourly pay - gross | £10.56 | £9.17 | £12.31 |

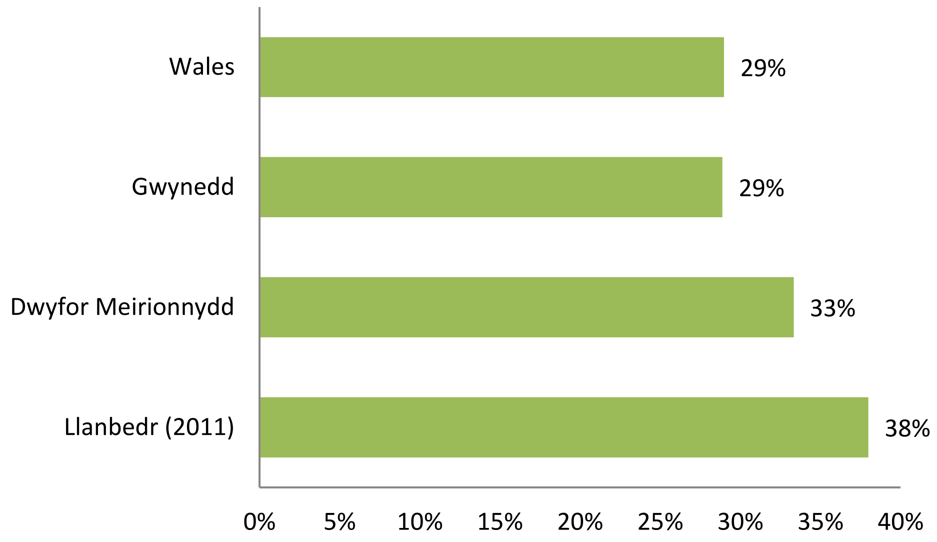
The proportion of workforce in each area who are employed on a part-time basis is another indicator as to the quality of jobs. Figure A5.6 includes ONS data from the same survey (2015) and illustrates the proportion of workers in each area who are employed on a part-time basis. The data for Llanbedr, however, was again sourced from the 2011 Census. The small sample size for Dwyfor Meirionnydd and Gwynedd and the relatively high confidence interval this causes (7.3% to 14.9%) should again be noted.

The data suggests that a far greater proportion of workers in Llanbedr, in 2011, were employed on a part-time basis with almost four in ten (38%) part-time workers compared to less than three in ten (29%) in Gwynedd and for Wales as a whole in 2015. Dwyfor Meirionnydd also had a higher proportion of its workforce employed on a part-time basis than for Wales as a whole, but not to the same extent as in Llanbedr.

Data from the annual survey of hours and earnings shows a consistent trend over the last five years with Dwyfor Meirionnydd having the highest proportion of part-time jobs in each year, followed by Gwynedd and then by Wales. This suggests that the data does provide an accurate picture of the nature of jobs in Llanbedr and the wider area compared to Wales. It also confirms the preconceptions of local stakeholders where many indicated that the main barrier facing the local economy was the poor quality jobs, both in terms of pay and part-time/seasonal work.

[52] ONS annual survey of hours and earnings - resident analysis, 2015

Figure A5.6: Proportion of part-time jobs in each area[53]



