



Bodelwyddan Solar and Energy Storage - Socio-Economic Statement

An evaluation of the socio-economic effects of the proposed Bodelwyddan Solar and Energy Storage.



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Executive Summary

This Socio-Economic Statement has been prepared by Stantec Development Economics on behalf of Bodelwyddan Solar & Energy Storage Limited in relation to the proposed construction, operation and decommissioning of a proposed solar photovoltaic and battery energy storage system (BESS) and ancillary development on land near Bodelwyddan in Denbighshire, North Wales.

Legislation and Policy Guidance

The Welsh Government's approach to economic development is closely tied to clean growth and decarbonisation, as enshrined in the Well-being of Future Generations (Wales) Act 2015 and reinforced by the declaration of a climate emergency in 2019. *Future Wales: The National Plan 2040* sets a statutory framework for sustainable development, aiming to make Wales a global leader in renewable energy.

Planning Policy Wales (PPW) complements this by embedding sustainability and low-carbon priorities into land use planning. *Prosperity for All: A Low Carbon Wales* further emphasises the economic potential of a low-carbon transition, advocating for local energy systems, skills development, and job creation to retain economic value within Wales.

As set out in Technical Advice Note 23 (TAN23), PPW defines economic development broadly – including any form of development that generates wealth, jobs and income – not necessarily limited to traditional business use.

The economic strategy for North Wales is underpinned by a strong focus on clean growth and energy innovation. The 2016 *Growth Vision for the Economy of North Wales*, led by the North Wales Economic Ambition Board, positions the region as a UK leader in energy generation and low-carbon technologies.

The 2021 *Regional Economic Framework* builds on this by promoting a wellbeing economy and prioritising decarbonisation, inclusive prosperity, and sustainable energy. Local policy supports this, the 2024 *Local Area Energy Plan* proposes targeted interventions to accelerate solar deployment, including public sector leadership, community projects, and integration with battery storage.

Renewable energy generation and mix

Wales remains a net exporter of electricity, generating 23.2 TWh in 2023 while consuming 14.8 TWh. Renewable energy generation rose slightly to 7.8 TWh, now representing 34% of total electricity output, while the remaining 66% of electricity generation in Wales comes from fossil fuel—primarily gas-fired plants in Pembroke and Connah's Quay.

The Welsh Government aims for renewable electricity to meet 100% of annual consumption by 2035, requiring at least a near-fourfold increase (potentially more, depending on realised electricity demand). Whilst the number of solar PV projects is growing, most of these are small-scale and domestic in nature.



Renewable capacity is growing across all 22 local authorities but the pace of change is slow. The Proposed Development at Bodelwyddan will contribute significantly to increasing capacity and helping Wales to reach its policy aims.

Socio-economic value

As renewable energy is expected to expand in Wales, understanding its economic and social impacts is vital. Solar projects contribute to gross value added (GVA), job creation, and improved trade balances by reducing domestic fuel consumption and enhancing energy security.

Solar power projects support economic growth, local capacity building, and resilience across multiple sectors, offering opportunities for both high-skilled and entry-level workers at preparatory, installation, operation and maintenance stages

The local socioeconomic conditions reflect a mixed profile of demographic stability, moderate economic activity, and sectoral concentration. The wider area (comprised of Denbighshire and Conwy) has an ageing population with a lower proportion of working-age residents compared to national and UK averages, and its projected population growth is slower than the UK but in line with Wales. Economic activity and employment rates are slightly below regional and UK levels, though unemployment is relatively low at 2.5%.

The area is a net exporter of labour, with many residents commuting out for work, and wages are lower than regional and national averages, particularly for full-time roles. The local area (comprised of Bodelwyddan ward) shows a higher level of educational attainment and a greater share of residents in professional and technical occupations, though its economy is heavily reliant on the health sector, which employs 60% of its workforce. Other sectors such as construction and tourism are underrepresented.

Overall, while the region demonstrates resilience and skilled employment in some areas, it faces challenges in economic diversification and wage competitiveness. The development would provide much needed safeguarding of construction roles, which require technical skills are therefore likely to be relatively well remunerated. As set out below, permanent roles will be created and last for the site's entire 40-year lifespan, adding to the number of skilled opportunities locally.

Economic benefits

The key economic benefits expected to be generated by the Proposed Development are as follows:

1. Approximately 26,657 homes powered on average per year.
2. Approximately 1,400,000 tonnes of avoided emissions over the 40-year lifespan.
3. A projected carbon cost saving of approximately £56.2m by 2050.
4. 60-115 roles safeguarded over a 12- to 24-month construction phase generating GVA of £5.9 million.
5. 5 ongoing FTE roles over the 40-year lifespan generating GVA of £9.8 million.
6. £127,500 per annum in business rates. (£5.1 million undiscounted, £2.8 million discounted over the 40-year project lifetime.)



1 Introduction

This Socio-Economic Statement has been prepared by Stantec Development Economics on behalf of Bodelwyddan Solar & Energy Storage Limited (the Applicant) in relation to the proposed planning application for the construction, operation and decommissioning of a proposed solar photovoltaic electricity generating system and battery energy storage system (BESS), associated solar arrays, inverters, transformers, cabling, substation, access tracks, landscaping, ecological enhancement areas and associated ancillary development (the Proposed Development).

The Site comprises two separate parcels of land located to the northwest and southeast of Bodelwyddan, which are linked by a cable corridor.

The larger parcel of land to the northwest of Bodelwyddan extends to approximately 168.95 ha, comprising land to the north and south of Rhuddlan Road (A547), and to the west of St Asaph Avenue, and hereinafter is referred to as the 'Solar Site'. There is an existing 24 MW operational solar farm, consented in 2015 (Conwy LPA ref. 0/40999), directly adjacent to the Solar Site. The Solar Site is located within the administrative areas of Conwy County Borough Council and Denbighshire County Council.

The smaller parcel of land is to the south east of Bodelwyddan. It is positioned south of St Asaph Business Park, directly adjacent and to the west of Bodelwyddan substation. It is referred to as the 'BESS Site'. The BESS Site is located within the administrative area of Denbighshire County Council.

The Cable Corridor represents the area of land within which the underground electrical cables will be laid into trenches. These cables will link the various Solar Site fields together in addition to linking the Solar Site with the BESS Site and to the adjacent grid connection point at Bodelwyddan substation.

This Socio-Economic Statement is structured as follows:

- **Section 2** of this Statement reviews the relevant economic legislation and policy to understand how the Proposed Development can support and contribute to National, Regional, and Local economic objectives.
- **Section 3** summarises the current picture of renewable energy generation across Wales. This highlights how the Proposed Development could contribute to meeting energy production targets.
- **Section 4** sets out the potential occupation profile that could be created by the Proposed Development, demonstrating the diversity of skills required across the development lifecycle. It describes the solar farm value chain and likely socioeconomic impacts.
- **Section 5** evaluates the existing socio-economic context of the local to regional area. This focuses on how compatible the Proposed Development is with the existing labour market.
- **Section 6** identifies the economic benefits that could be generated by the Proposed Development.



2 Legislation and Policy Guidance

This section reviews economic policy relevant to the Proposed Development. It provides context for how the Proposed Development may impact progress towards reaching both local and national policy objectives.

2.1 National Context

Across both economic policy and development planning guidance it is evident that delivering economic prosperity must align with achieving clean growth. In 2015 the Welsh Government enshrined Net Zero into law through the Well-being of Future Generations (Wales) Act 2015, while in 2019 it declared a climate emergency.

2.1.1 Future Wales: The National Plan 2040 (Future Wales)

Future Wales is the national development framework, setting the direction for development across Wales up to 2040¹. Future Wales is a spatial plan setting a direction for investment in infrastructure and development. It is a statutory document and must be read alongside Planning Policy Wales (PPW) which provides the detailed land use policy context.

Future Wales comments that Wales is well positioned to support the renewable sector, attract new investment and reduce carbon emissions. It refers to the 'potential for solar generation' and how the planning system has a key in leading renewable energy growth.

Future Wales sets out ambitions for Wales to become a world leader in renewable energy technologies. It acknowledges that the natural wind and tidal resources, potential for solar generation, together with the support for both large and community scaled projects and our commitment to ensuring the planning system provides a strong lead for renewable energy development, equate to a well-supported renewables sector. This creates opportunity to attract new investment and reduce carbon emissions.

Energy is referred to within Future Wales as a key industry which relies on healthy, functioning ecosystems to prosper. Future Wales states that there must be alignment between the response to the climate emergency and the need to address the twin challenge for biodiversity.

Future Wales recognises that decarbonisation commitments and renewable energy targets create an opportunity to build a more resilient and equitable low carbon economy, develop clean and efficient transport infrastructure, improve public health and generate skilled jobs in new sectors.

Rural areas are credited within Future Wales as playing a crucial role in helping decarbonise Wales by providing suitable environments for different forms of renewable energy. Policies 17 and 18 set out

¹ Future Wales: the national plan 2040, February 2021, Welsh Government



Future Wales' approach to renewable energy generation across Wales and its relationship with rural areas.

Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure states that the Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet future energy needs. It states that decision-makers must give significant weight to the need to meet Wales' international commitments and targets to generate 70% of consumed electricity by renewable means by 2030 to combat the climate emergency. We note that this has since been updated to also target 100% by 2035².

Policy 17 also highlights that proposals should describe the net benefits of the scheme, and what they will bring in terms of social, economic, environmental, and cultural improvements to local communities.

Policy 18 – Renewable and Low Carbon Energy Developments of National Significance refers to proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance being permitted subject to Policy 17 and the following criteria:

- Outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty);
- There are no unacceptable adverse visual impacts on nearby communities and individual dwellings;
- There are no adverse effects on the integrity of Internationally designated sites (including National Site Network sites and Ramsar sites) and the features for which they have been designated (unless there are no alternative solutions, Imperative Reasons of Overriding Public Interest (IROPI) and appropriate compensatory measures have been secured);
- There are no unacceptable adverse impacts on national statutory designated sites for nature conservation (and the features for which they have been designated), protected habitats and species;
- The proposal includes biodiversity enhancement measures to provide a net benefit for biodiversity;
- There are no unacceptable adverse impacts on statutorily protected built heritage assets;
- There are no unacceptable adverse impacts by way of shadow flicker, noise, reflected light, air quality or electromagnetic disturbance;

² Wales aims to meet 100% of its electricity needs from renewable sources by 2035, Welsh Government, January 2023



- There are no unacceptable impacts on the operations of defence facilities and operations (including aviation and radar) or the Mid Wales Low Flying Tactical Training Area (TTA 7T);
- There are no unacceptable adverse impacts on the transport network through the transportation of components or source fuels during its construction and/or ongoing operation;
- The proposal includes consideration of the materials needed or generated by the development to ensure the sustainable use and management of resources; and
- There are acceptable provisions relating to the decommissioning of the development at the end of its lifetime, including the removal of infrastructure and effective restoration.

The North Region³ comprises Conwy, Denbighshire, Flintshire, Gwynedd, the Isle of Anglesey, and Wrexham (and includes Snowdonia National Park) and is home to around 700,000 people⁴. Decarbonisation and responding to the threats of the climate emergency is described within Future Wales as central to the area's regional planning.

Future Wales considers Wales to be abundant in opportunities to generate renewable energy. The Welsh Government is committed to maximising this potential. It comments that generating renewable energy is a key part of the commitment to decarbonisation and tackling the climate emergency, and sets the following ambitious targets for the generation of renewable energy:

- For 70% of electricity consumption to be generated from renewable energy by 2030. (As noted above, this has since been updated to also include a target of 100% by 2035.)
- For one gigawatt of renewable energy capacity to be locally owned by 2030.
- For new renewable energy projects to have at least an element of local ownership from 2020.

