

# 15 SOCIO-ECONOMICS

<b>15.1</b>	<b>Introduction .....</b>	<b>1</b>
<b>15.2</b>	<b>Scope of Assessment .....</b>	<b>3</b>
<b>15.3</b>	<b>Legislation and Policy Framework .....</b>	<b>4</b>
<b>15.4</b>	<b>Consultation .....</b>	<b>9</b>
<b>15.5</b>	<b>Methodology .....</b>	<b>12</b>
<b>15.6</b>	<b>Baseline Conditions .....</b>	<b>14</b>
<b>15.7</b>	<b>Potential Effects .....</b>	<b>30</b>
<b>15.8</b>	<b>Mitigation, Compensation and Enhancement Measures .....</b>	<b>43</b>
<b>15.9</b>	<b>Residual Impacts .....</b>	<b>45</b>
<b>15.10</b>	<b>Summary and Conclusions .....</b>	<b>48</b>
<b>15.11</b>	<b>References .....</b>	<b>59</b>

# 15 SOCIO-ECONOMICS

## 15.1 Introduction

15.1.1 This chapter assesses the potential economic, access, and amenity effects of the Development. The assessment also considers the changes that may occur during the construction, operation and decommissioning of the Development in terms of direct employment, indirect effects on economic activity and direct effects on land use and the associated impacts.

### *Summary of 2012 Environmental Statement Chapter*

15.1.2 The 2012 Environmental Statement concluded that the Development would result in residual beneficial economic effects during the construction phase. This included engaging with local contractors at the Pre-Qualification Questionnaire stage of the tender process, with the intention of providing local employment and investment in the area through the appointed PC. Effects on access, traffic and transport, tourism and recreation during the construction phase were to be mitigated as far as possible through the application of a Construction Traffic Management Plan (CTMP), phasing of construction works, temporary closures and diversions of Public Rights of Way (PROWs), permissive routes and Countryside and Rights of Way (CROW) land within the development site leading to minor adverse residual effects during the construction phase.

15.1.3 The 2012 ES chapter also concluded that during the operational phase the Development would result in residual beneficial effects on access and tourism and recreation as all routes will be fully accessible and there will be better security on the site during this phase.

15.1.4 In addition, for the operation phase it was concluded that there would be residual beneficial effects on the local economy, due to the employment of a local workforce where possible.

15.1.5 The chapter also concluded that the decommissioning phase would have similar effects to the construction phase and be mitigated as far as possible through the same means of mitigation outlined above.

*Scope of 2015 Environmental Statement Chapter*

15.1.6 This chapter has been updated in relation to the following:

- Review of the study area (Section 15.2);
- Relevant Planning Policy updates (Section 15.3);
- Consultation including comments received from relevant bodies and s42 consultees have been considered, with additional detail added to the chapter in relation to impact upon PRowS and recreational receptors such as the PRow network around Cefn Du and the Lagoons of Llyn Padarn (Section 15.5);
- A review of PRowS has been undertaken, with an up to date record of current PRowS, gained in consultation with the Gwynedd Council PRow Officer, and amendments to the diversions and closures to PRowS required during construction and operation of the Development;
- Baseline updates where relevant, particularly in relation to bedspaces, where baseline information has been obtained from the Welsh Government bedstock surveys (Section 15.6);
- Construction impacts on tourism have been updated to include an assessment of impacts on accommodation from the construction workforce and changes in Order Limits and Rochdale Envelope (Section 15.7); and
- Operation impacts on the local economy have been updated to include a number of additional benefits on the economy due to increased workforce size (up to 5 additional workers) and the increased capacity of the Development (Section 15.8).

15.1.7 An updated cumulative assessment with new Wylfa Newydd Nuclear Power Station has been undertaken and this is contained in Chapter 17 Cumulative Effects.

15.1.8 In addition, the Order Limits have been extended from the boundary provided in the Scoping Report submitted to PINS (as shown in Volume 4 Figure 3.9) to encompass the temporary diversions of the PRowS. Although the temporary and permanent diversions were approved as part of the approved scheme, formal diversion applications were not submitted. It is proposed that the powers

required for the permanent and temporary diversions will be secured through the DCO. All proposed diversions are contained within the Order Limits (as shown in Volume 4, Figure 1.2).

## **15.2 Scope of Assessment**

15.2.1 A range of baseline data has been sourced and used within this assessment. Baseline data and consultation has been undertaken to ensure a comprehensive assessment of the following:

- Potential impacts to the local economy;
- Potential impacts to tourism and recreation; and
- Potential changes to the land-use of the site, including public access, e.g. PRow.

15.2.2 For the 2012 ES, a 10km study area from the Development was defined to consider effects such as local communities that could be affected, local tourism and recreation operators, a 15km study area was used for the questionnaires (provided in Volume 3 Appendix 15.2) sent to local visitor accommodation providers and a 1km study area was defined to consider effects on potential changes to the land-use of the site, including public access. For the purpose of this ES the search radius for local communities has remained at 10km and for PRowS the search area has remained at 1km, but the study area has been amended to include the following:

- Relevant accommodation services have been identified using Wales Bedstock 2013 data within a 15km radius of the Development, which includes Gwynedd, Anglesey and Conwy. This study area has been chosen in order to supplement the evidence gathered from the questionnaire survey carried out in the previous submission and to incorporate accommodation services in Bangor, Caernarfon and around Menai Bridge in Anglesey, which are likely to be the major sources of accommodation services in the vicinity of the Development; and
- Socio-economic effects have been considered on a local and regional scale, namely Llanberis and Gwynedd.

### 15.3 Legislation and Policy Framework

#### *National Policy Statements (NPS)*

15.3.1 At the national level, NPS Overarching National Policy Statement for Energy (EN-1) sets out the UK Government's policy for delivery of major new energy infrastructure in England and Wales.

15.3.2 Socio-economics is covered in Section 5.12 of EN-1. The document states:

*“Where the project is likely to have socio-economic impacts at local or regional levels the applicant should undertake and include in their application an assessment of these impacts as part of the ES.”*

15.3.3 The NPS then lists impacts that should be considered as part of the assessment including job creation and training opportunities, provision of community and infrastructure improvements, effects on tourism, and changing population dynamics from increased employment in the area.

#### *National Planning Policy*

#### Planning Policy Wales, Edition 7 (July, 2014)

15.3.4 This document provides the policy framework for the effective preparation of local planning authorities' development plans. Relevant policies are as follows:

15.3.5 PPW Chapter 7 Economic Development states *‘The planning system should support economic and employment growth alongside social and environmental considerations within the context of sustainable development.... wherever possible local planning authorities should seek to guide and control economic development to facilitate regeneration and promote social and environmental sustainability.....Local planning authorities are required to ensure that the economic benefits associated with a proposed development are understood and that these are given equal consideration with social and environmental issues in the decision-making process, and should recognise that there will be occasions when the economic benefits will outweigh social and environmental considerations’....Local planning authorities should support the shift towards a low carbon economy,..They should look favourably on proposals for new on-site low carbon energy generation.*

15.3.6 The Development is expected to promote employment opportunities and encourage the low carbon economy thus supporting this policy objective.

15.3.7 PPW Chapter 11 Tourism, Sport and Recreation states that *'In rural areas, tourism-related development is an essential element in providing for a healthy, diverse, local and national economy. It can contribute to the provision and maintenance of facilities for local communities. Here too development should be sympathetic in nature and scale to the local environment and to the needs of visitors and the local community'*.

15.3.8 *'Tourism involves a wide range of activities, facilities and types of development throughout Wales. The planning system should encourage sustainable tourism in ways which enable it to contribute to economic development, conservation, rural diversification, urban regeneration and social inclusion, recognising the needs of visitors and those of local communities'*.

15.3.9 The Glyn Rhonwy and Llanberis areas attract a significant amount of tourism. The Development is expected to help diversify the rural economy and support local communities through provision of employment opportunities.

15.3.10 PPW is supplemented by 21 topic based Technical Advice Notes (TANs) of which the relevant policies are outlined as follows:

Technical Advice Note 6 Planning for Sustainable Rural Communities (July, 2010)

15.3.11 TAN 6 supports national planning policy on sustainable rural communities, specifically:

- Chapter 2 – Sustainable Rural Communities – The Development has the potential to enhance the local community and provide employment as it develops. The Development would therefore support this policy.
- Chapter 3 – Sustainable Rural Economies - The Development introduces direct and indirect employment which will help foster sustainable rural communities. A beneficial impact is expected regarding this policy; and
- Chapter 5 – Sustainable Rural Services - The proposal will strengthen existing rural services in Glyn Rhonwy and Llanberis as both the business and its employees are expected to utilise these services during the construction, operation and decommissioning phases.

Technical Advice Note 23 Economic Development (February 2014)

15.3.12 Section 2.1 "Weighing Economic Benefit" states:

Paragraph 2.1.5 - *"Where a planning authority is considering a site allocation or planning application that could cause harm to the environment or social cohesion, it should ask three questions in order to help clarity and balance the economic, social and environmental issues. These questions should be used to assist the normal planning decision making processes. In all cases robust evidence should be provided to support these tests:*

- *Alternatives - if the land is not made available (the site is not allocated, or the application is refused) is it likely that the demand could be met on a site where development would cause less harm, and if so where?*
- *Jobs Accommodated - how many direct jobs will be based at the site?*
- *Special Merit - would the development make any special contribution to policy objectives?*

15.3.13 Section 2.1.10 relates to direct job creation:

*"This provides an approximate measure of a development's contribution to the wider economy. Economic growth is worthwhile wherever it is located, and in the interests of economic growth the planning system should generally aim to provide land where there is demand for it. A local authority may wish to conduct a more detailed assessment of potential job creation taking in to account indirect job creation. There may be good reasons why jobs in some places are even more worthwhile than in other places. The third test below deals with this."*

Minerals Planning Policy Wales (March, 2001)

15.3.14 Minerals Planning Policy Wales sets out the land use planning policy guidance in relation to mineral extraction and related development in Wales.

15.3.15 Slate extraction from mines in North Wales was identified as a major employer to the local community in the 19th and 20th centuries. The quarry system to be utilised by the Development is now inactive providing little or no employment opportunities. The Development has the potential to boost employment in the construction phase, and provide long term skilled jobs in the operational phase.

*Local Planning Policy*

Gwynedd Unitary Development Plan 2001-2016 (July, 2009)

15.3.16 The current adopted development plan for the Gwynedd Local Planning Authority Area is the Unitary Development Plan (UDP), supported by Supplementary Planning Guidance (SPG).

15.3.17 The UDP's Main Strategy is to provide a framework for creating and maintaining sustainable communities. The policies below relate to socio-economic topics discussed in the UDP.

15.3.18 Policy A2 Protecting the Social, Linguistic and Cultural Fabric of Communities. The proposal is expected to provide a beneficial impact in accordance with this policy because the long term skilled jobs created will encourage young skilled people to settle locally, strengthening the viability of local communities. Since there is already a great deal of regional knowledge in pumped storage, it is expected that many of the employment opportunities will be accessible to those resident in the region.

15.3.19 Policy C27 Renewable and Sustainable Energy Schemes – Pumped storage is a key technology in unlocking the renewable resource of the region, and of the rest of the UK. Though not renewable energy in itself, it is widely regarded as a cleantech enabler, as low carbon generation is often intermittent (wind) or inflexible (nuclear) - both these renewable technologies are naturally partnered with energy storage technologies such as pumped storage. This Development is therefore expected to have a beneficial impact in terms of this policy.

15.3.20 Sustainable Economy: Policies D1-D4 - Planning has a role to play in sustaining and developing the economy and promoting the diversification of the rural economy. The UDP designates specific sites for job creating enterprises and provides a policy framework that caters for all types of enterprises that would create employment and contribute towards the local economy. The Development is not listed within the Gwynedd UDP 2001-2016 as being located within a High Quality Employment Site. This is beneficial in that the Development is not proposed to be developed on one of these designated areas within the Plan.

