GREEN GEN CYMRU VYRNWY FRANKTON PROJECT

Frequently Asked Questions

Green GEN Cymru is proposing a new 132 kV connection to connect renewable energy in Mid Wales to the national electricity network. This will help build a stronger, more resilient electricity network that unlocks clean, renewable energy for our businesses and communities.

This new connection could also help support the widespread rollout of electric heating and vehicles, helping to address the climate emergency.

We are committed to minimising any potential impacts on the local community and surrounding area.

Below you can find some frequently asked questions and answers on the project to provide further information on our proposals.

About Green GEN Cymru

Q **Who is Green GEN Cymru?**

A Green Generation Energy Networks Cymru (Green GEN Cymru) is developing a resilient electricity network to meet the future needs of the country's people, communities, and businesses. Headquartered in Cardiff, our team comprises experienced professionals from all parts of Wales.

In 2024 we were granted an Independent Distribution Network Operator (IDNO) licence by Ofgem. As an IDNO, we'll design, construct and maintain a new 132 kV (132,000-volt) electricity distribution network.

The electricity grid powers our lives. It connects homes, businesses and communities across Wales. But the energy landscape is changing fast. Demand is rising, and new technologies are transforming the way we generate and use power. We need a grid that not only meets today's needs, but also supports future growth, ensuring that vital infrastructure never becomes a barrier to opportunity.

Our new network will drive economic benefits and job creation, support Welsh supply chains, and play a critical role in both the Welsh and UK Government's clean energy targets. We will work closely with communities and stakeholders as we develop our plans, to maximise the benefits and minimise the impacts for local people. You can find out more on the Green GEN Cymru website: **www.greengencymru.com**

Q **What is your relationship with Bute Energy?**

A The Windward Energy Group consists of Green GEN Cymru, Bute Energy and Haldane Energy. As a regulated business, Green GEN Cymru is legally separate and is managed and operated independently.

In July 2024, Green GEN Cymru became an independent business regulated by Ofgem and is now operating under an Independent Distribution Network Operator (IDNO) licence. Under this licence, Green GEN Cymru must treat all customers (be they new energy users or generators) equally. Bute Energy is a customer of Green GEN Cymru and has connection agreements in place.

GREEN GEN CYMRU

About the proposals

Q **Why are you only consulting on certain areas of the draft route alignment?**

A Following feedback from the statutory consultation in spring 2025, and after further assessments, seven areas of change were identified as requiring updates. These changes have prompted a targeted statutory consultation.

The changes are either refinements to the draft route alignment or areas where we now have more detailed information to share.

As this is a targeted statutory consultation, we are seeking views specifically on these areas of change. We will not be able to amend other parts of the route.

Q **Why has the collector substation moved?**

A Following feedback from the local community, and further analysis of the cumulative infrastructure in the area, a new collector substation location is now proposed. It has been repositioned north-west; closer to the draft route alignment in the Powys uplands, at the previous location of the Cors y Garreg cable sealing end compound.

The revised design will reduce the total amount of infrastructure in the area by removing the double-circuit underground cables through the Llyn Lort Energy Park and the associated cable sealing end compound.

The collector substation will measure a maximum area of 307m x 93m, and 10m in height.

Q **Why has the draft route alignment moved further away from Llansantffraid-ym-Mechain?**

A Feedback from the statutory consultation in spring 2025 asked that the alignment be moved further from the village. We have carefully considered this request and believe it can be accommodated as the ecological impacts are similar. The draft route is now straighter and requires fewer pylons.

Q **Why aren't there any changes in the Section 2 area of the route?**

A We carefully reviewed all the feedback from the consultation and considered both environmental and engineering factors. Based on this, we believe the proposed route in Section 2 is still the best option for the project.

We greatly appreciate the feedback we received particularly around undergrounding in the Meifod area. On balance, when reviewing the proposed changes against the existing alignment, it was felt that an overhead line to be the best option.

Q **Why are you using pylons and not underground cables for the connection?**

A As an Independent Distribution Network Operator (IDNO) we have a duty under the Electricity Act to be economic and efficient, as the cost of all connections is passed down to electricity consumers.

Since our first consultation, we have reassessed undergrounding, including open trench cabling and cable ploughing. We have also drawn on reports by internationally renowned experts as part of our considerations. Independent studies have shown that overhead lines (OHL) using pylons are generally the most practical and cost-effective option for 132 kV connections, particularly across long distances and rural landscapes.