Future Wales concludes it is 'vital the region plays its role in decarbonising society and supports the realisation of renewable energy'. Policies 17 and 18 set out Future Wales's approach to renewable energy generation. They refer to a strong potential for wind, marine and solar energy generation. The Welsh Government wishes to see energy generation, storage and management play a role in supporting the regional economy in the North. Local ownership and distribution are important for ensuring communities in proximity to renewable energy development benefit from it and that the future energy system better serves Wales.

2.1.2 Prosperity for All: A Low Carbon Wales

Prosperity for All⁵ sets out the Welsh Government's approach to cut emissions and increase efficiency in a way that maximises wider benefits for Wales. It states that the low-carbon economy across Wales is currently estimated to consist of 9,000 businesses, employing 13,000 people and generating £2.4

³ As defined by Statistics for Wales, including for example in Summary Statistics for North Wales region: 2020.

⁴ Population estimates by local authority, region and year

⁵ Prosperity for All: A Low Carbon Wales, 2019, Welsh Government



billion turnover in 2016. Over the past 20 years greenhouse gas (GHG) emissions have fallen, whilst GVA has risen. It recognises that to increase economic prosperity the Welsh economy must contribute to the clean growth aim.

Prosperity for All discusses the significant economic leakage from Wales because of the current energy system. With technological advances and increased leadership, it aims to create an energy system that retains more of the economic value for Wales. It also notes that through localised production more direct benefits can be directed to the local communities through skills, quality jobs and a greater retention of economic value.

The future skills profile is referred to within Prosperity for All as the long-term challenge to the progress of decarbonisation. There is a need to transition the workforce and maximise the opportunities presented by global clean growth. It states that for a low carbon economy there needs to be a focus around the up skilling and re-skilling of people around new technologies, industries, trades, and approaches.

2.1.3 Planning Policy Wales Edition 12 (February 2024) (PPW)

Planning Policy Wales sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental, and cultural well-being of Wales.

Amongst the key planning principles set out within PPW is the aspiration to grow the economy in a sustainable manner: *'[t]he planning system should enable development which contributes to long term economic well-being, making the best use of existing infrastructure and planning for new supporting infrastructure and services. Communities, national and local government, businesses, and the third sector must work together to take a long-term view, integrating and aligning priorities through greater collaboration to achieve sustainable economic benefits for all in line with the well-being goals'*⁶.

PPW also refers to the *'efficient use of resources, including land, underpins sustainable development. The planning system has a vital role to play in making development resilient to climate change, decarbonising society and developing a circular economy for the benefit of both the built and natural environments and to contribute to the achievement of the well-being goals. The proximity principle must be applied to ensure problems are solved locally rather than passing them on to other places or future generations. This will ensure the use of land and other resources is sustainable in the long term.'*

One of the Welsh Government's key priorities is for low carbon electricity to become the main source of energy in Wales. PPW refers to renewable and low carbon energy developments offering significant potential for communities and small businesses.

PPW states that in determining applications for the range of renewable and low carbon energy technologies, planning authorities should consider the contribution a proposal will make to meeting

⁶ Planning Policy Wales Edition 12 (February 2024), Page 17



identified Welsh, UK and European targets; the contribution to cutting greenhouse gas emissions; and the wider social, economic, environmental and culture benefits and opportunities from renewable and low carbon energy development.

As set out in Technical Advice Note 23 (TAN23)⁷, PPW:

“...defines economic development broadly so that it can include any form of development that generates wealth, jobs and income. In producing development plans or determining planning applications local planning authorities need to bear in mind that traditional business use, classes B1-B8, only account for part of the activity in the economy. It is important that the planning system recognises the economic aspects of all development and that planning decisions are made in a sustainable way which balance social, environmental and economic considerations.”

Growth in innovative, emerging technology and high value-added sectors such as renewable and low carbon energy, are strongly supported. PPW states that development plans should consider the role these sectors may play in terms of investment and job creation in their area.

2.2 Local Context

2.2.1 A Growth Vision for the Economy of North Wales July 2016 (the Growth Vision)

The Growth Vision, produced by the North Wales Economic Ambition Board, sets out the vision across North Wales up to 2035. The North Wales Economic Ambition Board is a partnership comprised of the 6 Local Authorities in the region, along with Bangor University, Glyndwr University, Coleg Cambria and Grŵp Llandrillo Menai. The Board was established in 2012 by the partners to develop a regional approach to economic growth and to addressing the challenges and barriers facing the North Wales economy. In 2016 the Board adopted the Growth Vision.

Delivery of the Growth Vision will be powered by high value economic clusters throughout North Wales. The energy cluster is a key part of the area's economic growth plans, with expertise around energy generation, low carbon technologies and processes.

The Growth Vision refers to North Wales as an area positioned to be one of the leading UK locations for energy generation and energy related supply chain investment. It aims to create expertise in business, with supportive academia to seize opportunities for the global demand for low or zero carbon energy.

2.2.2 North Wales Regional Economic Framework (REF)

Published in 2021, the REF provides a framework to capture how the public, private and third sectors are planning to deliver on its priorities to boost productivity and accelerate sustainable economic and inclusive prosperity. These priorities are framed in the context of a whole systems approach to facilitate

⁷ Technical Advice Note 23: Economic Development, Welsh Government, February 2014, page 4



decarbonisation of the economy, adapting and mitigating to climate change, and improving the resilience of ecological networks⁸. The document aims to align regional priorities with Future Wales. The priorities include:

- Skills and workforce;
- Investment in magnets, hubs, supply chains, research and development, innovation and entrepreneurship;
- Balanced support for indigenous and inward investors;
- Language, culture, place & heritage;
- Foundational Economy and a vibrant Micro / SME base;
- Empowering communities for the benefit of our future generations;
- Connectivity (transport and digital);
- Leverage benefits of public sector;
- Low carbon energy; and,
- Food and Drink Industry.

The REF is based on the principles of a Wellbeing Economy. The stated composition of which, comprises an economy focussed on 1) the social and community wellbeing; 2) the experience economy; and 3) the low carbon and low emissions economy. The role of this first REF is to gradually influence the shift in our thinking from growth alone towards a wider set of metrics, set against the wider priorities such as the climate and nature emergencies.

The REF's goal of moving towards a low carbon and low emissions economy is most relevant to the Proposed Development. To achieve this, a set of priorities focused on the sustainable economy are listed. These centre heavily around the development, promotion and usage of sustainable energy.

2.2.3 Corporate Plan 2022 to 2027: The Denbighshire We Want (the Corporate Plan)

The Corporate Plan sets out what Denbighshire wants to achieve for the benefit of local residents and communities over the five-year period. There are six key objectives:

- A Denbighshire of quality housing that meets people's needs;
- A prosperous Denbighshire;

⁸ Llywodraeth Cymru Welsh Government (2021) North Wales Regional Economic Framework, page 6



- A healthier and happier, caring Denbighshire;
- A learning and growing Denbighshire;
- A greener Denbighshire; and,
- A well-run, high performing Council.

The most relevant objective to the Proposed Development is 'A greener Denbighshire'. Within the Corporate Plan, the stated aim of this objective is for Denbighshire County Council (DCC) to 1) become a net carbon zero and ecologically positive council by 2030; 2) Improve recycling and reduce waste; 3) support communities to mitigate and cope with the impacts of climate change; and 4) support green infrastructure.

2.2.4 Denbighshire Local Area Energy Plan (LAEP)

The Denbighshire LAEP was published in 2024 and sets out a vision for a clean, affordable and resilient energy future for Denbighshire. DCC declared a Climate Change and Ecological Emergency in 2019 as a Council, changed its constitution in 2020 for all decision-making to take account of tackling these emergencies. The Denbighshire LAEP brings local climate action planning and associated energy planning more in line with regional and national energy infrastructure planning and ensures that Denbighshire's local priorities remain at the heart of the energy transition. It demonstrates collective commitment to Net Zero and is an evidence base that will be invaluable for a wide range of stakeholders to influence change.

Solar energy is positioned as a cornerstone technology in Denbighshire's decarbonisation strategy. The LAEP identifies both rooftop and ground mounted solar PV as essential for decarbonising the electricity supply across residential, commercial and public sector buildings. Its effectiveness in improving local energy resilience and reducing energy transportation costs and emissions through generating power closer to final demand centres is also recognised. An additional positive effect of locally produced solar energy is reduced reliance on fossil fuels and imported energy. One of the objectives identified is to:

'Support the development of a resilient and efficient local energy system, exploring opportunities to reduce peak energy demand and offer flexibility services to the grid using storage technologies.'

The LAEP recommends several targeted interventions to accelerate solar deployment.

- Maximising rooftop solar on council-owned buildings, schools, and housing stock.
- Supporting community-led solar projects, particularly in rural areas.
- Encouraging private sector uptake through planning guidance and awareness campaigns.
- Integrating solar with battery storage to enhance grid flexibility and reduce peak demand.



3 Energy Generation Across Wales

This section of the Socio-Economic Statement will briefly review the current profile of energy generation across Wales. This will provide insight into how the Proposed Development could contribute to meeting renewable energy targets. Battery energy storage systems (BESS) are discussed in a subsequent section.

3.1 Electricity Generation

Wales is a net exporter of electricity to the rest of the UK, having generated 23.2 TWh of electricity while consuming 14.8 TWh⁹. The composition of electricity generated in Wales is changing. In 2018, 7,426 GWh (7.4 TWh) of electricity generated in Wales was via renewable energy technologies. By 2023, the most recently available figures, this is now 7.8 TWh, having fallen slightly from 7.9 TWh in 2022, representing an overall increase of 5% since 2018. In comparison, in 2018, Wales generated 22.8 TWh of electricity from fossil fuels, falling to 15.4 TWh in 2023. Most fossil fuel electricity generation in Wales is from fossil gas, particularly from two large plants at Pembroke and Connah's Quay.

While the share of electricity generated from renewable sources in Wales has, therefore, increased (making up 34% as of 2023), this is largely a result of declining fossil fuel output at these two plants. There has been no electricity generated from nuclear or coal in Wales since 2015 and 2019 respectively. Figure 3-1 presents a breakdown of electricity generation in Wales by type in 2023. This shows that fossil fuel generation still comprises by far the majority (66%) of electricity generation in Wales.

Whilst the number of renewable energy projects across Wales is growing, most of these are domestic and therefore small-scale. As of 2023, there were 118,249 renewable energy projects across Wales (according to *Energy Generation in Wales (2023)*), 86,398 of which were solar PV. These generated 1.2 TWh of electricity, just 0.0137 GWh per project.

