



CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL



Background

This is one of a range of topic papers prepared to offer more detailed information and explain the approach of the Plan to different topics and issues affecting the Joint Local Development Plan Area. This paper will look specifically at **community infrastructure**. It will explain the background which will help to identify the issues, objectives and options for the Deposit Plan.

The Deposit Plan is the second statutory stage in the preparation of the Joint Local Development Plan (JLDP). The JLDP shapes the future growth of communities in the Joint Local Development Plan Area and will set out the policies and land allocations against which planning applications will be assessed.

The Deposit Plan will be submitted to the Welsh Government, which will appoint an independent inspector to assess the soundness of the Plan in the Examination in Public. If the inspector considers the Plan to be sound it will be recommended for adoption. When adopted the JLDP will supersede the Gwynedd Unitary Development Plan (2009) for the Gwynedd Local Planning Authority Area and the Gwynedd Structure Plan (1993) and Ynys Môn Local Plan (1996) for the Ynys Môn Local Planning Authority.

This topic paper can be read in isolation or in conjunction with the other Topic Papers and Background Papers that have been prepared to give a full picture the Joint Local Development Plan Area.

You may refer to the Topic Paper as a basis for making comments about the Deposit Plan. It must be noted that only comments on the Deposit Plan will be considered by the Inspector at the Examination in Public rather than specific comment made on the Topic Papers.

If you have any questions or would like to discuss any of the Topic Papers or Background Papers with a member of the Joint Planning Policy Unit you can [contact us](#):

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1. INTRODUCTION

- 1.1 The purpose of this topic paper is to identify the provision of the infrastructure within the Plan area and to assess the infrastructure required to support and underpin the JLDP. Infrastructure in the context of the JLDP includes, water (supply and waste), gas supply, electricity supply, sewerage capacity, telecommunications and broadband access. The provision of adequate infrastructure is an essential part of ensuring the appropriate level of development occurs across the Plan area and will ensure that services can match demand and that growth is sustainable in local communities. In order to accommodate sustainable development within the JLDP period of 2016-2026, infrastructure services must support both existing and future communities.
- 1.2 The analysis of infrastructure in relation to the Plan is an iterative one and the paper will be developed as the Plan progresses. This topic paper will outline:
- The **policy context** at a national, regional and local level that will influence the development of policies and proposals;
 - The **existing provision** in terms of infrastructure in the Plan area;
 - The **planned provision and future requirements** of different infrastructure types; and
 - The main **implications to the JLDP** identified from the infrastructure review.

2. PLANNING POLICY CONTEXT

National

People, Places, Futures - Wales Spatial Plan (2008)

- 2.1 This document sets out the Welsh Government's vision for Wales for the next 20 years. Objectives within this document which relate to the provision of utilities in the north west area are concerned with the enhancement and provision of adequate utility infrastructure to overcome current constraints. Sustainable access and ICT provision should be considered at the outset in the planning and development of key sites.
- 2.2 It is stated that the exploitation of ICT can help build a strong, sustainable, competitive and prosperous economy but it is only through facilitating access to a modern telecommunications infrastructure that the effective use of ICT can be made available. Priorities for the Area include:
- Future investment in upgrading the infrastructure, which maximises accessibility to the opportunities available, including high speed ICT connections.
 - Building upon the success of the Anglesey Connected wireless network
 - Providing infrastructure, as well as dedicated support for the take up and utilisation of ICT especially for development of key sites/ settlements and the wider rural areas which are not closely linked to the A55 corridor, is vital to substantially improve the competitiveness of business within the global market and to address social exclusion.

Planning Policy Wales (2014)

- 2.3 Adequate and efficient infrastructure, including services such as education and health facilities along with water supply, sewers, waste management, electricity and gas (the utilities) and telecommunications, is crucial for the economic, social and environmental sustainability of all parts of Wales.
- 2.4 The Government's objectives for infrastructure are to provide:
- To protect and improve water resources through increased efficiency and demand of water, particularly in those areas where additional water resources may not be available;
 - To ensure that appropriate sewerage facilities are provided to convey, treat and dispose of waste water in accordance with appropriate legislation and sustainability principles;
 - To ensure that appropriate facilities are established to reduce, re-use, recover, and where necessary, safely dispose of waste, so as to meet the Government's objectives for waste management;
 - To promote the generation and use of energy from renewable and low carbon energy sources at all scales and promote energy efficiency,

especially as a means to secure zero or low carbon developments and to tackle the causes of climate change;

- To facilitate the development of an advanced broadband telecommunications infrastructure throughout Wales;
- To promote an integrated approach to the provision and renewal of environmental and telecommunications infrastructure;
- To ensure that environmental and telecommunications infrastructure is provided in such a way as to enable sustainable development objectives to be met, avoiding adverse impacts on the environment (including the natural and historic environment), local communities and health;
- To ensure that in considering environmental and telecommunications infrastructure account is taken of the impacts of climate change in the location, design, build, operation and, where appropriate, the decommissioning of new infrastructure;
- To ensure that the vulnerability of infrastructure to severe weather events is minimised and that infrastructure is designed to cope with higher average temperatures and increasing risk of storm surges, drought and flooding.

- 2.5 The capacity of existing infrastructure, and the need for additional facilities, should be taken into account in the preparation of development plans and the consideration of planning applications. In general, local planning authorities should seek to maximise the use of existing infrastructure and should consider how the provision of different types of infrastructure can be co-ordinated.

Technical Advice Note 8: Planning for Renewable Energy (2005)

- 2.6 This TAN relates to the land use planning considerations of renewable energy. However, UK and national energy policy provide its context. Energy policy is a reserved function that is not devolved to the Welsh Government. Nevertheless, all decisions relating to renewable energy in Wales must take account of the Welsh Government's policy. The Assembly has a policy of delivering 7 Terra Watt Hours (TWh) of electricity from renewable sources by 2020.

Technical Advice Note 19: Telecommunications

- 2.7 This TAN suggests that development plans should take account of the strategic requirements for telecommunication networks and the overall policy approach from the Welsh Government. It also advises that it is important to minimise the impacts of development, and protect the best and most sensitive sites.

Wales Infrastructure Investment Plan (2012) (Welsh Government)

The Wales Infrastructure Investment Plan for Growth and Jobs sets out the Welsh Government's strategic investment priorities, provides a detailed account of sectoral investment plans through to 2014-15 and sets out the key

elements of a new approach to infrastructure investment. These investment priorities are:

- Improving transport networks, in particular east-west links in North and South Wales.
- Improving telecommunications networks.
- Supporting the development of the energy industry in Wales.
- Investing in housing.
- Delivering more efficient and economical public services.
- Improving the quality of the educational estate.
- Developing our Enterprise Zones.

Flood and Water Management Act (2010)

- 2.8 This Act provides details about the provision of water, including provision about the management of risks in connection with flooding and coastal erosion.

Our Electricity Transmission Network: A Vision for 2020 (ENSG)

- 2.9 The Electricity Networks Strategy Group (ENSG) is a high level forum, which brings together key stakeholders in electricity networks that work together to support Government in meeting the long-term energy challenges of tackling climate change and ensuring secure clean and affordable energy.
- 2.10 The report identifies and estimates the regional costs of the potential transmission reinforcements that may be required to accommodate the connection of a range of new generation needed to meet the UK's renewable energy targets whilst, at the same time, facilitates the connection of other essential new generation that will be needed to maintain continued security of supply.

Regional and Local

Water Resources Management Plan (2014)

- 2.11 Welsh Water's strategy for managing its water resources is set out in their 'Water Resources Management Plan' (2014), with an aim of maintaining the balance between supply and demand up to 2035. The supply area is split into twenty-four Water Resource Zones (WRZ), which are defined as the largest area in which all resources can be shared. Due to geographical constraints, each of these zones is essentially self-contained.
- 2.12 The basic question in water resources planning is whether or not the supply of water, or "Water Available for Use", is expected to be sufficient to meet the demand for water (defined as Demand plus Target Headroom), and therefore whether a zone is expected to be in surplus or in deficit. Under the preferred approach to the treatment of climate change uncertainty, the North Eryri and

Ynys Môn zone remains in surplus for the next 25 years. However, if the full range of UKCP09 climate scenarios is taken into account in Target Headroom, the projected surplus of 2.9 MI/d in 2035 becomes a deficit of 4.3 MI/d.

- 2.14 Some of the WRZs have been shown, through previous water resources management plans, to be in deficit under certain planning scenarios and assumptions. Dŵr Cymru are currently updating the water supply and demand forecasts and the allowance for uncertainty within all the WRZs. If changes to these forecasts have occurred then minor deficits may appear within some zones and lead to the requirement to develop demand management or water supply options. Dŵr Cymru may have a requirement for additional water resources within the following zones:

- North Eryri Ynys Mon
- South Meirionydd
- Tywyn/Aberdyfi
- Bala
- Alwen/Dee
- Clwyd Coastal

Western Wales River Basin Management Plan (EA, 2009)

- 2.16 The purpose of this document is to set out the pressures facing the water environment in the Western Wales River Basin District, which Anglesey and Gwynedd are part of, and the actions required to address them in order to achieve the objectives of the Water Framework Directive. The document sets out a number of issues that affect the Western Wales River Basin District. The main issues identified generally relate to pollution and water quality.

The Ynys Môn Catchment Abstraction Management Strategy (2007)

- 2.17 The strategy describes how the water resources on Ynys Môn should be managed. Ynys Môn has two major reservoirs which supply the island with drinking water. They are also a source of water for agriculture, fish farming and light industry.
- 2.18 There are currently no licensed groundwater abstractions in the area as groundwater abstraction is exempt from licensing, but it is extensively utilised for small, private water supplies across the island. As of the 1st April 2005, there are currently 5 surface water abstraction licenses in effect in the Ynys Môn CAMS area. As a result of the Water Act 2003, the exemption of groundwater abstractions in this area is being lifted and eventually all abstractions over 20m³/day will need to be licensed.

The Llŷn and Eryri Catchment Abstraction Management Strategy (2006)

- 2.19 This strategy sets out how Natural Resources Wales will manage water abstraction. It outlines where water is available, and also, if relevant, where

we need to reduce current rates of abstraction. Currently, groundwater abstraction is exempt from the need for an abstraction licence in the Llyn and Eryri CAMS area, therefore little is known about the extent of abstraction from this source.

The Gwynedd Unitary Development Plan (2001-2016)

- 2.20 The Gwynedd UDP aims to ensure that any necessary development is located so as to make the best use of land, buildings, materials, services and facilities. The Plan's proposals reinforce this by guiding most developments to the towns and larger villages where the best provision of infrastructure is to be found.
- 2.21 The Plan provides land use planning guidance on the requirement to secure adequate infrastructure prior to approving development. It also provides guidance on development that involves the provision of some form of infrastructure. It also considers the existing provision of infrastructure and guides development to locations which make the best use of the resources.
- 2.22 The UDP also ensures that infrastructure proposals do not cause significant harm to the landscape, coast, biodiversity, historic areas nor the amenities of neighbouring residents.

Anglesey Local Plan (1996)

- 2.23 The plan highlights the importance of an adequate infrastructure supply to support new development and facilitates the improvements to the physical infrastructure which includes services like education, recreation, health care and waste disposal as well as roads and sewers.

Gwynedd Structure Plan (1993)

- 2.24 The plan highlights the importance of an adequate infrastructure supply to support new development.

Anglesey Stopped Local Development Plan (2010)

- 2.25 The stopped Anglesey UDP recognises the importance of suitable and sustainable infrastructure, which largely dictates many decisions about future decisions on the location of new development. The Plan facilitates the improvement of infrastructure, such as sewerage or sewage treatment, including the installation of new infrastructure where required, to facilitate the development of land in the right places to cater for needs arising from the preferred strategy.

Single Integrated Plan for Anglesey and Gwynedd

- 2.26 This plan incorporates the vision and action plan of the Local Services Board for both counties. The purpose of the Plan is to work together in order to

improve our economic, social and environmental well-being over the next 12 years. The importance of infrastructure runs through the strategy to promote economic social and environmental welfare.

3. CLASSIFICATION OF INFRASTRUCTURE

- 3.1 It should be recognised that different types of infrastructure have different levels of importance in terms of the facilitation of development as part of the JLDP process. Whilst some infrastructure types e.g. schools, are critical to ensuring that sufficient services are available to meet the needs of the existing and future population, other types of infrastructure carry less importance and are more directly related to the enhancement of quality of life.
- 3.2 It is therefore recognised that infrastructure types should be prioritised to reflect development viability and their respective importance in facilitating the development of sustainable communities. In light of this, a categorisation process has been developed to distinguish between the relative importance of the different infrastructure types required to facilitate development as follows.
- **Fundamental** – the identified infrastructure is critical, without which, development cannot take place. These are infrastructure types that generally must be provided up front to support development.
 - **Necessary** – infrastructure in this category is usually essential to achieving growth in a sustainable manner, but the exact timing and phasing is less critical and development can commence ahead of its provision e.g. school provision, health care).
 - **Preferred** – the delivery of infrastructure in this category is preferred in order to create sustainable communities e.g. libraries, green spaces. Timing and phasing is not essential over the plan period.
- 3.3 The table below identifies the main types of infrastructure required as part of any development and which of the above named categories they fall into. It should be remembered that this is a general categorisation process and the importance of an infrastructure type will be dependent on a number of factors and will be determined on a case by case basis.

Table 3.1: Hierarchy of Infrastructure

Infrastructure Topic	Infrastructure Sub-topic	Position in Hierarchy
Education	Primary Schools	Necessary
	Secondary Schools	Necessary
Health	Hospitals	Necessary
	GPs	Necessary
	Dentists	Necessary
Utilities	Electricity	Fundamental
	Renewable Energy	Necessary
	Gas	Fundamental
	Potable Water	Fundamental
Waste	Waste	Fundamental
	Recycling	Fundamental

Water and Wastewater	Sewerage	Fundamental
	Wastewater treatment	Fundamental
Transport	Road	Fundamental
	Public Transport	Fundamental
Community Infrastructure	Libraries	Preferred
	Community Centres	Preferred
	Built Sports Facilities	Preferred
Green Infrastructure	Playing Fields / Outdoor Sports	Preferred
	Open Space / Parks	Preferred
	Allotments	Preferred
	Playgrounds	Preferred
Emergency Services	Police	Preferred
	Fire Service	Preferred
	Ambulance	Preferred

4. INFRASTRUCTURE PLANNING AND DELIVERY

- 4.1 This section provides a summary of the key infrastructure issues in the Plan area including planned provisions and future requirements, and what the implications are to the emerging Plan.

4.2 EDUCATION – PRIMARY AND SECONDARY ESTABLISHMENTS

Existing Provision

- 97 primary schools, 14 secondary schools and 2 special needs schools in Gwynedd.
- 49 primary schools, 5 secondary schools and one special school in Anglesey.

- 4.2.1 The maps contained in Appendix 1 show the catchment areas of primary schools in Gwynedd and Anglesey.
- 4.2.2 The capacity of schools will be a major factor in the determination where development will be guided. Schools should have sufficient capacity to support any increase in population created by residential development.

Planned Provision and Future Requirements

Gwynedd

- 4.2.3 The substantial reduction in pupil numbers means that the County has high levels of surplus places in its Primary schools. The reduction in numbers has also meant that more primary schools within the county have 39 pupils or fewer (schools within the “safety net”). There are currently 21 schools within this category. There are currently 10 primary schools exceeding their capacity levels. Pupil numbers in primary and secondary schools between 2010 and 2014 can be seen in appendix 2.
- 4.2.4 There is also concern about the condition and suitability of the County’s primary schools. The buildings require substantial investment so as to address health and safety matters and achieve appropriate standards. A number of schools are in poor condition. The Council’s Assets Management Plan estimates Gwynedd school maintenance accumulated costs of £12.6million. In addition, there is concern about the condition of temporary buildings in schools which may mean expenditure requirements of approximately £11million. The cost of upgrading and adapting the county schools buildings to meet new curriculum requirements and expected standards are even more substantial.

- 4.2.5 In 2009 Gwynedd Council approved a strategy to reorganise the County's schools. The strategy outlines the Council's vision to provide education of the best possible quality that will provide the county's children with the experiences, skills and confidence to develop into bilingual, successful and well-rounded citizens. The strategy identifies six principal aims namely:
- appropriately-sized classes and high quality school leadership
 - promote and strengthen the Welsh language
 - develop a pro-active and creative long-term scheme
 - make the best use of available resources
 - create a learning environment of the best possible quality for the County's children and teachers
 - develop schools into establishments that are central to community activity.
- 4.2.6 The schools reorganisation process was re-defined in 2012 as part of a strategic review of the educational organization and a priorities plan was developed to include the nursery, primary, secondary and special education sectors. This review also took into consideration the Welsh Government's plan to reduce surplus places.
- 4.2.7 Gwynedd has a high % of empty school spaces and this is something which is being addressed by the Authority's Schools Organisation Programme. This is a strategic programme being driven by Welsh Government across Wales. It is therefore a strategic requirement to reduce surplus places in Gwynedd's schools and the School Organisation aims to address this with every proposal which is developed.
- 4.2.8 Gwynedd Council is currently implementing school reorganisaion proposals in the Gader (Dolgellau) and Berwyn (Bala) catchments, along with the development of a new area school in Groeslon for the Groeslon, Carmel and Bronyfoel (Fron) areas. A new special needs school is also being developed in the Penrhyndeudraeth area and a propsal to provide a new school for the pupils of ysgol Glancegin, Bangor is also underway.
- 4.2.9 The Gader catchment is currently undergoing school reorganisation with a proposal to close Machreth, Brithdir, Ganllwyd and Clogau primary schools and create an all-through catchment area school for pupils aged 3-16. It would be one school, with one governing body, one headteacher and one staffing structure but located on six separate sites, the current sites of Y Gader, Dolgellau Primary, Llanelltyd, Friog, Ieuan Gwynedd (Rhydymain) and Dinas Mawddwy Schools.
- 4.2.10 The first stage of the school organisation plan in the Berwyn catchment has already been implemented, namely to close Y Parc primary school and provide places for the pupils at the nearby OM Edwards school, which was

extended and upgraded to meet the needs of the additional pupils. The next stage, namely the intention to create a Lifelong Learning Campus in Bala remains viable and proposals should be confirmed soon.

4.2.11 Proposals have already been implemented in the Tywyn catchment area with the closure of Abergynolwyn, Brynchrug, Llwyngwrl and Llanegryn schools – a new area school was developed for the pupils from these areas, Ysgol Craig y Deryn. Aberdyfi school has also closed and pupils from this area now attend Penybryn school.

4.2.12 Ysgol Llidiardau, Rhoshirwaun has also closed due to very low pupil numbers and pupils from this area were given the opportunity to attend the nearby Crud y Werin (Aberdaron) or Pont y Gof (Botwnnog) schools. Any future proposals will need to address the need to reduce surplus spaces in the County's schools, along with other considerations which have been identified.

Anglesey

Modernisation of Anglesey Schools – North West Anglesey

4.2.13 In the Committee meeting on 11th February, 2013 it was resolved to support Option 5 (namely a new area school for Llanfachraeth, Llanfaethlu and Llanrhuuddlad) as the Executive's preferred option for formal consultation on the review of primary education provision in North West Anglesey subject to the identification of both funding and a suitable site for the development prior to the commencement of the formal consultation process.

Modernisation of Anglesey Schools – Llanddona School

4.2.14 In the Committee meeting on the 9th of September 2013, it was resolved to:

- To follow the statutory process regarding the proposal to cease to maintain Ysgol Llanddona on 31st August, 2014 and transfer the pupils to Ysgol Llangoed;
- To combine the catchment areas of Ysgol Llanddona and Ysgol Llangoed;
- To give attention again in due course to the primary school provision in South-east Anglesey as part of the School Modernisation Programme with a view to establishing a long-term strategy for primary education in the area;
- To accept that the Class III road past Bryn Bella and the B5109 through Beaumaris as the only suitable road between Ysgol Llanddona and Ysgol Llangoed and that minor repair works only are made to the lay-by outside Ysgol Llangoed to provide for the school bus service.
- Ysgol Llanddona was closed on 31 August 2014

Modernisation of Anglesey Schools – North West Anglesey

4.2.15 In the Work Committee meeting on 10th December, 2012, it was resolved to:

- To adopt the principles that will be used for the schools modernisation consultation document which will be a basis for the Anglesey schools modernisation programme.
- Holyhead Primary Schools Review.
- To recommend Option 10 (merger of 3 schools i.e. Ysgol y Parc, Ysgo Llaingoch and Ysgol Parch. Thomas Ellis in a new school) as the Executive's preferred option for formal consultation.
- That the new primary school in Holyhead be located on the Cybi site;
- That prior to going out to consultation, a report be brought back to Executive members as regards the following matters:- land ownership at the three sites, affordability, traffic management and road safety, status of the new school and issues surrounding the preservation order at the former Cybi school site at Holyhead
- To note the responses received to the consultation document by the 5 Holyhead primary schools.
- That in light of the current position in relation to pupil numbers in the three schools in central Anglesey, the status quo be retained for the present;
- That subject to the introduction and implementation of the relevant legislation, authority be given to the Education Officers to review the
- Llangefni catchment area and;
- That the primary education provision in central Anglesey be revisited at a later stage in the schools modernisation programme pending clarification of the position with regard to the availability of resources, catchment review, school buildings condition and the outcome of the modernisation programme in other areas of the Island.
- The new primary school in Holyhead will join Ysgol y Parc, Ysgol Llaingoch and ysgol y Parchedig Thomas Ellis and will be a voluntary school under the management of the Church of Wales.

4.3 EDUCATION – FURTHER EDUCATION ESTABLISHMENTS

Existing Provision

University of Wales, Bangor

- 4.3.1 The University estate comprises 345 hectares spread across 15 sites, most of which are in or near Bangor. The site area includes the footprint and grounds associated with buildings plus playing fields, the botanic gardens at Treborth and the farm at Henfaes.

There are over 160 buildings varying widely in size. The total reported gross internal area of the built estate is 194,620m², of which 131,273m² is non-residential space and 63,347m² is residential. The University can accommodate nearly 2,400 students in its residential accommodation. Proposals are in hand which will increase the size of the estate, principally through the development of Pontio which has an area of 10,600m². A breakdown of the non-residential estate in terms of types of space is shown below.

Composition of the non-residential estate	
Type of space	% of total net area
Teaching	23%
Research	16%
Library	11%
Offices	24%
Catering	4%
Support	5%
Other	12%
Vacant	6%

Coleg Menai

- 4.3.2 The following information has been derived from the Coleg Menai Estate Strategy (2009). The college operates from seven sites to cater for the needs of the community in the north-west region of Wales.

Coleg Menai Site Locations		
Site	Location	County
Castle Square	Caernarfon	Gwynedd
Friars Site	Bangor	Gwyendd
Main Site	Bangor	Gwynedd
Main Site, Pencraig	Llangefni	Anglesey
Parc Menai	Bangor	Gwynedd
Penrallt	Llangefni	Anglesey
Ty Cyfle	Holyhead	Anglesey

- 4.3.3 The Main Site in Bangor and the nearby Friars Site, located across the Ffriddoedd Road, are the largest locations, and are relatively central to all other sites. Parc Menai is the third largest site and is approximately two miles from the Main Site in Bangor.
- 4.3.4 The Main Site in Llangefni is the second largest site, located in the centre of Anglesey. It is nine miles from Bangor. Penrallt is also in Llangefni, situated one mile from the Main Site. The Outreach Centre in Holyhead is 25 miles from Bangor. The one in Caernarfon is six miles from Bangor.

4.3.5 A summary of the floor areas, age and tenure of the sites is shown in the table below.

Site	Floor Area (GIA m ²)	Age	Tenure
Castle Square, Caernarfon	794	2002	Leasehold – 50 Year Lease
Friars Site, Bangor	2,968	1870	Freehold
Main Site, Bangor	12,784	Mainly 1960s	Freehold
Main Site, Llangefni	7,686 plus 4,200 in the new Construction Centre	1950s to 2008	Freehold
Parc Menai, Bangor	2,481	1990s	Long leasehold (250 years from 1999)
Penrallt, Llangefni	689	19 th Century	Freehold with covenants restricting the use to educational purposes
Ty Cyfle, Holyhead	485	19 th Century	Leasehold – lease due to expire in 2023
Total	27,887 m²		

Planned Provision and Future Requirements

Bangor University

- 4.3.5 The Estate Strategy covers the next five years to 2017. Its central purpose is to support the delivery of Bangor University's strategic objectives and to provide an estate which will contribute to academic success and achieving the University's mission.
- 4.3.6 Major new developments are in hand. The International Education Centre is nearing completion. Pontio and SEACAMS will provide excellent facilities. To complement these projects, the University will work over the course of this Strategy towards bringing all core buildings to a good standard so that students and staff enjoy a consistent and high quality of learning and working environments. Upgraded learning and teaching facilities will be provided to enhance the student experience and support growth in the key areas identified in the Strategic Plan.
- 4.3.7 The Strategy will continue to deliver co-location, principally through the consolidation of the College of Physical and Applied Sciences (CoPAS) in upgraded facilities in Dean Street. In turn, this will enable poor performing

space in the Alun Roberts Tower to be demolished with cost and carbon reductions.

4.3.8 Additional residential accommodation through the refurbishment of Garth and plans for a new student village will help to meet unmet demand and contribute to strategic plans for internationalisation and postgraduate growth. It will also enable the old halls at the Normal Site to be decommissioned.

4.3.9 The objectives for the 2012 Estate Strategy are to:

- Deliver a high quality student experience.
- Invest to provide a consistently good, fit for purpose estate.
- Support research, enterprise and sustainability.
- Conserve and enhance the University's heritage.

4.3.10 Each of the Estate Strategy objectives is supported by a series of proposals designed to meet Strategic Plan priorities and address stakeholders' needs.

4.3.11 Through the implementation of the main elements of the Strategy, there will be major improvements in the condition and fitness for purpose of the estate, and the proportion of space constructed since 1980 will have increased by approaching 50 per cent. Space rated as excellent or good in terms of functional suitability will have increased substantially.

4.3.12 Most of the residential estate is already of a high standard. Implementing the Student Accommodation Strategy will increase the stock to meet demand and enable halls nearing the end of their life, to be replaced with rooms to match the quality of Ffriddoedd.

Key proposals supporting the delivery of a high quality student experience (Objective 1)

- Pontio
- Upgrading existing teaching spaces – shared and specialist facilities
- Improvements to library spaces and creation of additional social learning spaces
- Completing the International Centre and developing student support facilities in Rathbone
- Renovation of Garth on College Road to provide residential accommodation
- Investigating opportunities for delivering additional student residences with a capacity of up to 600 identified by the Student Accommodation Strategy - Meeting additional demand and enabling residences coming to the end of their life, the Normal Site Halls, to be decommissioned. The opportunity to develop St Mary's would also bring the site back into beneficial use.
- Upgrading and providing additional sports facilities - Refurbishment of Maes Glas and access to a 3G training area will support an increase in participation, plus provision of outreach and collaborative opportunities.