Supplementary Planning Guidance: Landscape Character (November, 2009)



15.3.21 This SPG is one of a series of guidance notes which support the policies of the adopted UDP. This SPG states that “*Development occurs in a landscape setting, but may also alter the landscape by changing its elements and features. This necessitates management through the planning system. An important part of this management process is the encouragement of early consideration of landscape in the location and design of the development proposals. This guidance has been produced in order to facilitate such consideration*”.

15.3.22 Further information on landscape policy and assessment is found in Chapter 6 Landscape Character and Visual Assessment.

Joint Local Development Plan (Anglesey and Gwynedd)

15.3.23 All Local Planning Authorities must prepare a Local Development Plan (LDP). Once adopted, decisions about planning applications must be made in accordance with it, unless there are material considerations indicating otherwise. It will replace the current adopted development plan.

15.3.24 Gwynedd Council and the Isle of Anglesey County Council have decided to prepare a Joint Local Development Plan for Anglesey and the Gwynedd Local Planning Authority Area.

15.3.25 The LDP is a land use development strategy for a period of 15 years which concentrates on sustainable development. It will aim to achieve the following:

- Guide the development of housing, retail, employment and other uses;
- Include policies which will aid the Local Planning Authority’s decision with regard to planning applications; and,
- Protect areas to ensure the maintenance and enrichment of the natural and built environment.

15.3.26 The preferred strategy for the Joint LDP has been prepared and was open for public consultation which ended on the 27<sup>th</sup> June 2013. Consultation on the Deposit Plan ended on 31<sup>st</sup> March 2015, with the Examination scheduled for the summer 2015 and adoption anticipated in late 2015 / early 2016.

Gwynedd Council Carbon Management Plan (November, 2009)

15.3.27 This Plan contains the Council’s strategy for reducing its carbon emissions by 30% by the year 2014/15 in order to act as a first step towards the overall ambitious target of reducing our carbon emissions by 60% by the year 2021.

## 15.4 Consultation

15.4.1 The 2012 Scoping Report was submitted to Gwynedd Council on the 28th November 2011 and can be found in Volume 3 Appendix 2.1. This outlined the methodology for the socio-economic assessment. The Scoping Response received from Gwynedd Council is found in Volume 3 Appendix 2.1. A summary of the responses from 2012 most relevant to this chapter can be found in Table 15-1 below.

Table 15-1: Summary of 2012 Scoping Response		
Organisation	Date of Response	Comments
Countryside Council for Wales (now NRW)	13/01/2012	The EIA should consider the implications of the proposals in terms of people’s access to public open space and countryside, including impacts on open spaces in the surrounding area. It should assess the likely impacts (if any) on Public Rights Rights of Way (PRoW) networks as well as public open space in the area. If impacts are likely, the EIA should detail the measures that will be implemented to ensure that alternatives are provided and overall, the general public’s accessibility to public open space and the countryside will be maintained and enhanced.

15.4.2 The following organisations were also consulted in 2012 for further information to inform this chapter:

- Ramblers Association;
- Tourism Officer, Gwynedd Council;
- Rights of Way Officer (Arfon), Gwynedd Council;
- Tourism Officer, Snowdonia National Park;
- Llanberis Development Group;
- Local British Horse Society Rights of Way Officer;
- Sustrans;

- Local British Mountaineering Council (BMC); and
- Local Cycle Club – Energy Cycle.

15.4.3 With respect to the Development, a Scoping Report was submitted to the Planning Inspectorate on the 5<sup>th</sup> January 2015 and the response was received from the Secretary of State on the 11<sup>th</sup> February 2015. The subsequent Draft ES was that distributed to relevant consultees on 12<sup>th</sup> February 2015 for consultation under s42 of the Planning Regulations. A summary of relevant consultee responses is included below in Table 15-2.

<b>Table 15-2 Summary of 2015 Consultee Responses</b>		
<b>Organisation</b>	<b>Date of Response</b>	<b>Comments</b>
<b>Scoping Opinion</b>		
Gwynedd Council	2 <sup>nd</sup> February 2015	The proposed development will affect a number of public rights of way, it is requested that these paths are protected during and at the completion of this development.
Secretary of State	11 <sup>th</sup> February 2015	<p>The Secretary of State notes that the description of baseline conditions will be updated to take into account any changes since the 2012 ES for the approved scheme was produced. It is noted that no additional primary data collection is proposed. The applicant should seek agreement on this approach from the relevant planning authority.</p> <p>The Scoping Report clearly acknowledges that impacts on PRoW would occur as a result of the development and the potential impacts on users of the PRoW will be assessed in the ES. The interrelationships with other environmental topics, for example noise, air quality and traffic and transport should be taken into account. The Secretary of State notes the comments of Gwynedd Council requesting that any public rights of way affected by the proposed development are protected both during construction and at the completion of the development.</p>
<b>s42 Consultation Responses</b>		
Gwynedd Council	20/03/15	The development will be a major economic generator during the construction phase whilst also providing long term opportunities for the area. The long term viability of the site

<b>Table 15-2 Summary of 2015 Consultee Responses</b>		
<b>Organisation</b>	<b>Date of Response</b>	<b>Comments</b>
		will be enhanced by the proposal.
<b>Subsequent Consultation</b>		
Gwynedd Council – Rights of Way Officer	April / May 2015	Email correspondence regarding the agreement of proposed diversions during construction and operation. Advice was sought on the routes to be taken and maintenance and upgrade works that would need to be undertaken on these routes.  Confirmation was also given that once operational, maintenance responsibilities of affected PRow would revert back to Highway Authority, providing they were built to the satisfactions of Gwynedd Council.
Gwynedd Council	April / May 2015	Gwynedd Council confirmed that baseline surveys should be updated, although recognised that there may be little change from data gathered for the approved Scheme. Baseline surveys should however be updated for the new Order Limits and should include the approved application for the caravan site to the south of the Development.  GC also confirmed that the Gwynedd Unitary Development Plan is still used but will eventually be superseded by the Anglesey and Gwynedd Joint Local Development Plan which is currently unadopted.
Birds of Snowdonia	19/05/15	Telephone conversation to enquire how they may be affected by the Development.  Confirmed that one wildlife tour is taken to this area during April – September, once or twice a week. Publicly accessible routes are used to access area of interest just off Ffordd Clegir.
Rat Race	May / June/ July 2015	Email and telephone correspondence with Rat Race who organise the Man Vs Mountain Race in Llanberis. Rat Race were informed of the agreed PRow diversions and given a brief overview of the Development. They were informed that they would be consulted with when necessary during the construction period to minimise disruption to the race.  Due to consultation with Gwynedd Council,

Table 15-2 Summary of 2015 Consultee Responses		
Organisation	Date of Response	Comments
		the diversion routes were amended and subsequently Rat Race: Man Vs Mountain event organisers were informed of the change in lengths of both the temporary and permanent PRow diversions,
Snowdonia Marathon	March/June/July 2015	<p>Email and meeting with Snowdonia Marathon organiser on the 1<sup>st</sup> April 2015 to discuss PRow diversions and provide an overview of the Development in March. SPH sent further emails to Snowdonia Marathon in July to notify them of the updated PRow diversions and distances of finalised routes.</p> <p>Due to consultation with Gwynedd Council, the diversion routes were further amended and subsequently event organisers at Snowdonia Marathon were informed of the change in lengths of both the temporary and permanent PRow diversions,</p>

## 15.5 Methodology

15.5.1 There is no prescribed methodology or standard guidance for this aspect of EIA, and so the methodology adopted is one of determining the existing conditions in the locality (baseline) through a desktop analysis, drawing on a range of publicly available statistical information, site visits and consultation.

15.5.2 The potential effects of the Development on the baseline conditions has been assessed using information from sources and a number of other guidance documents which are of relevance. The following have been used to inform this chapter. Where these have been reviewed and updated for the 2015 chapter this is stated below.

- Institute of Environmental Management and Assessment (IEMA) (2004). Guidelines for Environmental Impact Assessment;
- The Highways Agency, Scottish Government, Welsh Assembly Government and the Department of Regional Development Northern Ireland (1993). Design Manual for Roads and Bridges (DMRB). Volume 11, Section 3, Part 8: Pedestrians, Cyclists, Equestrians and Community Effects;

- Department for Communities and Local Government (2006), A Good Practice Guide on Planning for Tourism;
- Review of Welsh Index of Multiple Deprivation (WIMD), 2011. <http://wales.gov.uk/topics/statistics/headlines/compendia2009/110831/?lang=en> (Reviewed and updated);
- Office of National Statistics (ONS) – Welsh statistics. <http://wales.gov.uk/statistics-and-research/?lang=en> (Reviewed and updated);
- Welsh Census of Population, 2011. <http://wales.gov.uk/statistics-and-research/census-population/?lang=en>;
- Welsh Government Statistical Article - Summary of Wales Bedstock Data: Situation as at March 2013. <http://wales.gov.uk/docs/drah/publications/Tourism/bedstock2012en.pdf> (New addition);
- Other developments of a similar nature and size;
- Information from SPH;
- Mapping information received from Gwynedd Council regarding PRow's;
- Additional desk based-research;
- A site visit undertaken on the 14th and 15th June 2012; and
- Professional judgment of the nature and implications of any effects.

15.5.3 The potential effects of the Development are assessed for their significance against the criteria set out in Chapter 2 Approach to EIA. Effects are described as adverse, beneficial or negligible. The residual effects of the Development are then assessed taking account of any recommended mitigation measures.

15.5.4 The levels of magnitude are measured at national, regional, district or local scale.

15.5.5 Judgement of significance is made based on a combination of the perceived value of the receptor and the magnitude of change. If an effect is deemed to cause a significant impact it will be rated as significant or not significant.

## 15.6 Baseline Conditions

### *Local Economy*

15.6.1 The following economic baseline for the Development has been updated since the 2012 chapter and assessed using Labour Market Statistics and the Welsh Index of Multiple Deprivation (WIMD).

15.6.2 The WIMD is based on the concept that deprivation consists of more than just poverty. Poverty is not having enough money to get by on, where as deprivation refers to a general lack of resources and opportunities.

15.6.3 The WIMD is constructed from eight different types of deprivation, these are:

- Income;
- Housing;
- Employment;
- Access to Services;
- Education;
- Health;
- Community safety; and
- Physical environment.

15.6.4 The index is produced as a set of ranks, with a rank of 1 assigned to the most deprived area. The ranks of the index are calculated for each of the 1,909 lower layer super output areas (LSOAs) of Wales. Table 15-3 below shows how the LSOAs within the jurisdiction of Gwynedd Council rank in the WIMD.

<b>Table 15-3: Local Authority WIMD 2014 Analysis</b>					
<b>Gwynedd Council WIMD 2011 Analysis</b>					
	<b>Number of LSOAs</b>	<b>% of LSOAs in most deprived 10%</b>	<b>% of LSOAs in most deprived 20%</b>	<b>% of LSOAs in most deprived 30%</b>	<b>% of LSOAs in most deprived 50%</b>
Gwynedd	73	3	3	4	24

Source: <http://wales.gov.uk/statistics-and-research/welsh-index-multiple-deprivation/?lang=en> Accessed: 27/11/2014

- 15.6.5 As a region, Gwynedd has 73 LSOAs with 3 in the most deprived bracket nationally.
- 15.6.6 In the Gwynedd Economic Partnership Annual Report for 2013-2014 the number of benefit claimants under 25 years old was 3.8% for Gwynedd, in comparison to Wales at 6.2% and the UK at 5.5%. Those claiming over 12 months were at 0.8% for Gwynedd, compared to Wales at 1.1% and the UK at 1%. Since 2012 the percentage of people on job seekers allowance has fluctuated but since a peak in 2013 this has been in a steady decline. Similar trends are also seen for Wales and the UK.
- 15.6.7 Table 15-4 below show's how the Llanberis LSOA was ranked in the overall WIMD assessment.