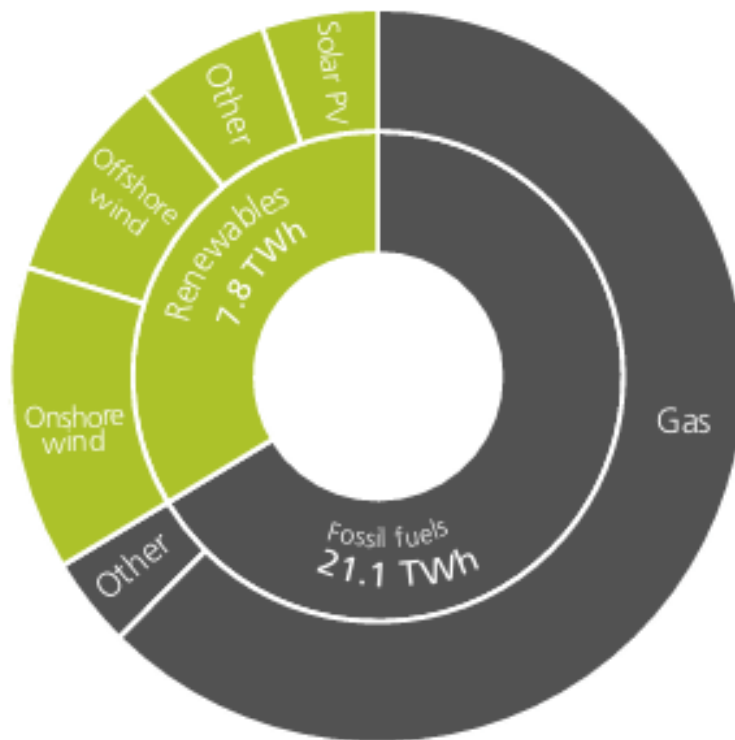
By contrast, 754 onshore wind projects generated 3,106 GWh, amounting to 4.12 GWh per project. The overall average for projects excluding solar PV was 0.291 GWh (0.207 of electricity and 0.0841 of heat)¹⁰.

⁹ Llywodraeth Cymru Welsh Government (2023) Energy Generation in Wales

¹⁰ From p. 6 of Energy Generation in Wales (2023) – removing solar PV there are 31,851 projects generating 6,614 GWh of electricity and 2,678 of heat. Moreover, 22,067 of these projects are heat pumps, many of which will be small and domestic in nature.



Figure 3-1: Electricity Generation in Wales



Source: Energy Generation in Wales (2023) p.4

The Welsh Government has set a target for renewable electricity generation to reach the equivalent of 100% of annual electricity consumption by 2035, within the Well-being of Future Generations (Wales) Act 2015. Figure 3-2 shows the pace of renewable electricity generation growth in Wales from 2005 to 2023. Whilst renewable energy generation sped up rapidly following the implementation of the Well-being of Future Generations (Wales) Act 2015, it has since slowed. There has been a decline in electricity consumption, as shown in Figure 3-2, but this trend is expected to reverse as fossil fuel consumption in heat and transport shifts towards electricity¹¹.

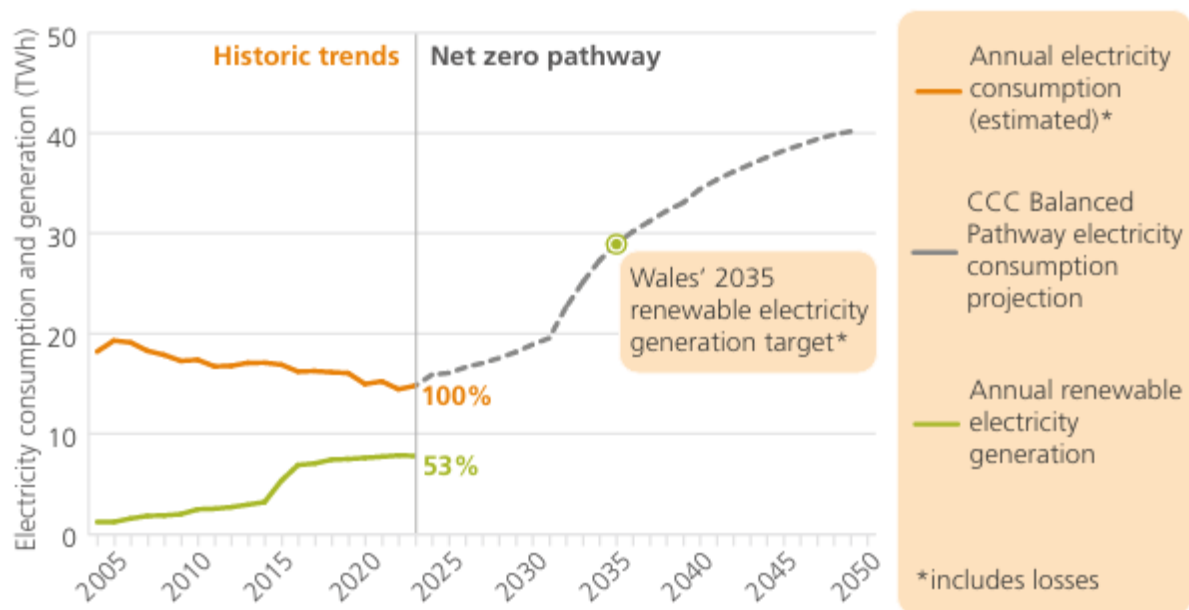
The Welsh Government estimates that to meet the 2035 target, renewable electricity generation in Wales needs to increase nearly fourfold¹². This requirement may in fact be much higher, both to enable the electrification and decarbonisation of heat and transport, and to allow Wales to continue exporting energy as it does at present.

¹¹ Welsh Government (2024) Heat Strategy for Wales

¹² Llywodraeth Cymru Welsh Government (2023) Energy Generation in Wales p. 8



Figure 3-2: The Pathway to 100% Renewable Electricity Generation in Wales



Source: Welsh Government 2023 p. 7

3.2 Fossil Fuels

In Wales fossil fuels are primarily used to produce electricity and heat. Coal fired power generation in Wales was phased out in 2020, with natural gas now representing 94% of Wales's fossil fuel-based electricity generation in 2023. Nearly 88% of the capacity of natural gas produced electricity is attributed to two large scale power stations in Pembroke and Connah's Quay. Most of the remainder of fossil fuel generated electricity is from small scale diesel generation, typically deployed as short-term operating reserve and backup generators¹³.

The production and management of heat across buildings and industry accounts for 50% of total energy demand in Wales¹⁴. Natural gas is currently the predominant source of heating however this is likely to change with the introduction and acceleration of heat pumps and other electrified heating technology.

3.3 Solar PV

In 2023 more than 15,300 new solar PV projects were commissioned across Wales, amounting to 108 MW of additional capacity and more than double that which was commissioned in 2022. Very small scale (<10 kW) projects accounted for approximately 97% of these installations (64% of new capacity), however. The 10 MW Carn Nicholas Solar Farm in Swansea was the largest solar project

¹³ Llywodraeth Cymru Welsh Government (2023) Energy Generation in Wales p. 33

¹⁴ Welsh Government (2024) Heat Strategy for Wales p.4



commissioned in 2023. Further projects of this nature or larger, such as the Proposed Development, will be needed if Wales' ambitious renewable energy generation targets are to be met.

The majority of solar PV capacity is located in South Wales. This is expected to be due to greater availability of grid connections, higher irradiance and a more developed supply chain. The local authority with the largest amount of solar PV capacity is Pembrokeshire, with 209 MW installed¹⁵.

3.4 Distribution of Renewable Energy Production

In 2023 each of the four regions contributed similar amounts to the total renewable energy generated across Wales. All 22 Welsh local authority areas saw an increase in renewable energy capacity, over half seeing an increase in capacity of 5% or greater. This represents an acceleration and wider distribution of capacity than over the previous two years; only three authorities experienced a renewable capacity increase exceeding 5%, however.

Renewable generation capacity is typically concentrated within a few local authorities within each region, with over 40% of renewable electricity generation concentrated in each region's top contributing authority. North Wales contributes 26% of Wales' total renewable energy generation, with its highest generating authorities, Flintshire and Denbighshire, comprising 10% and 6% of the renewable energy generated in Wales respectively.

3.4.1 North Wales

In 2023 a total of 7,594 new projects were commissioned in North Wales totalling 49 MW of new capacity. This is the largest number of new projects of any Welsh region in 2023, amounting to over 2.5 times the number commissioned in 2022. The majority of these new projects are small scale installations, however, so have a much more limited impact on the achievement of targets than larger installations like the Proposed Development.

Table 3-1 presents the total capacity, generation and number of projects within North Wales, as well as those that were commissioned in 2023, by type of technology. 7,594 projects in North Wales were commissioned in 2023, representing 22% of the total. Of these newly commissioned projects, the vast majority were Solar PV and heat pumps (accounting for 37% and 36% respectively). These technologies are the most prevalent of all commissioned in North Wales. Of the total 34,168 renewable projects in North Wales, 71% are Solar PV, representing 294 MW (31%) of total capacity and 269 GWh (12%) of energy generated.

Biomass electricity and CHP, and biomass and heat together remain the highest proportion of overall generation in North Wales, at approximately 42%, followed by onshore wind at 26%.

¹⁵ Llywodraeth Cymru Welsh Government (2023) Energy Generation in Wales p. 30



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3 Energy Generation Across Wales

Table 3-1: Renewable Energy Capacity and Generation in North Wales

Technology	Total Renewable Heat and Electricity			Commissioned in 2023	
	Number of projects	Total capacity MW	Estimated generation GWh	Number of projects	Total capacity MW
Anaerobic digestion	16	7	39	-	-
Biomass electricity and CHP	15	120	655	-	-
Biomass Heat	833	93	286	10	0.19
Energy from Waste	1	11	55	-	-
Heat pump	7,663	77	132	2,741	25
Hydropower	205	97	195	1	0.1
Landfill gas	8	5	12	-	-
Onshore wind	181	235	576	-	-
Sewage gas	1	2	11	-	-
Solar PV	24,272	294	269	2,842	23
Solar thermal	973	3	2	-	-
Total	34,168	944	2,232	7,594	49

Source: Welsh Government (2023) Energy Generation in Wales p. 21.

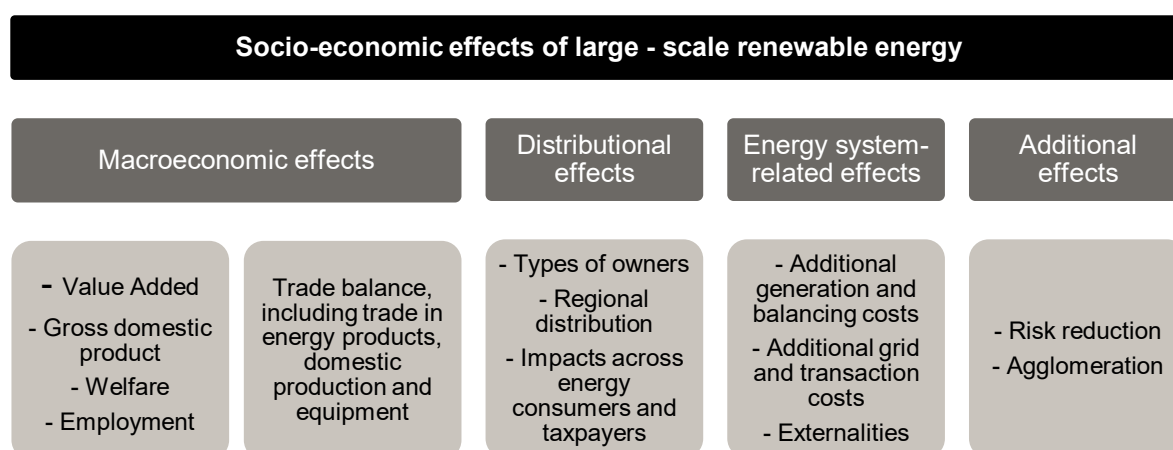


4 Solar PV Farm Value Chain

With the continued expansion of renewable energy in Wales, understanding the associated economic and social impacts is becoming increasingly important. To illustrate these benefits, Section 4 of this Statement examines the value chain of a representative 30–40MW solar PV project, showcasing the wide range of employment opportunities and occupations involved throughout its development. This section focuses on the diverse skill sets required at each stage of the value chain.