- Providing a city centre presence for Welsh for Adults

Key proposals supporting the provision of a consistently good fit for purpose estate (Objective 2)

- Continuation of the First Impressions Programme
- Creating fit for purpose facilities for Music on College Road
- Programme of upgrading Dean Street to enable CoPAS to be co-located
- Upgrading and reconfiguring Memorial Building to provide modern inter-disciplinary facilities in a central location within the Science Site
- Creating space on the Normal Site for expansion of fit for purpose space for the School of Sport, Health and Exercise Science (SHES), either through the conversion of existing space or the construction of new accommodation
- Works to improve the condition of key buildings to be retained on all campuses

Key proposals supporting research, enterprise and sustainability (Objective 3)

- Promoting sustainability through energy and space efficiency
- Completing SEACAMS in Menai Bridge
- Converting Ardudwy on the Normal Site to provide new facilities for the Institute of Medical and Social Care Research (IMSCAR)
- Relocating Mindfulness from Dean Street
- Demolition of the Alun Roberts Tower following consolidation of CoPAS in Dean Street
- Developing a Travel Plan
- Provision for second data centre

Key proposals supporting and enhancing the University's heritage (Objective 4)

- Main University Building - phased programme of refurbishment over this strategy period and beyond
- Restoration of Tanrallt
- Upgrading and remodelling Memorial
- George Building – relocate laboratory and equipment dominated space
- Future restoration of Ffriddoedd Farmhouse

4.3.13 A series of options were defined during strategy development to test the potential of each to address the key issues for the future of the estate. Following assessment of the options, a preferred option was chosen as outlined in the table below. Feasibility studies will need to be carried out on all the main proposals to ensure that compliance with the lower end of the cost range can be achieved and that the scope to deliver the full range of strategy proposals is not compromised.

Preferred Option components	Estimated timescale
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Preferred Option components	Estimated timescale
Deliver a high quality student experience	
Pontio: high quality teaching, learning, performance, social and inter-disciplinary spaces	Completion 2014
Conversion of Rathbone: to provide the International Student Centre and other student support facilities Phase 3	2012-13
Teaching room improvements: Programme to upgrade centrally timetabled teaching spaces	Annual over the strategy period
Expansion of teaching upgrading programme to include specialist and non-centrally timetabled teaching space	Annual over the strategy period
Social learning and library strategy	2012/13-2014/16
Improved and additional sports facilities	2012/13-2013/14
Presence for Welsh for Adults in town centre (to be developed)	
Invest to provide a consistently good, fit for purpose estate	
First Impressions: Programme to enhance the appearance of the estate	Annual over the strategy period
Music: refurbish existing building and provide linked replacement for annexe	2012/13-2014/15
Remodelling Dean Street to reconfigure and rationalise space for Electronic Engineering and Computer Science, provide versatile, fit for purpose space for Chemistry and potentially provide space for flexible office accommodation for services, such as Finance and Marketing	Initial works in 2014/15 and main works 2015/16 to 2017/18
Memorial: Remodel to accommodate consolidated WINR (from Alun Roberts), Biocomposites (ex. Mona unit) and CAZS. May need to allow for some remodelling in Thoday?	Initial works in 2012/13 and main works in 2013/14-2015/16
4a: Element of remodelling Education space to rationalise existing uses. Convert Trefenai or other space	From 2012/13 with main works in 2013/14-2015/16

Preferred Option components	Estimated timescale
on the Normal Site to provide for expansion and creation of fit for purpose space for SHES. Element of remodelling in the George Building to adapt specialist space vacated by SHES for other general purpose uses.	
Works to reduce backlog maintenance and improve condition, including Thoday, Brambell, Memorial and Dean Street	Rolling programme throughout the strategy period
Support research enterprise and sustainability	
SEACAMS: Creation of research, laboratory and computing facilities	Completion summer 2013
Arudwy (conversion for IMSCAR)	2012/13
Relocation of Mindfulness from Dean Street	2013-14
Alun Roberts: demolition	Plan for demolition 2017/18
Provision for second data centre	From 2012-13
Conserve and enhance the University's heritage	
Main University Building: upgrade and refurbishment	2012/13-2017/18
Tanrallt: upgrade with possible extension	2012/13-2014/15
Upgrade of Ffriddoedd Farmhouse	From 2012-13

4.3.14 Through the implementation of the main elements of the Strategy, there will be major improvements in the condition and fitness for purpose of the estate. The amount of non-residential space classified as being in new or satisfactory condition will have nearly doubled, and the proportion of space constructed since 1980 will have increased by approaching 50 per cent. Space rated as excellent or good in terms of functional suitability will have increased substantially.

Key performance indicators	2010-11 non-residential estate	Projected estate profile
Non-residential gross internal area m2	131,273	135,768
Non-residential net internal area m2	84,204	87,090

Key performance indicators	2010-11 non-residential estate	Projected estate profile
Condition % non-residential m ² in Code A & B	47%	89%
Age % non-residential built post 1980	20%	29%
Functional suitability % m ² in Category 1 & 2	75%	87%

4.3.15 Gwynedd Council's Three Year Plan (2011-2014) identifies the following projects as part of a partnership with the University:

- Support the University in establishing a Clinical Research Facility in Bangor, co-operating to develop the wider economic benefit
- Being proactive in co-operating with the relevant bodies and establishments in order to establish a Medical School in Bangor University and to develop the opportunities to jointly locate health services

4.3.16 The Anglesey Energy Island Framework (2010) states that significant infrastructure developments are planned as part of the programme and one of these include two major mixed use developments as part of the University which propose to include student accommodation alongside employment uses including retail, leisure, and business parks.

Coleg Menai

4.3.17 A series of key issues arise from a combination of the estates impact of the college's strategic priorities and the conclusions on the existing estate's performance.

4.3.18 *Location and Distribution* - In previous strategies, the college explored the scenario of site consolidation and concluded that a multi-campus model is the optimum to meet its strategic objectives. This is still the case. The current network of sites helps to maximise access for many students, and it is unlikely that the college will pursue a policy of major rationalisation in the foreseeable future. The college's sites are strategically located across Gwynedd and Anglesey. The main college sites in Bangor and Llangefni are central to Gwynedd and Anglesey. Bangor has excellent road and rail links, whilst Llangefni has good road access.

4.3.19 However, whilst the network of sites provides many advantages, this will not preclude a review of the future of individual small sites and buildings which have poor functional suitability and/or condition, such as Ty Cyfle in Holyhead. Although a presence in Holyhead is important to the college, alternative premises could provide improved fitness for purpose. The future of sites which offer no geographical benefits will also be reviewed, such as

Parc Menai in Bangor and Penrallt in Llangefni, subject to the provision of satisfactory replacement accommodation on the main sites.

- 4.3.20 In terms of the distribution of uses between sites, the Main Site in Llangefni caters for craft and vocational type courses and is suitably placed for links with the major heavy industries in the area. Bangor concentrates on the more technical and advanced courses. It also runs hospitality / services type courses more relevant to heavily populated city areas.
- 4.3.21 Rationalisation of uses between college sites has taken place and still continues, for example, with the new Construction Centre at Llangefni. Potential for rationalisation is reviewed yearly to ensure that optimum uses are made of the facilities and students can achieve maximum benefit from the delivered courses and ease of access to the college. The development of a Creative Media Centre in Bangor would reduce split site provision and help to eliminate duplication of facilities across three sites.
- 4.3.22 Collaboration and partnership - The college fully embraces opportunities for collaboration and partnership with local schools and industries. This is seen as a step forward in developing the status of the college and preventing wasteful duplication of resources. This will enable establishments to deliver better facilities and opportunities for the benefits of the students.
- 4.3.23 A current initiative that the college is working towards is the provision of a new Energy and Fabrication Centre at the Llangefni site. The existing welding facilities are totally inadequate; the workshops are housed in sub-standard buildings and have no facilities to deliver fabrication type courses.
- 4.3.24 Sustainability is seen as the driving force to combat climate change; new technology will mean new working practices. The college is in discussion with the Nuclear Decommissioning Authority (Northern Region) to develop training facilities in preparation for the decommissioning of Wylfa power station. It is proposed that with the right resources that the building can be utilised as a centre of excellence for training in aspects of decommissioning and possibly in the long-term to develop training facilities to assist in the construction of a proposed new power station at the Wylfa site. Naturally, the Nuclear Decommissioning Authority is excited with the prospect of a training facility “on their doorstep” and they are keen to promote sustainability.
- 4.3.25 In addition to a new Energy and Fabrication Centre, the current portfolio of courses such as engineering, management and craft courses would be an excellent platform to cater for the additional training that may be necessary for decommissioning and construction of a new site.
- 4.3.26 The provision of a new Creative Media Centre would also promote opportunities for collaboration and partnership with other providers, including schools and HE institutions, and local employers. It would deliver enhanced facilities for the 14-16 vocational partnership, make a contribution to the 14-19

learning pathway and create an opportunity for sharing resources with Bangor University.

4.3.27 *Age, condition and building functional suitability* - Adequate funding is required within the ten year strategy period to prevent further deterioration in the existing building stock. A summary of the cost estimates required to bring the condition of the buildings to an acceptable "B Grade" is included. The total cost of backing maintenance across the whole college estate is £6,402,980. This sum is net of planned and capital expenditure on maintenance. When an allowance is made for that, the total sum rises to some £8.8 million.

4.3.28 In order to deliver the curriculum effectively, the Creative Media and the Welding facilities at Parc Menai and Llangefni respectively need urgent attention to address sub-standard teaching facilities in both programme areas. Given the very poor standard of the existing buildings, the most effective solution would be to provide new purpose-built facilities and infrastructure required to deliver effective teaching methods.

4.3.29 The remaining college buildings can be conceivably upgraded and adapted to meet future needs given adequate resources, although this issue will need to be kept reviewed regularly.

4.3.30 Curriculum needs analysis

Future needs were discussed with each Faculty Director to determine any shortfalls between the college's objectives and existing provision for programme areas. The findings are summarised below by Faculty.

4.3.31 A – Level

- Shortage of space.
- Collaboration with local schools to provide a wider subject selection.
- Facilities to enable mature students to gain access to education facilities through the use of outreach centres and night schools.
- Access to computers and increase in ICT provision.
- Improved teaching accommodation.

4.3.32 Technology

- Shortage of space, particularly facilities for delivering autotronics at Llangefni site.
- Rationalisation of the plumbing centre at Bangor site (addressed in 2008-09).
- Sub-standard facilities for welding courses at Llangefni site.
- No fabrication facilities.
- The need for facilities to deliver sustainability type courses.
- The need to foster greater partnership with the local industries in the area particularly the NDA.
- Access to computers and increase in ICT provision.

- Improved teaching accommodation.

4.3.33 Arts, Media and Sports

- Shortage of space.
- The existing sports hall is over 30 years old and needs major improvement.
- Changing facilities are required. Storage facilities are also needed to keep sports equipment and other outdoor pursuits items.
- Teaching space is also required.
- Existing classrooms need to be improved and modernised.
- Access to computers and increase in ICT provision.
- Shortage of space is preventing many students enrolling on Creative Media and Arts courses at Parc Menai. Prospective students are being turned away due to the inadequate space resources. The existing Creative Media equipment is outdated and needs modernising.

4.3.34 Service Industries

- Access to computers and increase in ICT provision.
- Shortage of space.
- Increase student support facilities.
- Enhance the library service.

4.3.35 Adult and Community

- Access to computers and increase in ICT provision.
- Improved access / parking facilities including access for DDA compliant.
- Improved teaching accommodation.

4.3.36 Service to Business

- Shortage of space.
- Access to computers and increase in ICT provision.
- Commercial and adult environment to deliver specialised courses.
- Improved access / parking facilities including access for DDA compliant.

4.3.37 Learner Support

- Access to computers and increase in ICT provision.
- Increase student support facilities including counselling areas.
- Enhance the library facilities and make it DDA compatible.
- Provide improved working area and storage facilities for the AVA Department.

4.3.38 It is apparent that in many cases “shortage of space” is a significant issue. The college aggressively reviews its space management procedures even though its levels of utilisation are continuously above the sector mean. However, space management measures will not address major shortfalls in space combined with the fitness for purpose of existing space in the key

areas of Creative Media at Parc Menai and the Welding facilities at Llangefni. These require capital investment in replacement facilities.

4.3.39 In summary, the priorities for the future are to:

- Invest in upgrading building condition.
- Remodel and improve the fitness for purpose of existing buildings, such as the planned refurbishment of J Block on the Main Site in Bangor to provide a new IT drop-in centre.
- Provide new and expanded facilities where existing space is substandard, cramped and unable to accommodate the planned expansion of regional and strategic learning priorities. Key proposals are the provision of facilities for Energy and Fabrication and for Creative Media.

4.3.40 As part of the Anglesey Energy Island Framework (2010), major developments proposed for Llangefni include the expansion of the Coleg Menai campus with the construction of a new Energy and Fabrication centre at its Penyrsedd site.

Implications to JLDP

- Existing school infrastructure needs to be sufficient to cope with the proposed increases in population due to the level of housing growth that is required to deliver the JLDP.
- The most recent school capacity figures and the Council's school modernisation strategy should be considered as part of the process of allocating sites for housing developments. Locations which are within the catchments of schools where there is surplus capacity should be viewed more favourably.
- Where the JLDP guides development to areas where there is insufficient capacity in schools serving those areas, it should facilitate the development of appropriate infrastructure to meet the needs of the population.
- New development plans by the Education Authorities should inform the JLDP after consultation with the Planning Service of both Councils.
- The JLDP should ensure the protection of school sites, enable the expansion of existing schools to provide improved education opportunities and allow for re-use should they be declared as surplus to requirements.
- The phasing of development should be considered where the capacity of educational facilities is insufficient.
- The requirement for developer contributions for educational facilities should be incorporated into policies where appropriate to ensure the provision of an efficient education resource to the local population.

4.4 HEALTH FACILITIES

Existing Provision

- 4.4.1 During 2008-09 the Welsh Assembly Government consulted widely on NHS reform and agreement was reached on the dissolution of twenty-one Local Health Boards and seven NHS Trusts in Wales, and their replacement with six Local Health Boards. In October 2009 all the functions of the existing LHBs and Trusts in North Wales came together to form Betsi Cadwaladr University Local Health Board (BCULHB). Betsi Cadwaladr University Health Board is the largest health organisation in Wales, providing a full range of primary, community, mental health and acute hospital services for a population of around 676,000 people across the six counties of North Wales (Anglesey, Gwynedd, Conwy, Denbighshire, Flintshire and Wrexham) as well as some parts of mid Wales, Cheshire and Shropshire. The Health Board employs around 18,000 staff and has a budget of around £1.1 billion.
- 4.4.2 In terms of **primary care** providers, the local network in Gwynedd and Anglesey comprises of:

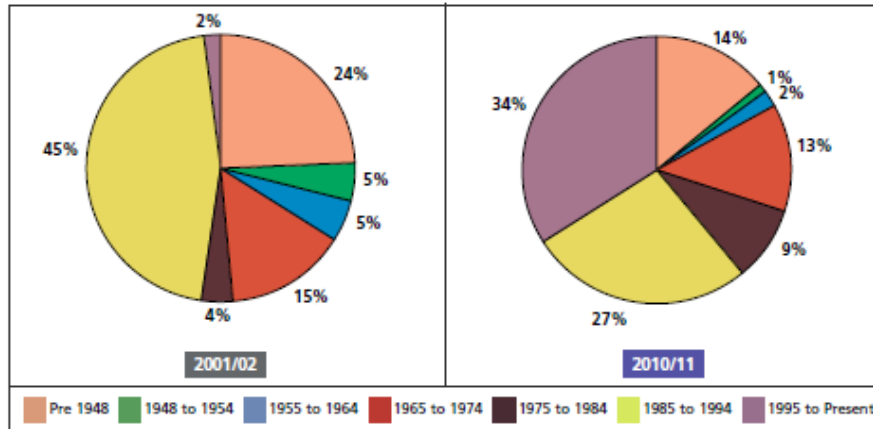
	Gwynedd	Anglesey
GP Practices	43	20
Dental Practices (inc. non-NHS)	21	12
Pharmacies	29	13
Opticians	21	6

Betsi Cadwaladr Website (June 2012)

- 4.4.3 Gwynedd's **secondary care** providers include **local hospitals** namely Ysbyty Gwynedd in Bangor, which is the largest hospital and is the main administrative centre. It covers a large geographical area extending from Amlwch in the north to Tywyn in the south and from Pwllheli in the west to Llandudno in the east. Other local hospitals which provide health services to Gwynedd and Anglesey's residents are Ysbyty Llandudno, Ysbyty Maelor, and Ysbyty Bronglais, all of which are located outside the Plan Area.
- 4.4.4 These are supported by a network of **community hospitals**:
- Eryri Hospital, Caernarfon
 - Bryn Beryl Hospital, Pwllheli
 - Alltwen Hospital, Tremadog
 - Dolgellau Hospital (Snowdonia National Park Planning Authority)
 - Tywyn Hospital
 - Ysbyty Ffestiniog, Blaenau Ffestiniog
 - Ysbyty Cefni, Llangefni
 - Ysbyty Penrhos Stanley, Holyhead

4.4.5 The figure below compares the age profile of the Health Board's estate in 2010/11 with 2001/02. It can be seen that the Health Board's estate modernisation programme over the last 10 years has resulted in a reduction in 'Pre 1948' facilities from 24% to 14% and an increase in 'post 1995' facilities from 2% to 34%.

Age profile of the estate 2001/02 and 2010/11



4.4.6 The Welsh Ambulance Service provides pre-hospital emergency care and treatment throughout Wales. The Ambulance Service attends more than 250,000 emergency calls a year, over 50,000 urgent calls and transport over 1.3 million non-emergency patients to over 200 treatment centres throughout Wales (and England).

Planned Provision and Future Requirements

4.4.7 Betsi Cadwaladr Health Board is currently carried out a consultation on the review of health services provided in North Wales during August and October 2012. The results of this consultation will inform the development of their Estates Strategy in due course. Aspects of the consultation document, which are relevant to Anglesey and Gwynedd are as follows:

Acute Hospitals

4.4.8 For most of the care provided at the acute hospitals (Ysbyty Gwynedd, Glan Clwyd Hospital and Wrexham Maelor Hospital), no substantial changes are proposed. However this does not mean that there will not be changes in the way these hospitals function and the way patients are cared for. Each of the hospitals will have an Emergency Department, a midwifery-led unit supported by a consultant-led maternity service and a Special Care Baby Unit / High Dependency Unit. They will also have hospital services for children led by consultants, trauma and orthopaedic services, gynaecological services and non-elective general surgery. However, this will be dependent on the availability of doctors to recruit.

4.4.9 Patients will continue to use services from other NHS organisations outside North Wales where this is appropriate, including the Countess of Chester, Robert Jones and Agnes Hunt Hospital (at Gobowen), Alder Hey Children’s Hospital, North Staffordshire, Liverpool Heart and Chest Hospital and the Christie and Clatterbridge hospitals for specialist cancer treatment as examples.

Community Hospitals



4.4.10 Across North Wales, there are community hospitals in various locations and many of these were built before the modern NHS was established. However, some of them are now old and need a lot of maintenance work; some are not suitable for providing the full range of services which are required in local areas.

4.4.11 The Health Board has identified a number of hospitals which can act as hospital “hubs” in local areas. Here they will provide:

-
- Inpatient beds
 - Minor Injuries Services – seven days a week
 - Outpatient services
 - Physiotherapy, occupational therapy and other therapy services
 - x-ray – five days a week

4.4.12 Most community hospitals which are not hubs will carry on providing a range of inpatient, outpatient, therapies and other services. Hospitals which are proposed to act as hubs or main centres of services for communities are as follows. It is anticipated that changes to community hospitals will begin from April 2013.

- Ysbyty Penrhos Stanley
- Ysbyty Gwynedd
- Ysbyty Alltwen
- Dolgellau and Barmouth Hospital
- Llandudno Hospital
- Glan Clwyd Hospital
- Holywell Community Hospital
- Deeside Community Hospital
- Wrexham Maelor Hospital
- Denbigh Infirmary

Older People's Mental Health - Gwynedd and Anglesey

4.4.13 Proposed changes to the services for older people's mental health in Gwynedd and Anglesey are as follows:

- Strengthen community mental health teams to provide longer hours of service as well as support to patients in care homes
- Strengthen nurse liaison services when patients move between community services and Llandudno Hospital and Ysbyty Gwynedd
- Strengthen memory services to support early diagnosis
- Support in a crisis - the home treatment teams will provide additional support to older people

Services for people living in the Tywyn area

4.4.14 People living in the Tywyn area of Gwynedd use some of the health services which are provided by Hywel Dda Health Board. This may be in the community, at Tywyn Community Hospital or at Bronglais Hospital or other facilities provided by Hywel Dda Health Board. The Health Board has submitted a business case to Welsh Government for development of the facilities at Tywyn Hospital.

4.4.15 The Health Board works with Hywel Dda to make sure services are meeting the needs of residents in this area. This includes looking at patients' pathways of care. It may be better sometimes for patients to go to Wrexham or the North West of England rather than south Wales when specialist hospital services are needed. BCULHB will work with Hywel Dda and Welsh Ambulance Services Trust to enable this to happen.

Ffestiniog Memorial Hospital

4.4.16 Ffestiniog Memorial Hospital currently has 12 inpatient beds (8 currently in use); X-ray services for four sessions a week; minor injuries unit open seven days a week from 8am - 4pm (used by an average of 3 people per day, temporarily closed); occupational therapy and physiotherapy. Some outpatient services and dental services are provided in the health centre opposite the hospital.

4.4.17 Use of the hospital beds and minor injuries unit has changed over recent years and the building itself would need major change to improve its physical condition. BCUHB has had to take action on occasions to reduce services on a temporary basis because they have not been able to keep staffing levels safe.

4.4.18 The hospital has been subject to a number of reviews in recent years and most recently there has been an independent review undertaken by Dr Edward Roberts, GP and Vice Chairman of Abertawe Bro Morgannwg University Health Board requested by the former Health Minister. As of July 2012, proposals for the Ffestiniog Memorial Hospital include:

- The development of the enhanced care at home service to help people stay at home rather than needing a hospital admission, when this is safe and appropriate to do so;
- The minor injuries unit and X-ray provision should close;
- Discussions have started with Gwynedd County Council and housing associations to plan for building new health, social care and housing together;
- Continue to use the hospital building to provide a base for better community services and consider expanding primary care services
- To close the inpatient beds, and patients who need a community hospital bed would have this care at Ysbyty Alltwn

4.4.19 Ysbyty Alltwn is 14 miles from Blaenau Ffestiniog, and is a new hospital with modern facilities and capacity to support more patients. In order to develop primary and community services BCUHB would invest around £4m to redevelop existing facilities, subject to development of a business case. This would help secure community based services for the local population and would take about three years to develop.

Implications to JLDP

- The availability of health care services should be a key consideration when assessing the suitability of housing allocations.
- The exact number and location of future development is not yet known and in this respect, it is not possible at this time to establish where new health facilities will be required. The JLDP will need to include criteria-based policies which ensure that space around existing facilities is protected and that there is no loss to other uses.
- The JLDP should facilitate the protection of existing health facilities and the provision of new facilities when required in line with the requirements of Betsi Cadwaladr University Health Board.
- The JLDP can contribute towards improving the health and social well-being by providing land to accommodate sufficient infrastructure to meet needs, protecting existing facilities, and provision of open space which can contribute towards improved health of the community both mentally and physically.

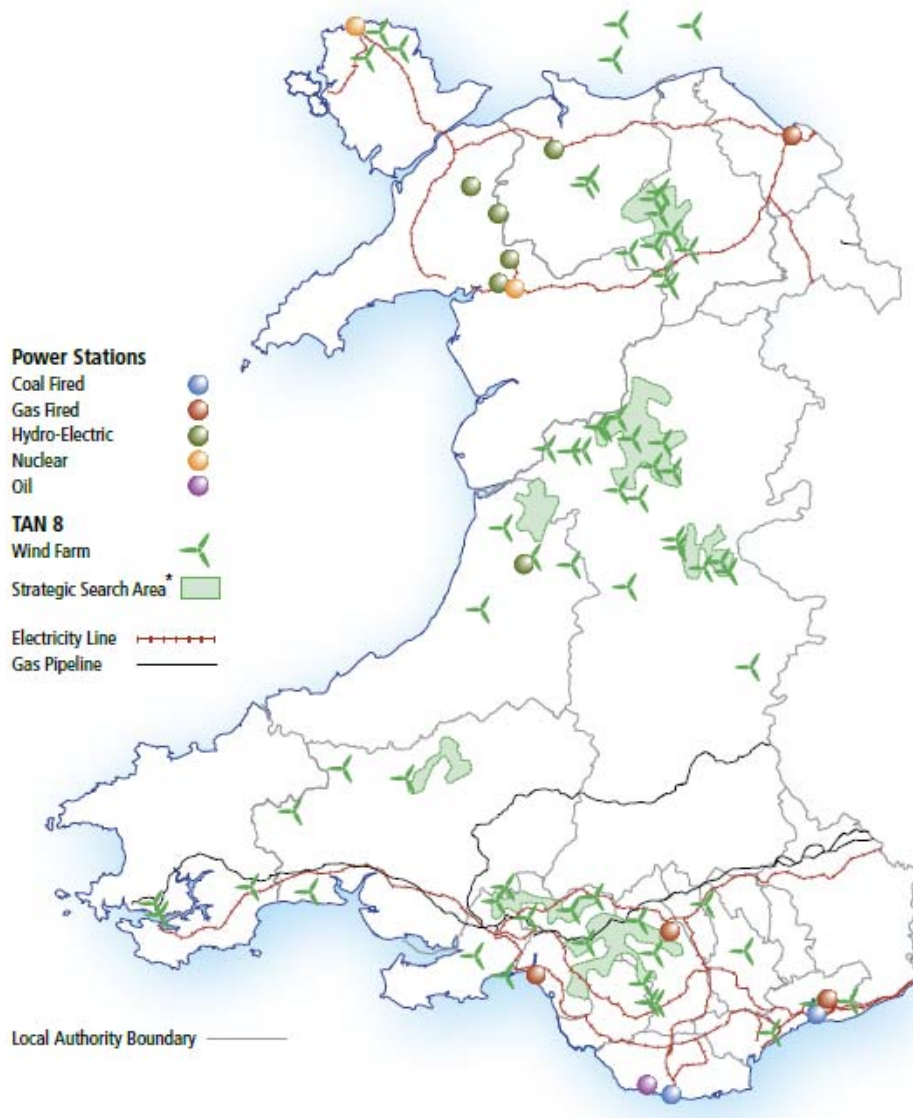
- The requirement for developer contributions for health facilities should be incorporated into policies where appropriate.