<b>Table 15-4: Llanberis LSOA WIMD 2014 Analysis</b>	
<b>Overall WIMD Rank</b>	1,205
<b>Employment Rank</b>	1,387
<b>Income Rank</b>	1,187
<b>Health Rank</b>	1,190
<b>Housing Rank</b>	512
<b>Physical Environment Rank</b>	1,697
<b>Access to Services Rank</b>	317
<b>Community Safety Rank</b>	1,406

Source: <http://wales.gov.uk/statistics-and-research/welsh-index-multiple-deprivation/?lang=en> Accessed: 27/11/2014

- 15.6.8 The LSOA of Llanberis, which is the closest area to the Development, has a WIMD rank of 1,205 out of 1,909. This means overall Llanberis is located roughly half way between the most deprived and the least deprived of the small rural regions of Wales. The Welsh Index of Multiple Deprivation shows that Llanberis is also located in the same mid-point in terms of income scores (1,187) and Health (1,190). However, employment (1,387), Physical Environment (1,697) and Community Safety (1,406) are ranked relatively strongly. Ranking scores for Housing (512) and Access to Services (317) are noticeably lower.
- 15.6.9 A tabulated summary can be found in Volume 3 Appendix 15.1 comparing the population and employment statistics at a ward, local authority and national level.



15.6.10 Llanberis is the closest Ward to the Development at Glyn Rhonwy. The data provided by the Office of Labour Statistics (OLS) (shown in Volume 3 Appendix 15.1) shows that the population of Llanberis as of 2010 is 1,300 persons, of which 73.5% are registered as economically active. This is slightly lower proportion than the region of Gwynedd at 74.5% and Great Britain, which is 77.9%. The unemployment figures for the Llanberis area is higher (8.6%) than both the Gwynedd region (6.4%) and Great Britain as a whole (6.0%). In Llanberis, (73.8%) of the population are employed in a full time capacity, which is a higher figure than the Gwynedd region (61.6%) and Great Britain (67.7%).

15.6.11 Waunfawr is located off the A4085 and lies on the main access route to the temporary construction works of Q1. The data provided by the OLS (as shown in Volume 3 Appendix 15.1) shows that the population of Waunfawr is 1,000 persons, of which 71.2% are registered as economically active. This is lower than that recorded for Llanberis. Unemployment figures are at 6.9%, which is lower than that recorded for Llanberis (8.6%) but higher than Great Britain (6.0%). In Waunfawr, 73% of the population are in full time employment with 14.6% of the population specialising in managers and senior official roles. The lowest skilled sector was found to be in process plant and machine operatives at 7.3%.

15.6.12 The highest type of occupation in Llanberis is skilled trades at 15.5% and the lowest type of occupation at 5.9%, this differs from that within the wider local authority area of Gwynedd, which has the highest type of occupation as Services (G-S) at 86.5% and the lowest as primary services (A-B: agriculture and mining) at 0.7%. The most up to date statistics from the OLS in August 2014 shows that in Llanberis there are 1.8% receiving out of work benefits, which is lower than both the Gwynedd region (2.0%) and Great Britain as a whole (2.7%).

#### *Tourism and Recreation*

15.6.13 In 2007, North Wales attracted approximately 8 million staying visitors<sup>ii</sup>, which equates to approximately one third of the national total.

15.6.14 UK residents account for 90% of staying visitors in North Wales. Gwynedd has the highest percentage of visitors in North Wales, accounting for 38.1% of staying visitors. Table 15-5 below summarises STEAM (Scarborough Tourism Economic Activity Monitor) visitor figures mostly from 2009 but updated in 2012.

<b>Table 15-5: Visitor Statistics (2009 / 2012) for Snowdonia National Park<sup>iii</sup></b>	
<b>Visitors a year</b>	4.27m visits per year
<b>Visitor days a year</b>	10.4m visitor days per year
<b>Visitor spend per year</b>	£396m

15.6.15 The Great Britain Day Survey data for the year 2013, shows the volume and expenditure of visits in Wales and North Wales. This is provided in Table 15-6 below.

<b>Table 15-6: Tourism Day Visits: Volume of visits and expenditure by destination (millions) (2013)</b>		
	<b>Visits</b>	<b>Expenditure</b>
<b>Wales</b>	89	£3,061
<b>North Wales</b>	19	£601

Source: <http://wales.gov.uk/docs/statistics/2014/140811-great-britain-day-visitor-2013-en.pdf> Accessed: 28/11/2014

15.6.16 The tourism and manufacturing industries are key employers in Llanberis.

15.6.17 Due to their proximity to the Snowdonia National Park, Llanberis and surrounding villages and hamlets are popular bases for tourist activities such as walking, cycling, riding and climbing. Other attractions include the Snowdon Mountain Railway, the National Slate Museum, the Llanberis Lake Railway and Padarn Country Park. Tours of Dinorwig power station are available from a purpose built visitor centre. Llanberis is also a centre for outdoor activities including walking, mountaineering, climbing, mountain biking, pony trekking, water sports and Scuba Diving at the Vivian diving centre and the Surf Lines watersports centre adjacent to the Llyn Padarn lagoons. In addition, a 1,500m long zip wire opened in June 2014, built in a disused part of Penrhyn quarry in Bethesda. The zip wire is the largest in Europe, second largest in the world and is estimated by Gwynedd Council to attract up to 30,000 visitors per year<sup>iv</sup>.

15.6.18 There is also a second zip wire and an indoor cave trampoline centre are located in Blaenau Ffestiniog.

15.6.19 Wider communities in the 10km study area are summarised in Table 15-7, and the main local tourism attractions within the study area are summarised in Table 15-8 and their locations shown on Figure 15.1.

**Table 15-7: Communities within the 10km Study Area**

	<b>Distance from Development (km)</b>	<b>Description</b>
Llanberis	1.5	A village located at the bottom of Snowdon on Gwynedd, adjacent to Llyn Padarn. The village was originally home to a substantial slate quarrying industry, remnants of which are still seen within the landscape and tourist attractions in the area. The village has since become a popular area for tourists and outdoor pursuit enthusiasts. It is also host to the Dinorwig Power Station, a pumped hydro scheme which makes use of the abandoned Dinorwic slate quarry.
Deiniolen	3.3	The village of Deiniolen is located on the border of the Snowdonia National Park. The village has local amenities and two public houses.
Dinorwig	3.3	Dinorwig is a small village located to the north of Llyn Padarn and Llyn Peris, and is the location for the Blue Peris Mountain Centre.
Waunfawr	4.5	The village has a nature park (Bryn Pistyll), and hosts the Snowdonia Camping Site and Snowdonia Park pub.
Nant Peris	5.0	This village is located within the Snowdonia National Park. The village has a church and various camping and caravan sites.
Bontnewydd	7.5	A village located within two miles of Caernarfon. The Plas Dinas Country House Hotel is located centrally. The village also has a railway station, two supermarkets and a public house.
Caernarfon	8.0	Caernarfon is a market town located next to the Menai Straits and located between the Snowdonia National Park and Anglesey. Caernarfon Castle is a tourist attraction and designated as a World Heritage Site. The Segontium Roman Fort and Museum and the terminus for the Welsh Highland Railway is also located within the town. Caernarfon offers shops, restaurants, guest houses, hotels, a golf course and a local leisure centre.
Carmel	8.3	Carmel village has a school, some shops, a general store and a post house.

**Table 15-7: Communities within the 10km Study Area**

	<b>Distance from Development (km)</b>	<b>Description</b>
Dinas	8.5	A large hamlet, which has a railway station which acts as a stop for the Welsh Highland Railway.
Bethesda	9	A town located near the Ogwen River, the village has local shops.

**Table 15-8: Visitor Attractions and recreational facilities within the 10km Study Area**

<b>Attraction</b>	<b>Distance from Development (km)</b>	<b>Description</b>
<b>Birds of Snowdonia</b>	0	Professional bird watching and wildlife tours in North Wales, offering a tour to the foot of Snowdon.
<b>Llyn Padarn and Lagoons</b>	0	Lake and shallow areas on shore used recreationally for water activities, such as canoing, kayaking, swimming and educational water based activities. There is a car park located adjacent to the lagoons which provides good access for users.
<b>Glyn Peris Guided Walks</b>	250m north east of Development	Guided walks up Snowdon on a variety of routes, based from Glyn Peris Guest House.
<b>Kent Mountain Centre</b>	250m north of Development	The KMC is an outdoor centre for children, providing accommodation and activities for groups of 45 people.
<b>Surf Lines</b>	275m south east of Development.	An outdoor adventure centre located near the Llyn Padarn lagoons.
<b>Boulder Adventures, Llanberis</b>	700m south east of Development.	The centre offers outdoor activities and accommodation.

**Table 15-8: Visitor Attractions and recreational facilities within the 10km Study Area**

<b>Attraction</b>	<b>Distance from Development (km)</b>	<b>Description</b>
<b>Electric Mountain, Llanberis</b>	Visitor centre is located approximately 1.4km south east of Development.	A 1.8GW pumped storage power station built inside the mountain. The attraction includes a bus tour which takes visitors in to the mountain to look at the main turbine and generator chamber.
<b>Padarn Water Sports Centre, Llanberis</b>	1.4km south east of Development.	The centre offers a wide range of water sports including canoeing, kayaking and raft building adventures on Llyn Padarn.
<b>Llanberis Tourist Information Centre</b>	Approximately 1.4km south east of Development.	Tourism information centre located near Llyn Padarn.
<b>Welsh Slate Museum, Llanberis</b>	1.6km south east of Development.	The museum is located in the former Victoria Workshops of the Dinorwig Quarry, which closed in 1969. The museum gives an insight in to the working life of the quarry from inception to closure.
<b>Padarn Country Park, Llanberis</b>	1.6km south east of Development.	An 800 acre park providing walks and trails through the oak woodland. The park offers themed trails, including a five mile trail around Llyn Padarn, as well as an Industrial Archaeological trail around the Vivian Quarry.  The park is a local nature reserve and Site of Special Scientific Interest (SSSI) and includes the Quarry Hospital. The hospital used to treat quarry workers injuries in the 19 <sup>th</sup> and 20 <sup>th</sup> century.
<b>Vivian Diving Centre, Llanberis</b>	1.6km south east of Development.	The centre is located within the Padarn Country Park and offers trips to dive the Vivian Slate Quarry. The quarry was last worked in 1958 and has since filled with water.
<b>Padarn Adventures, Llanberis</b>	1.6km south east of Development	Located within the Padarn Country Park, activities range from guided mountain walks rock climbing, canoeing and raft building to zip wires.

**Table 15-8: Visitor Attractions and recreational facilities within the 10km Study Area**

<b>Attraction</b>	<b>Distance from Development (km)</b>	<b>Description</b>
<b>Llanberis Lake Railway, Llanberis</b>	Start is approximately 1.6km south east of Development. Closest point on route is approximately 360m away on the far side of Llyn Padarn.	The train follows the northern area of Llyn Padarn from Llanberis to Penllyn offering visitors views of the Snowdonia National Park.
<b>Snowdon Mountain Railway, Llanberis</b>	1.7km south east of Development.	The railway that takes you to the summit of Mount Snowdon – the highest peak in Wales.  The railway starts at Llanberis Station, and stops at the summit where on clear days it is possible to view the Wicklow Mountains in Ireland and the Isle of Man.
<b>Blue Peris Mountain Centre, Dinorwig</b>	1.9km east of Development.	Offers courses and guided tours for a variety of outdoor activities such as mountain and quarry walks, rock climbing, canoeing and raft building.
<b>Dolbadarn Castle, Llanberis</b>	2km south east of Development.	This 13th Century Castle was built by Llywelyn the Great and overlooks the lakes of Llyn Padarn and Llyn Peris.
<b>Welsh Highland Railway</b>	2.1km south west of Development.	Newly restored railway which operates from Porthmadog to Caernarfon, stopping at Waunfawr en route, at its closest point to the Development.
<b>Snowdonia Riding Stables</b>	2.4km west of Development	A riding stables located in Waunfawr which offers pony trekking.
<b>Beacon Climbing Centre</b>	6km north west of Development	An indoor climbing centre which offers outdoor climbing instruction within Snowdonia.
<b>The Segontium Roman Fort and Museum, Caernarfon</b>	6.2km north west of Development.	An auxiliary fort, the museum that tells the story of how the Romans spread their conquest in to Wales.