Figure 4-1 sets out the types of socio – economic impacts likely to occur from the implementation of larger scale renewable energy projects, and how these projects have the potential to increase income, improve the balance of trade and contribute to industrial development and job creation.

Figure 4-1: Socio-economic Effects of Large Scale Renewable Energy



Source: The Socio-economic Benefits of Solar and Wind Energy, Page 10, 2017

This displays the potential that solar projects, such as the Proposed Development, have to create macro and micro level impacts, generating economic benefits on both a local and global scale. The socio-economic impacts and economic advantages of solar PV manifest across various stages of the value chain – ranging from project planning and manufacturing to installation, grid integration, operation, maintenance, and eventual decommissioning. This breadth creates employment opportunities across a wide range of occupations, each requiring distinct levels of training and expertise.

Solar PV development brings a range of socio-economic benefits, including contributions to gross value added, improvements in welfare, and job creation. Renewable energy also plays a key role in enhancing trade balances. Energy trade encompasses final energy (such as electricity), primary energy sources (like crude oil), and raw materials used in energy production (e.g., uranium ore). For countries that export fuels, expanding renewable energy can reduce domestic fuel consumption, thereby increasing the volume available for export. This not only brings financial benefits but also enhances domestic fuel security, providing greater resilience to economic, political and other events that impact the global trade in resources.

The global trade in renewable energy technologies (RETs) has expanded considerably in recent years. This encompasses not only energy products but also the equipment and infrastructure required to



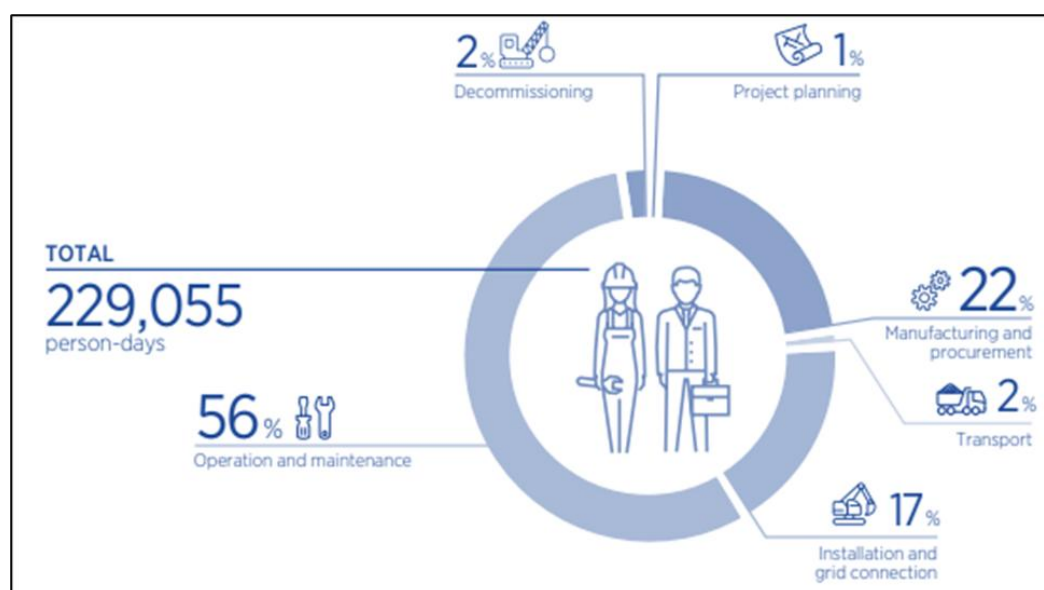
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4 Solar PV Farm Value Chain

establish RET manufacturing facilities. A country's ability to produce RET-related goods and services domestically is influenced by its internal capabilities, the dynamics of regional and international markets, and the maturity of its local renewable energy sector. As a result, solar PV development holds significant potential to drive economic growth across multiple industries and occupational categories.

Figure 4-2 illustrates a 50 MW solar PV plant example and outlines the key segments of the solar PV value chain, highlighting the roles of various occupational groups. It is estimated that constructing and operating a 50 MW solar PV plant requires approximately 229,055 person-days of labour¹⁶.

Figure 4-2: Distribution of human resources required along the value chain for the development of a 50 MW solar PV, by activity



Source: IRENA (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, p.12

As displayed by Figure 4-2, around 1% of the occupation requirement is at the project planning stage. Labour requirement comprises site selection, technical and financial feasibility studies, engineering design and project development. The largest portion of the 229,055 person days required in the development of a solar PV is work in operation and maintenance, followed by work in the manufacturing and procurement sector.

Figure 4-3 details the breakdown of occupation requirements throughout the project planning phase. Around 40% of the total person-days needed are for legal, energy regulation, real estate and taxation experts. These roles highlight the importance of local knowledge and training. They also represent high skill base and higher value occupations.

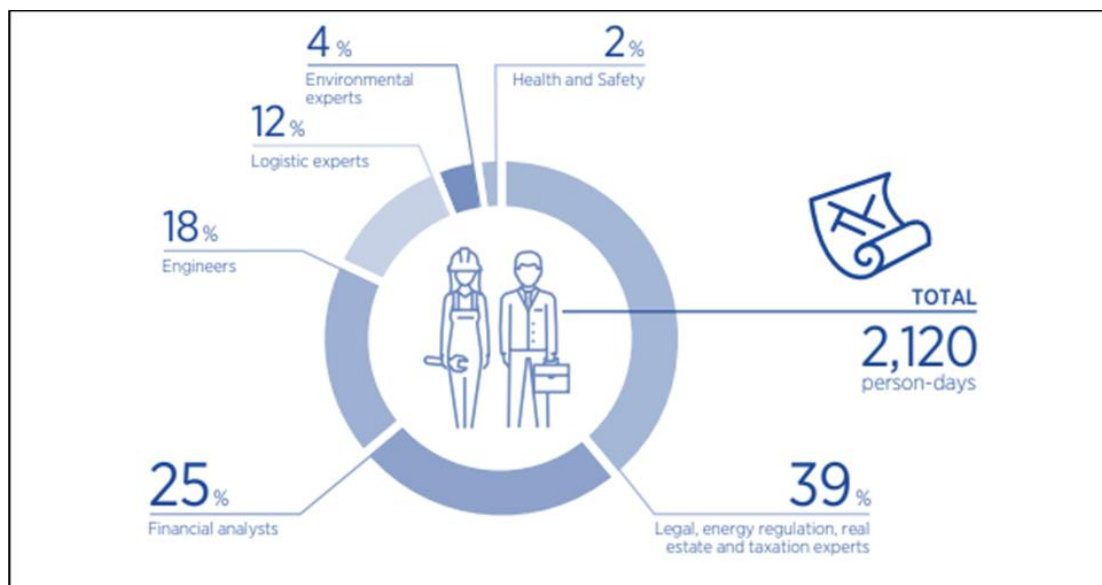
¹⁶ IRENA (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, p.12



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4 Solar PV Farm Value Chain

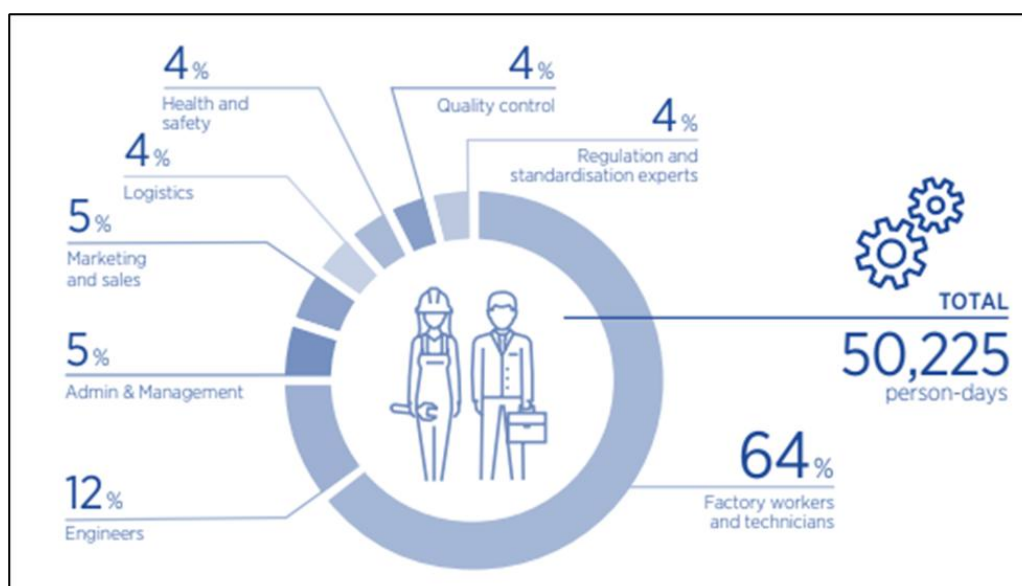
Figure 4-3: Distribution of human resources required for the project planning of a 50 MW solar PV plant (person-days), by occupation



Source: IRENA (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, p.15

Figure 4-4 estimates that producing the main components for a 50 MW solar PV plant requires approximately 50,225 person-days. While factory workers and technicians account for the majority (64%) of this labour, the remaining roles span a wide range of professions. These include experts in regulation and standardisation, quality assurance personnel, health and safety officers, logistics coordinators, marketing and sales teams, administrative staff, managers, and engineers.

Figure 4-4: Distribution of human resources required to manufacture the main components of a 50 MW solar PV plant, by occupation