4.5 RENEWABLE AND LOW CARBON ENERGY

4.4.1 The Government is actively encouraging the development of electricity generation from renewable sources. Displacement of fossil fuel generation by energy from renewable sources is seen as an important element in the drive to achieve the UK targets for the reduction of greenhouse gas emissions. The Government's Climate Change Programme has identified a range of initiatives to achieve the overall long-term objectives, a key component being renewable generation. The objective of the policy is for renewables to make a steadily increasing contribution to the diverse range of generation capability.

Existing Provision

4.4.2 The following figure illustrates the current renewable energy schemes in Wales.



Gwynedd

- 4.4.3 Electricity and heat demand in Gwynedd has been estimated using actual energy consumption data from national statistics. The total energy demand for Gwynedd in 2010 was **1,155.4 GWh** (Gigawatt-hours) (Electricity = 815.3 GWh + Gas = 2,159.6 GWh). Operational renewable energy schemes within Gwynedd as of April 2012 are as follows ('Scoping Renewable Energy Opportunities in Gwynedd' 2012):

Operational renewable energy opportunities in Gwynedd (2012)

Scheme	Technology	Installed Capacity (MWe)	Status	Source
Afon Tyn y Cornel Hydro Scheme	Hydropower	0.12	Operational	DECC
Maentwrog	Hydropower	30	Operational	DECC
Cwm Croesor	Hydropower	0.5	Operational	NFPA
Cwm Dyli, nr Beddgelert	Hydropower	9.8	Operational	RWE
Twrch, Pandy	Hydropower	0.475	Operational	NFPA
Afon Ysgeithin, nr Harlech	Hydropower	0.86	Operational	NFPA
Harnog, nr Rhyd y Main	Hydropower	0.45	Operational	NFPA
Afon Ty Cerig, Rhydymain	Hydropower	0.195	Operational	NFPA
Cwm Llan, Nant Gwynant	Hydropower	0.44	Operational	NFPA
Gain, nr Ganllwyd	Hydropower	0.55	Operational	NFPA
Coed, nr Bala	Hydropower	0.45	Operational	NFPA
Cwmorthin, Tan y Grisiau	Hydropower	0.415	Operational	NFPA
Dolgoch, nr Tywyn	Hydropower	0.30	Operational	DECC
Pant yr Afon, Llechwedd	Hydropower	0.4	Operational	DECC
Maenofferen, Blaenau Ffestiniog	Hydropower	0.2	Operational	DECC
Bryn Fedw Hydro, Rhyd Ddu	Hydropower	0.7	Operational	DECC
Braich Ddu, Y Bala	Onshore Wind	4.0	Operational	NEPA
Crugeran Farm, Sarn Mellteyrn	Onshore Wind	0.05	Operational	Gwynedd Planning Data
Cilgwyn RO Generation	Landfill Gas	2.13	Operational	ROG
Domestic Onshore Wind	Microgeneration	0.016	Operational	Ofgem
Non-domestic Onshore Wind	Microgeneration	0.006	Operational	Ofgem
Domestic Hydropower	Microgeneration	0.051	Operational	Ofgem
Non-domestic Hydropower	Microgeneration	0.229	Operational	Ofgem
Domestic PV	Microgeneration	2.4	Operational	Ofgem
Non-domestic PV	Microgeneration	0.094	Operational	Ofgem
Total	-	54.8MWe	-	-

Anglesey

4.4.4 Electricity and heat demand in Anglesey has been estimated using actual energy consumption data from national statistics. The total energy demand in GWh for Anglesey for 2009 was 1,341.9 GWh (Electricity = 318.6 GWh + Natural Gas = 463.5 GWh).

4.4.5 Information has been obtained for Anglesey regarding renewable energy schemes within the County as of April 2012 that are operational:

Operational renewable energy schemes in Anglesey (2012)

Scheme	Technology	Installed Capacity (Mwe)	Status	Source
Trysglwyn Wind Farm	Onshore Wind	5.6	Operational	DECC
Llanbabo Wind Farm	Onshore Wind	20.4	Operational	DECC
Domestic Onshore Wind	Microgeneration	0.0028	Operational	Anglesey
Non-domestic Onshore Wind	Microgeneration	0.025	Operational	Anglesey
Domestic PV	Microgeneration	1.49844	Operational	Ofgem
Non-domestic PV	Microgeneration	0.09616	Operational	Ofgem
Total	-	27.647	-	-

Planned Provision and Future Requirements

Gwynedd

4.4.6 The following table represents renewable energy schemes that have been approved and are waiting to be constructed (“Scoping Renewable Energy Opportunities in Gwynedd”).

Approved Renewable Energy Generation in Gwynedd (April 2012)

Scheme	Technology	Capacity (Mwe) to be installed	Status	Source
Caernarfon Airport, Dinas Dinlle	Onshore Wind	0.5	Awaiting Construction	DECC
Llwyn Isaf AD Plant	Anaerobic Digestion	0.5	Awaiting construction	DECC
Hen-dy, Pistyll	Biomass	-	Application approved Oct 2002	Gwynedd Planning Data
Llanllyfni	Biomass	-	Application approved March 2007	Snowdonia National Park
Castell March, Abersoch	Onshore	0.08	Application approved in March 2006	Gwynedd
Penucharllan, Llanfor, Y Bala	Hydropower	0.08	Application approved in Sep 2011	SNP

Llys y Coed, trefriw	Microgeneration	-	Application approved in March 2011	SNP
Heryri, Craflwyn Hall, Beddgelert	Microgeneration	-	Application approved in April 2011	SNP
Helfa Fawr, Llanberis	Microgeneration	-	Application approved in December 2007	SNP
TOTAL	-	1.21 MWe	-	-

Renewable Energy Schemes awaiting a planning decision in Gwynedd (April 2012)

Scheme	Technology	Installed Capacity (Mwe)	Status	Source
Gwynt Aelhaearn	Onshore Wind	0.005	Planning application submitted 19 March 2012	Gwynedd Planning Data
Cwmwd, Sarn, Pwllheli	Onshore Wind	1.63	Awaiting planning decision	Gwynedd Planning Data
Hafod y Llan	Hydropower	0.65	Awaiting planning decision	Gwynedd Planning Data
Hendy Farm, Abersoch	Solar	0.05	Planning application submitted December 2011	Gwynedd Planning Data
Total	-	2.3MWe	-	-

All Renewable Energy Schemes in the pipeline

Status	Technology	Installed Capacity (Mwe)	Installed Capacity (Mwe)
Existing Capacity	Hydropower	45.9	54.8
	Onshore Wind	4.0	
	Landfill Gas	2.1	
	Microgeneration	2.8	
Approved New Schemes	Hydropower	0.08	1.2
	Onshore Wind	0.63	
	Anaerobic Digestion	0.5	
Schemes awaiting planning decisions	Hydropower	0.7	2.4
	Onshore Wind	1.6	
	Microgeneration	0.05	
Total	-	-	58.4MWe

Anglesey

4.4.7 The “Anglesey Energy Island Framework – Potential Opportunities and Economic Impacts of the Energy Island Framework (May 2010)” report was prepared for the Isle of Anglesey County Council and is a framework which focuses on opportunities that can play a significant role in a more resilient, diverse and prosperous economic future for Anglesey and North West Wales. Figure * shows the spatial distribution of existing and proposed energy generation facilities on the island (Energy island: Potential Opportunities and Economic Impacts, URS) (2010).

Energy Generation



Energy Segments - Key Existing

- Wylfa Power Station (*Nuclear*)
- Rhyll Flats (*Offshore wind*)
- North Hoyle Offshore Wind Farm (*Offshore wind*)
- Tremarfor (*Onshore wind*)
- Anglesey Racing Circuit (*Onshore wind*)
- Rhyd Y Groes Wind Farm (*Onshore wind*)
- Trysglwyn Wind Farm (*Onshore wind*)
- Llanbobio Wind Farm (Llyn Alaw) (*Onshore wind*)
- Penhesgyn Landfill Gas Plant (*Energy from waste*)
- Rhosneigr (*Solar/Photovoltaic*)
- Ellins Tower (*Solar/Photovoltaic*)
- Scottish Power Infrastructure Improvements (*Other*)
- Solar and Wind Power at Ysgol-y-Graig Primary School (*Other*)

Proposed

- Gwynnt Y Mor (*Offshore wind*)
- Wylfa New Build (*Nuclear*)
- Bodlasan Bach, Llanfachraeth (*Onshore wind*)
- Cae Ysgawen, Brynteg (*Onshore wind*)
- 11, Parc Coediog, Penraeth (*Onshore wind*)
- Gaerwen Farm Llanfaethlu (*Onshore wind*)
- 1, Llain Wen, Tynyngonj (*Onshore wind*)
- Ty Coch, Rhosgoch (*Onshore wind*)
- Glan Morfa Lodge, Llangaffo (*Onshore wind*)
- Tesco Stores, Holyhead (*Onshore wind*)
- Gwelfor Barn, Plas Newydd, Llangoed (*Onshore wind*)
- Gongl Rhedyn, Cemaes (*Onshore wind*)
- Henllys Gros, Aberffraw (*Onshore wind*)
- Ty Croes House, Rhosneigr (*Onshore wind*)
- Bodffordd Bio Energy Plant (*Energy from waste*)
- Anglesey Biogas Plant (*Energy from waste*)
- Holyhead Biomass Plant (*Biomass*)
- Llangefni Wood Biomass Power Plant (*Biomass*)
- Skerries SeaGen Power (*Tidal/wave power*)
- Anerobic Digestion Plant (*Biogas*)
- Liquid Natural Gas Storage Facility (*Other*)
- Parc Cybi (*zero carbon development*)

4.4.8 The key elements of the Energy Island Framework are:

- **Short term:** Large and small scale biomass installations and supporting energy crops, energy efficiency measures, and micro generation. Initial discussion and negotiation to maximise opportunities from Offshore wind Irish Sea Round 3 Zone;
- **Medium to long term:** New build nuclear power station at Wylfa of up to 3.2 GW, Implementation of tidal project at Skerries, Offshore wind base at Holyhead Port and the replanting of existing onshore wind farms: and

- **□ Long term:** Tidal power expansion and development of the hydrogen economy. The evidence shows that the potential of Energy Island is significant and represents the best opportunity for Anglesey to diversify and strengthen its economy.
 - **Nuclear new build** represents the central opportunity within Energy Island with significant benefits in employment and GVA terms for both Anglesey and the wider sub-region. Continued close working with Horizon, Areva and Westinghouse is required to maximise the local benefits and supply chain opportunities.
 - **Re-training and skilling** the potential workforce for the new build and wider energy market should be supported to maximise the benefits for the local area in the immediate and longer-term future.
 - **Consultation with local communities** will also be critical to the ongoing success of the new build and wider Energy Island proposals. This work needs to demonstrate the benefits of the framework to local people.
 - **Development of Holyhead Port.** Whilst there is potential here there are also constraints that need to be addressed. Ongoing discussion with Centrica, WG, Stena, the Port Authority and potential investors are critical to understanding the scale and nature of the opportunity and the steps that need to be taken to realise this.
 - **Enhancing energy infrastructure:** National and local ambitions to export energy requires significant investment in the existing transmission network. Discussion and clarity over the planning and delivery of new and improved connections should be continued.
- 4.4.9 Demonstration projects offer the opportunity to put Energy Island “on the map” as a premier location for energy research and development.
- **Tidal energy:** Pursuing tidal energy would give Anglesey an early mover advantage and help create the profile needed to help attract investment in research, development and manufacturing. The Skerries project is an excellent opportunity to develop a distinctive element of the framework.
 - **Nuclear decommissioning** at Wylfa A and nuclear skills training through NSAN also offers potential to showcase the safe decommissioning of the current reactor and offer hands on training to help access new jobs created in the new nuclear build.
 - **Smart Grids** in rural and urban areas is an area that is of increasing interest to Government and the private sector and again offers a first/early mover advantage if the opportunity can be progressed.

4.4.10 The following table represents renewable energy schemes that have been approved and are waiting to be constructed (Renewable Energy Capacity Assessment for Anglesey, June 2012).

Approved Renewable Energy Schemes in Anglesey (August 2012)

Scheme	Technology	Capacity (Mwe) to be installed	Status	Source
Ysgellog Farm Wind Farm	Onshore Wind	4.6	Awaiting Construction	DECC
Mona Industrial Estate (AD)	Biomass-Dedicated	0.2	Awaiting construction	DECC
Domestic Onshore wind	Microgeneration	0.01	Consent granted	Anglesey
Non-domestic onshore wind	Microgeneration	0.03	Consent Granted	Anglesey
Total	-	4.84	-	-

4.4.11 In addition, there are two major proposed schemes that it is useful to be aware of:

- A proposed 299MW biomass plant near Holyhead (Lateral Power)
- A proposed 10.5MW tidal array between Skerrier and Carmel Head (SeaGen Wales).

4.4.12 A new 3.3GW nuclear power is also planned at Wylfa B. Whilst this is not a renewable energy, it is included here for completeness.

Implications to JLDP
<ul style="list-style-type: none"> • The JLDP should consider the schemes highlighted above which should help guide housing and employment developments to appropriate locations making the most of the energy infrastructure that is available. • Additional associated infrastructure may be required in line with new renewable energy generation. This might be connections to the National Grid, private wires, or new access roads, for example. • The JLDP should facilitate the reduction of energy through encouraging greater energy efficiency and use of renewable technologies. • The JLDP should promote efficiency in the design of new buildings and the adaptation of existing buildings.

4.5 UTILITIES - WATER

4.5.1 Welsh Water is the company responsible for water undertaking, sewerage and sewage disposal responsibilities in Anglesey and Gwynedd.

Existing Provision

4.5.2 There are 8 water resources zones (WRZ) which the supply is wholly or partially within the JLDP area. These are:

- North Eryri Ynys Môn (NEYM)
- Llyn Harlech
- Barmouth
- South Meirionnydd
- Tywyn Aberdyfi
- Blaenau Ffestiniog
- Bala
- Dyffryn Conwy

Water Resource Zones in Anglesey and Gwynedd



(Source: Revised Draft Water Resources Management Plan, 2009)

Welsh Water's Water Resources Management Plan (2014) forecasts North Eryri Ynys Môn WRZ to be in deficit from 2024 and remain in deficit throughout the rest of the planning period. To maintain the supply demand balance to 2040, Welsh Water will transfer water from Cwm Dulyn water

treatment works from the neighbouring WRZ to the South, to actively pursue improved leakage levels, and to carry out water efficiency work. In Tywyn Aberdyfi, a deficit is predicted to occur post 2016. To maintain the supply demand balance Welsh Water will deliver the least cost solution, which is to transfer raw water from a new river abstraction at Afon Dysynni and transfer this water to Penybont WTW which has existing spare capacity.

Planned Provision and Future Requirements

- 4.5.3 All water supply companies are required to produce Water Resource Plans covering a period of 25 years, which should demonstrate the predicted demand and supply requirements resulting from population growth. Welsh Water's Revised Draft Water Resources Management Plan (WRMP) (2011) outlines the 25 year strategy for managing water resources and maintains the balance between supply and demand for water to the period 2034-2035. The WRMP utilises Welsh Government population forecasts and this shows that all 8 zones are currently predicted to have a supply surplus throughout the planning period (up to 2034-35). Therefore as long as the JLDP proposals for growth are in line with the Welsh Government forecasts, the supply to these zones should be fully maintained.
- 4.5.4 Welsh Water have recently consulted on new plans by investing £2 billion to improve services between 2015 and 2021. Detailed plans include a wide range of projects and schemes in communities across Wales, Herefordshire and Deeside.
- 4.5.5 Between 2015 and 2021, plans include:
- invest £784 million in water services
 - make significant improvements at 14 water treatment works and substantially re-build the works at Bryn Cowlyd (serving the Llandudno and Colwyn Bay areas) and Tynywaun (serving the Rhondda);
 - work with farmers and other landowners to reduce the amount of potential pollutants entering rivers and seas
 - research how water quality is affected by the natural environment and the changing climate before it reaches treatment works
 - trial new technologies to further improve water quality to ensure new standards are met
 - maintain 66 water treatment works
 - renew 470km of water mains to reduce the frequency of bursts in high risk areas increase the resilience of key strategic assets,
 - invest almost £1 billion in the sewerage network and sewage treatment works – compared to £565 million in 2010-15 – so that they can cope with the increasing demands on the system increase the reliability of key sewage treatment works – with major refurbishment of 45 of our priority works
 - reduce the amount of surface water entering our sewer network to lower the risk of flooding and pollution of our water courses
 - substantially increase the amount of renewable energy generated on Welsh Water sites to 100GWh
 - install new hydro-electric generation at 30 sites and photo-voltaic generation at a further 12 sites

- provide new connections to 64,000 new properties costing some £29 million
- invest almost £100 million to improve the capacity of water and sewerage systems to allow for population growth and economic development
- upgrade the network so that they can supply water to the new Wylfa nuclear power station (Anglesey).

4.5.6 The Natural Resources Wales (NRW) Ynys Môn Catchment Abstraction Management Strategy (2007) describes how the water resources on Ynys Môn should be managed. Ynys Môn has two major reservoirs which supply the Island with drinking water. They are also a source of water for agriculture, fish farming and light industry. There are currently no licensed groundwater abstractions in the area as groundwater abstraction is exempt from licensing, but it is extensively utilised for small, private water supplies across the Island. As of the 1st April 2005, there are currently 5 surface water abstraction licenses in effect in the Ynys Môn CAMS area. As a result of the Water Act 2003, the exemption of groundwater abstractions in this area is being lifted and eventually all abstractions over 20m³/day will need to be licensed.

4.5.7 The NRW's Llŷn and Eryri Catchment Abstraction Management Strategy (2006) strategy sets out how the Environment Agency will manage water abstraction until this year. It outlines where water is available, and also, if relevant, where we need to reduce current rates of abstraction. Currently, groundwater abstraction is exempt from the need for an abstraction licence in the Llŷn and Eryri CAMS area, therefore little is known about the extent of abstraction from this source.

4.5.8 Direct consultation with Welsh Water on the JLDP's Preferred Spatial Strategy led to the following comments being made:

- **Bangor** - Once the exact locations and densities of proposed allocations are confirmed there may be a requirement for off-site water mains to be provided to the boundary of and within the development site. This service can be acquired through requisition provisions under sections 40-41 Water Industry Act 1991 (as amended), For the elevated areas in particular, Welsh Water will need to model their system to ensure that the provision of water supply to any development proposals does not undermine the existing standards of service. No major issues are envisaged with respect to the sewerage system although the Treborth WwTW would need to be upgraded sometime within the Plan period to accommodate all of the proposed growth.
- **Caernarfon** - Once the exact location and density of proposed sites are known, Welsh Water can assess whether offsite watermains will be required to service the site. The sewerage system is generally adequate and no major issues are envisaged with the Caernarfon WwTW in accommodating the initial proposals for housing growth.
- **Pwllheli** - Once the exact location and density of proposed sites are known, Welsh Water can assess whether offsite watermains will be required to service the site. The sewerage system is generally adequate and no major

issues are envisaged with respect to the Pwllheli WwTW in accommodating the initial proposals for housing growth.

- **Porthmadog** - Once the exact location and density of proposed sites are known, Welsh Water can assess whether off-site watermains will be required to service the site. The sewerage system is generally adequate and no major issues are envisaged with respect to the Porthmadog WwTW in accommodating the initial proposals for housing growth.
- **Amlwch** - Once the exact location and density of proposed sites are known, Welsh Water can assess whether off-site watermains will be required to service the site. The sewerage system is generally okay no major issues are envisaged with respect to the Amlwch WwTW in accommodating the initial proposals for housing growth.
- **Holyhead** - Once the exact location and density of proposed sites are known, we can assess whether off-site watermains will be required to service the site. Welsh Water's records indicate there are isolated flooding events within this waste water catchment and dependent on the exact location of future development, these issues will need to be addressed to allow development to proceed. No major issues are envisaged with the Holyhead WwTW in accommodating the initial proposals for housing growth.
- **Llangefni** - Once the exact location and density of proposed sites are known, Welsh Water can assess whether off-site watermains will be required to service the site. Records indicate there are isolated flooding events within this waste water catchment and dependant on the exact location of future development, these issues will need to be addressed to allow development to proceed. No major issues are envisaged with respect with the Llangefni WwTW in accommodating the initial proposals for housing growth.

4.5.9 The above assessment is based on the presumption that no surface water from future domestic and employment properties will enter the public sewers. The removal and/or prevention of surface water from the public sewerage system can greatly increase the foul capacity available for future development.

- **Other settlements** - The very nature of the Joint LDP's expansive rural environment results in Dŵr Cymru/Welsh Water (DC/WW) having numerous waste water treatment works located throughout the geographical area. It is fair to say that many of these wwtw are very small in terms of the population served and a further assessment of the potential impact on assets will be possible once more information is available. Where the total density of proposed allocations will exceed the theoretical design of these works, then further capacity will be required.

4.5.10 DC/WW will work with both Authorities, through housing completion records and Joint Housing Land Availability statistics to understand and monitor the rate of growth within the joint JLDP area to assist them in submitting their

plans for funding and approval to deliver the required infrastructure necessary to meet future growth. Where settlements do not have public sewerage facilities then the provisions of Circular 10/99 Planning Requirement in respect of the Use of Non-Mains Sewerage incorporating Septic Tanks in New Development will apply and consultation with the Environment Agency will be required in this regard.

Implications to JLDP

- Ongoing consultation with Welsh Water will be vital to ensure any housing and employment allocations would be suitable in terms of potable water and waste water service provision. The Council will need to consult with Welsh Water once site-specific developments are proposed to ensure that the appropriate infrastructure capacity is available or is capable of being delivered to support growth.
- Developments should in the first instance connect to main sewers where it is feasible to do so, otherwise the provision of Welsh Office Circular 10/99 may apply.
- The JLDP should consider the obligations contained in the Flood and Water Management Act 2010 which notes that the removal of surface water from combined sewers can increase the capacity available for development.
- The JLDP should include policies (or caveats within policies) which cover the following areas: the protection of water resources and the environment from potentially polluting activities such as mineral workings, and waste disposal; sustainable drainage which can alleviate flooding; water efficiency and /or conservation measures incorporated as part of the design of new developments; planning obligations and planning conditions that can enhance the quality of development and enable proposals to go ahead which might otherwise be refused; mechanisms which enable developers to meet or contribute towards the cost of providing such facilities in appropriate circumstances.

4.6 UTILITIES - GAS

Existing Provision

- 4.6.1 National Grid has no gas transmission assets located within the administrative area of Anglesey and Gwynedd Councils. *Wales and West Utilities* owns and operates the local gas distribution network in Anglesey and Gwynedd.

Planned Provision and Future Requirements

- 4.6.2 The “Wales and West Utilities 2011 Long Term Development Statement” provides an indication of the system usage of our pipeline system and likely developments. Anglesey and Gwynedd are included in the “Wales North Region”.
- 4.6.3 In 2011 National Grid UK Transmission (UKT) provided Wales and West Utilities with two demand forecast scenarios. The first scenario was a “Gone Green” forecast which took an aggressive view on energy efficiencies, particularly in new homes, and also in the meeting of energy targets set by the UK government. It also predicted that in the longer term, gas fired heating would be replaced by the electrification of heat that is fed from renewable sources. The second scenario was a “Slow Progression” model which replaced the traditional “Best View” forecast that is usually provided by UKT.
- 4.6.4 After an extensive review process, Wales and West Utilities deemed that the “Slow Progression” Scenario was the most reasonable forecast to base its 2011 demand statement on. The current annual demand forecast for the “Slow Progression” scenario indicates that after 2011 there will be a 7% decrease in total annual gas demand for the whole network by 2020. This decrease is influenced by the downturn in the housing market along with other factors such as an increase in fuel price coupled with increased energy efficiency measures and government targets to push for a low carbon economy.
- 4.6.5 The Wales North Region is also expected to experience a 9% reduction in annual demand by 2020. The following table shows the planned projects by Wales and West Utilities between 2011-2020.

Planned Projects for 2011-2020

Project Name	Driver
2011/2012	
HN035 – Chwilog to Ffestiniog Interlink 32km	Condition
17 x Pre-heaters Including E&I Upgrades	Condition
12 x Site Rebuild Including E& I Upgrades	Condition
2012/2013	
HN037 – Llanwrin to Barmouth Tee 22km	Condition
Llanfyllin LPG	Capacity
Penn Lea PRI	Capacity
6 x Pre-heaters Including E&I Upgrades	Condition
20 x Site Rebuild Including E& I Upgrades	Condition
20 x Metering Replacement Program work	Condition
River Trothy Diversion (Pipework and Monmouth PRI)	Condition
Bath Holder Decommissioning and Demolition	Customer
Five Fords bio-gas entry – North Wales downrating	Customer
Watchet PRI	Operational
Kenn Offtake	Operational

- 4.6.6 As can be seen from the project listing, no new projects have been identified in 2011 to increase capacity in the network. It should also be noted that National Grid has also stated that developments to the network are a result of specific connection requests e.g. power stations, and requests for additional capacity on the network from gas shippers. Generally network developments to provide supplies to the local gas distribution network are as a result of overall demand growth in a region rather than site specific developments.

Implications to JLDP

- | |
|---|
| <ul style="list-style-type: none"> The Council will need to consult with National Grid and Wales and West Utilities once site-specific developments are proposed to ensure that the appropriate infrastructure capacity is available or is capable of being delivered to support growth. |
|---|

4.7 UTILITIES - ELECTRICITY

4.7.1 *National Grid* operates the national electricity transmission network across great Britain and owns and maintains the network in England and Wales, providing electricity supplies from generating stations to local distribution companies. National Grid does not distribute electricity to individual premises, but separate regional companies own and operate electricity distribution networks and it is the role of these local companies to distribute electricity to homes and businesses.

Existing Provision

4.7.2 National Grid's high voltage electricity system, which operates at 400,000 and 275,000 volts, is made up of approximately 22,000 pylons with an overhead line route length of 4,500 miles, 420 miles of underground cable and 337 substations.