**Table 15-8: Visitor Attractions and recreational facilities within the 10km Study Area**

Attraction	Distance from Development (km)	Description
<b>Zip World Snowdonia</b>	6.7km north east of Development.	The centre offers a range of zip lining adventures in Snowdonia.
<b>Caernarfon Castle, Caernarfon</b>	7.6km north west of Development.	A medieval building located built by Edward I.
<b>Snowdonia Outdoor Adventure, Bethesda</b>	7.8km north east of Development.	The centre provides advice and guides for outdoor activities such as hill walking, rock climbing, mountain biking, coastering and raft building.
<b>Plas Y Brenin – The National Mountain Centre</b>	14.9km east of Development.	The centre offers guides and specialist courses on activities such as alpine mountaineering, hill walking, navigation, rock climbing, mountain biking, road cycling, canoeing, kayaking and scrambling.

15.6.20 Annual events in Llanberis include the following which also act as an attraction for visitors:

- The Snowdonia Marathon: a marathon that starts and ends in Llanberis and circumnavigates Mount Snowdon and Pen Y Pass. The route uses Green Road / the unclassified road that dissects the Development;
- The Rat Race: Man Vs Mountain is a 20 mile race held on a weekend in September, which begins in Caernarfon and ends in Llanberis. The route uses Green Road / the unclassified road that dissects the Development and finishes in the southern end of Llyn Padarn;
- The Slateman triathlon: a triathlon event based in Llanberis for 1,500 competitors held over a weekend in May. This route uses the A4086 and the southern end of Llyn Padarn;
- The Etape Eyri: a cycling Sportive event which takes place annually in Llanberis during a weekend in June, with 1,500 competitors. The route travels along the A4086;
- The Snowdon Race: A run held annually in July, 1,300 competitors race to the summit of Snowdon (approximately 5 miles);
- The Big Brutal Swim: an annual swimming race held in the southern end of Llyn Padarn in August; and
- Llanberis Carnival: Held annually in July, the carnival runs through the High Street of Llanberis.

15.6.21 The first four of these events may be impacted by the Development during construction or operation, and will be considered within this chapter. The Snowdon Race, the Big Brutal Swim and the Llanberis Carnival will not be directly affected by the Development as they do not have any contact with the Development or Order Limits, and have not therefore been assessed.

#### *Visitor Numbers*

15.6.22 A statistical survey was undertaken by the Welsh Government in March 2013 to gain accurate information concerning total visitor accommodation in Wales. The study shows a considerable variation between local authorities in terms of the total volume and composition of accommodation stock. Gwynedd has 2,722



accommodation establishments and this county alongside Pembrokeshire account for almost half the accommodation establishments in Wales as a whole.

15.6.23 Four counties have more than 400 serviced accommodation establishments: Gwynedd, Pembrokeshire, Powys and Conwy.

15.6.24 In Gwynedd, some two-thirds of these establishments are self-catering cottages and apartments and the county has more than 400 serviced accommodation establishments. In terms of bedspaces, Gwynedd has the highest proportion of bedspaces at 124,493, with almost 80% of these in Camping and Caravanning sites. Conwy has 83,193 bedspaces, also with over 80% of which are in Camping and Caravanning sites. These figures reflect the presence of many of the larger holiday parks and camping sites in these counties.

15.6.25 Conwy, which includes Llandudno, has 11,692 serviced bedspaces, the highest for any authority in Wales, though, due to the existence of many large holiday parks in the county (with 67,123 bedspaces in 139 establishments), the serviced bedspaces represent only 14% of bedspaces in that county.

15.6.26 The number of accommodation establishments from Gwynedd, Anglesey and Conwy within the 15km study area, are summarised in Table 15-9.

<b>Table 15-9: Number of Accommodation</b>						
<b>Establishments by Category</b>						
Local Authority	Serviced	Self-Catering	Caravan/Camping	Hostel	Alternative	Total
Gwynedd	400	1940	338	44		2722
Anglesey	133	177	78	2		390
Conwy	409	490	139	22	1	1061
<b>Bedspaces by Category</b>						
Gwynedd	7961	15546	97275	3711		124493
Anglesey	2783	3671	22445	106		29005
Conwy	11692	3580	67123	796		283193

Source: <http://wales.gov.uk/docs/caecd/research/131011-accommodation-bedstock-march-2013-en.pdf> Accessed: 27/11/2014

15.6.27 According to the statistical survey undertaken in 2013 there were a total of 3,549 serviced and self-catering establishments in the Gwynedd, Anglesey and Conwy area. Within these establishments this equates to 45,233 bedspaces. This indicates a large range of available accommodation in the main settlements surrounding the development project.

15.6.28 A desk based survey was undertaken in March 2014 to complement and update the above study. According to the Visit Wales website, at least 155<sup>1</sup> serviced and self-serviced establishments are located within the 15km study area.

15.6.29 The Great Britain Day Survey monthly data for 2013 in all countries (England, Wales and Scotland) showed that the largest volume of all visits were taken in the summer months, most notably in August (162 million visits), and that the fewest visits were made in the first three months of the year. The need to accommodate visitors in this summer period is deemed to be higher than the remaining year. The seasonal pattern observed varies between country with more pronounced seasonal variation in visit volumes recorded in Wales. Table 15-10 shows the volume of day visitors in millions to attractions in 2013, according to the Great Britain Day Survey.

<b>Month</b>	<b>Year 2013</b>
January	113
February	110
March	112
April	131
May	136
June	149
July	157
August	162
September	134
October	128
November	120
December	136

Source: <http://wales.gov.uk/docs/statistics/2014/140811-great-britain-day-visitor-2013-en.pdf> Accessed: 28/11/2014

<sup>1</sup> This list is not exhaustive and is based on the information from 28/11/2014

- 15.6.30 There are a number of camping and caravanning sites in Waunfawr, but none accessed directly from the unclassified road which is to be the primary access to Q1 during construction and site during operation. As the A4085 is an A classified road and part of the primary road network, abnormal deliveries during construction will not be significant. Therefore none of these campsites are expected to be effected significantly by construction traffic or by construction noise, and have not been considered further in this assessment.
- 15.6.31 There is also a static holiday home park, Brynteg Holiday Home Park accessed from the northern end of the Ffordd Clegir. As this road is not to be used for site access, it will not be affected by construction traffic. The road may be subject to closures or traffic management during certain works in the vicinity of Q6, but as the holiday park is likely to be accessed from the northern end of the road, users will not therefore be affected. The Brynteg Holiday Home Park has not therefore been considered further in this assessment.
- 15.6.32 There is a campsite, Llanberis Touring Park, currently under construction at the time of writing which is located south of Q6, approximately 100m from the Order Limits. This campsite will be accessed from the unclassified road which provides access from the A4086 to the Glyn Rhonwy Industrial Estate. This has been considered as part of the updated Chapter 13 Noise & Vibration and therefore these effects are presented in this chapter.

*Land Use and Public Access*

- 15.6.33 Land classified as Open Access Land under the Countryside and Rights of Way Act 2000 (CROW Act) is located within the Order Limits. The Countryside and Rights of Way Act 2000 provides a restricted statutory public right of access for the purpose of open-air recreation to certain land in the Welsh countryside designated as "open access land". This includes all registered common land and other open countryside. There is an area of Registered Common Land at the southern end of the Order Limits (Volume 4, Figure 15-2).
- 15.6.34 A small area (1.2 acres) of access land will be acquired for the purposes of forming a permanent public right of way diversion. While this acquisition and use will not change the designation of the land and it will remain access land it is necessary to comply with the Act that further replacement access land is created. An equivalent area of undesignated land has been identified adjacent to the route

of the PRow diversion to the north of the Nant-Y-Betws watercourse and has been included within the Order land. Should it be necessary to acquire the current access land compulsorily the replacement land will also become access land leading to a net increase in designated access land of 1.2 acres.

15.6.35 Works to construct the Development will directly affect common land, both temporarily during construction and permanently during operation. Therefore these affected areas will have to be released from the common by an application under the Commons Act 2006. If common land is to be released, it is a requirement of the Act that replacement land must be provided. The amount and quality of the replacement land are considerations in the provision of replacement land. An application under the Commons Act must be determined having regard to matters including the interests of commoners, the interests of the neighbourhood and the general public interest.

15.6.36 Although development of the vacant industrial site has provided improved access, including footpaths, to the quarries and Cefn Du, access to the Development is restricted and the quarries themselves are fenced off. The site is has also been known to suffer vandalism in the form of fly tipping, graffiti and damage to fencing. The steep sides of the quarries are dangerous and tragically, accidents have occurred there.

15.6.37 There are a number of public rights of way within the Order Limits and in the wider area surrounding the site, which include PRowS, bridleways and cycle routes. Those within a 1km search area from the Development are shown in Volume 4 Figure 15-2 and detailed in Table 15-11 below. There are no Long Distance Footpaths, National or Regional Cycle routes within the 1km search area.

<b>Table 15-11: Public Rights of Way within 1km of Order Limits</b>	
<b>PRow Name</b>	<b>Description</b>
<b>PRowS lying within the Order Limits</b>	
53 Llanberis	Follows north of the Order Limits boundary between Ffordd Clegir and the A4086.
54 Llanberis	This PRow is crossed by the penstock route. It joins with 56 Llanberis and 5 Llanrug to the north and 9 Waunfawr and 57

<b>Table 15-11: Public Rights of Way within 1km of Order Limits</b>	
<b>PRoW Name</b>	<b>Description</b>
	Llanberis to the south.
56 Llanberis	This PRoW travels north east from Q1 and 42 Waunfawr to join with 54 Llanberis.
57 Llanberis	57 Llanberis travels west from Ffordd Clegir to join with 54 Llanberis and 9 Waunfawr on the eastern edge of the Order Limits at Q1.
3 Waunfawr	Travels south from the unclassified road which dissects the Development.
9 Waunfawr	Travels south east to Waunfawr from 54 and 57 Llanberis.
42 Waunfawr	Travels north of Q1 from the unclassified road to join with 56 Llanberis.
Lôn Las Padarn	A cycle route which runs along the shore of Llyn Padarn. Not formally a PRoW recorded on Gwynedd Council's Definitive Map, it is managed by the Maritime and Country Parks Unit.
<b>PRoWs within 1km of the Development</b>	
17 Llanberis	Part of a network of PRoWs on the north western side of Llanberis and joining with the Ffordd Clegir.
18 Llanberis	PRoW located north west of Llanberis and south east of the Development.
19 Llanberis	PRoW located north west of Llanberis and south east of the Development.
20 Llanberis	PRoW located north west of Llanberis and south east of the Development.
22 Llanberis	Part of a network of PRoWs on the north western side of Llanberis and joining with the Ffordd Clegir.
23 Llanberis	Part of a network of PRoWs on the north western side of Llanberis and joining with the Ffordd Clegir.