Source: IRENA (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, p.18

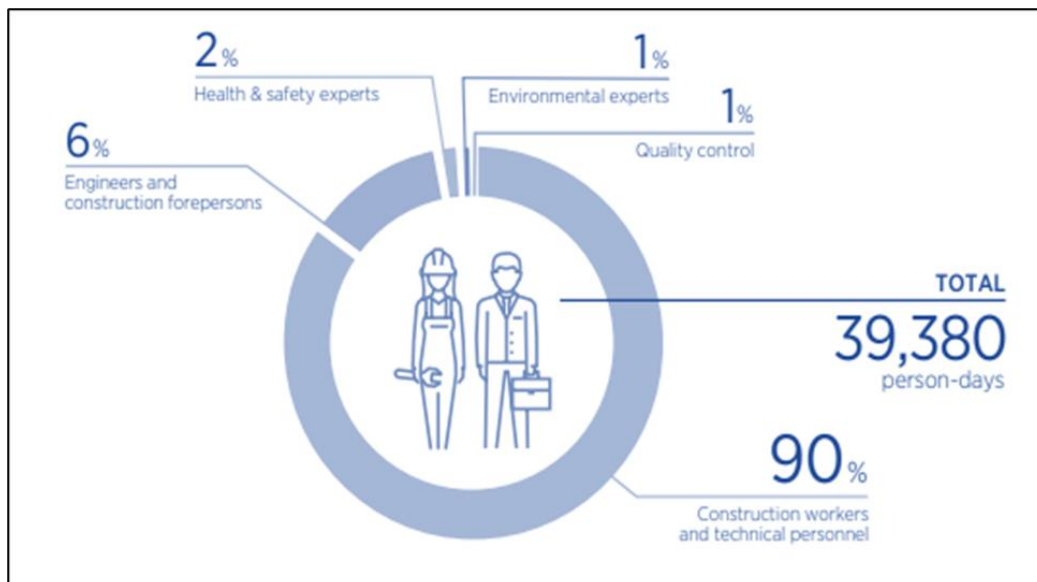


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4 Solar PV Farm Value Chain

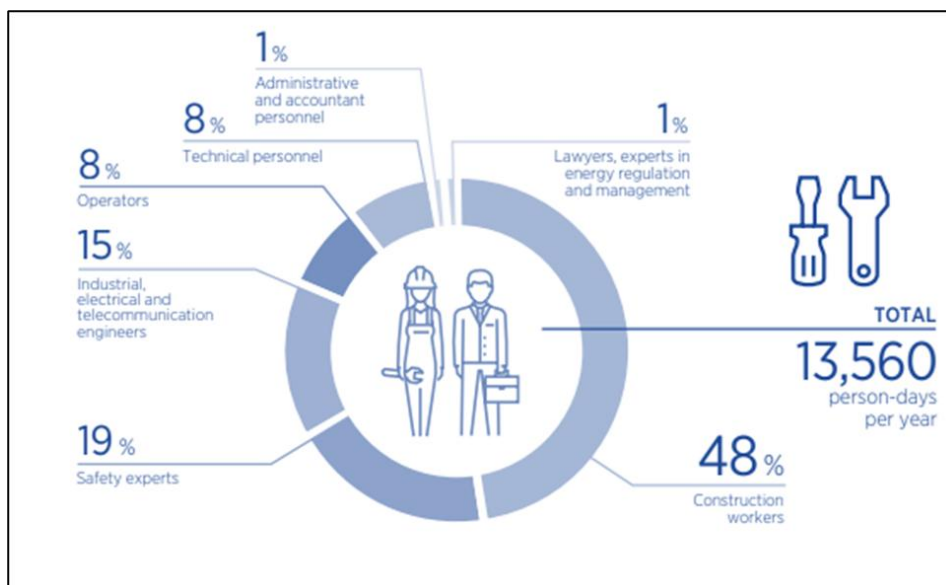
The most labour-intensive component during the installation and grid connection phase is site preparation and civil works. As illustrated in Figure 4-5, approximately 90% of the workforce at this stage comprises construction workers and technical staff, offering opportunities for individuals with low to medium skill levels. Within the construction phase, 'assembling equipment occupations' represent around 24% of the total labour demand, followed by cabling and grid connection activities (16%).

Figure 4-5: Distribution of human resources required to Install and Connect, by occupation



Source: IRENA (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, p.23

Figure 4-6: Distribution of human resources required to operate and maintain a 50MW solar PV plant, by occupation



Source: Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, IRENA, Page 25



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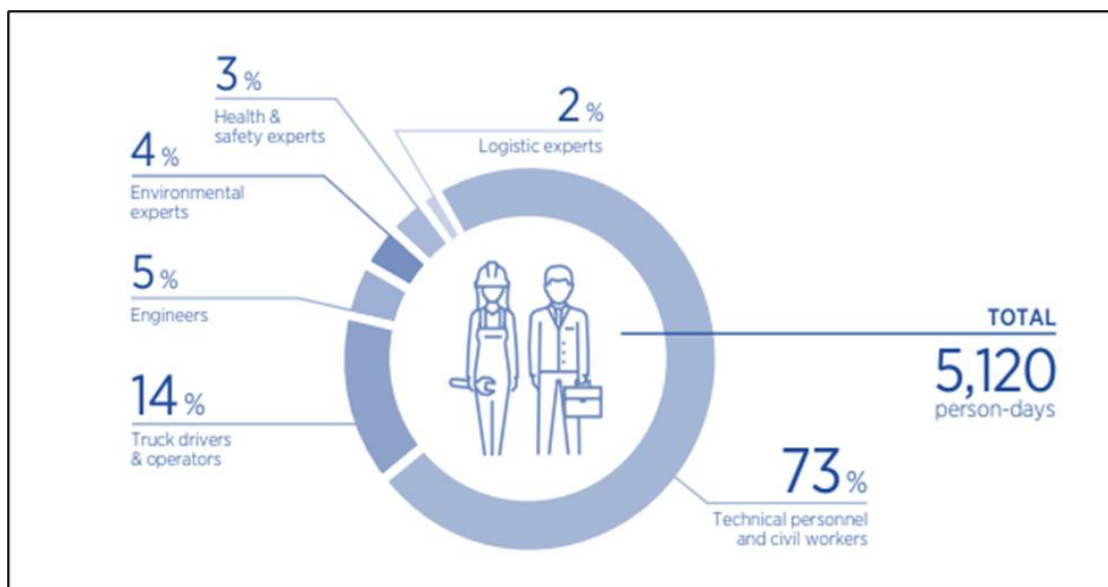
4 Solar PV Farm Value Chain

A Solar PV plant has an expected lifetime of about 40 years. The majority of roles at the installation stage require a skilled workforce with knowledge of solar PV plant operations. Ongoing maintenance, such as cleaning the panels, is required. Technical personnel, engineers and construction workers also make up the occupation profile at this stage (Figure 4-6).

Finally, decommissioning a PV plant involves planning the activity, dismantling the project, recycling/disposing of the equipment, and clearing the site. The most labour-intensive activity is dismantling the project. Around 73% those employed during the decommissioning phase are technical personnel and civil workers. This is displayed in Figure 4-7.

The graphics presented in this section clearly identify the range of skills required at each stage of the Solar PV value chain. It is evident that a development such as the Proposed Development has the potential to fuel economic growth and create domestic value in each segment of the chain.

Figure 4-7: Distribution of human resources required to decommission a 50MW solar PV plant, by occupation



Source: Renewable Energy Benefits: Leveraging Local Capacity for Solar PV, IRENA, Page 27



5 Battery Energy Storage Systems (BESS)

In 2023, Wales continued to expand its BESS, complementing the solar PV rollout. Welsh BESS infrastructure showed significant momentum with multiple high-profile developments. Notably, a 230 MWh (115 MW) BESS at Uskmouth in South Wales, developed by Quinbrook in partnership with E.ON, commenced construction in late 2023¹⁷.

The UK's operational large-scale battery storage stood at approximately 4 GW of power and 5.9 GWh of energy as of June 2024, up from around 2.4 GW/2.6 GWh at the end of 2022¹⁸. While Wales currently contributes a modest share of this total, growing projects like those at Uskmouth illustrate a shift toward greater local adoption of energy storage. The increasing deployment is expected to enhance grid flexibility, support renewable integration, and indicate early leadership by local authorities in battery storage capacity.

Battery energy storage systems (BESS) bring substantial social and economic benefits, particularly when deployed in Wales. At a national level, BESS enhances energy security and grid resilience by rapidly compensating for fluctuations or outages—such as the response to interconnector failures, where battery systems stabilized the grid within minutes¹⁹. These projects reduce reliance on fossil-fuel-based peaking plants, lowering both carbon emissions and energy costs for communities; they bring fast-reacting power to prevent outages and help avoid paying for curtailment of renewable generation. Battery storage in the UK is currently both critical and underused in the journey towards a greener energy grid. Despite inherent advantages, such as cost savings and reduced emissions, battery storage faces significant operational barriers. Upgrades in the system are underway, with the potential to dramatically improve how batteries are utilised going forward²⁰.

Moreover, the expansion of battery infrastructure holds clear local societal value, by creating skilled job opportunities and facilitating community energy models. Wales is already seeing billions of pounds in projected renewable investments, translating into thousands of high-paid green jobs and substantial community benefit funds²¹.

In 2024 in the UK, the combined solar and battery storage sector supported roughly 20,400 full-time jobs, with battery storage alone accounting for around 7,400 of those roles and contributing £0.6 billion in gross value added (GVA) to the economy. Looking ahead to 2035, growth in the sector is projected to offer 13,900 jobs from battery storage and deliver £1.6 billion in economic value²². These roles span a diverse mix of responsibilities, from engineers, technicians, and project managers to procurement

¹⁷ Quinbrook, E.ON to co-develop 230MW/ 460MWh BESS in South Wales

¹⁸ Energy storage's continuing massive growth potential in UK, Ireland, solarpowerportal.co.uk

¹⁹ <https://www.solarpowerportal.co.uk/battery-storage/batteries-step-in-after-interconnector-trips>

²⁰ Financial Times, Britain's grid battery storage record is maddening, www.ft.com

²¹ Renewable UK, Unleashing the full value of Welsh renewables, www.renewableuk.com

²² Biggar Economics, The Economic Impact of Solar and Battery Storage <https://biggareconomics.co.uk/the-economic-impact-of-solar-and-battery-storage>



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5 Battery Energy Storage Systems (BESS)

specialists and control systems experts, reflecting the breadth of skills required across the battery storage lifecycle²³.

²³ Battery Energy Storage Projects, https://www.astutepeople.co.uk/blog/2024/08/27/battery-energy-storage-projects-uk/?utm_source=chatgpt.com



6 Socio-Economic Baseline

Section 6 of this Statement evaluates the existing socio-economic context within the immediate and wider area surrounding the Proposed Development. Understanding the socio-economic profile of the resident population and local work force will indicate how they will interact with the Proposed Development, and how the Proposed Development will support progress towards local, regional and national policy objectives set out in Section 2. Assessment within this Chapter is based on the Study Areas as set out in Table 6-1 Where UK wide data is unavailable England has been used, for example within 2021 Census data. The Local and Wider Study Areas are henceforth referred to as the LSA and WSA respectively.

Table 6-1: Description of geographies included

Study Area	Definition
Local	Bodelwyddan Ward
Wider	Denbighshire and Conwy local authorities
Regional	North Wales
National	Wales
Comparator	UK/England

6.1 Baseline Conditions

Table 6-2 shows the size and age profile of the current population of all geographies. The most recently published ward level data is the 2022 ONS Mid-Year Population Estimates.

Table 6-2: Age of Resident Population²⁴

Age	LSA	WSA	North Wales	Wales	UK
0 - 15	16%	17%	17%	18%	18%
16 - 19	4%	4%	4%	5%	5%
20 - 29	11%	9%	10%	12%	12%
30 - 49	26%	21%	23%	24%	26%
50 - 64	21%	22%	22%	21%	20%
65 - 74	12%	13%	12%	11%	10%
75+	11%	13%	11%	10%	9%
All Ages	2,093	210,905	688,695	3,132,676	67,602,761

Source: ONS 2022 Mid-Year Population Estimates

²⁴ ONS 2022 Mid Year Population Estimates [downloaded from NOMIS on 30/06/2025]



A slightly smaller proportion of the LSA's resident population are under 16 than within the WSA, at the regional and national level, while the WSA has the next smallest proportion of children. The LSA has a smaller proportion of residents aged 65+ than the WSA and a larger proportion of residents of working age. The proportion of residents of working age in the LSA is higher than in the WSA, and North Wales, but similar to the national level and the UK. The WSA in comparison, is older than all other geographies included with a smaller proportion of working-age residents and larger proportion (26%) of residents aged over 65.

Table 6-3 shows the projected growth of the resident population of each geography included. No ward level projections are available therefore the LSA has been excluded. The WSA is projected to grow at the same rate as the national level, While faster than the average for North Wales, this is much slower than the rate of growth expected for the UK.