Electricity Transmission

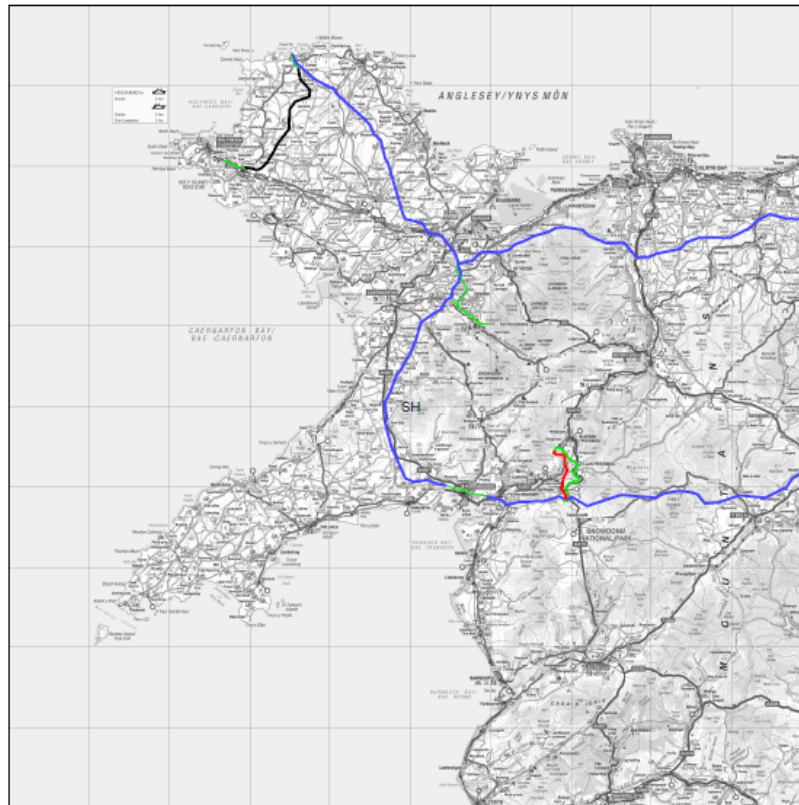
4.7.3 National Grid's high voltage electricity overhead transmission lines / underground cables within the Isle of Anglesey County Council and Gwynedd Council's administrative area that form an essential part of the electricity transmission network in England and Wales include the following:

- 4ZA line – 400kV route from Wylfa substation in Anglesey to Pentir substation in Gwynedd
- 4ZC line – 400kV route from Trawsfynydd substation in Gwynedd to Pentir substation in Gwynedd
- 4ZB line – 400kV route from Pentir substation in Gwynedd to Deeside substation in Flintshire
- ZK line – 400kV route from Deeside substation in Flintshire to Trawsfynydd substation in Gwynedd
- 275kV Underground cable from Trawsfynydd substation in Gwynedd to Ffestiniog substation in Gwynedd
- 400kV Underground cable from Pentir substation in Gwynedd to Dinorwig
- EV line – 132kV route from Wylfa substation in Anglesey to Penrhos substation in Anglesey

4.7.4 The following substations are also located within the administrative area of Anglesey and Gwynedd Councils:

- Wylfa substation – 400kV
- Pentir substation – 400kV and 132kV
- Dinorwig substation – 400kV

National Grid high-voltage cable locations



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 NATIONAL GRID ELECTRICITY - 100024241



Electricity Distribution

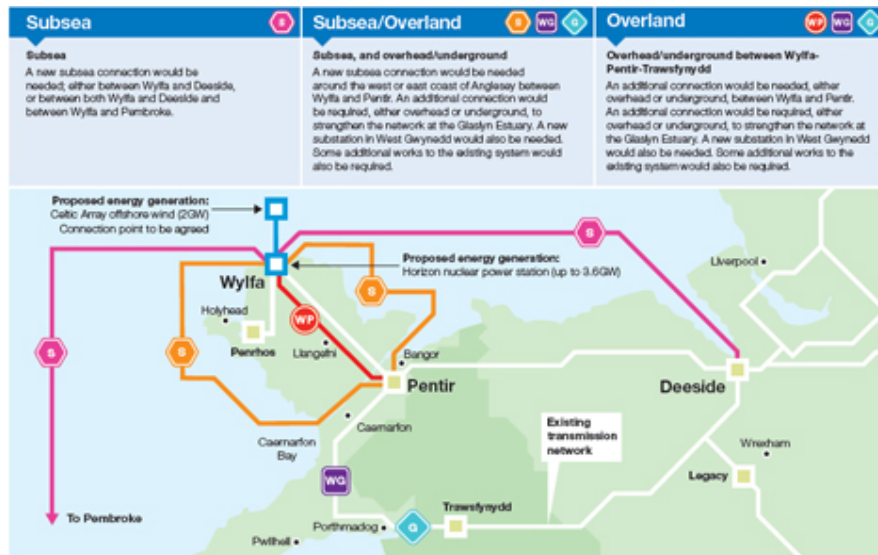
- 4.7.5 Scottish Power Energy Networks owns and operates the local electricity distribution network in the Anglesey and Gwynedd Councils.

Planned Provision and Future Requirements

- 4.7.6 The **Energy White Paper (2007)** makes clear that UK energy systems will undergo a significant change over the next 20 years. To meet the goals of the white paper it will be necessary to revise and update much of the UK's energy infrastructure during this period. There will be a requirement for:

- An expansion of national infrastructure (e.g. overhead power lines, underground cables, extending substations, new gas pipelines and associated installations); and
- New forms of infrastructure (e.g. smaller scale distributed generation, gas storage sites).

- 4.7.7 The “**Our Electricity Transmission Network: A Vision for 2020**” (Electricity Networks Strategy Group, February, 2012) report identifies and estimates the regional costs of the potential transmission reinforcements that may be required to accommodate the connection of a range of new generation needed to meet the UK’s renewable energy targets whilst, at the same time, facilitates the connection of other essential new generation that will be needed to maintain continued security of supply.
- 4.7.8 Potential transmission network reinforcements identified in the document are as follows: A net increase of 2.8GW of generation is assumed to connect under the Gone Green 2011 scenario in the North Wales area by 2020. This includes a new nuclear power, Round 2 and Round 3 offshore wind, and an interconnector link to Ireland which is expected to complete before 2012/13. At present there is just under 1GW of nuclear generation, 2.1GW of thermal, 2GW of pumped storage generations connected to the North Wales transmission system.
- 4.7.9 Under the Gone Green 2011 scenario when the Round 3 Irish Sea windfarms and nuclear generation start to significantly impact on the boundary further reinforcement would be required in the form of:
- Two new transmission lines between Wylfa and Pentir.
 - Installation of a second circuit between Pentir and Trawsfynydd. The earliest possible completion dates of these reinforcements are 2018 and 2016 respectively.
- 4.7.10 The earliest possible completion dates of the Wylfa – Pembroke HVDC link and Trawsfynydd – Treuddyn Tee reconductoring are 2017 and 2014 respectively.
- 4.7.11 A Wylfa - Pembroke HVDC link could also be required under the Gone Green 2011 Scenario as early as 2020. This reinforcement would be further justified if all the units of Wylfa B nuclear are operating at full capacity. Other onshore reinforcement which could be required:
- Reconductoring of the Trawsfynydd to Treuddyn Tee circuits.
- 4.7.12 In addition an offshore co-ordinated network design option has been developed to accommodate 2GW of wind assumed by 2020 under Gone Green 2011 Scenario and could be expanded to a maximum zonal capacity of 4.2GW for the full Round 3 Irish Sea wind capacity. This design option would coordinate interconnection between the offshore platforms and the onshore transmission which could potentially reduce the number of connections to shore the cost of the connections and possibly provide circuit diversity to the offshore generation. These potential benefits would be dependent upon assumptions made for example on timing and scale of generation.



4.7.14 Following the strategic options process, the preliminary preferred option was for an overland connection, which consists of three key packages of work:

- **An additional overhead connection between Wylfa and Pentir** to connect new low-carbon generation sources to the existing network in North Wales. A number of low carbon energy projects on and around Anglesey are being proposed and will need connecting to the transmission network. The existing 400 kV overhead line on Anglesey runs between a National Grid substation at Wylfa and one at Pentir, Gwynedd. Even when the existing 1 GW Magnox nuclear power station has been decommissioned, the existing overhead line would not be able to accommodate all of the new generation that is being proposed. An [Initial Route Corridor Report](#) (Appendix 3) identified four possible route corridors across Anglesey and five possible crossing options across the Menai Strait to Pentir. A route corridor is a broad width of land within which the new connection could be built. The corridor could be very wide in some places (up to 4km); in others it may be more restricted as a result of constraints such as towns and villages, population density and designated environmental areas.
- **A new substation in West Gwynedd (Appendix 4)** to strengthen the network and ensure reliable supplies are maintained in the area, including to the Llŷn Peninsula. A new substation in West Gwynedd would be needed to maintain reliable supplies to homes and businesses in the area. National Grid currently shares the existing overhead line in West Gwynedd with local energy supplier ScottishPower Energy Networks. To accommodate the extra power being proposed in North Wales, National Grid would need to make use of the wires on both sides of the overhead line between Pentir and Trawsfynydd. To allow this to happen, a new substation near to the existing line would be needed, strengthening the network and ensuring reliable electricity supplies are maintained to surrounding areas including the Llŷn Peninsula.

To identify potential substation sites, National Grid undertook a [Substation Siting Study](#), which took account of amenity and environmental considerations, the effects on local communities and suitability for transport access. After conducting a thorough search of 20 potential sites, three potentially suitable site options near Bryncir have been identified for a substation: Northern, Central and Southern. Only one of these substation sites will be taken forward.

- **An additional underground connection at the Glaslyn Estuary (Appendix 5)** to strengthen the network to be able to handle the increased amount of energy in the system. To handle the increased energy in the network, an additional connection would be needed at the Glaslyn Estuary. The existing overhead electricity line in West Gwynedd runs from Pentir to Trawsfynydd. It changes to underground cables at Wern, to the west of Tremadog. The connection then remains underground for approximately 6km, recognising the environmental sensitivities of the estuary and views into Snowdonia National Park. It then resurfaces at Y Garth near Minffordd and changes to an overhead line again, before continuing to Trawsfynydd. The proposed route corridor and potential route alignment identified broadly follows the same route as the existing underground cables.

4.7.15 A number of additional works would also be required to strengthen the electricity network. These would include work on existing overhead lines in North Wales, installation of equipment to boost transmission strength and work on existing substations at Wylfa, Pentir and Trawsfynydd.

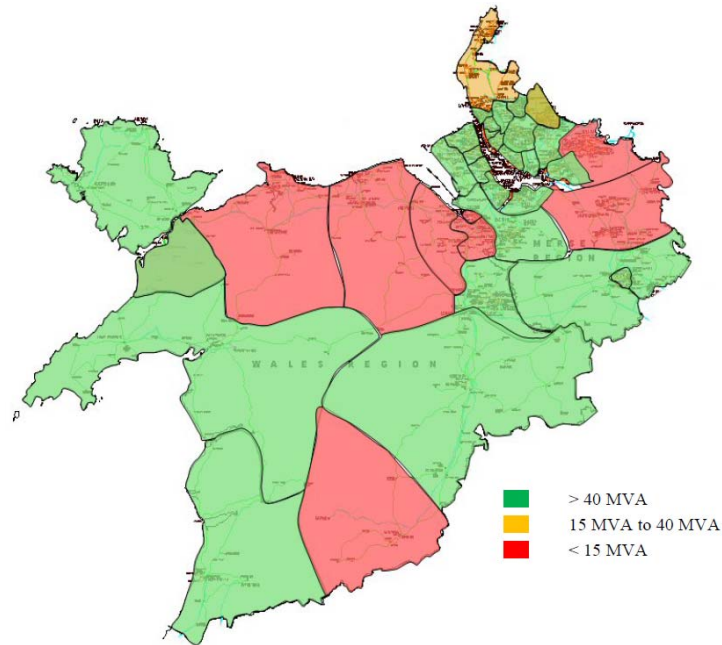
4.7.16 In the Council's Cabinet meeting on 18 December 2012, in responses to the public consultation, it was resolved that a number of issues relating to the National Grid Preferred Options needed addressing, including the potential impact upon the natural environment and that the addition of the point that National Grid needed to look in more detail on the option of sub sea cables from northern Anglesey to Connah's Quay rather than only considering the overland options.

4.7.17 If the preferred option for the connection is taken forward, careful consideration would be given to reducing any effects from the proposed works, with options including careful routeing and siting of equipment, planting and screening measures to reduce visual impact, creating habitats for wildlife, measures to reduce noise and traffic, and consideration of undergrounding in particularly sensitive areas. An announcement of the preferred site selected is expected to be made during 2013.

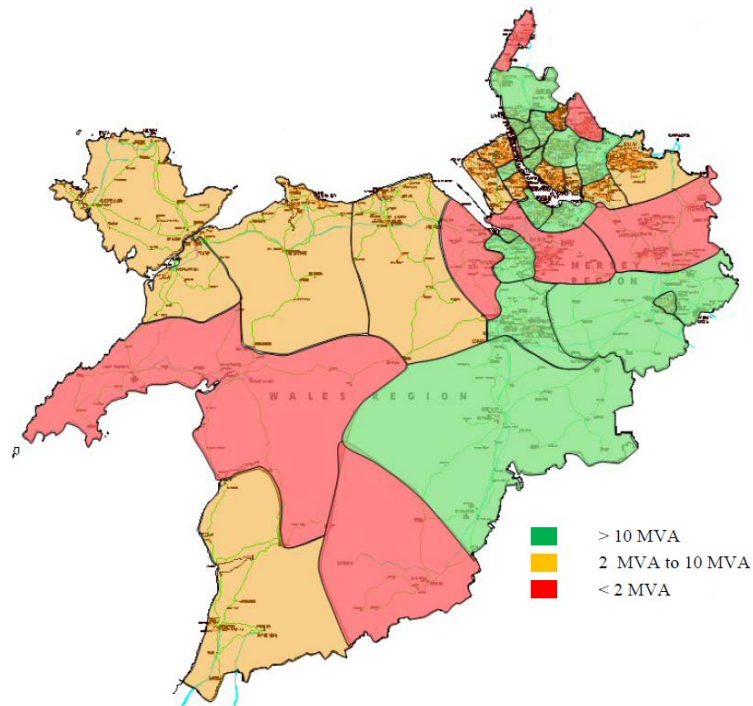
4.7.18 The **'Scottish Power Long Term Development Statement (November 2011)'** provides information about the SP Manweb 132kV and 33kV distribution systems and anticipated developments, which affect the system capability or configuration.

- 4.7.19 The maximum system demand for the year 2010/11 was 3411MW and occurred in the half hour ending 18:30 hrs on Monday 20th December 2010. Over the five year period of this Statement, it is estimated that the winter peak demand for the SP Manweb area will rise to 3551 MW in the 2015/16 year.
- 4.7.20 In many locations the onshore wind resource is in areas where the distribution system at 132kV and 33kV is extremely limited, or where existing renewable generation has fully utilised distribution circuits. In these areas significant transmission and distribution infrastructure is required to connect further generation. For such schemes and developments, often discussions with National Grid and other stakeholders are necessary in order to provide an effective connection solution.
- 4.7.21 SP Energy Networks has a comprehensive rolling investment project plan for the distribution network. Part of this plan seeks to improve key areas of the network to increase network capacity to maintain reliable supplies to existing customers as the local levels of demand change over time. To help highlight the impacts of these development plans on the network, the following figures illustrate a load capacity map of the SP Manweb network. The maps show the 'Current' load capacity within the network.
- 4.7.22 These maps gives an indicative view as to the receptivity of certain network areas to future load connections. This should not however be taken as a definitive level of acceptability, as connection requests are assessed individually to establish the impacts and implications in order to connect to the network.

Load Spare Capacity Maps



132kV Load Spare Capacity Map (2011)



33kV Load Spare Capacity Map (2011)

Implications to JLDP

- The Council will need to consult with National Grid and Scottish Power once site-specific developments are proposed to ensure that the appropriate infrastructure capacity is available or is capable of being delivered to support growth.
- The potential development of Wylfa B Power Station would have significant implications to the JLDP in terms of the energy infrastructure and should be a key consideration in the emerging Plan
- Consideration to infrastructure issues relating to electricity should be taken into account in the following key policy areas:
 - Any policies relating to overhead transmission lines and underground cables;
 - Site specific allocations / land use policies affecting sites crossed by overhead lines or underground cables;
 - Land use policies / development proposed adjacent to existing high voltage, electricity substation sites;
 - Any policies relating to the diverting or undergrounding of overhead transmission lines;
 - Other policies relating to infrastructure or utility provision;
 - Policies relating to development in the countryside;
 - Landscape policies; and
 - Waste and mineral plans.

4.8 WASTE

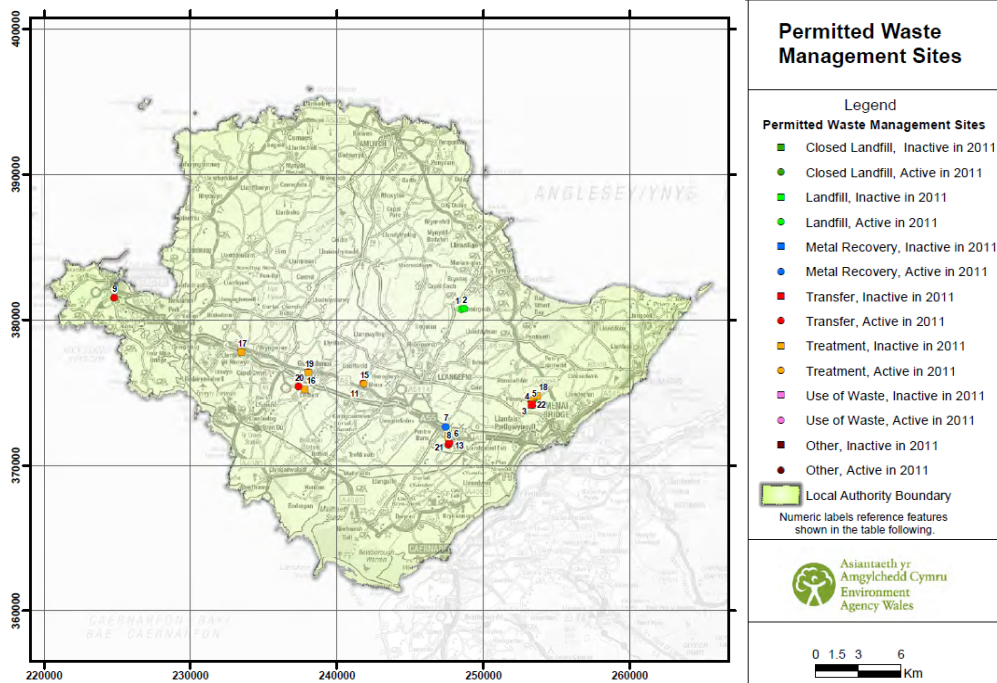
4.8.1 Anglesey County Council and Gwynedd Council are the Waste Planning Authorities for their respective areas with statutory responsibility for planning waste management facilities. Both Councils are also the waste collection authority and the waste disposal authorities.

Existing Provision

Anglesey

4.8.2 As of 2008, there were 13 Active Waste Management Licences in the whole of Anglesey. These consist of 7 Transfer Sites, 4 Landfill Sites, and 2 MRS Sites (*Environment Agency Local Evidence Package, 2013*).

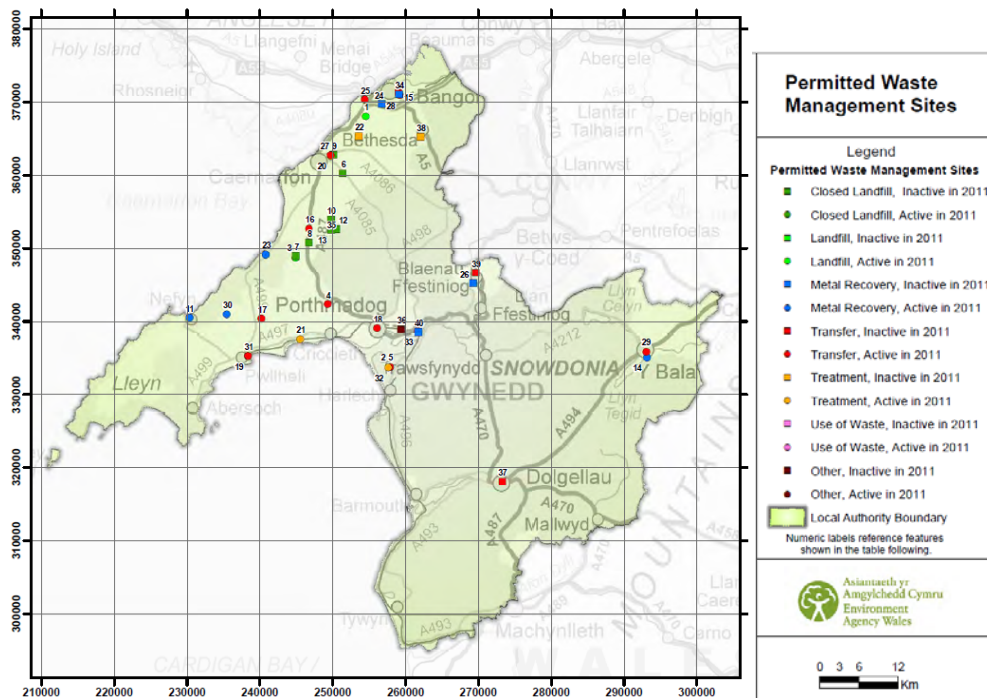
Permitted Waste Management Sites



Gwynedd

4.8.3 As of 2008, there were 33 Active Waste Management Licences in the whole of Gwynedd. This includes sites in the Snowdonia National Park as waste is transferred across LPA boundaries. These consist of 18 Transfer Sites, 6 Landfill Sites, 8 MRS Sites and 1 Treatment Site (*Environment Agency Local Evidence Package, 2013*).

Permitted Waste Management Sites



4.8.4 The Gwynedd UDP safeguards/allocates 13 sites waste management sites. Possible elements of infrastructure on these sites include:

- Material recycling facility
- In-vessel composting
- Civic amenity site
- Residual waste treatment facility (e.g. energy from waste facility)
- Composting facility
- Waste transfer facility
- Landfill / landraise
- Expanded C&D facility and waste transfer facility
- Waste composting facility including in-vessel and open windrow

Planned Provision and Future Requirements

4.8.5 The North Wales Regional Waste Plan 1st Review (2009) states that by applying the typical land takes used by the Environmental Agency Wales in the Sustainability Appraisal & Life Cycle Assessment to the number of new facilities required, it is possible to calculate an estimate of the total land area that will be required within each local authority.

4.8.6 It should be remembered, however, that any figure produced by this methodology for the total land area required should be treated as indicative and an estimate for planning purposes only. In practice, the land area required will depend on many interrelated factors including economics, site sizes and availability.

- 4.8.7 Estimates of the total land area for new facilities to serve the local authority area are summarised in the table below. The land requirements for local facilities do not vary between options and is given by local authority and facility type. It should be noted that excess capacity within a local authority area is not used to off-set the requirements of the North Wales region.

Total land area for new facilities to serve the local authority area

Estimated Land Area Requirements for facilities to serve the local authority in 2013 for North Wales, by Local Authority (Hectares)	Transfer Station	Civic Amenity Sites	Open Windrow Composting	C & D Recycling
Conwy	4.00	0.00	1.19	3.47
Denbighshire	6.50	0.00	0.81	0.00
Flintshire	0.00	0.00	0.00	1.65
Gwynedd	2.09	0.24	0.53	3.65
Isle of Anglesey	1.43	0.40	0.70	2.13
North Powys	0.00	0.00	0.71	1.85
Wrexham	8.59	0.00	1.23	0.00
NW total	22.61	0.64	5.18	12.75

- 4.8.8 Local planning authorities should ensure that their local authority's requirements for landfill can be accommodated over the life of the LDP, either within their own local authority boundary or the region. This should be done through discussion with local land owners and the Environment Agency to determine the likely capacity of sites within the local authority area.
- 4.8.9 In general there is an excess of employment land in North Wales which could potentially be suitable for (in-built) waste management facilities. The North region has approximately 1,100 hectares of industrial land available. Significant areas of land are located within the North East of the region, including availability on the strategically located Deeside and Wrexham Industrial estates. There is an adequate supply of industrial land in: Denbighshire, though availability around the A55 corridor is very limited. In Conwy there is spare capacity on a number of industrial estates, though many are located within flood zone C2. Towards the North West, Gwynedd has a good supply of industrial land, with a large percentage being located around Bangor. Some employment land is located within the National Park and is not considered 'available' as part of this assessment. Anglesey has a number of relatively large vacant sites whereas North Powys has a larger number of smaller sites.
- 4.8.10 The regional requirements for land suitable for waste fall well below the regional total of vacant employment land. However, it should be noted that whilst industrial estates are generally suitable for waste management, other

factors such as affordability (land values), willingness of landowners to bring land forward for waste management, objectives of other plans and strategies and so on, are likely to have an impact as to whether or not a site is likely to come forward for waste management. Land within public ownership is still relatively significant in the region and there is the potential for the public sector to take a more joined up approach and look to their portfolios of properties in the search for sites for waste management.

4.8.11 The below identifies the sites /areas /locations that have been put forward by local authority officers for inclusion within the Review. The locations are considered by local authority officers to have some potential to serve more than one local authority and to merit further investigation at the local level. As identified above these sites will undergo further investigation at the Local Development Plan Stage, including Strategic Environmental Assessment and Sustainability Appraisal.

Locations submitted by local authority officers as potentially suitable for waste management that can serve more than one local authority

Local Authority	Location	Approximate land area available (ha)
Conwy	Land adjoining Llandulas landfill site	6.5
	Gofer	16
	Approximate total in hectares	22.5 ha
Denbighshire	Abattoir at Waen (near Rhualt)	3.19
	Pilkingtons	5.6
	HTM industrial estate	4
	Graig Lelo industrial estate	1.01
	Land at Rhug Estates, Corwen	10
	Ruthin Industrial Estates	27
	Approximate total in hectares	50.80 ha
Flintshire	Deeside Industrial Park	DNA
	Greenfield	DNA
	Prince William Avenue (Sandycroft)	DNA
	Parrys Quarry	DNA
	Alltami Quarry	DNA
	Rhosesmor Quarry	DNA
	Approximate total in hectares	DNA
Gwynedd	Ferodo	16
	Cefn Graianog	17.5
	Cibyn Industrial Estate, Caernarfon	0.5
	Penygroes Industrial Estate, Penygroes, Caernarfon	3.5
	Pebelig Industrial Estate, Caernarfon	1.4
	Approximate total in hectares	38.9ha
Isle of Anglesey	Holyhead	16
	Llangefni Industrial Estate	9
	Penhesgyn Gors Landfill	11.61
	Gwalchmai Quarry	13.21
	Rhosgoch	22.51
	Approximate total in hectares	72.3

North Powys	Bryn Posteg Waste Site, near Llandiloes	>1
	Trewern Employment Site, near Welshpool	1.4
	Parc Hafren Employment Site, Llandiloes	3
	Approximate total in hectares	>5.4ha
Wrexham	Llay Industrial Estate	17.5
	Wrexham Industrial Estate	33
	Approximate total in hectares	50.5
Approximate Total for North Wales		>240.4ha

4.8.12 It appears that there is an adequate land area within the North Region for the location of waste management facilities. However, further assessment will be needed at the local authority level to determine whether these sites are available, feasible and suitable. Sites included within the assessment above may be unsuitable due to underlying constraints such as flood risk and environmental designation, or there may be other competing land uses which yield higher land values and are therefore more likely to be developed.