<b>Table 15-11: Public Rights of Way within 1km of Order Limits</b>	
<b>PRoW Name</b>	<b>Description</b>
25 Llanberis	Part of a network of PRoWs on the north western side of Llanberis and joining with the Ffordd Clegir.
26 Llanberis	Part of a network of PRoWs on the north western side of Llanberis and joining with Ffordd Clegir.
27 Llanberis	PRoW located south east of the Development, joining with the unclassified road which dissects the Development.
44 Llanberis	PRoW in the centre of Llanberis, located east of the Development.
48 Llanberis	PRoW which follows the south eastern shore of Llyn Padarn.
55 Llanberis	PRoW located north of the Development and Q3, which travels north west to join with 9 Llanrug.
149 Llanberis	A public bridleway north of the Development which follows the shore of Llyn Padarn and joins with Lôn Las Padarn.
5 Llanrug	PRoW located north of the Development, joining with 54 Llanberis to the south.
6 Llanrug	PRoW located north of the Development, joining with 5 Llanrug to the south.
9 Llanrug	PRoW located north of the Development, joining with 55 Llanberis to the south.
4 Waunfawr	PRoW located west of the Development, joining with the unclassified road which dissects the Development.
36 Waunfawr	PRoW located west of the Development, joining with the unclassified road which dissects the Development.
37 Waunfawr	PRoW located west of the Development, joining with the unclassified road which dissects the Development.
38 Waunfawr	PRoW located west of the Development, joining with 37 Waunfawr and the unclassified road which dissects the

Table 15-11: Public Rights of Way within 1km of Order Limits	
PRoW Name	Description
	Development.
39 Waunfawr	PRoW located west of the Development, joining with 4 Waunfawr and the unclassified road which dissects the Development.

15.6.38 There are also many informal routes used by residents and tourists around Cefn Du recreationally, which are not recorded as PRoWs on the Gwynedd Council Definitive Map.

## 15.7 Potential Effects

### *Construction*

#### Local Economy

15.7.1 The construction industry is known to be a major contributor to the UK Gross Domestic Product (GDP), with approximately 350,000 firms, employing 3.1 million people. A study carried out by UK Contractors Group, 2012 concluded that ‘£1 spent on construction output generates a total of £2.84 in total economic activity’ which means an increase in GDP. Table 15-12 below details the knock on effects from investment in to the economy and how it contributes to GDP.

Table 15-12: Summary of Construction Impact and Increased GDP		
Direct Impact	Indirect Impact	Induced Impact
<ul style="list-style-type: none"> <li>• Wage income.</li> <li>• Corporate profit.</li> <li>• Non labour inputs.</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain impacts – increased output and income.</li> <li>• Other sectors benefiting such as manufacturing, real estate, business services, mining, quarrying and transportation.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in household income through increased employment.</li> <li>• Increase in construction leading to spending and demand in the economy.</li> </ul>

Source: UK Contractors Group (2012).

15.7.2 There are a number of low carbon electricity generation projects in the pre-planning stages in North Wales that will significantly contribute to local

employment. Such developments could add a potential £3bn to the North Wales economy (Cogent Sector Skills Council, 2011).

15.7.3 It is currently estimated that the engineering costs to construct this Development is £160 million, an increase from the £100 million estimated in the 2012 ES. It is recognised that not all of this investment will be made in North Wales due to the procurement of large items such as turbines, which are likely to be manufactured elsewhere. However, there will be direct inward investment due to use of local services and employment.

15.7.4 SPH, or the PC as appropriate, will hold “meet the buyer” events to encourage local businesses to engage with the construction tender process. Local contractors will be contacted and informed of the event, where they will be invited to complete a Pre-Qualification Questionnaire (PQQ); informed of the tender process and how they can access contracts associated with the Development.

15.7.5 One element of the PQQ will assess the contractors approach to appoint local employment, training and apprenticeship schemes.

15.7.6 Feedback following the public exhibitions in June 2012, provided via the questionnaires, found that one of the main issues for the local community was the lack of jobs in the area (42% of respondents reported this as an issue). Feedback from the 2015 public exhibitions, again provided by questionnaires and also through the website, found that approximately 24% of respondents mentioned this in their comments.

15.7.7 Low carbon energy developments can contribute to the economy through investment and employment in a number of sectors. The key activities where potential effects may materialise, are listed below:

- Development of the project;
- Consultancy - design, engineering, financial and marketing;
- Manufacturing and assembly;
- Supply of materials and equipment;
- Construction and installation; and
- Operation and maintenance.



15.7.8 The construction of the Development will involve a significant investment and has the potential to create jobs (some specialist to Pumped Storage technology and some with broad applications in the regional electricity sector), both directly and indirectly, within the local area.

15.7.9 In terms of employment, the number of construction staff will vary according to the types of activities being undertaken. Staffing levels will generally decrease as construction is progressed through to the commissioning phase. Indicative workforce numbers for specific construction phases are illustrated in Table 15-13 below: SPH or the appointed PC will instruct the relevant construction companies through a competitive tendering process. It is considered that employment opportunities will have a **temporary regional minor beneficial** impact.

Table 15-13: Indicative workforce during the construction phase	
Construction Activity	Indicative Workforce
Q1 Headpond	40
Q6 Tailpond	30
Penstock	10
Power Station	15
Pumping Station	5

15.7.10 However it is expected that up to 250 people will be employed during the construction phase at its peak, after which it will then generally decrease as construction is progressed through to the commissioning phase. However this will be subject to the requirements of the PC and therefore could change. Given that a proportion of the construction workforce could be outsourced from the local area, there would be a requirement for temporary accommodation such as hotels, guest houses and B&Bs. This is likely to have a **temporary local, minor, beneficial** impact on the local economy.

15.7.11 To determine the mix of business and tourism and determine a booking pattern for visitors throughout the year, a questionnaire was sent to 91 establishments in April 2012, comprising of 37 hotels, 7 holiday cottages, 16 Bed and Breakfasts (B&Bs), 19 Guest Houses, 10 Camp sites, 1 Youth Hostel and 2 educational

accommodation facilities. Of the 91, 12 responded to the questionnaire (11%), 3 were B&Bs, 5 were hotels, 3 were guest houses and 1 was Bangor University.

15.7.12 From the 12 returned surveys, the average number of beds is 22 across the responses. The average number of rooms across the 12 respondents was 24 rooms although it should be noted that the university has significantly more rooms available than the remaining 11 establishments. It appears that the large majority of revenue is gained through seasonal tourism, with smaller but steady year round business use.

15.7.13 Due to the longevity of the construction phase (envisaged to be 3.5-4 years) there is also the possibility of positive indirect economic benefits accruing as a result of expenditure in the area (e.g. food, drink, petrol, accommodation) throughout the construction phase resulting in a **temporary, local, minor beneficial** impact.

15.7.14 During the construction phase of the development there is likely to be an increase in traffic flows, particularly for heavy goods vehicles being used to transport turbine parts and construction equipment.

15.7.15 An assessment of the effects of the Development upon the local road network is provided in Chapter 12 Traffic & Transportation. Potential adverse impacts to local businesses located along the A4086 and A4085 are considered to have a localised impact during the construction phase. Increased traffic flows can have a secondary impact on the local communities and businesses by creating severance, increase in journey times and acting as a potential deterrent to visitors. There is likely to be a **temporary, local minor adverse** impact during construction on the minor road affecting villages such as Waunfawr, Croesywaun and Groeslon due to upgrading the access road.

#### Tourism and Recreation

15.7.16 The proposed access route for Q6 construction vehicles is via the A4244 southbound, with entry to Q6 from the A4086 and access to Q1 from the A4085 and a minor unclassified road. Ffordd Clegir will not be impacted by construction traffic. However, it is likely that the road will be closed for a short time during the drilling or shaft construction phases (see Chapter 4 Project Description). During the construction phase, tourism facilities located alongside the A4086, A4085

and the minor road leading to Q1 are likely to be temporarily affected by construction traffic during the construction period.

15.7.17 Therefore any potential adverse impacts upon loss of visitor numbers due to traffic disruption during the construction phase is likely to be reduced to a minor impact depending upon the extent of mitigation to be implemented under the CTMP and overall CoCP. However, the loss of visitor numbers due to the construction activities will result in a **temporary, minor, adverse** effect.

15.7.18 There are likely to be indirect impacts to tourism and recreation during the construction phase. There will potentially be an impact upon on the amenity of tourist and recreational receptors outlined in Table 15.7, particularly for users of PRowS and during the construction of the spillway infrastructure in the lagoons of Llyn Padarn. Since the submission of the Draft ES (February 2015), the location of the pumping station has moved, and it is to now be positioned onshore. It will lie adjacent to Llyn Padarn but outside of the car park. The above ground kiosk / control box which will be seen above ground will most likely covered in British Standard 14-C-39 Green (subject to DCO Requirement) and approximately 2m x 2m x 2m. The potential for visual impact is outlined in Chapter 6 Landscape Character and Visual Amenity.

15.7.19 Recreational activities involving public access in the immediate vicinity of the site will experience a **temporary, local, minor adverse** impact during this phase of development.

15.7.20 Of the tourist attractions and recreational facilities identified in the search area and outlined in Table 15.7, users of the three attractions below could be directly impacted for reasons other than construction traffic:

- Birds of Snowdonia;
- Llyn Padarn and the lagoons; and
- Surf Lines and other companies providing group activities on Llyn Padarn.

15.7.21 Birds of Snowdonia are a company running wildlife tours in north Wales. There are nine tours offered on their website, largely focussed on observing different bird species. They offer six tours which are focussed in different locations on bird activities during the breeding bird season (April to September). One of these tours takes parties to the quarries, in the vicinity of Q4 and Q5. Birds of

Snowdonia typically take one or two tours to this location a week in the months from April to September. Although there are no planned closures of PRow at the north eastern end of the Development, Ffordd Clegir may be subject to temporary closures during critical activities such as drilling and blasting, for reasons of health and safety. Additionally, currently used routes across CROW land may be fenced off for the construction of Q6. During such times, alternative access routes (such as footpath 53 Llanberis) may need to be used. This will have a **temporary, negligible adverse** effect.

15.7.22 During events such as quarry blasting, temporary closures of PRow in the surrounding areas may be required for health and safety reasons. Tours during these times may be prevented from going ahead. Should planned tours be prevented from going ahead, this will be a **temporary, minor adverse** effect.

15.7.23 Additionally, construction activities have the potential to cause disruption to the wildlife forming the focus of the tour. Whilst the Schedule 1 species, which are the focus of the tour, are not found in Q1 or Q6, any reprofiling, stabilisation and flooding of the quarries will remove habitat for potential nest sites. Vibration during blasting, human visual activity and increased human activity has the potential to cause disturbance. Within Chapter 7 Ecology, Sections 7.8.117 – 7.8.124 outlines that this has the potential for a **permanent moderate adverse** and **temporary moderate adverse** effect respectively.

15.7.24 Users of Llyn Padarn and the lagoons, Surf Lines and any other organised activities from the recreational facilities outlined in Table 15.7, are likely to experience some disruption and loss of amenity when construction of the spill way and the pumping station is carried out. There will be sequential construction of the spillway infrastructure to allow access to the car park and lagoons at all times so that users are not prevented from using this recreational resource. There will be noise from temporary construction activities and temporary loss of visual amenity. There could also potentially be temporary dust generation from construction activities. This will have a **temporary, moderate adverse** effect on users.

15.7.25 The Development could potentially cause traffic disruption that could affect the annual events held in Llanberis outlined in Section 15.6.19; the Snowdonia Marathon, the Man Vs Mountain race, the Slateman Triathlon and the Etape Eyri,

The Slateman triathlon and the Etape Eyri both use the A4086 for their cycle routes and Llyn Padarn is used for the triathlon swim. Both of these events are held during weekends when the hours for construction will be limited to 07:00 – 13:00 on a Saturday. Should there be restrictions put in place for the races on the road network, the PC and construction works will be subject to these and will have to amend construction works to accommodate these. Should race participants experience disruption due to road network disruption this would be a **temporary minor adverse** effect. The triathlon swim should not be affected as this will take place further south of the spillway location, which when constructed will be identified with a buoy for health and safety reasons.