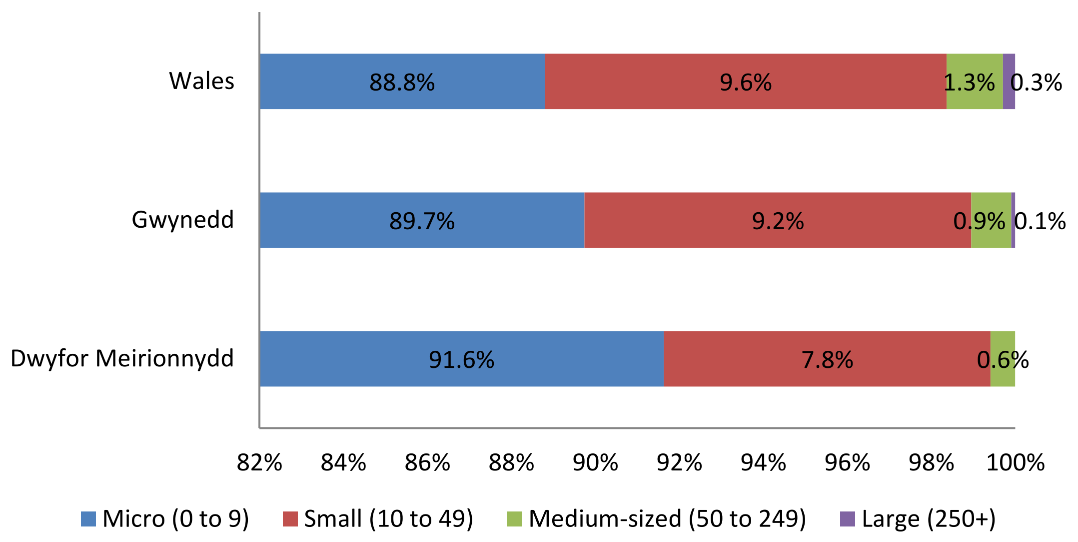

## Profile of Businesses

### Business Size

Although there are more businesses per capita in the Llanbedr wider area than in Wales as a whole, data suggests these tend to be smaller businesses. As Figure A5.7 illustrates below, businesses in Dwyfor Meirionnydd are more likely to be microenterprises (less than 10 employees) with 91.6% falling into this category compared to 88.8% for Wales as a whole. Conversely, the proportion of businesses falling into the medium-sized category (50 to 249) were twice as high in Wales with 1.3% in this category compared to 0.6% in Dwyfor Meirionnydd. Finally, there were no large businesses (more than 250 employees) in Dwyfor Meirionnydd while 0.3% of Welsh businesses fall into this category. Gwynedd businesses also tended to be smaller than across Wales as a whole, but larger than in Dwyfor Meirionnydd.

[53] ONS annual survey of hours and earnings - resident analysis, 2015

Figure A5.7: Businesses in each area broken down by size[54]




## Business Start-Up and Closure Rates

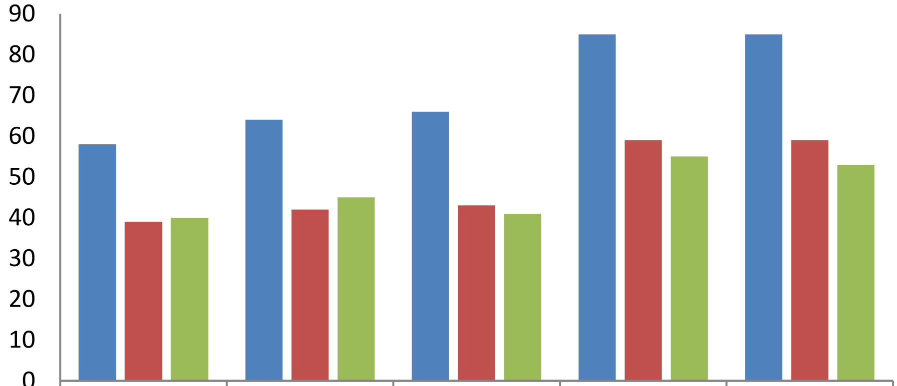
ONS data was obtained for the start-up and closure rates in Gwynedd, compared with Wales and the UK, to provide an insight into the scale of entrepreneurial activity taking place in the area over recent years. Figures A5.8 and A5.9 below show the number of business births and closures in each of the last five years of available data (2010-14) in these areas, per 10,000 of the Working Age Population.

This data suggests a low level of entrepreneurial activity in Gwynedd when compared to Wales and the UK, as there were fewer business births per 10,000 of the working age population than in the UK in each of the last five years, and fewer than Wales in each of the last three years (see Figure A5.8). As Figure A5.8 illustrates, in 2014 there were 32 more business births in the UK and six more in Wales per 10,000 of the working age population, this represents a 60% higher birth rate in the UK and 11% higher birth rate in Wales.

The chart shows a period of stagnation in entrepreneurial activity in the three years following the recession of 2009-2010 in Gwynedd, with the birth rate increasing by only one from 40 in 2010 to 41 in 2012. However, entrepreneurial activity increased substantially into 2013 with 55 business births and businesses sustained into 2014. A similar trend was followed in Wales and in the UK where there was only modest growth in activity in the immediate years following the recession before a substantial growth into 2013 and sustained in 2014. However, the rate of increase in entrepreneurial activity in these five years was substantially less in Gwynedd than in Wales and the UK, with birth rates increasing by only 33% in Gwynedd from 2010 to 2014 compared to an increase of 51% in Wales and 47% across the UK.