Implications to JLDP

- The JLDP should consider future waste management requirements, taking into account of the level, type and scope of provision, facilities and services.
- Local planning authorities should ensure that their local authority's requirements for landfill can be accommodated over the life of the LDP, either within their own local authority boundary or the region.
- The JLDP should facilitate the sustainable management of waste and encourage a reduction in the waste produced.

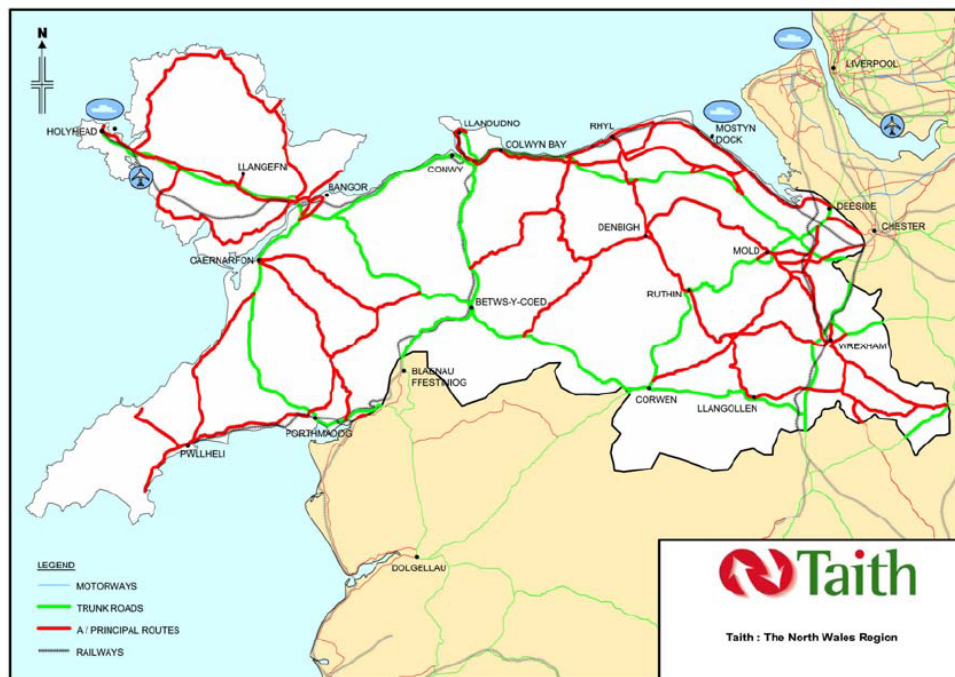
4.9 TRANSPORT INFRASTRUCTURE

4.9.1 TAI TH is the North Wales Regional Transport Consortium, a grouping of the six NorthWales Local Authorities that the Welsh Assembly Government has charged with preparing the North Wales Regional Transport Plan (2009). There are four consortia altogether. TraCC also covers small areas of south Gwynedd as well as Mid-Wales. The others deal with South East Wales (SEWTA) and South West Wales (SWWITCH). The North Wales Regional Transport Plan (RTP) is a strategy for identifying and delivering improvements to our transport system in North Wales over the next 25 years. It is set in the context not only of national policies but also the economic and social aspirations and development plans of the six North Wales local authorities.

Existing Provision

4.9.2 The transport characteristics of North Wales are diverse - whilst it is largely rural, the larger population centres tend to be located along the coastal strip (Caernarfon, Bangor, Llandudno, Conwy, Colwyn Bay) and to the north east of the region (Mold, Flint, the Queensferry/ Connah's Quay area, Wrexham). The figure below derived from recent monitoring data illustrates the existing traffic loadings on the Taith highway network. The loadings reflect the population distribution and also clearly show the important function of parts of the network as key regional, national and European strategic routes.

The Transport Network in the North Wales Region

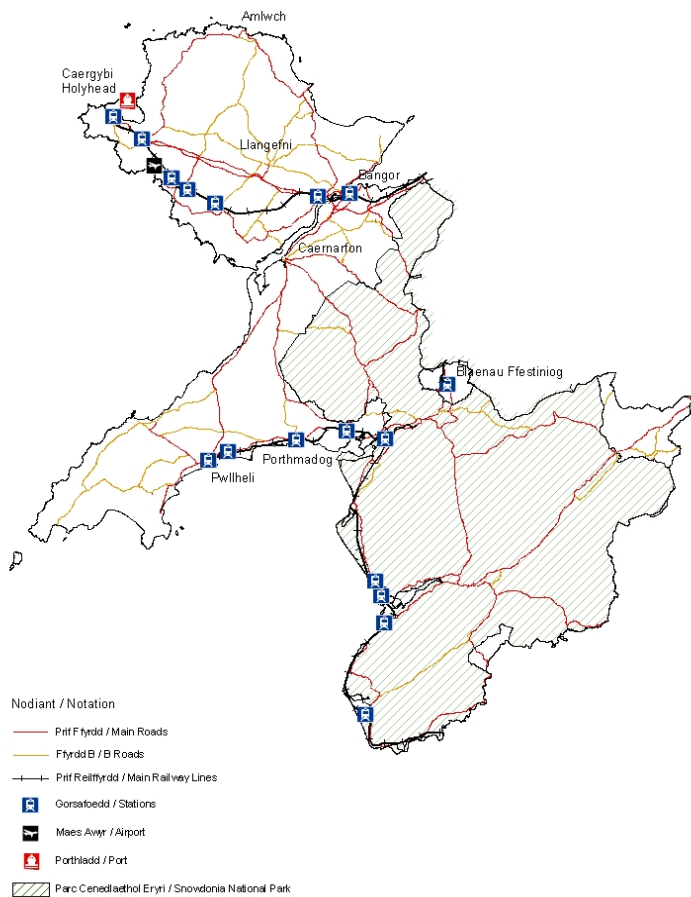


4.9.3 The A55 across North Wales forms the major strategic highway route linking Holyhead on Anglesey (and Ireland beyond) in the west, with the motorway network in North West England and is part of Euro Route E22. It has average

daily traffic flows of up to 46,000 vehicles on sections of its length. Other key routes in terms of loading, are the A483 (south of the A55) with average daily flows of up to 48,000 vehicles and the A494 (through Queensferry) with average daily flows of 49,000 vehicles. Constraints exist at the Britannia Bridge crossing of the Menai Strait between the mainland and Anglesey where the A55 is reduced to a single lane in each direction – the only single carriageway section along the whole length of Euro Route E22. The bridge is also subject to closures to large vehicles during periods of high winds.

4.9.4 The figure below, specifies the locations of various transport interchanges within Gwynedd and Anglesey. As can be seen, in Gwynedd, the transport network in and around the main settlements, as well as important tourist areas along the Gwynedd coastline is relatively good compared to the more inland rural areas. In Anglesey, the main transport linkages are to be found through the central corridor between Menai Bridge and Holyhead.

The transport network in Anglesey and Gwynedd



Planned Provision and Future Requirements

4.9.5 **TAITH's** Regional priorities for future developments are as follows:

- *Efficiently meeting North Wales' diverse transport needs* - Providing a transport network for North Wales that recognises the geographic and social diversity of the Region, making best use of the available resources to give efficient movement of both people and freight.
- *Passenger transport profile and performance* - Raising the profile and performance of public transport services in North Wales within an integrated system including trains, high quality fast interurban bus and coach services, improved local bus networks and an appropriate mix of services involving smaller vehicles for rural areas.
- *Reducing congestion and journey times* - Resolving congestion and highway access issues.
- *Supporting development* - Supporting the development of towns and other key centres to increase their economic viability and to promote sustainable development and environmental improvement.
- *Safe, efficient, sustainable transport networks* - Maintaining safe, efficient, more sustainable transport networks.
- *Improving rail services for North Wales* - Seeking improvements to all North Wales rail passenger services and facilities.
- *Environmentally-friendly and efficient freight movement* - Implementing road, rail and terminal improvements in conjunction with national and regional agencies and companies.
- *Smart traffic planning and management* - Establishing an integrated North Wales traffic monitoring, information and control network and seeking to promote more sustainable travel behaviour through travel planning and better education in efficient travel choices and driving techniques.
- *Sustainable transport* - Increasing current levels of cycling and walking by residents and visitors

4.9.6 Examples of schemes in Gwynedd and Anglesey, included in the transport plan, which can help to provide answers to some of the transport problems and issues in North Wales areas are as follows. Each scheme is also linked to the RTP Priorities that it will help to deliver.

- **Lon Adda.** A multi-user facility through the centre of Bangor involving a surfaced, shared-use, traffic free path following the Afon Adda. Such a facility would provide a strategic link within the central city area, whilst also linking to

the National Cycle Route and All Wales Coastal Path. It will be a ribbon of connected green-spaces serving as a linear park and urban lung within a number of key regeneration areas throughout the city. This would help to generate more walking and cycling journeys in the city and to contribute to a reduction of local CO2 emissions. It would provide a facility that would help to break down accessibility barriers facing the young, disabled and all who need to make everyday journeys within the city.

- **Transport interchange facilities on the north side of the railway line at Porthmadog station.** This scheme aims to develop facilities such as safe cycle storage, travel information and to use part of the site for a bus interchange. This would encourage greater use of public transport and cycling, and reduce car journeys and congestion.
- **Sustainable Travel Town - Bangor.** This scheme will include: Green travel plans for main employers, Sustainable travel to school projects, Home shopping delivery project, Bus service improvements, Beic Bangor project, Local travel club, Travel awareness campaign. Bangor has a high student population which increases the local population and exacerbates the traffic problems. The university and hospital are large employers and both have a major impact on the transport and movement of people in the city. There is an opportunity to significantly improve the situation in Bangor by working with these major employers. The city has been criticised for its level of CO2 emissions and changing transport patterns could help to reduce this. The scheme is within the Môn a Menai Action Plan Area.
- **Porthdafarch Road Holyhead.** This scheme will provide a footway between a large housing estate (Treseifion, which is within the Maeshyfyd Communities First disadvantaged area), and an established beach area. It will improve road safety for the large number of pedestrians using this road. The scheme is within the Môn a Menai Action Plan Area.
- **The Celtic Gateway** – The Celtic Gateway is an integrated strategic transport and urban regeneration scheme for Holyhead. The primary objective of the scheme is to facilitate the economic regeneration of Holyhead and of Anglesey through the provision of improved links between the port and town centre, environmental improvements to the town centre, and associated measures designed to promote commercial activity and job creation. The overall integrated scheme includes the following key components:
 - A major new landmark promenade-style bridge over the inner harbour, Victoria Road, and railway lines, providing a new direct link between the ferry terminal, railway station, and the town centre.
 - Property and environmental improvements, signage, and other measures that will enhance the town centre and its appeal to shoppers, tourists, ferry users, and investors
 - Providing higher quality passenger facilities where these are currently deficient, and integrating these with the new bridge and the town centre.

- Creating a safer, more direct, and more accessible link between the two halves of the town, providing for the residents of Morawelon / London Road to walk or cycle into the town centre.

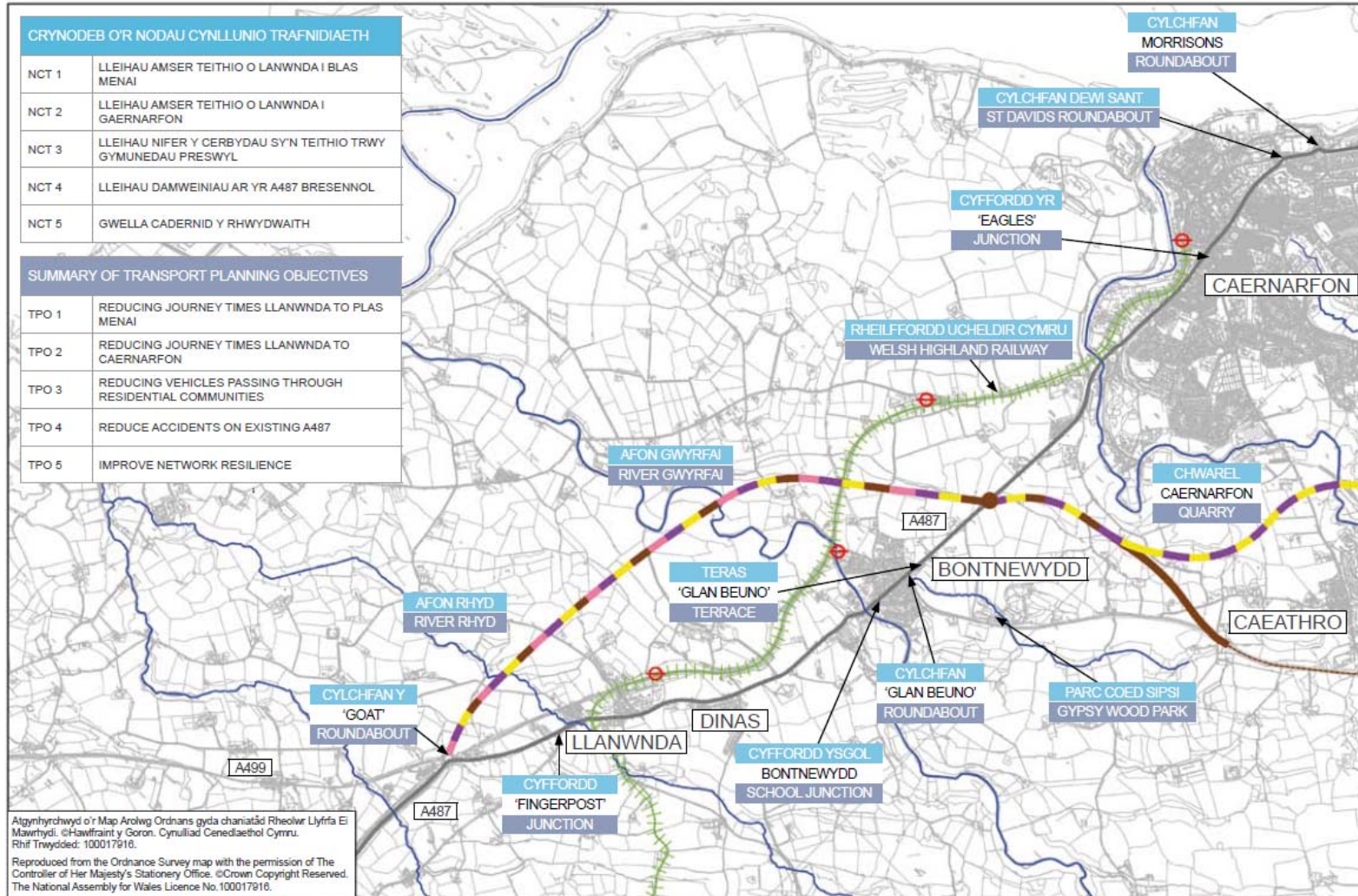
4.9.7 Improvements to the railway station will also take place as part of the package. This construction will play an integral part in Holyhead's regeneration and plans to develop the town into a European Celtic gateway. Making the town centre more accessible to port users will increase visitor numbers and expenditure within the town and surrounding area.

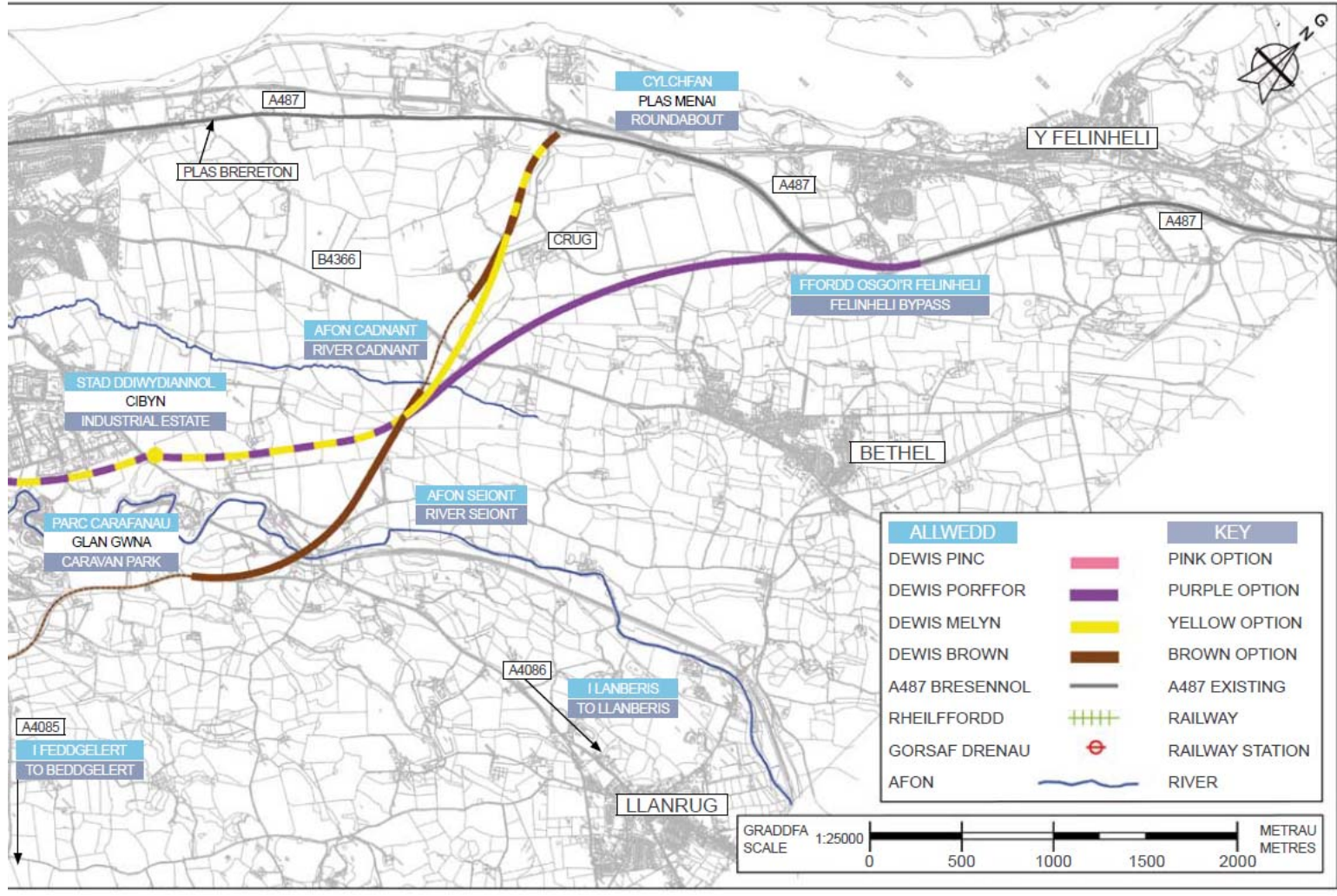
- **Gaerwen to Afon Cefni Shared Use Path.** This scheme creates a link for pedestrians and cyclists from Gaerwen and Pentre Berw to Lôn Las Cefni and through to Llangefni. It will provide a safe route for pedestrians and cyclists between Gaerwen and Llangefni creating a link to industrial estates in both towns and encouraging modal transfer for commuters. It will also Link Gaerwen and Pentre Berw to Lôn Las Cefni and NCN 5 & 8 to encourage leisure use with a consequent improvement in general health. The scheme is within the Môn a Menai Action Plan Area.
- **Bodedern Walking in the Community.** This will provide new footway links within the village where pedestrians currently share roadspace with motor vehicles improving access around the village and enabling pedestrians to safely make journeys within the community. The scheme is within the Môn a Menai Action Plan Area.
- **Completion of Lôn Las Cefni and link to NCN 5** To complete Lôn Las Cefni as a circular route around Llyn Cefni and provide a link to NCN 5 at Rhosmeirch. This final section of Lôn Las Cefni will provide a high quality traffic free route which will be utilised by commuters and for leisure purposes. The link to NCN5, and therefore NCN8, will connect numerous settlements for cyclists therefore providing increased social inclusion for those who do not have access to a car and providing alternative means of transport for those who currently drive. The scheme is within the Môn a Menai Action Plan Area.
- **A545 Corridor Integrated Access Improvement** A scheme which will improve access to Beaumaris along the A545, addressing congestion issues at Menai Bridge, creating a safer environment for pedestrians and cyclists, and improved access by public transport. The scheme is within the Môn a Menai Action Plan Area and linked to the Bangor Sustainable Travel Town initiative.
- **Pont Briwet Improvement Scheme** - Gwynedd Council and Network Rail are currently working together to develop a plan to implement a major improvement scheme at Pont Briwet. The scheme aims to create a robust inter-modal transport link, easing road congestion and significantly improving the reliability of rail services. As part of the proposed work, a new bridge will be installed to accommodate a dual carriageway, a renewed railway track, a cycle path and footpath. Benefits of the proposed scheme are:

- Free transport links as toll charges will be waived by Network Rail
- Less road congestion with a two way carriageway
- Better transport links for heavier vehicles, i.e. ambulances, coaches or lorries, which now detour 8 miles through the village of Maentwrog
- More alternative transport options for the community and tourists with a new cycle path and footpath that link with the National Coastal Path and Welsh National Cycle Route 8.
- A better performing railway as the renewed track will provide an increased linespeed of 40mph
- A more reliable and robust transport link on a new structure that will be less prone to flooding and designed to last for at least another century

A487 Caernarfon to Bontnewydd Study – Public Consultation 1 March to 24 ` May 2010 (Welsh Government)

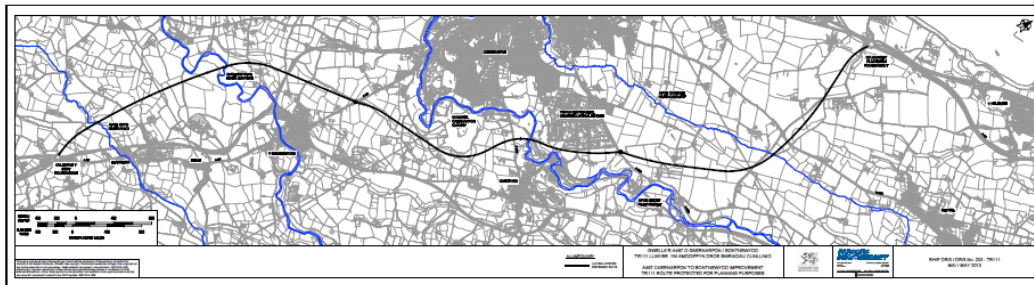
- 4.9.8 Between 1 March to 24 March 2010, the Welsh Government consulted on the proposed A487 bypass between Caernarfon to Bontnewydd. The main objective of creating the bypass is to relieve congestion, reduce accidents and improve journey time reliability in and around the communities of Caernarfon and Bontnewydd.
- 4.9.9 A number of options were proposed as part of the consultation exercise as follows (see also figure *):
- Pink Option - Bontnewydd Bypass
 - Purple Option - Bontnewydd Bypass and Caernarfon Bypass to Felinheli
 - Yellow Option - Bontnewydd Bypass and Caernarfon Bypass to Plas Menai
 - Brown Option - Bontnewydd Bypass and upgrade to the existing Caeathro/Pont Rug Road





4.9.10 Following the public consultation, the Minister for Local Government and Communities announced the Purple Option as the Preferred Route for the route of a bypass. In the light of budgetary pressures the Minister for Economy, Science and Transport decided to carry out a review of options. As a result of the review the Minister has withdrawn the original Preferred Route and announced a new Preferred Route following the line of the Yellow Option. The figure below shows the Preferred Route as a broad black line. This is indicative only and may change slightly during the next stage of design. The next stage of the scheme development will be to appoint advisors and a design and build contractor.

Bontnewydd Bypass Preferred Route



Implications to JLDP

- Improvements to the highway network will be crucial in facilitating the development included in the Plan area particularly the strategic sites, improving accessibility and road safety.
- The JLDP should encourage the provision of a sustainable transport network ensuring that allocations are connected to such a network.
- The Regional Transport Plan will have a major influence in directing how transport issues are considered and resolved throughout the region. The key issue for the Plan is how the RTP and JLDP will relate to each other. TAN 18 identifies close links between LDP's, RTPs and the Wales Spatial Plan. All three documents should ensure they are compatible and integrated with each other.
- The JLDP will need to include transport policies that support the RTP and its aims. Land use allocations and areas of protection will need to be considered carefully to ensure they contribute towards both short and long term transport goals and have a positive impact on meeting Assembly targets for carbon emission reduction.
- Particular regard should be given to the accessibility of both housing and employment sites. Allocated sites should be served by efficient access routes and connected to sustainable transport links.
- The capacity of the existing road infrastructure and the opportunities for its improvement should be a key consideration in the site allocation

process.

- Regard should be given to how different combinations of growth in different locations gives rise to different transportation effects and any changes required to mitigate these effects.

4.10 COMMUNITY INFRASTRUCTURE – LIBRARIES

Existing Provision

4.10.1 Anglesey has 10 libraries plus a mobile library service and a housebound library service. Gwynedd has 17 libraries as well as a mobile library.

Planned provision

4.10.2 There are no current strategies or plans to develop the library service in Anglesey and Gwynedd. If any plans come forward, then these will be incorporated into the topic paper.

Implications to JLDP

- Although access to libraries is not a fundamental consideration in the process of allocating residential development, the JLDP should consider the locations of libraries when establishing settlement hierarchies. Access to libraries should be viewed favourably when allocating sites for housing.

4.11 COMMUNITY INFRASTRUCTURE – COMMUNITY CENTRES AND CULTURAL FACILITIES

4.11.1 The provision of community centres and cultural facilities, such as community and village halls relies on a range of public and community sector organisations, although both Councils will have an important leadership and coordination role to play. Community halls serve many purposes including space to offer sport and exercise, meeting space, youth activities, parties and events and a host of other community based activities. The provision of adequate community facilities contributes to maintaining sustainable communities.

Existing Provision

4.11.2 The Anglesey Museums and Culture Service manages 5 sites which celebrate and explore the Island's past: Oriel Ynys Môn, Beaumaris Court, Beaumaris Gaol, Llynnon Mill, and South Stack Lighthouse.

4.11.3 There are 3 museums in Gwynedd: Gwynedd Museum, Bangor; Lloyd George Museum, Llanystumdwy and the Quakers Heritage Centre, Dolgellau.