15.7.26 The route for the Snowdonia Marathon and the Man Vs Mountain race travels along Green Road and the unclassified road which dissects the Development, and is held on a weekend. Consultation has been carried out with the race organisers of the marathons to ensure that the race can continue along the planned diversion during construction (see Table 15.2). If held on a Saturday, there may be construction works ongoing during the permitted hours which may result in runners experiencing a loss of amenity when running past the construction site, both visually and from construction noise. The marathon route will also be subject to the temporary PRow diversions imposed through the DCO during construction. This will result in a temporary increase of 679m to the route. These potential effects would have a **temporary, minor adverse** effect.

15.7.27 There may be loss of amenity for visitors to the Llanberis Touring park during construction,

15.7.28 The potential construction workforce coming in from outside the area that would require temporary accommodation in the study area could have an effect on the tourism industry, especially during the peak season in the summer, particularly in August where availability may be limited. The number of construction staff will vary according to the types of activities being undertaken. Over the duration of the construction phase there will be a total of 100 workers. It is assumed that the appointed PC will seek to employ locally as much as possible. Staffing levels will generally decrease as construction is progressed through to the commissioning phase, and therefore it is assumed that the greatest requirement for construction phase accommodation will vary over the 3.5-4 year construction period but will

be higher during the initial stages of construction. Whilst occupancy of hotels by workers may have an effect on tourism during the construction phase this will be temporary and is unlikely to create a negative perception on the tourist receptors. The existing number of accommodation services within 15 km of the Order Limits, including those in Gwynedd, Anglesey and Conwy, is considered to be adequate to supply for workers and visitors for most of the year. Therefore, this effect is considered to be temporary, the available accommodation and the tourists who may require it is considered to be of low sensitivity and the impacts will be of local magnitude. Therefore a **temporary, local, negligible** impact.

#### Land Use and Public Access

15.7.29 The small car park close to Q1 will be replaced during the construction phase and be located as shown on Figure 4.1. During construction, critical activities such as blasting will mean that the car park and nearby PRoWs will be temporarily closed until the areas are deemed safe for members of the public.

15.7.30 PRoWs, permissive routes and cycle routes within the Order Limits will need to be diverted (both temporarily and permanently) during the construction period and only temporarily closed during critical activities such as blasting for safety reasons. SPH or the appointed PC, as appropriate, will liaise with Gwynedd Council to ensure any recreational routes encompassing the site are closed or diverted as appropriate and it is envisaged that these will be secured through the DCO. The proposed diversions of PRoW during construction to be secured through the DCO can be seen in Figure 15.3. These have been approved in consultation with the Public Rights of Way Officer at Gwynedd Council. A summary of the proposed diversions are also outlined in Table 15-14 below.

15.7.31 SPH or the appointed PC will liaise closely with the Welsh Government and Gwynedd Council to ensure suitable diversions and warning of footpath and road closures are issued prior to any works commencing in order to minimise any inconvenience. This will be detailed in the CTMP and CoCP.

15.7.32 SPH or the appointed PC will ensure that local residents are made aware in advance of these critical activities. Users of PRoWs and permissive routes will be informed of any temporary closures which are necessary through appropriate signage and information boards. As details of any temporary closures will be discussed and agreed in advance with Gwynedd Council, it is therefore

considered there will be a **temporary, local, minor adverse** impact on recreational user amenity during the construction phase. It is worth noting that 'amenity' is purely subjective and personal to each individual. Temporary closures under the CROW Act, which may be necessary for health and safety reasons, will be used to restrict public access where and when required.

**Table 15-14: Proposed PRow Diversions and Closures During Construction**

<b>PRow Name</b>	<b>Description of Diversion / Closure</b>
53 Llanberis	This PRow is located on the edge of the Order Limits and therefore no diversion is required.
54 Llanberis	Construction works will be underground and there will be no impediment to this route during construction. No diversion is required,
56 Llanberis	Should stabilisation works require the full area of land allowed for on the north side of Q1, 56 Llanberis will be diverted around these.
57 Llanberis	This PRow joins with 54 Llanberis on the edge of the Order Limits. No diversion is required.
3 Waunfawr	The northern section of this PRow falls inside the Order Limits to join with the unclassified road running through the site. This route will form part of the diversion required for the unclassified road and 9 Waunfawr. It will also be slightly diverted to the east to join with a new temporary access track which will provide vehicular access to private land and routes 54 and 57 Llanberis.
9 Waunfawr	The north eastern edge of 9 Waunfawr currently crosses the unclassified road running through the site and joins with routes 54 and 57 Llanberis. There is also an informal route used through the forestry tracks, which is not recognised by Gwynedd Council's Definitive Map. Both of these routes are shown on Figure 15.3. The unclassified road and north eastern section of 9 Waunfawr will be temporarily closed and diverted through Donen Las. The new temporary access track heading north from the unclassified road from Bwlch-y-groes will also act as a diversion for the end of 9 Waunfawr.
42 Waunfawr	Should stabilisation works require the full area of land allowed for on the north side of Q1, 42 Waunfawr will be diverted around these.
Lôn Las Padarn	Construction works to install the pumping station and lay the spillway infrastructure will be done by an open cut method. However, this should not require closure or diversion of this route as sequential excavation and backfilling will allow users to be directed safely around works areas. Access through to the car park, lagoons and road network will remain throughout construction.

15.7.33 The Development includes land currently designated as access land under the Countryside and Rights of Way Act 2000 and therefore in use for public recreation. Informal routes used by residents and tourists around Cefn Du and areas of CROW land which lie within the Order Limits where the public have the right to roam may be subject to closure due to construction works and fenced off areas. This will result in a **temporary, minor adverse** effect.

#### *Common Land Users & CROW Land*

15.7.34 An area of Common land and CROW land will be required for the construction of the Development. The total area of common land affected by the Development will be 62 acres, which consists of 30 acres (CL15) required for construction and will be temporarily fenced off. This area will be temporarily unavailable for grazing by commoners resulting in a **temporary, localised moderate adverse effect**.

#### *Operation*

##### Local Economy

15.7.35 During operation, the Development would employ between 20-35 full time staff working in shifts throughout the day. Local people will be employed where possible, which is likely to result in a minor beneficial impact to the local economy. Indirect employment services and maintenance could result in the development of connected services in the local area. Therefore the effects of the Development to the local economy are likely to have a **permanent, local, minor beneficial** impact.

##### Tourism and Recreation

15.7.36 None of the events in Llanberis described in Section 15.6.19 will be impeded by the Development during operation. All will be unaffected except for the Snowdonia Marathon and the Rat Race: Man Vs Mountain, the routes of which will permanently increase by 61m (once the formal PRoW diversions are in place), and users may experience some, very minor, loss of visual amenity when running on Green Road / the unclassified road through the Development due to the presence of the newly built slate tips. This is likely to have a **negligible** impact.



15.7.37 Where the pumping station is sited onshore, adjacent to Llyn Padarn, there will be a small loss of land once the underground pumping station is reinstated, only the 2m x 2m x 2m kiosk / control box and access grill will be above ground. Where the spillway ends in Llyn Padarn, there will be a buoy to indicate its location. It will be installed at a depth that will not cause an obstruction to recreational users (i.e. swimmers, kayakers and canoers) and will be covered by a silt screen. Rates of abstraction and discharge are to be controlled by the abstraction licence and discharge consents to be issued by NRW and will not cause a risk to recreational users. There may be maintenance activities that need to be carried out on an occasional basis which could cause some disruption to users. For the pumping station, these will be carried out through the entry cover. These potential effects are likely to have a **negligible** effect.

15.7.38 During operation there will no impediment to the PRoW and Ffordd Clegir, allowing tours led by Birds of Snowdonia to continue to the quarries. The power house will be located on the platform south of Q6 and will therefore remove the right to roam over this area. This will cause a **negligible** effect.

Land Use and Public Access

15.7.39 Once operational, all PRoWs and permissive routes will be open and fully accessible. The permanent diversion at the north of and around the toe of the dam at Q1 will be undertaken through the DCO and is within the Order Limits. This is shown on Volume 3, Figure 15.4

Table 15-15: Proposed PRoW Diversions and Closures During Operation	
PRoW Name	Description of Diversion / Closure
53 Llanberis	This PRoW is located on the edge of the Order Limits and therefore no diversion is required.
54 Llanberis	Construction works will be completed and there will be no impediment to this route during operation. No diversion is required,
56 Llanberis	Should stabilisation works require the full area of land allowed for on the north side of Q1, 56 Llanberis will be diverted around these permanently.
57 Llanberis	This PRoW joins with 54 Llanberis on the edge of the Order Limits. No diversion is required.
3 Waunfawr	The northern section of this PRoW falls inside the Order Limits to join with the unclassified road running through the site around Q1. The original route of the PRoW will be reinstated

Table 15-15: Proposed PRow Diversions and Closures During Operation	
PRow Name	Description of Diversion / Closure
	during operation from the diversion implemented during construction.
9 Waunfawr	The north eastern section of 9 Waunfawr currently crosses the unclassified road running through the site and joins with routes 54 and 57 Llanberis. This section north of the unclassified road will be reopened during operation.  Both the informally recognised route and the formal PRow route of 9 Waunfawr through Donen Las, south of the unclassified road, will be permanently closed due to the placement of slate tips. A permanent diversion will follow round the south of, and between, the slate tips to join with the unclassified road.
42 Waunfawr	Should stabilisation works require the full area of land allowed for on the north side of Q1, 42 Waunfawr will be permanently diverted around these.
Lôn Las Padarn	This route will be fully open and accessible during operation.

15.7.40 The effects of the Development on tourism and recreation during operation are considered to have a **negligible** effect.

15.7.41 With placement of excess slate within the mounds on either side of PRow 9 Waunfawr, south of Q1, there is a risk that should a slate tip be de-stabilised whilst the PRow is in use, members of the public could be harmed. However, this has been considered during design and the slate tips have been designed to ensure the risk to public safety is negligible. A width of 4m has been allowed between the slate mounds for the PRow diversion.

15.7.42 SPH or the appointed PC (as appropriate) will liaise with Gwynedd Council regarding the security of the site once operational. The site will have onsite security for 24 hours a day and CCTV will be installed to ensure maximum public safety (further information can be found in Chapter 4 Project Description). There will also be directional security lighting at night and during periods of darkness. Fencing will be installed around Q1 and Q6 to minimise disturbance but ensure that the PRows traversing the site are fully accessible. The effects of the Development on land use and public access are considered to have a **temporary local, minor beneficial** impact.

*Common Land Users and CROW Land*

15.7.43 Permanent land take of 32 acres is required for the upper reservoir and dam, access tracks and other hard surfaced areas and slate tips which cannot be returned to grazing use following construction. Of the 32 acres, 18 acres consists of the previously worked quarry which is currently not able to be used for grazing and 14 acres of grazing land, which is useable.

15.7.44 Given the nature of pumped hydro storage schemes the reservoirs are routinely emptied leaving deep, steeply sided voids to which access must be strictly controlled. This area will be therefore permanently fenced for health and safety reasons rendering it inaccessible to commoners and the public, therefore this is considered to have a **permanent, localised major effect**.

#### *Decommissioning*

##### Local Economy

15.7.45 The decommissioning of the Development would mean a beneficial input to the local economy through the provision of direct employment and through expenditure. Local suppliers would be utilised where appropriate. The decommissioning of the Development will cause the job losses of those 20-35 full time staff. However, the creation of jobs during the decommissioning phase would mean the creation of many skilled and unskilled works. Therefore, it is considered that this phase of the works would have a **localised temporary, minor beneficial** impact.

##### Tourism and Recreation

15.7.46 There is potential for an adverse impact through increased traffic and amenity issues to the immediate vicinity during this phase. It is envisaged that the penstock, tailrace and spillway infrastructure will be left in situ, the quarries drained and the power house removed. Decommissioning activities will be managed in accordance with the agreed decommissioning plan which will be subject to a DCO Requirement. The effects on land use and public access are considered to have a **local permanent, minor adverse** impact.