[54] ONS UK Business Counts - Enterprises, 2015

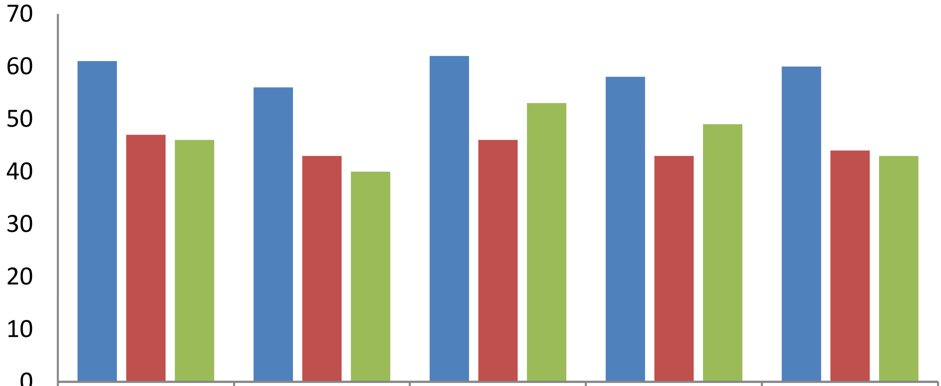
Figure A5.8: Business Birth Rates in Gwynedd and Wales per 10,000 of the Working Age Population[55]




| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| United Kingdom | 58 | 64 | 66 | 85 | 85 |
| Wales | 39 | 42 | 43 | 59 | 59 |
| Gwynedd | 40 | 45 | 41 | 55 | 53 |

However, the data on business death rates, as shown in Figure A5.9 below, is far more positive for the local area. It shows that the business death rate in Gwynedd has been less than the UK in each of the last five years and is comparable with Wales. In the latest year of available data (2014), there were 17 fewer business deaths in Gwynedd per 10,000 of the working age population than across the UK and one fewer business death than in Wales. This represents a 40% lower death rate when compared with the UK and 2% lower death rate compared to Wales. Since 2010, the business death rate had decreased by only 2% in the UK while it had decreased by 6% in Wales and 7% in Gwynedd.

Figure A5.9: Business Death Rates in Gwynedd and Wales per 10,000 of the Working Age Population




| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| United Kingdon | 61 | 56 | 62 | 58 | 60 |
| Wales | 47 | 43 | 46 | 43 | 44 |
| Gwynedd | 46 | 40 | 53 | 49 | 43 |

[55] Business Demography (2015), ONS

This data shows some substantial differences in entrepreneurial activity between Gwynedd and the UK, while business birth rates and death rates largely mirror those seen in Wales. It shows that there is far greater entrepreneurial activity across the UK and it is growing at a much faster rate in the UK and Wales than in Gwynedd. However, it also shows that existing businesses in Gwynedd have been more resilient with a much lower business death rate than across the UK.

The overall picture, in terms of business births against business deaths, suggests a more difficult environment for businesses in Gwynedd than in Wales and especially the UK. In the latest year of available data, for example, there were only ten more business births than business deaths in Gwynedd compared to 15 more in Wales and 25 more in the UK.