Overhead lines can be installed quicker, with less complex construction requirements and lower ground disturbance overall. Their physical footprint is smaller and causes less disruption to soil and habitats during installation compared to underground cables.

Underground cables (UGC) also require significant excavation, soil removal, and reinstatement – leading to greater short-term environmental disturbance and higher technical complexity. They also have limitations in power capacity, are harder to repair in the event of a fault, and offer less flexibility for future upgrades. For these reasons, the independent reports conclude that OHL remain the most efficient and reliable solution for large-scale grid connections.

While the cost of one new connection might not appear to add much to electricity bills, when the maintenance and construction of all connections across Wales and England is considered, the costs to consumers would be significant if connections were put underground.

Green GEN Cymru has commissioned and supported a suite of independent reports to provide clarity and transparency around infrastructure choices for grid connection.

Together, these reports offer a fact-based foundation for stakeholder dialogue, planning decisions, and the development of a balanced, future-ready energy network in Wales.

- Turner & Townsend Overhead Lines Forecast Cost Report. Read here.
- DNV Distribution Network Topology Assessment Report. Read here.
- IET Electricity Transmission Technologies Report. Read here.

These reports offer a comprehensive comparison between undergrounding and overhead line options for 132 kV, taking into account not only cost, but also environmental impact, power capabilities, and effects on local communities. They also review the cable plough technology, which we understand has generated significant interest.

Q What are the costs of overhead lines compared to undergrounding the cables?

A Cost is one of the most significant differences between overhead and underground options. Independent cost assessments indicate that underground cabling can be, on average, 4.5 times more expensive than equivalent overhead lines for a 132 kV connection. The cost of overhead lines typically ranges from £1.27 million to £1.64 million per km, depending on terrain. In comparison, underground cables cost £6.26 million to £7.90 million per km – and that excludes additional costs associated with transitions, directional drilling, or complex crossings.

Since the statutory consultation, Green GEN Cymru has published independent reports on the specific costs of undergrounding our proposed 132 kV lines. These reports have been provided by Cable Construction International and Turner and Townsend. The findings of these reports show:

Cost Comparison for 1km:

- Overhead line on L7 pylons: £1,269 – £1,636 million
- Underground Cable installed by open-cut trench: £6,259 – £6,695 million
- Underground Cable installed by cable plough: £7,236 – £7,882 million

If you would like to find out more about the reports, you can find them in the documents tab on our website.

Q What is the status of the windfarms you are proposing to connect?

A We have connection agreements with seven energy developments. There are more details about these in our updated Phase 2 Grid Connection Strategy, which is available on our website.

The energy developments are at varying stages of the planning process and all will need to seek the necessary permissions to be built. The developers of the energy developments are responsible for progressing their plans, including any requirements for consultation and assessment. We have considered the proposed setting of energy developments in our design for the connection and in the preliminary environmental impact assessment.

Q Why are you developing the connection before the windfarms have planning permission?

A The energy developments and new connections can both take several years to plan, consent, and construct, so it is normal practice for energy generation and new connections to be developed in parallel.

Q What is the status of the proposed National Grid substation that would be required near Lower Frankton?

A National Grid is in the early stages of developing plans for its proposed 400 kV substation, which will be located near to our 132 kV switching station.

For the latest information about National Grid's project, visit: **nationalgrid.com/lower-frankton**

Q When will I be able to find more information about the National Grid substation?

A National Grid will consult on its proposals in 2026. The consultation will be an opportunity for people to find out about the project and provide feedback on the proposed substation, which will inform the final design that will be submitted for planning approval.

For the latest information on the project, visit: **nationalgrid.com/lower-frankton**

Q **Who would benefit from the energy that is generated?**

A The Vyrnwy Frankton project will contribute to a more resilient electricity network, ease pressure on the existing local grid, support businesses, and could enable the roll out of green heating and electric vehicles in rural communities. It will take power from where it is generated to the national transmission network in Shropshire, where it can then be distributed via the grid.

This means that energy created by generators using the Vyrnwy Frankton connection will supply energy to homes and businesses across the country.

Green GEN Cymru holds an Independent Distribution Network Operator (IDNO) licence. The IDNO licence enables us to operate electricity distribution networks, supporting the growing demand for renewable energy infrastructure. This means we can respond to customer connection requests for both energy consumption and generation. In this way, the new connection could also become part of a more resilient network for the region – creating capacity to support local investment and providing for a future in which we all use more electricity.