##### Land Use and Public Access

15.7.47 All above ground structures, such as the power house and pumping station, will be removed. In relation to public access and recreation, the decommissioning phase is anticipated to have similar effects to those experienced during the

construction phase, with the possible temporary diversion of PRowS close to the site. The impact of the decommissioning phase on the amenity of recreational users is also going to be similar to that at the construction phase. However, the scale of the decommissioning task is smaller than the construction phase and as the temporary nature of the impact would be shorter, the magnitude of the effect experienced would be less. On completion of the decommissioning phase, full access to the PRow network would be restored as soon as practically possible. Due to the temporary nature of this phase of works, it is expected that the severity of this impact will reduce to a **local, negligible** impact and therefore of no significance.

## 15.8 Mitigation, Compensation and Enhancement Measures

15.8.1 A CTMP, contained within the overall CoCP (Appendix 16.1), will mitigate as far as is reasonably practicable any disruption caused by traffic generated during the construction phase (see Chapter 12 Traffic and Transport). In addition a dust Management Plan (DMP) and Noise Management Plan (NMP) will also be included within the CoCP.

15.8.2 SPH or the appointed PC will work with the local communities and businesses within villages such as Llanberis, Waunfawr, Croesywaun and Groeslon to ensure the effects of the construction works on the local community are minimised. The processes will be outlined in the CoCP. This will likely be managed by an Environmental Clerk of Works, among whose responsibilities will likely be to:

- Determine which residents, businesses and community groups are to be consulted with regarding works, PRow closures and specific construction events such as blasting; and
- Devise a consultation strategy to adequately notify these bodies about the works programme to enable disruption to be minimised. This will include consulting with organisers of the events listed in Section 15.6.20.

15.8.3 Working hours will be restricted at weekends to the hours of 07:00 to 13:00 on a Saturday. The appointed PC will seek to phase certain works, such as those carried out for the spillway infrastructure and pumping station, so that they avoid the peak times of use, such as summer school holidays.

- 15.8.4 Works which may have an impact on breeding birds will be undertaken as the Breeding Bird Method Statement. The PC will seek to undertake these works outside of breeding bird season (April to September). Should this not be entirely possible, then works will be phased to avoid particularly sensitive times or under supervision of a qualified Ecological Clerk of Works if within the breeding bird season.
- 15.8.5 Temporary PRow diversions will be constructed and maintained during the construction period to a standard that is at least equivalent of those being replaced and to a specification which is agreed with Gwynedd Council. During operation, the land will be reverted where necessary to the previous land use. For those routes where vehicular access is required, upgrades will be implemented. All affected PRows will be maintained by SPH during the construction phase, after which the responsibilities for maintenance will revert back to Gwynedd Council as the Highways Authority, providing they are handed over in a satisfactory state.
- 15.8.6 During events where temporary closures are required (for example for blasting), local residents and known users will be informed and signage will be erected to notify users of PRow closures, This will be co-ordinated by the PC, most likely by an Environmental Clerk of Works (ECoW).
- 15.8.7 A Landscape and Reinstatement Plan will be devised by the PC prior to commencement of works which will outline all of the landscaping mitigation measures. It is planned that visual impacts on tourist receptors will be mitigated by retaining vegetation and will be clad using local materials (i.e. slate) and / or rendered in colours appropriate to the local area to help integrate them with the wider landscape context. More details can be found Chapter 6 Landscape Character & Visual Amenity and Volume 3, Appendix 16.1 CoCP.
- 15.8.8 The Applicant is proposing the provision of temporary replacement land for the use of the commoners to offset the interference with the common during construction of the Development. The exchange land to be provided for the permanent interference is 8 acres larger than the permanent land take and provides 26 acres of additional pasture. This land will be added to the common prior to the commencement of development increasing the area available by 40 acres. As the replacement land will be of pasture land of at least comparable

quality to the existing pasture land, this is considered to be a **permanent, localised minor beneficial effect**.

15.8.9 The 40 acres of exchange land for the area of common CL15 to be deregistered is currently designated access land. The access land is the only available, suitable land adjacent to the common which can be offered as replacement land. The replacement of common land with access land would reduce the area of open space available for public recreation overall. The Applicant recognises that a net loss of open space is undesirable and has accordingly negotiated the acquisition of 64.8 acres of forestry land to the south of the Development site.

15.8.10 The replacement of the loss of 40 acres of access land with 64.8 acres provides a net overall benefit to the public of 24.8 acres of land accessible for recreation. In addition, should compulsory acquisition of the 1.2 acres of access land required for the PRow diversion be required a further 1.2 additional acres of access land will be designated giving a total potential increase of 66 acres. This proposal will also increase variety in the types and use of access land available within the vicinity, this is considered to be a **permanent, localised minor beneficial effect**.

## 15.9 Residual Impacts

### *Local Economy*

15.9.1 **Direct, minor beneficial impacts** are expected during the construction, operation and decommissioning phases on regional employment. **Indirect, minor, beneficial impacts** are associated with the use of construction and decommissioning staff utilising local services such as accommodation providers, shops and restaurants. There is likely to be some disruption during the construction phase on villages such as Llanberis, Waunfawr, Croesywaun and Groeslon due to upgrading of the access road. However, SPH or the appointed PC will work with the local communities and businesses along this route and Gwynedd Council to ensure the phasing of the construction works causes minimum disruption and this should result in a **local, minor adverse impact**. Further details of these activities will be outlined in the CoCP (Appendix 16.1).

15.9.2 SPH or the appointed PC will procure relevant construction companies through a competitive tendering process. It is considered that employment opportunities will have a **temporary regionally minor beneficial** impact. Given that a proportion

of the construction workforce could be outsourced from the local area, there may be a requirement for temporary accommodation such as hotels, guest houses and B&Bs. This is likely to have a **temporary local, minor, beneficial** impact on the local economy.

15.9.3 The construction phase is likely to cause an increase in traffic along the A4086 and A4085. A CTMP will mitigate as far as is reasonably practicable any disruption caused by traffic generated during the construction phase. Potential adverse impacts to local businesses located along the A4086 and A4085 are considered to have a localised impact during the construction phase. SPH or the appointed PC will work with the local communities and businesses along this route and Gwynedd Council to ensure the phasing of the construction works cause create minimised disruption resulting in a **temporary local, minor adverse** impact.

15.9.4 Due to the increased capacity the Development has several net benefits including; increased economic viability, competitiveness of the Development, increased operational longevity and economic efficiency and an increased impact on the storage network. This Development therefore has the potential to provide a **permanent minor beneficial** impact on the local and regional economy.

#### *Tourism and Recreation*

15.9.5 The construction and decommissioning phases are likely to cause some disruption through increased traffic. A CTMP will be implemented to minimise any disruption and ensure any potential adverse impacts upon loss of visitor numbers due to traffic disruption during the construction phase is likely to be reduced to a minor impact depending upon the extent of mitigation to be implemented under the overall CoCP. However, the loss of visitor numbers due to the construction activities will only be temporary in nature and overall will result in a **local, minor adverse** impact.

15.9.6 As no mitigation can be applied to the effects on tourism, from the occupancy of hotels by workers during the construction phase and at peak high tourist season, the impacts remain **temporary and negligible**.

15.9.7 Should the mitigation outlined in Sections 15.8.2 and 15.8.5 be carried out during construction, it is considered that the Development will have a temporary, **negligible, adverse** impact on the events to be held in Llanberis. During

operation there will be no disruption to these events. There will be an increase of 61m (following the permanent diversion of the PRowS) to the route used for the Snowdonia Marathon and the Man Vs Mountain race, but this should have a **negligible** impact.

15.9.8 During construction Birds of Snowdonia may experience some disruption when closures of PRow occur for specific construction activities. As these closures will be planned and communicated in advance by the PC it is expected that Birds of Snowdonia will still be able to plan 1-2 tours to the quarries each week. This is expected to have a **temporary, negligible** impact. The most disruptive construction activities will be planned outside of breeding bird season or at less sensitive periods under supervision of an Ecological Clerk of Works. Construction activities and noise will therefore have a **temporary negligible** effect.

*Land Use and Public Access*

15.9.9 Users of PRowS and permissive routes will be informed in advance of any temporary closures during the construction and decommissioning phases, which are necessary through appropriate signage and information boards. Details of any temporary closures will be discussed and agreed in advance with Gwynedd Council, it is considered there will be a **temporary, local, minor adverse** impact on recreational user amenity during the construction phase. Once operational, all routes will be fully accessible and it is considered there will be a **permanent minor beneficial impact** through the result of better security at the site and upgrades to PRow.

15.9.10 Users of common land will have replacement land provided that is of at least an equivalent area and grazing standard during construction. During operation, the useable area for pasture increases from 14 acres to 40 acres and the permanent area of common land in the vicinity of the Development will increase by 8 acres.

15.9.11 In relation to CROW land, the replacement of the loss of 40 acres of access land with 64.8 acres provides a net overall benefit to the public of 24.8 acres of land accessible for recreation. This proposal will also increase variety in the types and use of access land available within the vicinity.

15.9.12 It is considered that this will result in a **permanent, local, minor beneficial** effect.



## **15.10 Summary and Conclusions**

15.10.1 There will be direct and indirect positive effects to the local economy during the construction phase from increased employment activities and indirect benefits through increased use of facilities in the area. During the operational phase, 20-35 jobs will be created and the Development will have a number of net benefits on the local and regional economy.

15.10.2 A CTMP will be produced to ensure there is minimal disruption to community and tourist traffic during the construction phase. SPH or the appointed PC will work with local communities and businesses in Llanberis, Waunfawr, Croesywaun and Groeslon to ensure that the upgrade of the access road causes minimal disruption.

15.10.3 It is likely that impacted PRowS and CROW land will be diverted or closed during the construction and decommissioning phases, however, these impacts are temporary in nature and as a result of health and safety requirements during critical works. Otherwise the temporary diversions and replacement areas will be fully accessible during the construction phase and then reinstated during the operational phase.

15.10.4 Table 15-16 presents a summary of the residual Socio-economic impacts for the Development, accounting for the effects of mitigation measures on the worst-case impacts as determined within this assessment.