Table 6-3: Resident Population Size and Predicted Growth²⁵²⁶

Year	WSA		North Wales		Wales		UK	
	Number	Growth from 2023	Number	Growth from 2023	Number	Growth from 2023	Number	Growth from 2023
2023	214,823	-	703,108	-	3,177,967	-	68,492,495	-
2028	216,852	1%	707,037	1%	3,215,844	1%	71,208,101	4%
2033	218,620	2%	710,269	1%	3,248,558	2%	72,830,021	6%
2043	222,597	4%	718,830	2%	3,309,154	4%	75,585,236	10%

Source: Welsh Government 2018 based Population Projections, ONS 2018 based population projections

6.1.1 Resident Economic Activity

The most recently available data on economic activity is the Annual Population Survey (APS). This provides information on the work status of the working aged population (16-64 years). APS data for the year January 2023 through December 2024²⁷ shows that the economic activity rate for the WSA was 75.9% (91,200 people). This means that 75.9% of the working aged population were either in work or searching for work and therefore are considered as part of the workforce. This figure is slightly lower than for the whole of North Wales and the UK (both at 78.5%), while Wales was lower at 75.5%.

²⁵ Welsh Government 2018 based population Projections [downloaded from the Welsh Government 30/06/2025]

²⁶ ONS 2022 – based population projections [downloaded from the NOMIS 30/06/2025]

²⁷ Annual Population Survey Jan 2024 – Dec 2025 [downloaded from the NOMIS 30/06/2025]



6.1.2 Unemployment

The APS also provides data on the unemployment rate down to the local authority level. The most recently available data on the unemployment rate in Wales is for the year from January 2024 through December 2025²⁸. This data shows that the WSA has an unemployment rate of 2.5%, with 2,300 of those actively looking for work unable to secure a role. This is lower than the average for North Wales (3.1%) while the unemployment rate across both Wales and the UK is higher still (3.3% and 3.8% respectively).

6.1.3 Employment

APS data for the year January 2024 through December 2025²⁹ shows that of 120,200 working aged residents in the WSA, 88,900 were in employment, giving an employment rate of 74.0%. This is a lower rate of employment than in North Wales, which stood at 76.0%. At the UK and Welsh national levels, the employment rate was 75.7% and 73.0%, respectively, indicating that the WSA has a slightly low rate of employment, closer to the Welsh national level than the regional or UK averages.

6.1.4 Jobs Density

Jobs density data for the year 2023³⁰ identifies that the WSA is a net exporter of labour, meaning that there are more residents aged 16 to 64 years than there are jobs. The jobs density for the WSA is 0.84 meaning that there are 0.84 jobs for every resident of working age. The jobs density for North Wales is very similar at 0.84 while Wales is much lower than 0.77. This means that the WSA and north Wales export labour to a lesser extent than the average for the whole of Wales, with a higher proportion of residents working within the local area.

6.1.5 Commuting Profile

The 2021 Census³¹ identifies that of those people who work within the WSA, 90% also reside within the WSA, while 10% commute in from elsewhere. The majority of those who commute in from other areas are coming from other areas of North Wales. For North Wales this figure is even higher with 93% of filled roles within the region, only 7% live outside of North Wales. The areas with the next highest numbers of residents working in North Wales include Cheshire and West Chester (2.9%) and Wirral (1.0%).

The data set also identifies that of those people living in the WSA, 45% also live in the WSA, meaning that 55% of people who live in the WSA work outside of the district. 49% of those who live in WSA work in North Wales.

²⁸ Annual Population Survey Jan 2024 – Dec 2025 [downloaded from the NOMIS 30/06/2025]

²⁹ Annual Population Survey Jan 2024 – Dec 2025 [downloaded from the NOMIS 30/06/2025]

³⁰ ONS Jobs Density Data 2023 [downloaded from the NOMIS 01/07/2025]

³¹ 2021 Census Table ODWP01EW [downloaded from the NOMIS 01/07/2025]



6.1.6 Residents' Skills and Qualifications

The 2021 Census provides data on the highest qualification levels obtained by residents aged 16+. Table 6-4 summarises the qualification profile for the LSA, WSA, North Wales and England. Overall, it demonstrates that the population of the LSA have higher qualifications than the WSA, North Wales and the Welsh national average.

A smaller proportion of the LSA's residents aged 16+ had no formal qualifications in 2021 than in any of the comparator geographies. While a slightly larger portion of those in the LSA had Level 1 and entry level qualifications, in comparison to the county and regional level. Table 6-5 provides a breakdown of definitions for each qualification level.

Conversely, the proportion of 16+ residents with degree level (Level 4) qualifications or higher is greater in the LSA than in the WSA, North Wales and Wales, and almost reaches the level in England.

Combined, those with Level 2 and 3 qualifications comprise 30.2% of the 16+ residents of both the WSA and England. This proportion is marginally more at the WSA, regional level and Welsh national level.

Table 6-4: Highest Qualification Level of Residents aged 16+³²

Qualifications	LSA	WSA	North Wales	Wales	England
No qualifications	17.7%	19.2%	18.7%	19.9%	18.1%
Level 1 and entry level qualifications	9.6%	8.8%	9.0%	8.7%	9.7%
Level 2 qualifications	14.8%	14.8%	15.0%	14.4%	13.3%
Apprenticeship	5.4%	6.3%	6.3%	5.6%	5.3%
Level 3 qualifications	15.4%	16.5%	17.2%	17.2%	16.9%
Level 4 qualifications or above	33.7%	31.5%	31.1%	31.5%	33.9%
Other qualifications	3.4%	2.9%	2.8%	2.7%	2.8%
Total 16+ population	1,734	175,272	568,240	2,559,416	46,006,955

Source: 2021 Census

³² 2021 Census Table TS067 [downloaded from the NOMIS 30/06/2025]



Table 6-5: Description of Qualification Levels

Educational Attainment	Description
Level 1 and entry level qualifications	1 to 4 GCSEs grade A* to C, Any GCSEs at other grades, O levels or CSEs (any grades), 1 AS level, NVQ level 1, Foundation GNVQ, Basic or Essential Skills.
Level 2 qualifications	5 or more GCSEs (A* to C or 9 to 4), O levels (passes), CSEs (grade 1), School Certification, 1 A level, 2 to 3 AS levels, VCEs, Intermediate or Higher Diploma, Welsh Baccalaureate Intermediate Diploma, NVQ level 2, Intermediate GNVQ, City and Guilds Craft, BTEC First or General Diploma, RSA Diploma.
Level 3 qualifications	2 or more A levels or VCEs, 4 or more AS levels, Higher School Certificate, Progression or Advanced Diploma, Welsh Baccalaureate Advance Diploma, NVQ level 3; Advanced GNVQ, City and Guilds Advanced Craft, ONC, OND, BTEC National, RSA Advanced Diploma.
Level 4 qualifications or above	Degree (BA, BSc), higher degree (MA, PhD, PGCE), NVQ level 4 to 5, HNC, HND, RSA Higher Diploma, BTEC Higher level, professional qualifications (for example, teaching, nursing, accountancy).
Other qualifications	Vocational or work-related qualifications, other qualifications achieved in England or Wales, qualifications achieved outside England or Wales (equivalent not stated or unknown).

Source: 2021 Census

The occupational profile of residents in employment according to the 2021 Census is shown in Table 6-6. The LSA has a lower proportion of residents employed at the highest occupational level (10.5%) compared to 11.7% within the WSA. At the regional and national level the proportion of employed residents is similar to within the LSA, while in England this rate is much higher (12.9%). However, the proportion of working residents in the LSA that are in professional and associate professional and technical occupations is 33.7% which is substantially larger than in the WSA (28.4%), North Wales (27.7%), Wales (30.0%). This indicates that a significant portion of the LSA's resident population have managed to find skilled work, likely related to their higher education.

Those in care and service occupations comprise 17.8% of the 16+ employed resident population of the LSA, which is lower than in the WSA (21.4%), North Wales (19.9%) and Wales (19.5%). These roles are less likely to require specific qualifications and skills are likely to be less well remunerated.

The lowest two occupational groups, process, plant and machine operatives and elementary occupations represent a similar proportion of employed residents in the LSA and WSA (17.2% and 16.9% respectively). This is higher for North Wales and Wales at 19.4% and 18.4% respectively, while the level for England is similar to the LSA and WSA at 17.4%.



Table 6-6: Occupations of those aged 16+ in employment³³

Occupation	LSA	WSA	North Wales	Wales	England
Managers, directors, and senior officials	10.5%	11.7%	10.8%	10.5%	12.9%
Professional occupations	22.6%	17.1%	16.7%	18.2%	20.3%
Associate professional and technical occupations	11.1%	11.3%	11.0%	11.8%	13.3%
Administrative and secretarial occupations	8.6%	8.4%	8.7%	9.4%	9.3%
Skilled trades occupations	12.2%	13.3%	13.5%	12.2%	10.2%
Caring, leisure, and other service occupations	10.7%	13.0%	11.9%	11.2%	9.3%
Sales and customer service occupations	7.1%	8.4%	8.1%	8.4%	7.5%
Process, plant, and machine operatives	6.1%	7.0%	8.7%	7.9%	6.9%
Elementary occupations	11.1%	9.9%	10.7%	10.5%	10.5%
16+ residents in employment	1,010	89,568	306,212	1,368,451	26,405,214

6.1.7 Wages

Table 6-7 presents data from the Annual Survey of Hours and Earnings (ASHE) on median gross weekly pay for full time and part time work of residents in the WSA, North Wales, Wales and the UK for 2024. Table 6-8 presents the equivalent data but for people working in each of these areas.

Table 6-7: Resident Median Gross Weekly Pay 2024³⁴

	Total	Full Time	Part Time
WSA	£512.50	£642.61	£286.64
North Wales	£563.06	£669.10	£241.35
Wales	£574.90	£684.40	£264.00
UK	£613.30	£728.30	£263.10

³³ 2021 Census Table TS063 [downloaded from the NOMIS 30/06/2025]

³⁴ Annual Survey of Hours and Earnings 2024, Resident Analysis [downloaded from the NOMIS 30/06/2025]



Table 6-8: Workplace Median Gross Weekly Pay 2024³⁵

	Total	Full Time	Part Time
WSA	£493.49	£609.31	£272.57
North Wales	£566.91	£566.91	£566.91
Wales	£565.40	£674.50	£261.20
England	£613.30	£728.30	£263.10

Residents of the WSA have lower wages than those in North Wales and at the regional and national level in total. While those in full time roles in the WSA earn less than those in full time roles in all other comparators included. The geography with the highest gross weekly pay is the UK at £613.50. Part time workers earn more than in all other comparators at £286.64. This is £45.29 per week more (+19% higher) than in North Wales.

Wages of a person living in the WSA are higher than those of a person working in the WSA (£512.50 versus £493.49). This is true for both full time and part time workers. The situation is also similar in Wales and England, however in North Wales, those working in the region earn very slightly more than those living there.

6.1.8 Business Sector Workforce

Table 6-9 presents data from the Business Register and Employment Survey (BRES) for 2023 on the number of employee jobs by broad industrial sector. The industry employing the largest number of people in the LSA by far is the health sector, with 60% of employed residents working in this sector in 2023. This shows a very concentrated local economy. While the health sector is a prominent industry of employment in all areas, its size is much more substantial in the LSA than in the comparator areas. In the WSA, 25% of employed people work in the health sector while this figure is 19%, 17% and 14% at the regional, national and England wide level. The second most prominent industrial sector of employment in the LSA is the public administration and defence sector, accounting for 10% of employment in the area. This proportion is higher in the LSA than in all other comparators, although the WSA is a close second at 9%.