Planned Provision and Future Requirements

- 4.11.4 There are no current strategies or plans to develop community centres or cultural facilities in Anglesey and Gwynedd. If any plans come forward, then these will be incorporated into the topic paper.

Implications to JLDP

- Although access to cultural services and the availability of community centres is not a fundamental consideration in the process of allocating residential development, the JLDP should consider access to such resources when establishing settlement hierarchies. Access to such facilities should be viewed favourably when allocating sites for housing.

4.12. SPORTS FACILITIES

- 4.12.1 Sports and leisure have a key role to play as regards to the health of the population and improving quality of life. One of the main considerations for the future will be to ensure that there are opportunities for everyone, including children and young people, older people, and those with disabilities, to take part in formal and informal sports and leisure activities.

Existing Provision

Gwynedd

- 4.12.2 According to the Sports Council for Wales' analysis, Gwynedd has relatively good provision of most kinds of purpose-built sports facilities. Additionally, on the whole, the Local Authority is satisfied with the current level and framework of provision of leisure centres throughout the County. However, this does not necessarily mean that all the area's recreational needs are satisfied.
- 4.12.3 Gwynedd Council's Sports and Leisure Service can be divided into two parts, namely Leisure Centres and Swimming Pools. At present, Gwynedd Council operates 14 Leisure Centres on 16 sites. This includes 3 Swimming Pools, 5 Leisure Centres with swimming pools and 8 "dry" Leisure Centre facilities. The service employs 175 permanent members of staff, 80 casual or temporary staff and a team of officers to promote health, fitness and outdoor activities in the community.
- 4.12.4 In addition to the above facilities, the following facilities are also managed by the Council: Treborth Athletics Track and the full size synthetic pitches in Llanrug, Bethesda, Penygroes and Tywyn and synthetic pitches for five-a-side in Bangor, Caernarfon, Porthmadog and Waunfawr. There are synthetic pitches in Caernarfon and Blaenau which are jointly managed with the secondary schools. The synthetic pitches under the management of the

Schools Service in Botwnnog, Bangor (Ysgol Friars) and Bala. Maesglas, Bangor, which is under the management of the University, have been excluded, as well as the pitches under the management of sports clubs in Porthmadog and Pwllheli.

Anglesey

Existing Provision

- 5 Leisure Centres: Amlwch Leisure Centre, Holyhead Leisure Centre, Beaumaris Leisure Centre, Plas Arthur Leisure Centre, David Hughes Leisure Centre.
- 3 Swimming Pools
- Llangefni Public Golf Course

Planned Provision and Future Requirements

4.12.5 'Climbing Higher', the Welsh Assembly Government's long-term strategy for sport and physical activity, sets out its strategic direction in Wales for the next twenty years and has spatial land use planning implications at national and local levels. The priorities for sport and physical activity are identified and can be summarised as:

- Wales needs to be more physically active in order to be a healthier nation;
- Wales needs healthy citizens to deliver long-term prosperity;
- Wales needs to maximise the synergy between sport, physical activity and the natural environment;
- Wales needs its people to be more 'physically literate';
- Wales needs more physically active communities and;
- As well as the success of individuals, Wales needs systematic and sustainable success in priority sports.

4.12.6 The strategy also includes targets, that by 2025:

- The percentage of people in Wales using the Welsh natural environment for outdoor activities will increase from 36% to 60%
- 95% of people in Wales will have a footpath or cycle path within a 10 minute walk
- No-one should live more than a 6 minute walk (300metres) from their nearest natural green space
- All public sector employees and 75% of all other employees will have access to sport and physical activity facilities at, or within 10 minutes walk of the workplace.

Planned Provision and Future Requirements

4.12.7 There are no current strategies or plans to develop sports / leisure facilities in Anglesey and Gwynedd. If any plans come forward, then these will be incorporated into the topic paper.

Implications to JLDP

- Although access to sports / leisure facilities is not a fundamental consideration in the process of allocating residential development, the JLDP should consider access to such resources when establishing settlement hierarchies. Access to such facilities should be viewed favourably when allocating sites for housing.

4.13 GREEN SPACES

4.13.1 Natural green spaces have an important contribution to make to the quality of the environment and to the quality of life in urban areas. Such sites are valued by the community, provide important refuges for wildlife in sometimes deprived areas, and are beneficial to public health and wellbeing. Natural green spaces can be defined as publically accessible, open spaces that have a ‘predominantly’ natural character.

Existing Provision

Gwynedd

4.13.2 A Natural Green Space Assessment has been undertaken for Gwynedd. Given the resources available to the Council the Natural Green Space Assessment focused on the following ‘size site tiers’:

- Tier 1 – all green spaces within 300 metres from a defined urban area¹ to the nearest area of Green space;
- Tier 2 – Green spaces of 20 Ha or more, within 2KM of defined urban area.

4.13.3 The survey work identified 29,382.87 accessible natural green spaces within the study area. The general findings of the study are as follows:

Full access natural greenspace	3,970.8
Conditional access natural greenspace	25,412.07
Total Accessible (Full + Conditional)	29,382.87
Not accessible natural greenspace	37,233.5
Total	66616.38

4.13.4 From the above it can be clearly seen that the natural green space per 1000 population within the Gwynedd LDP area is significantly higher than the ‘Accessible Natural Greenspace Toolkit’s’ minimum benchmark.

Tier 1 - 300metre threshold – the application of the threshold illustrated the following:

¹ In the context of this project urban areas were defined as those identified in the Gwynedd UDP as either a Sub-regional/Urban, Local Centre or a village. It was considered that these settlements represented those areas of the LPA with the highest density of population and were the most likely to be the main focus for residential development.

- 4.13.5 Number of settlement development boundaries fully covered by the 300m threshold =31
 Number of settlement development boundaries not covered by the 300m threshold =30
 Number of settlement development boundaries not covered by the 300m threshold =7
- 4.13.6 **Tier 2 – 2km threshold** – The application of the buffer zone demonstrated that all the settlements within the LPA area were fully covered by the 2km threshold.
- 4.13.7 Gwynedd Council has 131 Play Areas for Children (Environment Scrutiny Committee Report, 26/1/12)

Planned Provision and Future Requirements

- 4.13.8 There are no current strategies or plans to develop the green space resource in Anglesey and Gwynedd. If any plans come forward, then these will be incorporated into the topic paper.

Implications to JLDP

- The JLDP should promote easy access to open spaces with regards to individual policies and specific site allocations.
- The JLDP should ensure the protection of open spaces by ensuring that the resource is not lost to development facilitated by the Plan.

4.14 EMERGENCY SERVICES – POLICE SERVICE

- 4.14.1 North Wales Police is the territorial police force responsible for policing North Wales. The headquarters are in Colwyn Bay, with divisional headquarters in St Asaph, Caernarfon and Wrexham.

Existing Provision

- 4.14.2 Gwynedd and Anglesey are covered by The North Wales Police Western Division. The Divisional Police Headquarters is located at Maesincla, Caernarfon. The Division is split into 5 Districts: Anglesey, Bangor, Caernarfon, Pwllheli and Meirionnydd.
- 4.14.3 Each district is managed by an Inspector, supported by Police Sergeants, Response Officers, a Neighbourhood Policing Sergeant, Community Beat Managers, Community Support Officers, School Liaison Officers as well as Special Constables and Police Cadets. Each District has a CID presence and is supported by an Intelligence Unit, Crime Team, Financial Investigation, Public Protection Department, Community Safety, Occurrence Management

Unit, File Preparation Unit, Human Resources and Business and Admin support. The Division has three Custody Centres based at Caernarfon, Dolgellau and Holyhead. The following table lists the police stations in Anglesey and Gwynedd:

Location	Function of Premises
Holyhead	Station
Llangefni	Station
Menai Bridge	Station
Gaerwen	Station
Valley	Station
Benllech	Station
Amlwch	Station
Abersoch	Station
Bala	Station
Bangor	Station
Bangor – Parc Menai	Offices
Bangor	Medical Suite
Barmouth	Station
Bethesda	Station
Blaenau Ffestiniog	Station
Caernarfon	Station
Caernarfon DHQ	Station
Dolgellau	Station
Llanberis	Station
Nefyn	Station
Penrhyndeudraeth	Station
Penygroes	Station
Porthmadog	Station
Pwllheli	Station
Tywyn	Station
Operational Support Division	
Bangor	Traffic Base

Planned Provision and Future Requirements

14.4.4 The North Wales Police's Draft Estates Strategy (2013-2016) identifies the following planned provisions:

New Police Stations

14.4.5 The new police station in Llangefni was completed in 2013. There will be no change to the facilities located within the following police stations, with the exception of minor improvements or renovation works:

Caernarfon, Dolgellau, Porthmadog, Abersoch, Bala, Bangor, Abermaw, Blaenau Ffestiniog, Llanberis a Phenygroes.

Police Stations to be Relocated

14.4.7 The police stations identified by the Review for relocation are

- Gwynedd County: Nefyn, Tywyn, pwlheli and Bethesda

Police Station to be reviewed over the next 5 years

14.4.8 The stations that have been identified for review in the near future are:

- Anglesey County: Holyhead Police Station

Implications to JLDP

- Although the location of police stations is not a fundamental consideration in the process of allocating residential development, the JLDP should consider the existing provision as well as future changes to the service in line with the above mentioned strategy.

14.5 EMERGENCY SERVICES - FIRE AND RESCUE SERVICE

14.5.1 The North Wales Fire and Rescue Service is the fire and rescue service covering the predominantly rural principal areas of Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham in the north of Wales. The fire authority which administers the service is a joint-board made up of Councillors from Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham councils.

Existing Provision

14.5.2 Ynys Môn has approximately 130 members of staff based at seven fire stations and the office in Llangefni. A day crewed station is based at Holyhead which provides crews on station between 12.00pm and 10pm daily. A retained duty system compliment, and on call element provides additional operational support. Retained duty system stations are based at Amlwch, Beaumaris, Benllech, Llangefni, Menai Bridge and Rhosneigr.

14.5.3 These stations utilise a total of 11 pumping appliances, 3 of which have narrow access capability. Holyhead has an Environmental Protection Unit and provides specialist firefighting at sea capability.

14.5.4 Gwynedd has approximately 240 employees based at 14 fire stations and two area safety offices. There are two fire stations (Bangor and Caernarfon) working the day crewed system with additional retained duty system support, the remainder are staffed by residents of their respective communities working the retained duty system. There are fire stations located at Bangor,

Caernarfon, Dolgellau, Aberdyfi, Abersoch, Bala, Blaenau Ffestiniog, Barmouth, Harlech, Llanberis, Nefyn, Porthmadog, Pwllheli and Tywyn.

- 14.5.5 These stations utilise a total of 17 pumping appliances, 11 Special appliances providing a range of specialist equipment for dealing with many different types of incidents from Road Traffic Collisions to water incidents.

Planned Provision and Future Requirements

- 14.5.6 The North Wales Police and North Wales Fire and Rescue Service have indicated that the only requirement in the near future is the development of a new Fire Station in Tywyn which would need to be located on 0.2 hectares of land. However, no capital funding will be available for such a development until 2014/15 for this project. The service has already purchased land in Nefyn for the development of a new Fire Station here and plans have now been submitted for a £900,000 combined police and fire station (February 2013).

Implications to JLDP

- Although the location of the fire and rescue service is not a fundamental consideration in the process of allocating residential development, the JLDP should consider the existing provision as well as future changes to the service in line with the above mentioned strategy.

14.6 TELECOMMUNICATIONS - BROADBAND

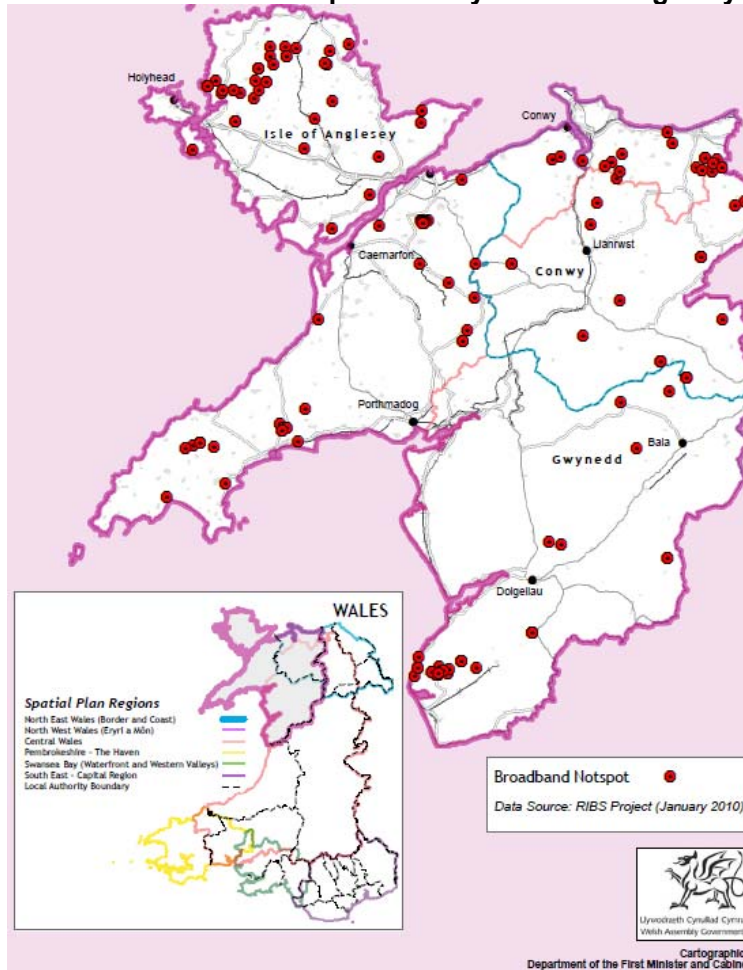
- 14.6.1 The provision of IT infrastructure is unlikely to have a significant impact on the soundness of the JLDP, but it will have implications for Anglesey and Gwynedd's economic competitiveness. Fast broadband is essential for the local economy and to enable flexible working.

Existing Provision

- 14.6.2 The Wales Infrastructure Investment Plan (2012) seeks to ensure that all residential premises and all businesses in Wales will have access to high speed broadband by 2015 and at least half of these will have access to ultra fast broadband services.
- 14.6.3 The Welsh Government maintains a register of the locations where residents have reported internet deficiency or that the internet is slow. The speed of the available connection is especially dependent on the nature of the ICT infrastructure and the technology available within the region, mainly through the local telephone exchange. In most cases throughout Gwynedd and Anglesey the ICT infrastructure is dependent on the use of copper phone lines to the work place or homes that restrict service to a maximum of 8Mbps (that can be up to 24 Mbps where BT have upgraded the lines) but this service is totally dependent on the length of line between individual locations and the telephone exchanges; with the full service only available on lines less than ~2 km of the exchange which then falls less than 2Mbps in locations with

lines between 2 and 3.5km from the exchange – beyond this distance the provision is highly likely to be unavailable. Even in areas that receive service, the actual service can be diminished by a number of factors such as line quality and the numbers using the service at the same time. The figure below identifies areas where broadband connectivity is poor.

Broadband Notspots in Gwynedd and Anglesey



(Source: Welsh Government)

14.6.4 Map i) in appendix 6 shows the estimated speed which can be anticipated across Gwynedd. The Government defines any area with a service of below 512Kbps (Kilobytes per second) as a not-spot whilst areas receiving less than 2Mbps are considered to be slow-spots. From the information to hand it can be estimated that the average speed across Gwynedd is 5Mbps, with 4% of post code areas receive less than 512Kbps and 23% of areas receiving less than 2Mbps. It should be borne in mind that the data refers to broadband received via a telephone line only. In certain locations in Gwynedd high speed broadband (up to 100Mbps) can be accessed via fibre optic lines. The service can be received via the *Fibrespeed* network established by the Welsh Government to service the business parks along the North Wales Coast and via BT in locations within 25km to upgraded exchanges (again, at present, primarily along the North Wales Coast.)

- 14.6.5 Commercial data regarding the take up of broadband across Gwynedd show that the average population take up of broadband in the county is 24% (number of broadband lines divided with the population), with business takeup at 111% (number of business broadband lines divided with the number of businesses) and with household takeup at 50% (number of residential line divided with the number of households). To identify variations across the county, the information is displayed in maps (see figures ii) and iii) in Appendix 6.
- 14.6.6 **OFCOM's 1st Communications Infrastructure Report (20 December 2012)** considered the coverage, capacity and resilience of the main public networks and services available in the UK, which includes fixed line and mobile telephony and broadband, digital radio and digital terrestrial TV.
- 14.6.7 For mobile networks, the data show that over 97% of premises should have a strong enough mobile signal from all four 2G network operators to make a call when outside (72% for the five 3G networks). While coverage of premises is high, overall geographic coverage by all four 2G operators is 66% (just 13% for 3G). Coverage in rural areas tends to be worse than in urban areas, but our analysis indicates that operators are often deploying more infrastructure per capita to serve rural users – highlighting the challenges of extending network coverage.

Planned Provision and Future Requirements

- 14.6.8 In order to ensure that full advantage is taken on the opportunities that the world wide web present, the need to ensure high quality and up to date (which is called broadband) information and communications technology infrastructure (ICT) is vitally important. So far however, the characteristics of rural areas; population density and its sparse dispersion have meant that the commercial businesses within the ICT market have been reluctant to meet the costs of supplying the required infrastructure. As a result, instead of giving an opportunity to overcome the disadvantages of areas such as Anglesey and Gwynedd there is an increasing gap between the provision of broadband here and the large towns and cities is a further disincentive to living and working here.
- 14.6.9 On January 22, 2013, British Telecom announced the first locations for multi million pound 'Superfast Cymru' fibre broadband project. The project will mean that around 32,000 homes and businesses in Ebbw Vale, Tredegar, Bangor, Caernarfon, Dolgellau, Menai Bridge, Porthmadog and Pwllheli will be first to benefit from the partnership; and 17,500kms of optical fibre cable and around 3,000 new fibre broadband cabinets will be installed in Wales over the lifetime of the project.
- 14.6.10 The fibre broadband roll-out will continue in 14 unitary authorities during the 2013/14 financial year. They are Blaenau Gwent, Bridgend, Caerphilly, Denbighshire, Flintshire, Gwynedd, Anglesey, Merthyr Tydfil, Neath Port Talbot, Newport, Powys, Rhondda Cynon Taff, Swansea and Vale of Glamorgan.

14.6.11 The Anglesey Connected project is a new and innovative wireless broadband internet access project and is the first network of its kind in the UK. Anglesey Connected was launched in 2003 as an innovative wireless broadband internet access project. The project will create the infrastructure for a broadband community network across the whole Island. The initial phase will connect all schools, libraries and learning centres on the Island to the network. The second phase will provide further community access points in the catchment areas they serve. It is intended that the development of this ICT backbone will allow further expansion to provide access to the business sector and public in the future.

14.6.12 In Gwynedd, Digital Gwynedd is a new initiative which is part of Gwynedd Council's Three Year Plan 2011-2014. The aim of the project is to establish Gwynedd as a fully digital area. It will:

- work towards a quality, state of the art broadband infrastructure
- inspire people and businesses and help them gain the skills and information they need to make the most of the technology.

14.6.13 The programme will encourage and support Gwynedd's residents and enterprises to take advantage of the support that is currently available from the Welsh Government and others, and will be operating a number of additional projects in response to the County's specific needs. Digital Gwynedd will be working in these areas:

- Information and Communication Technology Infrastructure (ICT)
- The digital economy
- Digital inclusion
- Skills for the digital world
- Digital public services

14.6.14 As noted in the Welsh Government publication "*Economic Renewal: A New Direction*", there is a commitment to ensure that all business (business properties that pay non-domestic taxes) in Wales have access to next generation broadband services (30Mbps) by 2016 and that all homes have access by 2020, with 50% of homes and businesses receiving a service of 100Mbps or more.

14.6.15 Practically, as a result of the density of Gwynedd's population and the rural nature of the county, it is expected that the Government's contractors will probably complete a whole area once they have started working in that area. In light of this, it is suggested that the Welsh Government programmes the service rollout in the following order:

- a) Areas including main strategic employment sites (where the provision of ICT is essential to encourage investment).
- b) Areas including sites with concentrations of 'business' units (5 or more) and/or industrial (15 or more)

- c) Areas including the county's primary key settlements and key settlements
- d) Areas including sites with concentrations of 'business' units (5 or less) and/or industrial (15 or less)
- e) Areas including smaller settlements (500 inhabitants or more)
- f) Areas including small settlements and the rest of Gwynedd's territory.

14.6.16 Should the Government, after discussion with the contractor, follow the suggestions above, the rollout programme would follow the pattern below: (note: areas are not repeated in the second column although they may reappear in the third column).

Year 1

Description	Area	Adjoining areas (Community Council) including locations receiving poor broadband – to be developed simultaneously)
a) Areas including the main strategic employment sites	Trawsfynydd	Maentwrog
	Llanbedr	
	Penrhyndeudraeth	Llanfrothen Talsarnau
	Pwllheli	Llannor
	Llanberis	Betws Garmon Beddgelert
	Caernarfon	Llandwrog Llanrug
	Y Felinheli	
b) Areas including sites with a concentration of 'business' units (5 or more) and / or industrial (15 or more).	Bangor	Aber Pentir
	Tywyn	Bryn Crug
	Corris	Mawddwy Llanfihangel y Pennant
	Dolgellau	Llanelltyd
	Bala	Llandderfel Llangywer Llanycil Llanuwchllyn
	Porthmadog	Dolbenmaen
	Blaenau Ffestiniog	
	Penygroes	Llanllyfni
	Talysarn	
	Nantlle	
	Llanwnda	
	Brynrefail	
	Llandygai	
c) Areas incorporating the County's main key	Harlech	Llanfair
	Aberdyfi	Arthog

settlements and key settlements	Nefyn	Buan Pistyll Tudweiliog
	Bethesda	Llanddeiniolen Llanllechid

Year 2

Description	Area	Examples of neighbouring areas with a poor service
d) Areas including sites with a smaller proportion of 'business' units (5 or less) and / or industrial (15 or less)	Llanystumdwy	
	Y Ffor	Llanaelhaearn Clynnog
	Trefor	
	Botwnnog	
	Bryncir	
e) Areas including smaller settlements (500 inhabitants or more)	Bryncrug	
	Llwyngwriil	
	Fairbourne	
	Dyffryn Ardudwy	
	Morfa Bychan	
	Criccieth	
	Llanbedrog	
	Abersoch	Llanengan
	Morfa Nefyn	
	Bontnewydd	
	Deiniolen	
	Llanrug	
	Bethel	
	Talybont	
Tregarth		
f) Areas including small settlements and the remaining Gwynedd territories	-	-

(Source: Development Scrutiny Committee (21/6/11))

Implications to JLDP

- The spatial aspect of the Plan should be influenced by the location of an effective broadband service

14.7 TELECOMMUNICATIONS – MOBILE OPERATORS

Existing Provision

14.7.1 Modern telecommunications systems have grown rapidly in recent years with more than 2/3 of the population now owning a mobile phone. Mobile

communications are now considered an integral part of the success of most business operations and individual lifestyles. With new services such as the advanced third generation (3G) services, demand for new telecommunications infrastructure is continuing to grow. The Mobile Operators Association (MOA) are keen to facilitate this expansion whilst at the same time minimising any environmental impacts. It is their policy to reduce the proliferation of new masts by encouraging mast sharing and location on existing tall structures and buildings.

14.7.2 TAN 19 - states that LDPs should set out criteria based policies to guide telecommunications development and that whilst regard should be had to siting and design considerations, operational efficiency should not be inhibited.

Planned Provision and Future Requirements

14.7.3 No planned provision was indicated following consultation with the Mobile Operators Association.

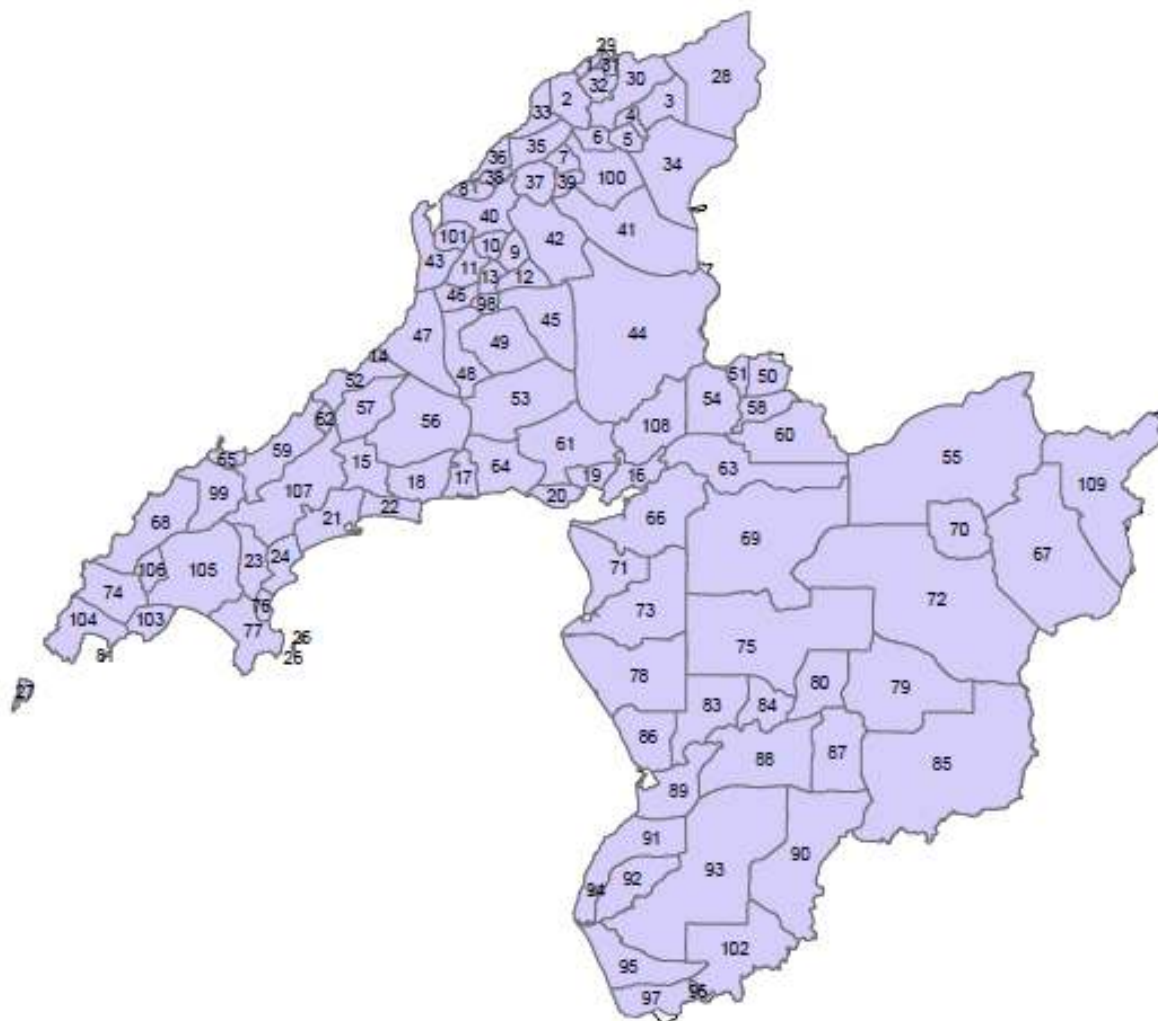
Implications to JLDP

- Due to the nature of telecommunications technology it is not realistic to consider development on a strategic basis. The need for new infrastructure would be driven by the need for further capacity in the area as a result of new large scale residential, commercial or industrial development. However, the following points should be made:
 - i) It will be important to ensure that all developments are well served by telecommunications. It will be important to ensure that developments are designed to enable upgrades and expansions to the networks.
 - ii) The JLDP should include policies that limit the visual impacts of telecommunication infrastructure such as masts.
- Consultation with the Mobile Operators Association has highlighted the following key considerations:
 - i) the siting and appearance of the proposed apparatus and associated structures should seek to minimise impact on the visual amenity, character or appearance of the surrounding area;
 - ii) if on a building, apparatus and associated structures should be sited and designed in order to seek to minimise impact to the external appearance of the host building;
 - iii) If proposing a new mast, it should be demonstrated that the applicant has explored the possibility of erecting apparatus on existing buildings, masts or other structures. Such evidence should accompany any application made to the (local) planning authority;
 - iv) If proposing development in a sensitive area, the development should not have an unacceptable effect on areas of ecological

interest, areas of landscape importance, archaeological sites, conservation areas or buildings of architectural or historic interest.