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
<b>Construction</b>										
Local Economy	Medium	Regional Employment Opportunities	Beneficial	Temporary	Low	Minor	SPH or the appointed PC will obtain relevant construction companies through a competitive tendering process.	Residual effect remains unchanged.	Minor Beneficial	No change to significance
Local Economy	Medium	Indirect local economic benefits through requirement for temporary accommodation	Beneficial	Temporary	Low	Minor	N/A	No mitigation required so residual effect remains unchanged.	Minor Beneficial	No change to significance
Local Economy	Medium	Indirect economic benefits as a result of local expenditure in the area	Beneficial	Temporary	Low	Minor	N/A	No mitigation required so residual effect remains unchanged.	Minor Beneficial	No change to significance
Local Economy	Medium	Temporary local adverse effects on local businesses located along the A4086 and A4085 due to increased traffic flows, and Waunfawr, Croesywaun and Groeslon villages as a result of road upgrades	Adverse	Temporary	Low	Minor	SPH or appointed PC will work with the local communities and businesses to ensure phasing of the construction works, minimising disruption.  A CTMP, incorporated into the overall CoCP, will be produced outlining the phasing process of construction to minimise impacts on the local community.  A CoCP will be produced to mitigate as far as reasonably practicable any disruption caused by traffic generated.	Residual effect remains unchanged.	Minor Adverse	No change to significance

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
Tourism and Recreation	Medium.	Temporary reduction of visitor numbers to tourism facilities along A4086, A4085 and minor road leading to Q1 due to increased construction traffic.	Adverse	Temporary	Low	Minor	A CTMP, incorporated into the overall CoCP, will be produced to mitigate as far as reasonably practicable any disruption caused by traffic generated. A CoCP will be produced outlining the phasing process of construction to minimise impacts on the local community.	Residual effect remains unchanged.	Minor Adverse	No change to significance
Tourism and Recreation	Medium.	Temporary closure/diversions of Public Rights of Way, permissive routes, cycle routes and CROW land within the development site.	Adverse	Temporary	Low	Minor	Temporary closures and diversions of PRowWs, permissive routes and CROW land will ensure safety to recreational users. Signage and information boards will be erected to ensure users are aware prior to any closures or diversions. All diversions and closures will be in advance agreement with Gwynedd Council.	Residual effect remains unchanged.	Minor Adverse	No change to significance
Tourism and Recreation	Medium	Effect on tourism industry from accommodation requirement	Adverse	Temporary	Negligible	Negligible	N/A	No mitigation required so residual effect remains unchanged.	Negligible	New effect
Recreational facility – Birds of Snowdonia (BoS)	Low	Effect on BoS tours from closure of PRow / CROW land.	Adverse	Temporary	Low	Negligible	Closures of PRow and CROW land in vicinity of Development for activities such as blasting will be communicated in advance by ECoW.	Residual effect remains unchanged.	Negligible	New effect

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
Recreational facility – Llyn Padarn and the lagoons	Medium	Loss of amenity during construction of spillway infrastructure and pumping station.	Adverse	Temporary	Medium	Moderate Adverse	A CoCP will be produced outlining the phasing process of construction to minimise impacts on the local community. This will also outline measures to mitigate adverse noise and dust effects.	Amenity may temporarily be reduced but access will remain throughout the construction period to Llyn Padarn and the car park and phasing of construction times will avoid peak recreational periods	Minor	No change
Recreational facility – Surf Lines and other providers of group activities at Llyn Padarn.	Medium	Loss of amenity during construction of spillway infrastructure and pumping station.	Adverse	Temporary	Medium	Moderate Adverse	A CoCP will be produced outlining the phasing process of construction to minimise impacts on the local community. This will also outline measures to mitigate adverse noise and dust effects.	Amenity may temporarily be reduced but access will remain throughout the construction period to Llyn Padarn and the car park and phasing of construction times will avoid peak recreational periods	Minor	New effect
Snowdonia Marathon	Medium	The planned route of this race will be temporarily diverted during the construction period causing an increase in length of 679m. If held on a Saturday runners may experience loss of amenity due to construction noise and visual effects from the construction site.	Adverse	Temporary	Low	Minor Adverse	On weekends construction works will be restricted to 07:00-13:00 on Saturday with no works on Sunday. Temporary diversions will be maintained to a standard that is at least equivalent of those being replaced.	Amenity may be temporarily lost during construction period but construction works will be limited on weekends and PRowS adequately maintained	Negligible	New effect
Rat Race: Man Vs Mountain	Medium	The planned route of this race will be temporarily diverted during the construction period causing an	Adverse	Temporary	Low	Minor Adverse	On weekends construction works will be restricted to 07:00-13:00 on Saturday with no works on Sunday. Temporary diversions will	Amenity may be temporarily lost during construction period but construction works will be limited on weekends and PRowS adequately	Negligible	New effect

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
		in increase in length of 679m. If held on a Saturday runners may experience loss of amenity due to construction noise and visual effects from the construction site.					be maintained to a standard that is at least equivalent of those being replaced.	maintained		
The Slateman Triathlon	Medium	The race uses the A4086 and therefore may be affected by increased traffic by construction vehicles.	Adverse	Temporary	Low	Minor	This event is held on the weekends; during which construction works are restricted to 07:00-13:00 on Saturday and no works on Sunday. Should traffic restriction be put in place for the races, the PC and construction works will be subject to these and works will be amended to accommodate these	Should mitigation be adhered to during construction the routes of this race should not be affected.	Negligible	New effect
The Etape Eyri	Medium	The race uses the A4086 and therefore may be affected by increased traffic by construction vehicles.	Adverse	Temporary	Low	Minor	This event is held on the weekends; during which construction works are restricted to 07:00-13:00 on Saturday and no works on Sunday. Should traffic restriction be put in place for the races, the PC and construction works will be subject to these and works will be amended to accommodate these	Should mitigation be adhered to during construction the routes of this race should not be affected.	Negligible	New effect
Llanberis Touring Park	High	Noise during construction	Adverse	Temporary	Minor	Moderate Adverse	Implementation of CTMP and NMP mitigation measures including communication on	Implementation of the mitigation measures outlined in the CTMP and NMP including road	Localised, Temporary. Minor	New effect

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
							blasting events	management and maintenance and ongoing monitoring	Adverse	
Land Use and Public Access	High	Temporary closure of the small car park near to Q1 and nearby PRoWs	Adverse	Temporary	low	Minor	Temporary closures and diversions of PRoWs, permissive routes and CROW land will ensure safety to recreational users. Signage and information boards will be erected to ensure users are aware prior to any closures or diversions. All diversions and closures will be in advance agreement with Gwynedd Council.	Residual effect remains unchanged.	Minor Adverse	No change to significance
Common Land	Low	Permanent and temporary fencing of a total of 62 acres of land	Adverse	Permanent and temporary	low	Minor	The replacement land provided will be of at least an equivalent area and grazing standard.	As a proportion of the current common land is not suitable for grazing and all of the replacement land will be, there is considered to be a benefit to the area.	Minor Beneficial	New effect
<b>Operation</b>										
Local Economy	High	Permanent employment of local workforce, where possible.	Beneficial	Permanent	Low	Minor	N/A	No mitigation required so residual effect remains unchanged.	Minor Beneficial	No change to significance
Local Economy	Medium	Due to the increased capacity the Development has several net benefits including; increased economic	Beneficial	Permanent	Medium	Moderate	N/A	No mitigation required so residual effect remains unchanged.	Moderate Beneficial	New effect

Table 15-16: Summary of Assessment

Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
		viability, competitiveness of the Development, increased operational longevity and economic efficiency and an increased impact on the storage network.								
Tourism and Recreation	High	All PRoWs and permissive routes will be open and fully accessible during operation.	Beneficial	Permanent	Low	Minor	N/A	No mitigation required so residual effect remains unchanged.	Minor Beneficial	No change to significance
Recreational facility – Birds of Snowdonia	Low	There will be no impediment to the PRoW and Ffordd Clegir allowing tours to the quarries to continue. The location of the power house will remove the right to roam over this area	Adverse	Permanent	Low	Negligible	N/A	No mitigation required so residual effect remains unchanged	Permanent negligible	New effect
Snowdonia Marathon	Medium	There will be a permanent diversion of this route during operation which will increase the race length by 61m. Runners may experience some loss of visual amenity when on Green	Adverse	Permanent	Negligible	Negligible	All PRoWs will be maintained.	Residual effect remains unchanged	Negligible	New effect

Table 15-16: Summary of Assessment

Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
		Road / the unclassified road through the Development due to the presence of the newly built slate tips								
Rat Race: Man Vs Mountain	Medium regional	There will be a permanent diversion of this route during operation which will increase the race length by 61m. Runners may experience some loss of visual amenity when on Green Road / the unclassified road through the Development due to the presence of the newly built slate tips	Adverse	Permanent	Negligible	Negligible	All PRoWs will be maintained.	Residual effect remains unchanged	Negligible	New effect
Llanberis Touring Park	High	Noise during operation (turbines)	Disturbance to nearby residential dwellings from operational noise	Permanent	Negligible	Minor Adverse	Depth of turbine hall plus appropriate building design	Attenuation of tonal and operational noise within the building and engineering design, combined with the depth of the turbine hall, will mitigate any adverse effects	Negligible	No change
Land Use and Public Access	High	Site design will be sympathetic integrating the development with the wider landscape, and ensuring all	Beneficial	Permanent	Low	Minor	Vegetation will be retained and the development will be clad in local materials (e.g. slate) and/or rendered in colours appropriate to the	Residual effect remains unchanged.	Minor Beneficial	No change to significance



Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
		public access is retained, in addition to increased security.					local area. 24 hours a day security will be present at the site. Fencing will be installed around Q1 and Q6 increasing security without prohibiting access to PRowS.			
Common Land	Low	Permanent and temporary fencing of a total of 62 acres of land	Adverse	Permanent and temporary	low	Minor	The replacement land provided will be of at least an equivalent area and grazing standard.	As a proportion of the current common land is not suitable for grazing and all of the replacement land will be, there is considered to be a benefit to the area.	Minor Beneficial	New effect
Decommissioning										
Local Economy	Low	Direct employment and expenditure during decommissioning will be greater than those of operation, in addition to providing employment to a wider range of skilled and unskilled workforce.	Beneficial	Temporary	Medium	Minor	SPH or the appointed PC will obtain relevant construction companies through a competitive tendering process.	Residual effect remains unchanged.	Minor Beneficial	No change to significance
Tourism and Recreation	High	Increased traffic and amenity issues, including leaving the pipe in situ and draining the quarries.	Adverse	Temporary	Low	Minor	A CTMP, incorporated into the overall CoCP, will be produced to mitigate as far as reasonably practicable any disruption caused by traffic generated. All works will be	Residual effect remains unchanged.	Minor Adverse	No change to significance

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
							undertaken in accordance with best practice.			
Land Use and Public Access	Medium	In relation to public access and recreation, the decommissioning phase is anticipated to have similar effects to those experienced during the construction phase, with the possible temporary diversion of PRowS close to the site. The amenity of recreational users is also going to be similar to the construction phase. However, the scale of the decommissioning task is smaller than the construction phase and as the temporary nature of the impact would be shorter, the magnitude of the effect experienced would be less.	Adverse	Temporary	Low	Negligible	Temporary closures and diversions of PRowS, permissive routes and CROW land will ensure safety to recreational users.  Signage and information boards will be erected to ensure users are aware prior to any closures or diversions.  All diversions and closures will be in agreement with Gwynedd Council.	Residual effect remains unchanged.	Negligible	No change to significance
The Slateman	Medium	The race uses the A4086 and	Adverse	Temporary	Low	Minor	Should traffic restriction be put in place for the	Should mitigation be adhered to during	Negligible	New effect

Table 15-16: Summary of Assessment										
Description of Receptor		Description of Potential Effect					Description of Residual Effect			Change from 2012 Chapter
Receptor	Value / Sensitivity	Effect	Nature of Effect	Duration	Magnitude	Potential Significance	Summary of Mitigation	Residual Effect	Residual Significance	
Triathlon		therefore may be affected by increased traffic during the decommissioning phase.					races, the PC and works will be subject to these and decommissioning works will be amended to accommodate these	decommissioning the routes of this race should not be affected.		
The Etape Eyri	Medium	The race uses the A4086 and therefore may be affected by increased traffic during the decommissioning phase.	Adverse	Temporary	Low	Minor	Should traffic restriction be put in place for the races, the PC and decommissioning works will be subject to these and works will be amended to accommodate these	Should mitigation be adhered to during decommissioning the routes of this race should not be affected.	Negligible	New effect
Common Land	Low	Permanent and temporary fencing of a total of 62 acres of land	Adverse	Permanent and temporary	low	Minor	The replacement land provided will be of at least an equivalent area and grazing standard.	As a proportion of the current common land is not suitable for grazing and all of the replacement land will be, there is considered to be a benefit to the area.	Minor Beneficial	New effect

## 15.11 References

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<sup>i</sup> *Technical Advice Note 23, Economic Development*, Welsh Government, 2014

<sup>ii</sup> Source - <http://www.snowdonia-active.com/news.asp?newsid=682> – accessed 24/09/2012

<sup>iii</sup> Source - <http://www.nationalparks.gov.uk/press/factsandfigures.htm> - accessed 16/12/2014

<sup>iv</sup> Source - <http://www.bbc.co.uk/news/uk-wales-north-west-wales-17731507> - 24/09/2012