The construction sector accounts for only 2% of employment in the LSA; lower than the WSA, North Wales and Wales and England (all 5%).

³⁵ Annual Survey of Hours and Earnings 2024, Workplace Analysis [downloaded from the NOMIS 30/06/2025]



Table 6-9: Industry of Employment³⁶

	LSA	WSA	North Wales	Wales	England
Agriculture, forestry & fishing (A)	0%	2%	1%	1%	1%
Mining, quarrying & utilities (B,D and E)	1%	1%	2%	2%	1%
Manufacturing (C)	7%	6%	14%	11%	7%
Construction (F)	2%	5%	5%	5%	5%
Motor trades (Part G)	0%	2%	2%	2%	2%
Wholesale (Part G)	1%	1%	2%	2%	4%
Retail (Part G)	2%	11%	9%	9%	8%
Transport & storage (inc postal) (H)	0%	2%	3%	3%	5%
Accommodation & food services (I)	3%	12%	10%	9%	8%
Information & communication (J)	2%	1%	1%	2%	5%
Financial & insurance (K)	0%	1%	1%	2%	3%
Property (L)	3%	2%	1%	1%	2%
Professional, scientific & technical (M)	2%	4%	4%	5%	10%
Business administration & support services (N)	5%	7%	7%	7%	9%
Public administration & defence (O)	10%	7%	7%	9%	4%
Education (P)	2%	8%	8%	9%	9%
Health (Q)	60%	25%	19%	17%	14%
Arts, entertainment, recreation & other services (R,S,T and U)	0%	4%	4%	4%	5%
Total	11,680	85,450	292,755	1,299,500	27,496,000

6.1.9 Tourism Industry

Table 6-10 utilises BRES data to show that in 2023 there were only 65 people within the LSA employed within the tourism industry, representing 1% of total employment in the LSA. This level is comparable to the proportion of people employed within the tourism industry at the regional and national level (5% and 6%, respectively). The tourism industry appears to be of higher importance to the WSA with 9% of the county's employed population working within the tourism industry.

³⁶ Business Register and Employment Survey 2023, Employees, [downloaded from the NOMIS 30/06/2025]



Table 6-10: People Employed within the Employment Industry, 2023³⁷

	LSA	WSA	North Wales	Wales	England
55100 : Hotels and similar accommodation	0%	32%	25%	19%	18%
55300 : Camping grounds, recreational vehicle parks and trailer parks	0%	13%	17%	8%	2%
56101 : Licensed restaurants	15%	17%	17%	21%	28%
56102 : Unlicensed restaurants and cafes	62%	19%	20%	22%	22%
56103 : Take away food shops and mobile food stands	15%	9%	9%	12%	13%
56210 : Event catering activities	8%	4%	7%	6%	8%
56301 : Licensed clubs	0%	3%	4%	7%	3%
93130 : Fitness facilities	0%	0%	1%	2%	3%
93199 : Other sports activities (not including activities of racehorse owners) nec	0%	1%	1%	3%	3%
Total	65	7,495	21,305	79,500	1,661,500

Over 60% of those employed in the LSA's tourism industry work in unlicensed restaurants, with a further 15% working in licensed restaurants. This is significantly higher than for comparator areas. Those who work in unlicensed restaurants represent 19% of tourism employment in the WSA and similar levels in North Wales, Wales, and England.

At 15% of the LSA's tourism employment, take away food shops and mobile food stands represent a significant proportion of those employed in the LSA's tourism sector. This percentage is 9% for both the WSA and North Wales, and 12% and 13% in Wales and England respectively.

ONS data shows that in 2024 there were 1,065 establishments in the WSA in the accommodation and food services industry, representing 11% of all establishments.

According to Welsh government statistics, between 2017 – 2019 an annual average of 3.7 million overnight domestic GB trips, 299,000 international visits and 22.7 million Tourism Day visits were made to North Wales, with an average annual associated spend of £1.47 billion³⁸. North Wales received 37

³⁷ Business Register and Employment Survey 2023, Employees, [downloaded from the NOMIS 30/06/2025

³⁸ chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.gov.wales/sites/default/files/statistics-and-research/2021-03/tourism-profile-north-wales-2017-2019.pdf#:~:text=In%202017%2D2019%20an%20annual%20average%20of%203.7,average%20annual%20associated%20spend%20of%20%C2%A31.47%20billion.&text=The%202017%2D2019%20period%20received%20an%20annual%20average,of%20international%20visits%20of%20the%20Wales%20regions.



per cent of overnight domestic trips, 29% of international visits and 24% of Tourism Day visits to Wales. Expenditure on tourism visits in North Wales accounted for 24% of tourism expenditure in Wales.

6.1.10 Temporary Accommodation

There are an estimated 24 hotels and bed and breakfasts in Denbighshire³⁹ and a further 46 in Conwy totalling 70 within the WSA. In addition, data on Airbnb shows that there are 1,437 rooms available listed on Airbnb in Denbighshire⁴⁰ and 3,376 in Conwy⁴¹, totalling 4,813 within the WSA. Factoring in the hotel and bed and breakfast accommodation this amounts to 4,883 units of temporary accommodation within the WSA.

6.1.11 Local Economy

The size of the local economy can be measured by using GVA, comparing values and proportions in the WSA (Denbighshire and Conwy) with that of comparators.

GVA data published by Oxford Economics⁴² identifies that average GVA per annum across the WSA (2018 and 2022) was £1,795.1 million, contributing 12% of North Wales's GVA, 2% of national GVA. This equates to an average GVA per worker of £36,820 per annum, which is lower than the value across North Wales at £43,980, Wales at £45,044 and the UK average at £54,585 per annum.

Table 6-11 summarises average GVA (total and per worker) across all industries and the equivalent data specifically for the construction and tourism sector.

Table 6-11: Average GVA per Annum (2018 – 2022)

Industry	WSA		North Wales	Wales	UK
	Total GVA £m	GVA per Worker	GVA per Worker	GVA per Worker	GVA per Worker
Construction	123.2	£42,311	£39,342	£42,000	£53,239
Tourism*	271.2	£17,169	£17,498	£17,216	£23,136
All Industries	1,795.1	£36,820	£43,980	£45,044	£54,585

Average GVA per worker for the construction industry is £42,311 per annum in the WSA, higher than across North Wales at £39,342 and the national average £42,000, but lower than the UK average of £53,239 per worker per annum, respectively.

³⁹ <https://www.hotels.uk.com/uk/denbighshire/hotels-in-denbigh>

⁴⁰ <https://app.airbtics.com/airbnb-data/united-kingdom/wales/denbighshire>

⁴¹ <https://app.airbtics.com/airbnb-data/united-kingdom/wales/conwy>

⁴² Oxford Economics, UK Local Area Forecasts, January 2025 [under licence]



The tourism sector in the WSA generates a lower average GVA per worker (£17,169) compared to North Wales (£17,498), and the national and UK averages (£17,216 compared to £23,136), and the value per worker is one of the lowest of all sectors.

Table 6-12 sets out the number of local units within the electricity sector. With 166 units across North Wales the vast majority (71%) are renewable, while only 30 units remain in fossil fuel produced electricity. Electricity networks relate to electricity generating property relating to the network, such as substations.

Table 6-12: Local Units working within the electricity Sector⁴³

	Renewable	Fossil	Electricity Network	Total
North Wales	118	30	18	166

⁴³ Valuation Office Agency 2024



7 Economic Benefits

Section 7 will examine the economic advantages arising from the Proposed Development. As outlined in Sections 4 and 5, the Proposed Development is expected to deliver a range of economic benefits across the entire value chain. These include the following:

- Employment created throughout the life cycle of the development;
- Economic output generated by those directly and indirectly employed;
- Generating economic output by directly supporting the local economy;
- Distributional benefits; and
- Supporting skills development within the sector.

7.1 Distribution and Energy System Impacts

The Applicant is a leading developer of utility scale solar projects and BESS. Each solar project and BESS project undergoes a comprehensive planning and assessment process to ensure that the site is suitable and that there is alignment with environmental considerations and national renewable energy objectives. The Proposed Development at land to the northwest and southeast of Bodelwyddan is well positioned to support the Welsh Government's target of sourcing 70% of electricity demand from renewables by 2030, and to reach 100% by 2035.

In support of Wales' legally binding commitment to achieving Net Zero by 2050, the Proposed Development will feed electricity directly into the local distribution network. It will power on average approximately 26,657 homes and reduce CO₂ emissions by around 35,569 tonnes annually. Over a 40-year operational lifespan, this equates to more than 1,400,000 tonnes of avoided emissions.

Using HM Treasury's Green Book (2020) and BEIS carbon valuation methodology, the avoided emissions translate into a projected carbon cost saving of approximately £91.2 million by 2050. Consistent with the most recent edition of Green Book guidance, a discount rate of 3.5% has been applied. As such the real value of CO₂ savings is estimated at £56.2m by 2050. This figure represents only a portion of the total economic value the Proposed Development could deliver over its full operational life. Given that the Proposed Development is expected to be operational by 2028, Table 7-1 presents the value of CO₂ savings estimated to be generated between 2028 and 2050 (the latest year for which BEIS data is available).



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Table 7-1: Carbon savings 2028-2050

Year	£/tCO ₂ e	Value of Carbon savings (£)	Value of Carbon savings, discounted (£)
2028	88	£3,130,072	£2,823,146
2029	80	£2,845,520	£2,479,706
2030	78	£2,774,382	£2,335,955
2031	85	£3,023,365	£2,459,509
2032	91	£3,236,779	£2,544,079
2033	97	£3,450,193	£2,620,116
2034	100	£3,556,900	£2,609,808
2035	109	£3,877,021	£2,748,493
2036	115	£4,090,435	£2,801,726
2037	122	£4,339,418	£2,871,754
2038	130	£4,623,970	£2,956,586
2039	132	£4,695,108	£2,900,552
2040	128	£4,552,832	£2,717,543
2041	125	£4,446,125	£2,564,107
2042	122	£4,339,418	£2,417,940
2043	118	£4,197,142	£2,259,578
2044	119	£4,232,711	£2,201,669
2045	120	£4,268,280	£2,145,092
2046	119	£4,232,711	£2,055,281
2047	119	£4,232,711	£1,985,779
2048	121	£4,303,849	£1,950,873
2049	122	£4,339,418	£1,900,479
2050	124	£4,410,556	£1,866,313
Total	-	£91,198,916	£56,216,085

Source: Department for Business, Energy and Industrial Strategy, Updated Short-Term Traded Carbon Values



7.2 Employment Generation

The Proposed Development is expected to create direct employment opportunities across a diverse range of occupational categories. As outlined in Sections 4 and 5, the employment profile spans the full development lifecycle and accommodates a variety of skill levels. Table 7-2 presents the estimated job creation associated with each phase of the Solar PV and BESS lifecycle.

During the 12- to 24-month construction phase, the Proposed Development could generate approximately 60-115 roles⁴⁴. Following this, the operational phase is anticipated to support the equivalent of 5 ongoing operations and maintenance positions.

Table 7-2: Gross Number of Employees over the Development Lifecycle

Activity	Number of workers	Timeframe for work to take place
Land Preparation		12-24 months
Site clearance and grading, access to road construction, environmental and archaeological surveys, drainage and fencing teams	25-45	
Installation		
Civil engineers for site layout, foundations and trenching, solar technicians for panel mounting and racking systems, electrical engineers for inverters, transformers and cabling, battery storage specialists for installation and commissioning, grid connection team, project management and HSE	35-70	
Operation and Maintenance		40 years
Operation and maintenance workforce for security and site access control, routine inspections and cleaning, performance monitoring, battery system maintenance, vegetation management	5	

⁴⁴ Note that the lower estimate is associated with a longer construction period and vice-versa. A higher level of employment will be required to complete the construction in a shorter time-frame.