APPENDIX 1

PRIMARY SCHOOL CATCHMENT AREAS - GWYNEDD



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KEY			
No.	School	No.	School
1	Ysgol Cae Top	57	Ysgol Llanaelhaern
2	Ysgol Y Faenol	58	Ysgol Manod
3	Ysgol Llanllechid	59	Ysgol Babanod Morfa/ Nefyn
4	Ysgol Tregarth	60	Ysgol Bro Cynfal
5	Ysgol Bodfeurig	61	Ysgol Y Gorlan
6	Ysgol Rhiwlas	62	Ardal Dewisiol Llithfaen
7	Ysgol Penisarwaun	63	Ysgol Edmwnd Prys
8	Ysgol Hendre	64	Ysgol Trefferthyr
9	Ysgol Rhosgadfan	65	Ysgol Morfa Nefyn
10	Ysgol Rhostryfan	66	Ysgol Talsarnau

11	Ysgol Groeslon	67	Ysgol Bro Tegid
12	Ysgol Bronyfoel	68	Ysgol Tudweiliog
13	Ysgol Carmel	69	Ysgol Bro Hedd Wyn
14	Ardal Dewisiol Gyrn Goch	70	Ysgol Y Parc
15	Ysgol Bro Plenydd	71	Ysgol Tan Y Castell
16	Ysgol Cefn Coch	72	Ysgol O.M.Edwards
17	Ysgol Llanystymdwy	73	Ysgol Llanbedr
18	Ysgol Chwilog	74	Ysgol Llidiardau
19	Ysgol Eifion Wyn	75	Ysgol Ganllwyd
20	Ysgol Borth Y Gest	76	Ysgol Abersoch
21	Ysgol Cymerau	77	Ysgol Sarn Bach
22	Ysgol Abererch	78	Ysgol Dyffryn Ardudwy
23	Ysgol Foelgron	79	Ysgol Ieuan Gwynedd
24	Ysgol Llanbedrog	80	Ysgol Llanfachreth
25	St Tudwal's East	81	Ynys Gwylan Fawr
26	St Tudwal's West	82	Ynys Gwylan Bach
27	Ynys Enlli	83	Ysgol Y Clogau
28	Ysgol Pant Y Rhedyn	84	Ysgol Llanelltyd
29	Ysgol Hiracl	85	Ysgol Dinas Mawddwy
30	Ysgol Llandygai	86	Ysgol Y Traeth
31	Ysgol Glancegin	87	Ysgol Brithdir
32	Ysgol Babanod Coed Mawr / Glanadda	88	Ysgol Dolgellau
33	Ysgol Y Felinheli	89	Ysgol Y Friog
34	Ysgol Abercaseg / Penybryn Bethesda	90	Ysgol Dyffryn Dulas
35	Ysgol Bethel	91	Ysgol Llwyngwriil
36	Ysgol Y Gelli	92	Ysgol Llanegryn
37	Ysgol Llanrug	93	Ysgol Brynchrug
38	Ysgol Maesincla	94	Ardal Dewisiol Rhoslefain
39	Ysgol Cwm Y Glo	95	Ysgol Penybryn
40	Ysgol Bontnewydd	96	Ardal Dewisiol Aberdyfi / Pennal
41	Ysgol Dolbadarn	97	Ysgol Aberdyfi
42	Ysgol Waunfawr	98	Ysgol Talysarn
43	Ysgol Llandrwrog	99	Ysgol Edern
44	Ysgol Beddgelert	100	Ysgol Gwaen Gynfi
45	Ysgol Baladeulyn	101	Ysgol Felinwnda
46	Ysgol Bro Lleu	102	Ysgol Pennal
47	Ysgol Brynaerau	103	Ardal Dewisiol Rhiw
48	Ysgol Llanllyfni	104	Ysgol Crudywerin
49	Ysgol Nebo	105	Ysgol Pont Y Gof
50	Ysgol Maenofferen	106	Ardal Dewisiol Bryncroes
51	Ardal Dewisiol Glanpwl	107	Ysgol Pentreuchaf
52	Ysgol Trefor	108	Ysgol Garreg
53	Ysgol Garndolbenmaen	109	Ysgol Ffridd Y Llyn
54	Ysgol Tanygrisiau	110	Ysgol Edern
55	Ysgol Bro Tryweryn		
56	Ysgol Llanybi		

PRIMARY SCHOOL CATCHMENT AREAS - ANGLESEY



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ALLWEDD			
Ysgol	Rhif	Ysgol	Rhif
Ysgol Aberffraw	1	Ysgol Llanfachraeth	28
Ysgol Amlwch	2	Ysgol Llanfairpwll	29
Ysgol Bab Y Tywyn	3	Ysgol Llanfawr	30
Ysgol Beaumaris	4	Ysgol Llanfawr	31
Ysgol Bodedern	5	Ysgol Llanfechell	32
Ysgol Bodffordd	6	Ysgol Llangaffo	33
Ysgol Bodorgan	7	Ysgol Llangoed	34
Ysgol Bryngwran	8	Ysgol Llanrhuddlad	35
Ysgol Brynsiencyn	9	Ysgol Moelfre	36
Ysgol Caergeiliog	10	Ysgol Niwbwrch	37
Ysgol Capel Coch	11	Ysgol Parc	38
Ysgol Carreglefn	12	Ysgol Parc	39
Ysgol Cemaes	13	Ysgol Parc Y Bont	40
Ysgol Dwyran	14	Ysgol Parch Thomas Elis	42
Ysgol Ffrwd Win	15	Ysgol Pencarnisiog	42

Ysgol Gaerwen	16	Ysgol Pencarnisiog	43
Ysgol Goronwy Owen	17	Ysgol Pensarn	44
Ysgol Gwalchmai	18	Ysgol Pentraeth	45
Ysgol Henblas	19	Ysgol Penysarn	46
Ysgol Kingsland	20	Ysgol Porthaethwy	47
Ysgol Llaingoch	21	Ysgol Rhoscolyn	48
Ysgol Llanbedrgoch	22	Ysgol Rhosneigr	49
Ysgol Llanddeusant	23	Ysgol Rhosybol	50
Ysgol Llanddona	24	Ysgol Talwrn	51
Ysgol Llandegfan	25	Ysgol Y Corn Hir	52
Ysgol Llandrygan	26	Ysgol Y Fali	53
Ysgol Llanerchymedd	27	Ysgol Y Graig	54
		Ysgol Y Parc	55

APPENDIX 2

GWYNEDD

PRIMARY SCHOOL DATA 2014

School Number	School Name	Age group	NOR	Capacity	Surplus capacity Capasiti dros ben	Significant surplus calc	Small School Sig Surplus Calc	Over capacity Gor-gapasiti	Small Schools oversubscribed	AN for Sep	AN 2 for Sep	Number on register in reception class by January	Number in nursery class on the register	% surplus	% underprescribed
2000	Gwaun Gynfi	3 - 11	140	148	8	0	0	0	0	21		19	23	5.41	0.00
2004	Nefyn	3 - 11	122	211	89	89	0	0	0	30	30	17	19	42.18	0.00
2006	Llanrug	3 - 11	232	210	0	0	0	22	0	30		37	30	0.00	10.48
2008	Abererch	3 - 11	56	94	38	38	38	0	0	13		13	5	40.43	0.00
2009	Abersoch	3 - 8	10	34	24	0	0	0	0	8		4	5	70.59	0.00
2010	Beddgelert	3 - 11	21	55	34	34	34	0	0	7		2	6	61.82	0.00
2011	Bethel	3 - 11	133	168	35	0	0	0	0	24		21	18	20.83	0.00
2013	Bodfeurig	3 - 11	61	80	19	0	0	0	0	11		8	11	23.75	0.00
2015	Borthygest	3 - 11	48	86	38	38	38	0	0	12		5	8	44.19	0.00
2016	Bronyfoel	3 - 11	19	48	29	0	0	0	0	6		2	1	60.42	0.00
2017	Brynaerau	3 - 11	59	71	12	0	0	0	0	10		5	9	16.90	0.00
2024	Carmel	3 - 11	43	71	28	0	0	0	0	10		10	4	39.44	0.00
2026	Y Gelli	3 - 11	181	210	29	0	0	0	0	30		26	30	13.81	0.00
2028	Penybryn	7 - 11	118	180	62	62	0	0	0	45		0	0	34.44	0.00
2033	Treforthy	3 - 11	112	119	7	0	0	0	0	17		11	11	5.88	0.00
2035	Cwm y Glo	3 - 11	43	63	20	0	0	0	0	9		3	5	31.75	0.00
2036	Chwilog	3 - 11	48	67	19	0	0	0	0	9		5	6	28.36	0.00
2039	Crud y Werin	3 - 11	58	74	16	0	0	0	0	10		9	8	21.62	0.00
2042	Dolbadarn	3 - 11	137	202	65	65	0	0	0	28		22	30	32.18	0.00
2046	Edern	3 - 11	62	63	1	0	0	0	0	9		9	7	1.59	0.00
2047	Felinwnda	3 - 11	23	30	7	0	0	0	0	4		4	4	23.33	0.00
2048	Bro Plenydd	3 - 11	60	133	73	73	73	0	0	19		8	9	54.89	0.00
2049	Garndolbenmaen	3 - 11	41	64	23	0	0	0	0	9		6	6	35.94	0.00
2051	Glanadda	7 - 11	40	71	31	31	31	0	0	17		0	0	43.66	0.00
2057	Groeslon	3 - 11	63	117	54	54	54	0	0	16		10	14	46.15	0.00
2059	Llanaelhaern	3 - 11	36	41	5	0	0	0	0	5		6	4	12.20	0.00

2060	Llanbedrog	3 - 11	61	73	12	0	0	0	0	10		6	16	16.44	0.00
2066	Llangybi	3 - 11	63	81	18	0	0	0	0	11		4	6	22.22	0.00
2069	Llanllechid	3 - 11	208	213	5	0	0	0	0	30		33	40	2.35	0.00
2070	Llanllyfni	3 - 11	84	103	19	0	0	0	0	14		16	11	18.45	0.00
2075	Morfa Nefyn	3 - 8	40	40	0	0	0	0	0	10		9	10	0.00	0.00
2078	Baladeulyn	3 - 11	23	55	32	32	32	0	0	7		4	4	58.18	0.00
2081	Nebo	3 - 11	23	51	28	0	0	0	0	7		3	1	54.90	0.00
2085	Penisarwaen	3 - 11	40	64	24	0	0	0	0	9		4	7	37.50	0.00
2089	Bro Lleu	3 - 11	154	138	0	0	0	16	0	19		19	22	0.00	11.59
2093	Pentreuchaf	3 - 11	90	105	15	0	0	0	0	16		16	15	14.29	0.00
2097	Rhiwlas	3 - 11	39	45	6	0	0	0	0	6		9	4	13.33	0.00
2098	Rhosgadfan	3 - 11	39	78	39	39	39	0	0	11		6	6	50.00	0.00
2099	Rhostryfan	3 - 11	70	69	0	0	0	1	1	9		11	16	0.00	1.45
2103	Sarn Bach	3 - 11	55	66	11	0	0	0	0	7	12	6	8	16.67	0.00
2104	Eifion Wyn	3 - 11	195	210	15	0	0	0	0	30		30	29	7.14	0.00
2108	Talysarn	3 - 11	71	91	20	0	0	0	0	13		8	17	21.98	0.00
2110	Tremadog	3 - 11	96	91	0	0	0	5	0	13		14	16	0.00	5.49
2111	Trefor	3 - 11	41	50	9	0	0	0	0	7		9	6	18.00	0.00
2112	Tudweiliog	3 - 11	44	47	3	0	0	0	0	6		3	4	6.38	0.00
2113	Waunfawr	3 - 11	116	144	28	0	0	0	0	20		18	18	19.44	0.00
2116	Glancegin	3 - 11	182	280	98	98	0	0	0	40		25	36	35.00	0.00
2118	Babanod Coed Mawr	3 - 7	44	91	47	47	47	0	0	30		20	11	51.65	0.00
2119	Yr Hendre	3 - 11	331	350	19	0	0	0	0	50		51	50	5.43	0.00
2122	Bontnewydd	3 - 11	168	161	0	0	0	7	0	23		28	13	0.00	4.35
2123	Y Garnedd	3 - 11	291	210	0	0	0	81	0	30		37	44	0.00	38.57
2125	Cymerau	3 - 11	296	345	49	0	0	0	0	49		45	31	14.20	0.00
2126	Abercaseg	3 - 7	78	169	91	91	91	0	0	42		24	33	53.85	0.00
2127	Y Felinheli	3 - 11	140	162	22	0	0	0	0	23		22	22	13.58	0.00
2180	Bro Tegid	3 - 11	106	84	0	0	0	22	0	12		16	0	0.00	26.19
2181	Y Traeth	3 - 11	181	198	17	0	0	0	0	28		28	25	8.59	0.00
2182	Bontddu	3 - 11	23	32	9	0	0	0	0	4		3	2	28.13	0.00
2183	Brithdir	3 - 11	39	34	0	0	0	5	5	4		5	7	0.00	14.71
2185	Corris	3 - 11	42	69	27	0	0	0	0	9		9	6	39.13	0.00
2187	Dinas Mawddwy	3 - 11	18	63	45	45	45	0	0	9		5	3	71.43	0.00
2189	Dyffryn Ardudwy	4 - 11	52	76	24	0	0	0	0	10		13	0	31.58	0.00
2190	Bro Cynfal	3 - 11	47	69	22	0	0	0	0	9		9	13	31.88	0.00
2191	Ganllwyd	3 - 11	19	43	24	0	0	0	0	6		3	1	55.81	0.00
2192	Gellilydan	3 - 11	25	68	43	43	43	0	0	9		3	6	63.24	0.00

2194	Llanbedr	4 - 11	52	81	29	0	0	0	0	11	8	0	35.80	0.00
2197	Llanelltyd	3 - 11	37	44	7	0	0	0	0	6	7	4	15.91	0.00
2198	Y Garreg	3 - 11	16	43	27	0	0	0	0	6	2	4	62.79	0.00
2199	O M Edwards	3 - 11	77	69	0	0	0	8	8	9	10	12	0.00	11.59
2205	Manod	3 - 11	86	115	29	0	0	0	0	16	9	7	25.22	0.00
2207	Pennal	3 - 11	22	46	24	0	0	0	0	6	4	4	52.17	0.00
2208	Cefn Coch	3 - 11	151	243	92	92	0	0	0	34	22	28	37.86	0.00
2210	Talsarnau	3 - 11	31	43	12	0	0	0	0	6	6	5	27.91	0.00
2211	Tanygrisiau	3 - 11	64	102	38	38	38	0	0	14	14	5	37.25	0.00
2212	Penybryn, Tywyn	3 - 11	219	269	50	0	0	0	0	38	33	25	18.59	0.00
2213	Bro Hedd Wyn	3 - 11	77	106	29	0	0	0	0	15	8	9	27.36	0.00
2214	Bro Tryweryn	3 - 11	44	55	11	0	0	0	0	7	6	0	20.00	0.00
2215	Rhydymain	3 - 11	18	40	22	0	0	0	0	5	1	0	55.00	0.00
2216	Friog	3 - 11	23	54	31	31	31	0	0	7	3	4	57.41	0.00
2219	Tan y Castell	3 - 11	68	139	71	71	71	0	0	19	10	8	51.08	0.00
2220	Ffridd y Llyn	3 - 11	66	65	0	0	0	1	1	9	13	0	0.00	1.54
2221	Maenofferen	3 - 11	186	193	7	0	0	0	0	27	30	30	3.63	0.00
2227	Hirael	3 - 11	151	207	56	56	0	0	0	29	25	20	27.05	0.00
2228	Craig y Deryn	3-11	92	98	6	0	0	0	0	14	15	11	6.12	0.00
3004	Pont y Gôf	3 - 11	105	106	1	0	0	0	0	15	12	13	0.94	0.00
3005	Maesincla	3 - 11	261	320	59	0	0	0	0	45	35	46	18.44	0.00
3009	Y Faenol	3 - 11	213	214	1	0	0	0	0	30	31	36	0.47	0.00
3010	Foel Gron	3 - 11	25	54	29	0	0	0	0	7	4	5	53.70	0.00
3013	Llandygai	3 - 11	140	157	17	0	0	0	0	22	19	19	10.83	0.00
3018	Llandwrog	3 - 11	58	76	18	0	0	0	0	10	10	6	23.68	0.00
3023	Llanystumdwy	3 - 11	36	47	11	0	0	0	0	6	6	4	23.40	0.00
3029	Tregarth	3 - 11	125	172	47	47	0	0	0	24	11	16	27.33	0.00
3030	Cae Top	3 - 11	199	214	15	0	0	0	0	30	28	31	7.01	0.00
3037	Llanfachreth	3 - 11	13	41	28	0	0	0	0	5	2	1	68.29	0.00
3041	Gynradd Dolgellau	3 - 11	137	194	57	57	0	0	0	27	19	14	29.38	0.00
3300	Santes Helen	3 - 11	67	82	15	0	0	0	0	11	3	7	18.29	0.00
3301	Ein Harglwyddes	3 - 11	100	140	40	40	0	0	0	20	11	14	28.57	0.00
3305	Beuno Sant	3 - 11	53	79	26	0	0	0	0	11	5	0	32.91	0.00

SECONDARY SCHOOL DATA 2014

School Number	School Name	Type of school: Community / VC/ VA/	Age group	NOR	MCSW Capacity	Surplus Capacity	Significant surplus capacity	Small Schools Significant Surplus Capacity	Over capacity	AN for Sep	No on register in yearv 7 January	Number of 6 th form pupils	% Surplus
4002	Dyffryn Ogwen	C	11-18	358	551	193	Y	193	0	96	60	47	35.03
4003	Botwnnog	C	11-16	408	635	227	Y	227	0	127	66		35.75
4004	Brynrefail	C	11-18	739	845	106	N	0	0	142	114	107	12.54
4007	Dyffryn Nantlle	C	11-18	493	663	170	Y	170	0	115	77	67	25.64
4009	Eifionydd	C	11-16	393	698	305	Y	305	0	140	59		43.70
4030	Y Gader	C	11-16	406	488	82	N	0	0	98	86		16.80
4031	Y Moelwyn	C	11-16	320	599	279	Y	279	0	120	59		46.58
4032	Tywyn	C	11-16	256	477	221	Y	221	0	95	44		46.33
4033	Y Berwyn	C	11-18	319	730	411	Y	411	0	125	46	68	56.30
4034	Ardudwy	C	11-16	259	575	316	Y	316	0	115	53		54.96
4036	Friars	C	11-18	1,254	1,361	107	N	0	0	232	184	227	7.86
4037	Tryfan	C	11-18	523	628	105	N	0	0	100	83	86	16.72
4039	Syr Hugh Owen	C	11-18	827	1,345	518	Y	0	0	229	134	114	38.51
4040	Glan y Môr	C	11-16	511	732	221	Y	221	0	146	92		30.19
						0							

Primary School Projections 2015-2019

School Number	School Name	¹ Number expected on the register in Jan 14 as reported in Jan 13	Actual number on register in 14	% variant	Number forecasted on register in Jan 2015	Number forecasted on register in Jan 2016	Number forecasted on register in Jan 2017
2000	Gwaun Gynfi	139	140	0.7%	142	141	136
2004	Nefyn	117	122	4.3%	121	127	123
2006	Llanrug	222	232	4.5%	217	235	235
2008	Abererch	51	56	9.8%	59	64	59
2009	Abersoch	14	10	-28.6%	13	12	14
2010	Beddgelert	25	21	-16.0%	28	29	27
2011	Bethel	131	133	1.5%	132	132	140
2013	Bodfeurig	58	61	5.2%	63	65	65
2015	Borthygest	49	48	-2.0%	46	50	46
2016	Bronyfoel	21	19	-9.5%	19	16	14
2017	Brynaerau	61	59	-3.3%	63	59	62
2024	Carmel	43	43	0.0%	44	44	42
2026	Y Gelli	180	181	0.6%	186	189	187
2028	Penybryn	118	118	0.0%	133	123	120
2033	Treferythyr	107	112	4.7%	109	98	92
2035	Cwm y Glo	48	43	-10.4%	45	46	45
2036	Chwillog	50	48	-4.0%	47	42	44
2039	Crud y Werin	50	58	16.0%	64	62	63
2042	Dolbadarn	135	137	1.5%	146	153	154
2046	Ederon	69	62	-10.1%	67	61	61
2047	Felinwnda	26	23	-11.5%	26	26	25
2048	Bro Plenydd	58	60	3.4%	62	65	66
2049	Garndolbenmaen	46	41	-10.9%	43	40	41
2051	Glanadda	48	40	-16.7%	45	51	55
2057	Groeslon	63	63	0.0%	68	71	76
2059	Llanaelhaern	37	36	-2.7%	35	34	35
2060	Llanbedrog	63	61	-3.2%	69	69	68
2066	Llangybi	63	63	0.0%	58	55	49

2069	Llanllechid	215	208	-3.3%	223	231	237
2070	Llanllyfni	86	84	-2.3%	83	88	87
2075	Morfa Nefyn	42	40	-4.8%	45	46	36
2078	Baladeulyn	23	23	0.0%	23	23	26
2081	Nebo	26	23	-11.5%	21	20	20
2085	Penisarwaen	47	40	-14.9%	41	39	39
2089	Bro Lleu	155	154	-0.6%	152	151	144
2093	Pentreuchaf	85	90	5.9%	97	96	91
2097	Rhiwlas	38	39	2.6%	39	37	39
2098	Rhosgadfan	38	39	2.6%	41	42	41
2099	Rhostryfan	68	70	2.9%	80	90	93
2103	Sarn Bach	49	55	12.2%	59	56	53
2104	Eifion Wyn	190	195	2.6%	194	198	200
2108	Talysarn	68	71	4.4%	80	80	79
2110	Tremadog	101	96	-5.0%	104	107	104
2111	Trefor	40	41	2.5%	46	51	53
2112	Tudweiliog	46	44	-4.3%	43	46	44
2113	Waunfawr	112	116	3.6%	124	128	124
2116	Glancegin	188	182	-3.2%	192	194	204
2118	Babanod Coed Mawr	48	44	-8.3%	43	42	35
2119	Yr Hendre	339	331	-2.4%	329	337	349
2122	Bontnewydd	159	168	5.7%	151	155	151
2123	Y Garnedd	296	291	-1.7%	293	292	299
2125	Cymerau	316	296	-6.3%	295	294	291
2126	Abercaseg	78	78	0.0%	79	87	93
2127	Y Felinheli	138	140	1.4%	143	151	158
2180	Bro Tegid	103	106	2.9%	105	104	105
2181	Y Traeth	186	181	-2.7%	177	181	186
2182	Bontddu	24	23	-4.2%	21	23	23
2183	Brithdir	41	39	-4.9%	42	42	38
2185	Corris	41	42	2.4%	41	40	38
2187	Dinas Mawddwy	16	18	12.5%	20	24	25
2189	Dyffryn Ardudwy	42	52	23.8%	65	69	74
2190	Bro Cynfal	47	47	0.0%	54	56	55
2191	Ganllwyd	19	19	0.0%	17	12	11
2192	Gellilydan	32	25	-21.9%	24	33	34
2194	Llanbedr	55	52	-5.5%	50	49	44

2197	Llanelltyd	37	37	0.0%	38	32	32
2198	Y Garreg	19	16	-15.8%	20	21	21
2199	O M Edwards	63	77	22.2%	81	78	81
2205	Manod	82	86	4.9%	81	77	82
2207	Pennal	27	22	-18.5%	24	26	25
2208	Cefn Coch	159	151	-5.0%	164	162	167
2210	Talsarnau	35	31	-11.4%	32	34	37
2211	Tanygrisiau	62	64	3.2%	59	60	64
2212	Penybryn, Tywyn	202	219	8.4%	218	207	206
2213	Bro Hedd Wyn	70	77	10.0%	71	66	63
2214	Bro Tryweryn	36	44	22.2%	42	44	45
2215	Rhydymain	17	18	5.9%	15	13	9
2216	Friog	25	23	-8.0%	24	23	22
2219	Tan y Castell	69	68	-1.4%	62	67	73
2220	Ffridd y Llyn	72	66	-8.3%	63	64	64
2221	Maenofferen	185	186	0.5%	190	199	202
2227	Hirael	158	151	-4.4%	156	147	150
2228	Craig y Deryn	N/A	92	#VALUE!	88	87	89
3004	Pont y Gŏf	99	105	6.1%	103	96	86
3005	Maesincla	278	261	-6.1%	282	294	298
3009	Y Faenol	210	213	1.4%	232	234	215
3010	Foel Gron	26	25	-3.8%	26	32	34
3013	Llandygai	134	140	4.5%	145	142	137
3018	Llandwrog	61	58	-4.9%	51	49	47
3023	Llanystumdwy	33	36	9.1%	32	29	31
3029	Tregarth	129	125	-3.1%	118	116	116
3030	Cae Top	210	199	-5.2%	210	210	210
3037	Llanfachreth	15	13	-13.3%	11	8	7
3041	Gynradd Dolgellau	133	137	3.0%	131	126	120
3300	Santes Helen	75	67	-10.7%	65	60	61
3301	Ein Harglwyddes	101	100	-1.0%	105	108	106
3305	Beuno Sant	61	53	-13.1%	53	59	57
97	Total	8,572	8,612	0.5%	8,778	8,843	8,824