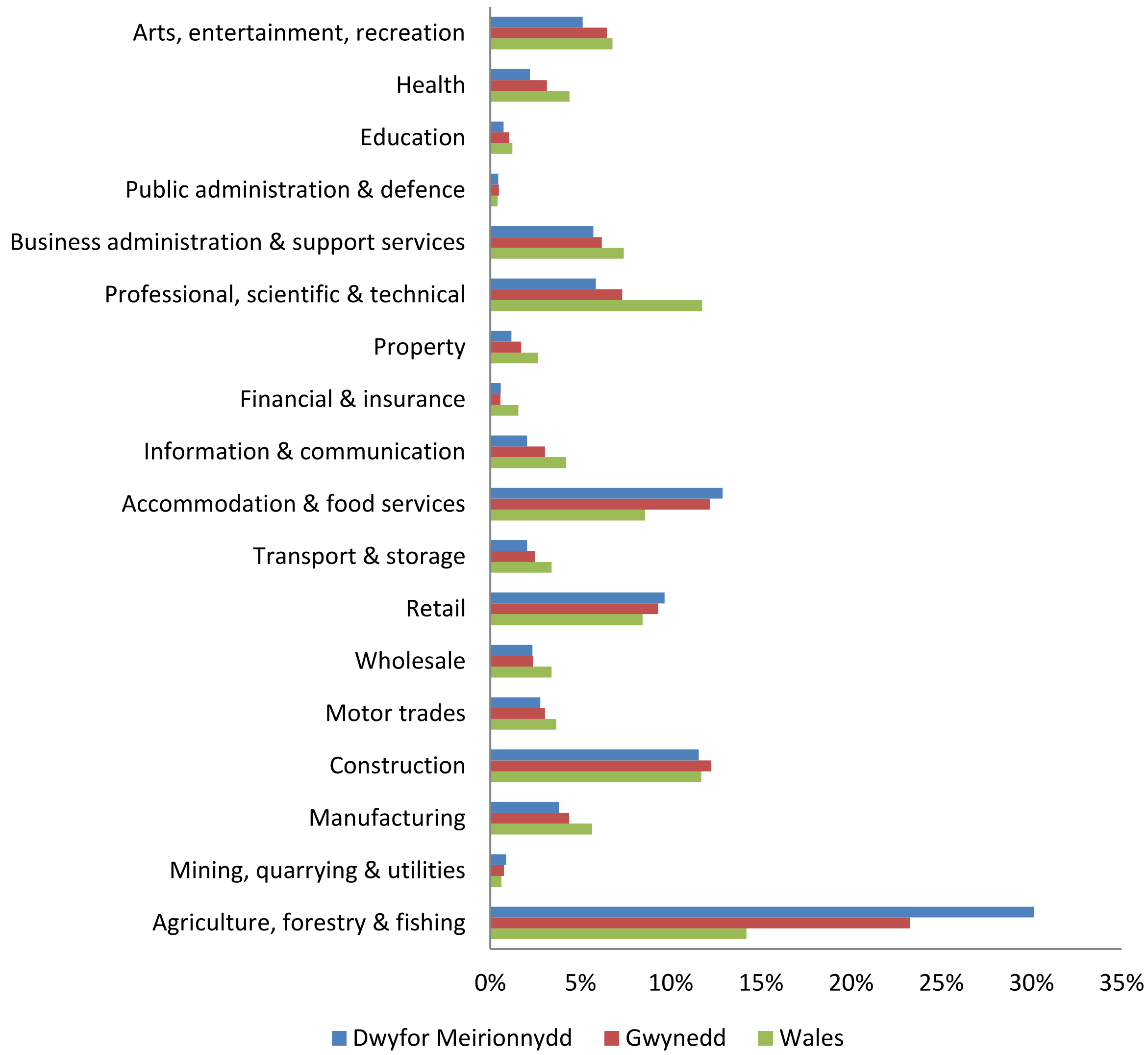
## Industry sectors

Figure A5.10 is an indication of the rural profile of the Llanbedr area, with three in ten businesses (30%) in Dwyfor Meirionnydd identified in the **Agriculture, forestry & fishing sector**, which is more than twice as high as the rate in Wales overall where only 14% of businesses operate in this sector. This also explains why the data shows greater business activity (in terms of businesses per capita) in the area, as a high proportion of these are small farm businesses.

The other sector in which there are proportionally far more businesses in the Llanbedr area than in Wales as a whole is in **Accommodation & food services**. The chart shows that 13% of businesses in Dwyfor Meirionnydd operate in this sector compared to only 9% in Wales as a whole. This is again due to the area's dependency on the tourism industry which has generated greater (albeit arguably lower value) business activity in this sector than for Wales as a whole.

Data for Gwynedd follows similar patterns in terms of the sectors in which there is greater/less activity compared to Wales, but not as pronounced as in Dwyfor Meirionnydd.

Figure A5.10: Businesses in each area broken down by sector[56]




In addition to the Standard Industrial Classification (SIC) of sectors as outlined above, ONS data is also available for the tourism industry by combining a number of SIC codes (defined using guidelines from the UN World Tourism Organisation[57]). ONS have used this data to calculate the proportion of main and second jobs in the tourism industry at NUTS 3[58] areas for 2013-2014 (average of two years data). Figure A5.11 below outlines employment by tourism industry at NUTS 3 areas in Wales, using this data.