As noted in Section 6 there are 166 electricity producing facilities in North Wales, 71% of this use renewable production methods. This indicates that there is a local labour force with skills relevant to work at the Proposed Development. The Proposed Development will seek to draw on this local skills base throughout the development lifecycle leading to employment opportunities for those who live locally.

Construction of the Proposed Development is expected to last 12-24 months and will include site clearance, surveys, fencing and access work, civil engineering, installation of panels and battery storage, grid connection and project management.

Post-construction, the operational phase of the Proposed Development is expected to support the equivalent of 5 ongoing operation and maintenance roles, focused on routine servicing and upkeep of the facility.

The employment generated by the Proposed Development will contribute to economic output through GVA across its lifecycle. Based on average GVA per construction worker in Wales forecast for 2028 (the year construction is expected to complete), the initial construction phase could generate £5.9 million in GVA. Over the 40-year operational period, the 5 maintenance roles are projected to contribute an additional £9.8 million in GVA.

7.3 Supporting the Local Economy

As highlighted in Section 2, Wales has committed to fostering clean economic growth. The Proposed Development will supply electricity directly into the local distribution network, enabling both residents and businesses within Conwy and Denbighshire to benefit from a locally generated, renewable energy source. This access to clean energy presents opportunities for local businesses to align their operations with low-carbon practices. Such alignment may enhance their appeal to environmentally conscious clients and investors, particularly in procurement processes where sustainability and social value are increasingly important evaluation criteria.

The availability of clean energy may also positively influence the local tourism sector. Accommodation providers—such as hotels and self-catering facilities—powered by renewable energy could attract environmentally minded visitors, potentially supporting the growth of a niche eco-tourism market.

During the construction phase, a portion of the workforce is expected to require temporary accommodation, generating demand for local hospitality services. This includes stays in hotels and self-catering units, as well as spending in local shops and restaurants. Daily allowances for meals and incidentals will further contribute to the local economy. Many solar parks and BESS sites are designed to be compatible with existing agricultural practices, such as sheep grazing, thereby supporting the continuity of local farming activities alongside renewable energy generation.

7.4 Business Rates

The Proposed Development will generate annual business rates, contributing to the funding of public services. Rateable values are provided by the Valuation Office Commercial and Industrial Floorspace and Rateable Value Statistics.



The Proposed Development is likely to generate at least £127,500 per annum in business rates. This estimate is based on:

1. A rateable value per MW of £2,040. This is drawn from the Memorandum of Agreement between representatives of the solar trade industry and the VOA in 2023, relating to unsubsidised new sites⁴⁵.
2. Application of this to the solar scheme element of the proposed development, which is 110 MW. This gives a rateable value of £224,400.
3. The current non-domestic rates multiplier for Wales, 0.568⁴⁶.

This contribution could be invested in local services. We note that the existing agricultural land uses within the Site are exempt from business rates, so there is no existing revenue to net this off against. The Proposed Development is an entirely different form of development to commercial or industrial developments, in that it has no population to support and will be operated and maintained entirely with private investment. The accrual of funds far exceeds the burden the Proposed Development would place on the services those rates are put towards, making it a clear benefit in financial terms (though in Wales, a proportion of rates is *not* retained by the local council, with all funds instead pooled and distributed nationally). Moreover, this estimation is by its nature cautious as it does not include the BESS element of the Proposed Development.

Over the estimated 40-year lifetime of the project, the business rates contribution will amount to £5.1 million in undiscounted terms. Applying a 3.5% discount rate, this amounts to £2.8 million.

⁴⁵ [2023-Solar-PV-Memorandum-of-Agreement-signed-by-SEUK-GE-VOA.pdf](#), p. 11

⁴⁶ [Business Rates in Wales | Business Wales](#)



8 Summary

8.1 National policy

The Welsh Government has embedded clean growth into its economic and planning policies, aiming to align prosperity with environmental sustainability. The Future Wales: National Plan 2040 sets a strategic framework for development, positioning Wales as a leader in renewable energy by leveraging its natural resources and supporting both large-scale and community-led projects. Policies 17 and 18 strongly promote renewable and low carbon energy, setting ambitious targets such as generating 70% of electricity from renewables by 2030 (and now 100% by 2035) and ensuring local ownership of energy projects. Planning Policy Wales reinforces this by advocating for sustainable land use, low carbon infrastructure, and economic development through innovative sectors. Complementing these, the Prosperity for All: A Low Carbon Wales plan outlines the economic benefits of decarbonisation, including job creation, local value retention, and the need for workforce upskilling to support the transition to a low carbon economy. Together, these policies reflect a cohesive national commitment to tackling climate change while fostering inclusive economic growth.

8.2 Local Policy

The economic strategy for North Wales is underpinned by a strong commitment to sustainable and inclusive growth, with a particular emphasis on clean energy and decarbonisation. The Growth Vision for the Economy of North Wales (2016), developed by the North Wales Economic Ambition Board, outlines a long-term plan to 2035 that leverages high-value economic clusters—especially in energy generation and low carbon technologies—to position the region as a UK leader in clean energy and supply chain investment. This vision is supported by the North Wales Regional Economic Framework (2021), which promotes a whole-systems approach to decarbonisation, climate resilience, and inclusive prosperity, aligning with national planning goals. The framework prioritises skills, innovation, local investment, and low carbon energy as key drivers of a wellbeing economy. At the local level, Denbighshire's Corporate Plan 2022-2027 commits to becoming a net carbon zero and ecologically positive council by 2030, while the Local Area Energy Plan (2024) sets out a vision for a clean, affordable, and resilient energy future. Solar energy is central to this plan, with targeted interventions to expand rooftop and community-led solar projects, integrate battery storage, and reduce reliance on fossil fuels. Together, these strategies reflect a cohesive regional and local commitment to clean growth, energy resilience, and climate action.

8.3 Electricity Generation Across Wales

Wales is a net exporter of electricity, generating significantly more than it consumes, with a growing share of this coming from renewable sources. As of 2023, renewables accounted for 34% of electricity generation, but generation only grew slightly in recent years, from 7.4 TWh in 2018 to 7.8 TWh in 2023. Meanwhile fossil fuel generation—primarily from gas—has declined, especially from major plants in Pembroke and Connah's Quay. The Welsh Government aims to meet 100% of electricity consumption from renewables by 2035, but current generation only covers about 53%. Given the expected growth in



electricity demand to enable decarbonisation of transport and heat (and if Wales is to remain an exporter of electricity), at least a fourfold increase in generation will be needed.

Over 15,300 new solar PV projects were commissioned in 2023, but these were mostly small-scale. Biomass and onshore wind remain the largest contributors to renewable energy generation in North Wales. This evolving energy landscape highlights both the progress and the scale of the challenge in meeting Wales's ambitious decarbonisation targets. More large, strategic schemes like the Proposed Development will be needed in order to meet the government's ambitious renewable generation targets.

8.4 Solar Farm Value Chain

As renewable energy continues to expand across Wales, understanding its economic and social impacts is increasingly important. A representative 30–40 MW solar PV project illustrates the wide range of employment opportunities it creates across the value chain—from planning and manufacturing to installation, operation, and decommissioning. These projects contribute to gross value added, job creation, and improved trade balances by reducing domestic fuel consumption and enhancing energy security. The development of solar PV supports both high-skill roles, such as legal and regulatory experts during planning, and lower to medium-skill roles, particularly in construction and installation. For example, constructing and operating a 50 MW solar PV plant requires over 229,000 person-days of labour, with the largest share in operation and maintenance. Manufacturing the plant's components involves a broad spectrum of occupations, including technicians, engineers, logistics coordinators, and quality assurance staff. Installation is labour-intensive, with 90% of the workforce comprising construction and technical staff. Over a plant's 40-year lifespan, ongoing maintenance and eventual decommissioning also provide sustained employment, particularly for technical and civil workers. Overall, solar PV development offers significant potential to drive economic growth, support local employment, and build domestic capacity across multiple sectors.

8.5 Battery energy storage systems (BESS)

In 2023, Wales continued to expand its BESS, complementing the burgeoning solar PV rollout. Welsh BESS infrastructure showed significant momentum with multiple high-profile developments.

The UK's operational large-scale battery storage stood at approximately 4 GW of power and 5.9 GWh of energy as of June 2024, up from around 2.4 GW/2.6 GWh at the end of 2022. While Wales currently contributes a modest share of this total, a shift toward greater local adoption of energy storage is underway. The increasing deployment is expected to enhance grid flexibility, support renewable integration, and indicate early leadership by local authorities in battery storage capacity.

Battery storage in the UK is currently both critical and underused in the journey towards a greener energy grid. Despite inherent advantages, such as cost savings and reduced emissions, battery storage faces significant operational barriers. Upgrades in the system are underway, with the potential to dramatically improve how batteries are utilised going forward.

In 2024 in the UK, the combined solar and battery storage sector supported roughly 20,400 full-time jobs, with battery storage alone accounting for around 7,400 of those roles and contributing £0.6 billion in gross value added (GVA) to the economy.



8.6 Socio Economic Context

Section 5 of the Statement provides a detailed socio-economic profile of the area surrounding the Proposed Development, covering local (Bodelwyddan Ward), wider (Denbighshire and Conwy), regional (North Wales), and national (Wales and UK) geographies. The local area (LSA) has a relatively younger and more qualified population compared to the wider area (WSA), with a higher proportion of working-age residents and a greater share holding degree-level qualifications. Employment rates in the WSA are slightly below regional and UK averages, though unemployment is lower than both. The area is a net exporter of labour, with many residents commuting elsewhere for work, while most jobs in the WSA are filled by local residents. The dominant employment sector in the LSA is health, accounting for 60% of jobs—far higher than in comparator areas—followed by public administration and defence. Wages in the WSA are lower than regional and national averages, particularly for full-time roles, though part-time wages are comparatively higher. The tourism sector is relatively small in the LSA, employing just 1% of the workforce, and the local economy is less diversified, with a lower GVA per worker than North Wales, Wales, and the UK. However, the construction sector in the WSA shows competitive productivity, and the area has a growing base of renewable energy businesses, with 71% of electricity sector units in North Wales focused on renewables. This socio-economic context suggests that the proposed solar PV development could support local employment, align with regional policy goals, and contribute to economic diversification and resilience.

8.7 Economic Benefits

Section 6 of this Statement presents the economic benefits expected to be generated by the proposed Solar and BESS site.

The 110 MW Solar Site will power on average approximately 26,657 homes and reduce CO₂ emissions by around 35,569 tonnes annually. Over a 40-year operational lifespan, this equates to more than 1,400,000 tonnes of avoided emissions.

The avoided emissions translate into a projected carbon cost saving of approximately £56.2m by 2050.

During the 12- to 24-month construction phase, the project could generate or safeguard 60-115 roles. Following this, the operational phase is anticipated to support the equivalent of five ongoing operations and maintenance positions across solar and BESS sites.

Based on average GVA per construction worker in Wales forecast for 2028, the initial construction phase could generate £5.9 million in GVA. Over the 40-year operational period, the 5 maintenance roles are projected to contribute an additional £9.8 million in GVA.

Based on comparable sites, the Proposed Development is likely to generate an estimated £127,500 per annum in business rates.





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