Secondary School Projections 2015-2019

School Number	School Name	¹ Number expected on the register in Jan 14 as reported in Jan 13	Actual number on register in 14	% variant	Number forecasted on register in Jan 2015	Number forecasted on register in Jan 2016	Number forecasted on register in Jan 2017
4002	Dyffryn Ogwen	360	358	-0.6%	378	389	402
4003	Botwnnog	418	408	-2.4%	388	397	403
4004	Brynrefail	761	739	-2.9%	739	720	698
4007	Dyffryn Nantlle	505	493	-2.4%	497	470	457
4009	Eifionydd	400	393	-1.8%	385	383	376
4030	Y Gader	369	406	10.0%	372	332	312
4031	Y Moelwyn	321	320	-0.3%	321	321	321
4032	Tywyn	283	256	-9.5%	257	270	264
4033	Y Berwyn	326	319	-2.1%	318	310	316
4034	Ardudwy	288	259	-10.1%	266	273	273
4036	Friars	1,249	1,254	0.4%	1,269	1,233	1,183
4037	Tryfan	554	523	-5.6%	537	537	535
4039	Syr Hugh Owen	860	827	-3.8%	898	845	866
4040	Glan y Môr	527	511	-3.0%	496	480	475
14	Total	7,221	7,066	-2.1%	7,121	6,960	6,881

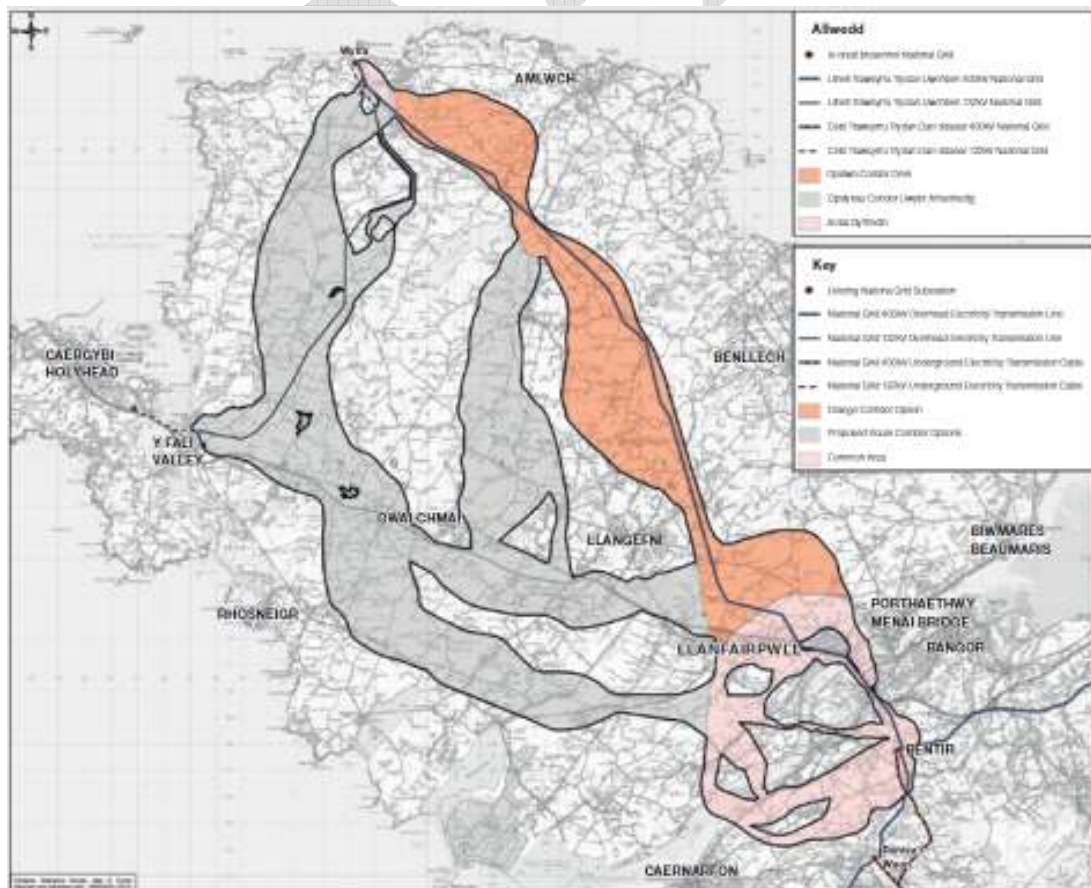
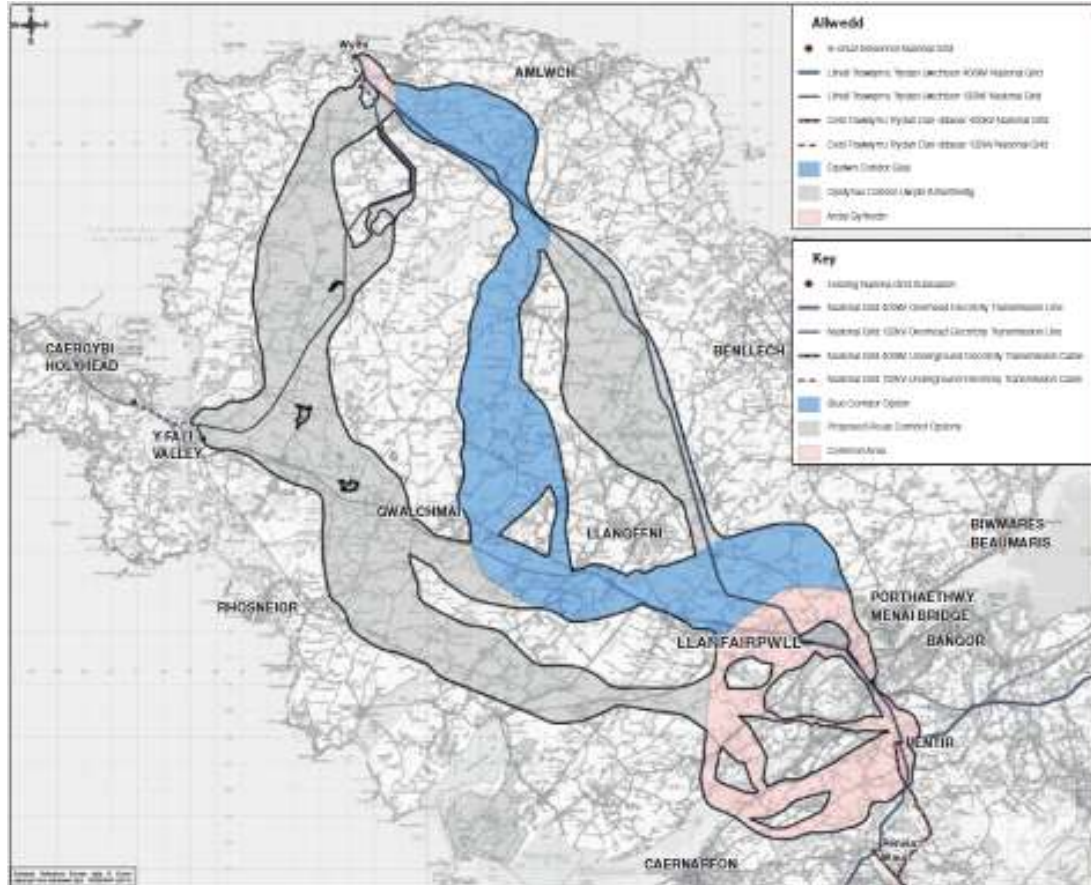
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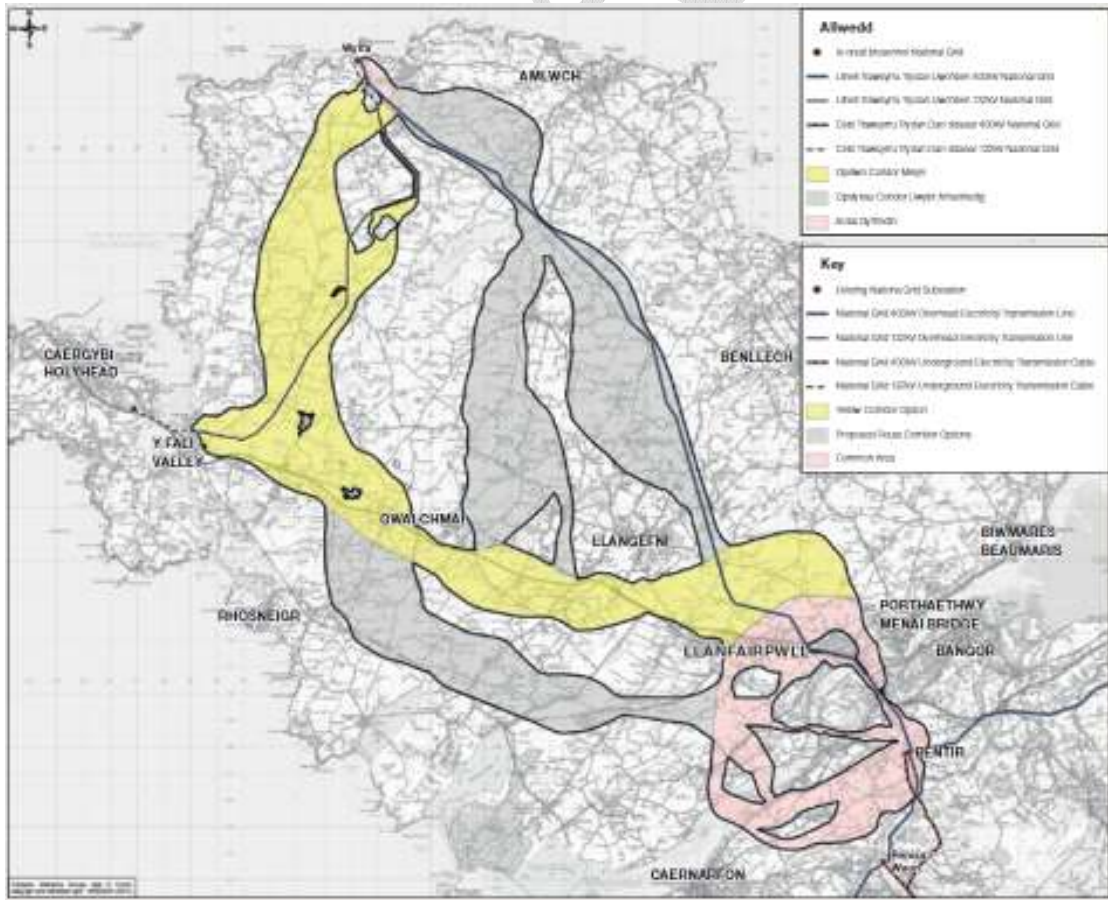
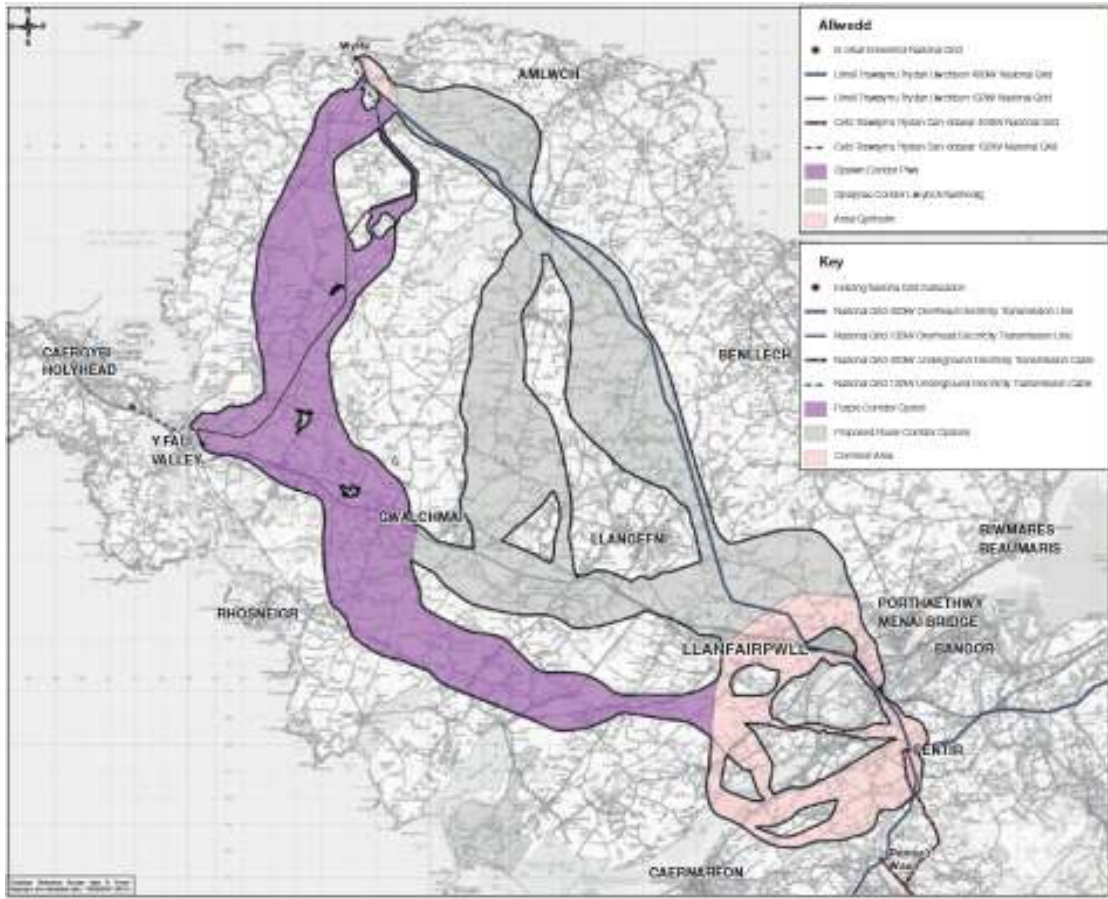
School	Total 2013	Total 2012	Total 2011	Total 2010	Total 2009	Total 5 years	Annual Average	5 year Average	Capacity	Empty spaces
Amlwch	225	216	214	218	243	1116	223.2	223	258	13.6
Biwmares	80	84	90	91	100	445	89	89	143	37.8
Bodedern	109	106	77	78	85	455	91	91	103	11.7
Bodffordd	50	47	53	40	44	234	46.8	47	63	25.4
Bodorgan	35	36	32	34	33	170	34	34	50	32.0
Bryngwran	48	49	36	40	35	208	41.6	42	59	28.8
Brynsiencyn	49	49	48	53	59	258	51.6	52	79	34.2
Cemaes	53	48	50	65	63	279	55.8	56	73	23.3
Dwyran	26	28	36	40	41	171	34.2	34	78	56.4
Esceifiog	99	88	77	76	81	421	84.2	84	124	32.3
Carreglefn	34	37	36	37	37	181	36.2	36	46	21.7
Y Ffridd	62	64	65	63	58	312	62.4	62	84	26.2
Parc	133	138	139	144	157	711	142.2	142	177	19.8
Moelfre	59	62	47	46	50	264	52.8	53	85	37.6
Llanbedrgoch	50	48	39	44	41	222	44.4	44	54	18.5
Llanddona	11	15	25	30	27	108	21.6	22	49	55.1
Llanfachraeth	44	42	44	48	47	225	45	45	73	38.4

School	Total 2013	Total 2012	Total 2011	Total 2010	Total 2009	Total 5 years	Annual Average	5 year Average	Capacity	Empty spaces
Ffrwd Win	34	33	38	42	45	192	38.4	38	60	36.7
Llanfairpwll	285	291	284	285	281	1426	285.2	285	322	11.5
Llanfechell	93	100	98	106	99	496	99.2	99	106	6.6
Y Graig	320	315	293	297	274	1499	299.8	300	330	9.1
Llangoed	74	78	73	81	76	382	76.4	76	98	22.4
Henblas	91	93	81	82	76	423	84.6	85	96	11.5
Llannerchymedd	99	96	87	83	78	443	88.6	89	111	19.8
Cylch y Garn	37	35	27	34	36	169	33.8	34	60	43.3
Pencarnisiog	43	50	60	61	54	268	53.6	54	50	-8.0
Pentraeth	84	79	78	81	77	399	79.8	80	120	33.3
Penysarn	77	83	82	92	96	430	86	86	92	6.5
Rhoscolyn	100	100	99	97	100	496	99.2	99	100	1.0
Rhosneigr	53	49	52	49	57	260	52	52	64	18.8
Rhosybol	52	54	47	45	47	245	49	49	64	23.4
Talwrn	46	50	36	37	33	202	40.4	40	49	18.4
Y Fali	98	92	89	89	92	460	92	92	104	11.5
Llanfawr	172	173	153	135	124	757	151.4	151	235	35.7
Goronwy Owen	124	121	145	153	149	692	138.4	138	153	9.8

School	Total 2013	Total 2012	Total 2011	Total 2010	Total 2009	Total 5 years	Annual Average	5 year Average	Capacity	Empty spaces
Llaingoch	177	164	149	150	152	792	158.4	158	177	10.7
Niwbwrch	55	51	59	53	58	276	55.2	55	104	47.1
Y Tywyn	100	97	91	77	72	437	87.4	87	135	35.6
Llandegfan	130	133	138	144	139	684	136.8	137	145	5.5
Y Borth	182	183	179	187	194	925	185	185	199	7.0
Kingsland	154	138	125	133	128	678	135.6	136	146	6.8
Morswyn	136	132	124	114	108	614	122.8	123	126	2.4
Corn Hir	205	209	195	197	191	997	199.4	199	204	2.5
Parch Thomas Ellis	115	103	96	104	95	513	102.6	103	124	16.9
Parc y Bont	91	88	75	75	68	397	79.4	79	93	15.1
Llangaffo	45	40	39	39	31	194	38.8	39	42	7.1
Santes Fair	166	157	163	145	159	790	158	158	140	-12.9
Caergeiliog	362	378	351	368	371	1830	366	366	422	13.3

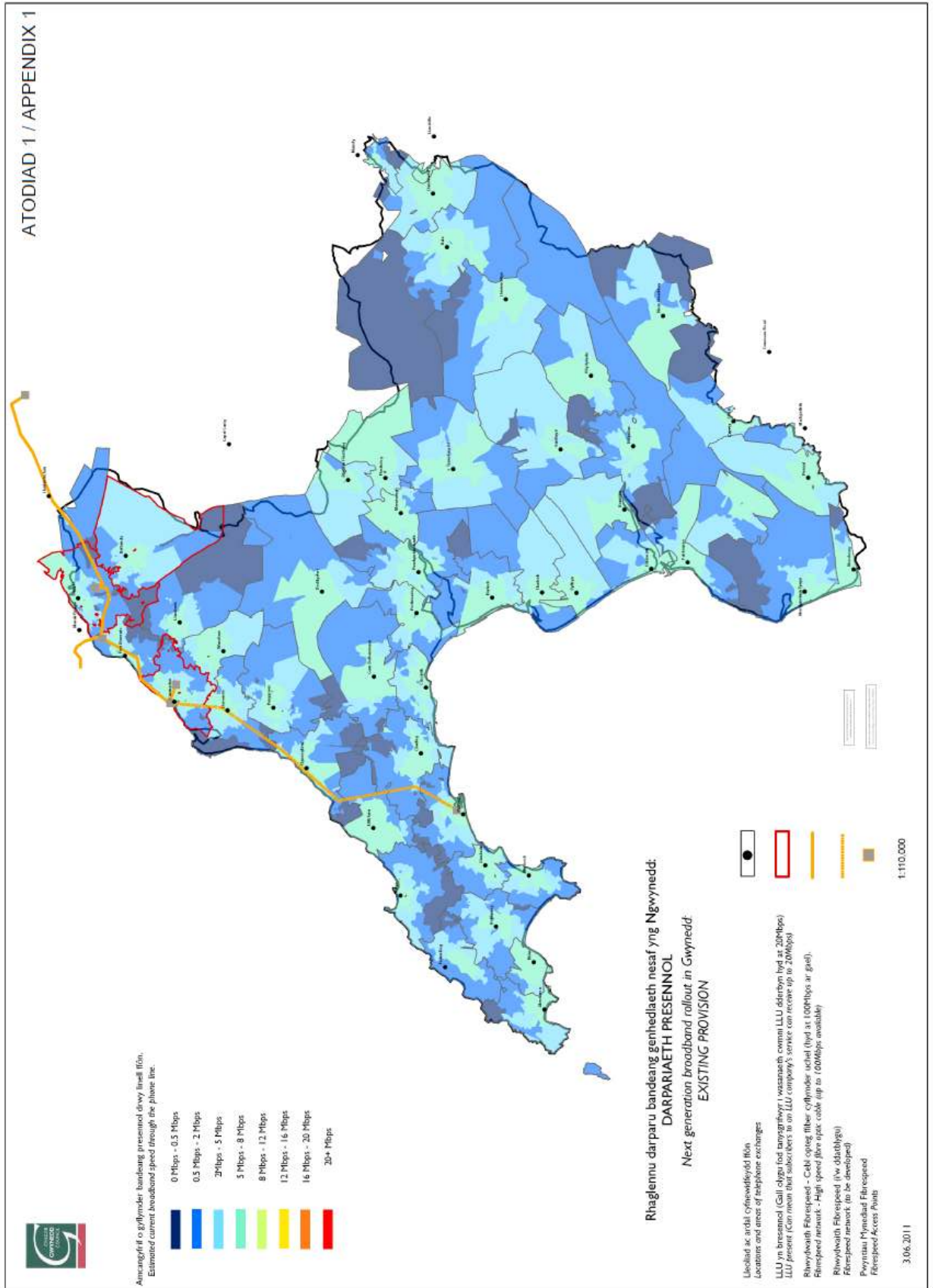
APPENDIX 3: NATIONAL GRID NORTH WALES CONNECTION





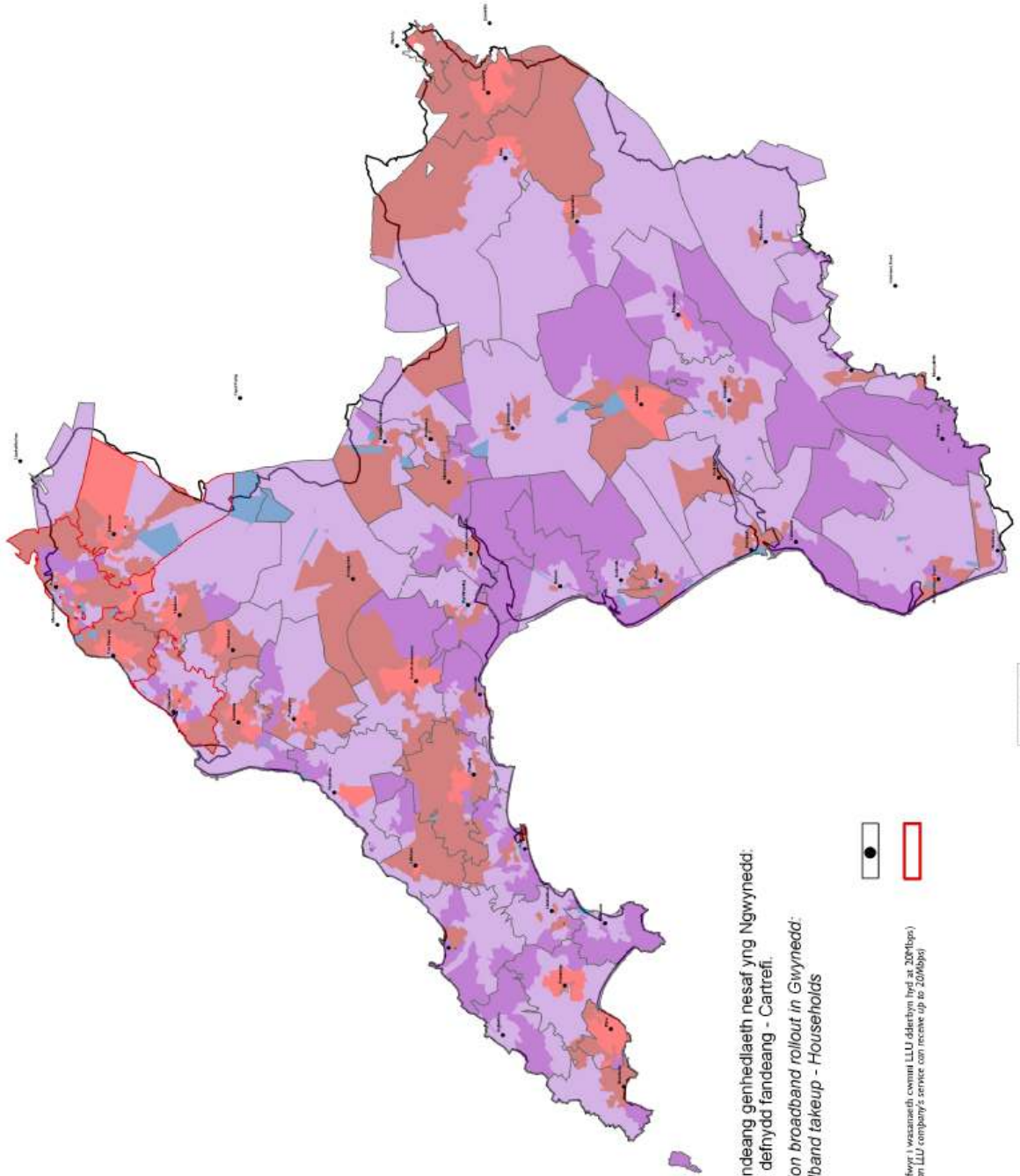
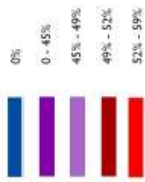
APPENDIX 6 :

i)





Cyfradd defnydd bandeang - Cartrefi
Broadband take-up - Households



Rhaglennu darparu bandeang genhedlaeth nesaf yng Ngwynedd:
Cyfradd defnydd fandeang - Cartrefi.
Next generation broadband rollout in Gwynedd:
Broadband takeup - Households



Lleoliad ac ardal cyfnewidwydd ffon
Locations and areas of telephone exchanges
LLU yn bresennol (Gall clygu fod tanysg arwynt 1 wasaneth cwmni LLU ddiarbyni hyd at 20Mbps)
LLU present (Can mean that subscribers to an LLU company's service can receive up to 20Mbps)



iii)

ATODIAD 4 / APPENDIX 4