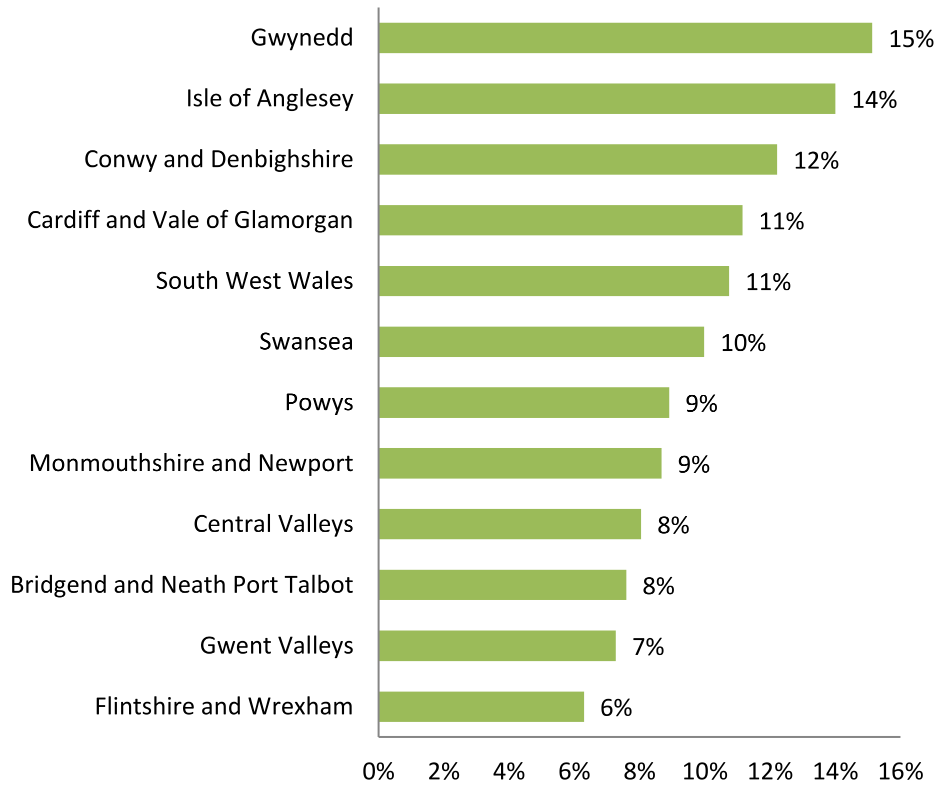
[56] ONS UK Business Counts - Enterprises, 2015

[57] The following tourism industries are included: Accommodation for visitors; Food and beverage serving activities; Passenger transport, travel agencies, vehicle hire etc.; and Cultural, sports, recreation and conference activities.

[58] The third level of European Nomenclature of Territorial Units for Statistics (NUTS) in Wales are groups of unitary authorities.

According to the Gwynedd Council Strategic Plan 2013-17, approximately 6.9 million visitors came to Gwynedd in 2014 which generated £975 million in revenue[59]. Figure 10.11 demonstrates the importance of the tourism sector to Gwynedd as it has the highest proportion of jobs dependent on the industry in Wales. Indeed, the full set of data for all UK NUTS 3 areas (excluding Northern Ireland) shows that Gwynedd is fourth in a list of 135 areas in terms of proportion of main and second jobs in tourism industries.

Figure A5.11: % main and second jobs in tourism industries 2013-2014[60]




Furthermore, Welsh Government tourism profiles of Local Authorities indicates that Gwynedd has the third highest level of GVA directly related to expenditure in the tourism industries of any of the 12 NUTS 3 areas in Wales.[61]

Although this tourism data is not available for Dwyfor Meirionnydd and Llanbedr, evidence from the local stakeholder interviews suggested that the tourism industry was just as (if not more) important in the local area.

[59] Gwynedd Council Strategic Plan 2013-17, P.5, https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Strategic-Plan-2016-17-(f2.5).pdf
[60] ONS Tourism employment summaries, 2014
[61] Welsh Government Statistics for Wales (2013) Local authority tourism profiles, 2010-2012: Gwynedd. Available online at: http://gov.wale450s/statistics-and-research/local-aut4hority-tourism-profiles/?lang=en [accessed March 2016]

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