Undergrounding

Q **Why did National Grid's proposals from 2014 include a section underground in the Vyrnwy Valley and Green GEN Cymru's proposal does not?**

A National Grid's proposals were for a 400 kV connection which would have required taller, bulkier pylons than the pylons we are proposing. The assessment of visual effects led National Grid to propose a section of undergrounding.

We have also assessed the visual effects of the lattice pylons we propose to use on the landscape and local communities. Based on these assessments, we have concluded that an overhead line is in keeping with our duties to amenity and the environment, and the requirements of the relevant national policy statements which set out the government's position on new electricity networks.

You can read more about the assessments we have completed and what we consider to be the current effects in the Preliminary Environmental Impact Report (PEIR) – published during statutory consultation – on our website.

Local economy and benefits

Q **Will the project benefit the local economy?**

A Along with connecting renewable energy quickly and efficiently to the grid, our project would also contribute to a more resilient and reliable network for the region. By adding additional electrical capacity, the Vyrnwy Frankton project could open up the potential for business investment in the area, supporting the creation of jobs and skills.

We are committed to investing in supporting the local economy in the area of our projects. We are still at an early stage of project development, but we will be providing opportunities to the local supply chain wherever possible.

Q **How will the project affect tourism?**

A Pylons are a familiar feature of the landscape in many parts of England and Wales, where agriculture, tourism and rural economies coexist and often thrive. Infrastructure of this kind already sits alongside a wide range of activities and is becoming increasingly important to regional connectivity and the delivery of critical services, including electric vehicle charging.

Evidence from across the UK suggests that tourism is resilient to the visual impact of overhead lines – even in prominent destinations. In 2019, Environmental Resources Management (ERM) conducted in-person surveys of visitors and residents at several sites where new overhead lines had recently been installed. Just 1% of visitors reported any change in their spending as a result.

Research by Regeneris and The Tourism Company similarly found that pylons are not a prominent concern for most tourists. While some individual businesses may raise concerns about visual impacts, there is little evidence that overhead lines materially affect business performance. The report concludes: "There is no evidence that the existing National Grid infrastructure, which is concentrated in North and South Wales – often in popular scenic areas – discourages visitors." Report here.

Q **Can I connect into your network?**

A Our proposed distribution lines offer much needed grid capacity and resilience to areas around our network. We are welcoming both new energy generators and energy users to connect into our lines, unlocking the country's energy potential but also putting power back into the local network. New energy users could be anything from new and expanding businesses to new homes.

If you would like to connect to our network, or are interested in an initial feasibility discussion, please visit *Get Connected – Green GEN Cymru* to register your interest: **https://greengencymru.com/get-connected/**

Q **Does Green GEN Cymru have a community benefit fund?**

A We do not, but by connecting wind farm projects from Bute Energy, the communities closest to our grid lines are also eligible to apply to Bute Energy's Community Benefit Fund.

Worth millions of pounds per year, this money will be available to provide financial support for initiatives that improve the quality of life for community members, help secure clean energy independence, foster engagement, and address social and economic concerns. Administered by Bute Energy, you can find out more on the Community Investment Fund on their website: **www.bute.energy/community-investment/**

The Office of Gas and Electricity Markets (Ofgem) is also developing community benefit funds for areas that host transmission infrastructure. However, as the Vyrnwy Frankton project is proposed as distribution infrastructure, it isn't currently eligible for this funding. We are monitoring the situation and will comply with any relevant legislation.

Effects on the local area

Q **What impacts will the project have on the environment and how will you manage them?**

A A changing climate is having a dramatic effect on plants and animals – protecting biodiversity is one of the key drivers for moving away from fossil fuels. Meeting the needs of the natural world with the infrastructure we need to address climate change requires careful balance. Developing large infrastructure will always bring effects on the environment, but it can also be an opportunity to invest in and enhance biodiversity.

We are committed to keeping the environmental impact of our proposals as low as possible. We have carefully considered environmental impacts while developing the route alignment, seeking to avoid particular areas or reduce impacts where we can. You can read more about the alignment in the targeted statutory consultation leaflets which are available on our website.

As part of the targeted statutory consultation we have published Environmental Implications of Change Reports. The reports sets out the initial environmental impacts of the changes of each area and early considerations to manage or reduce these impacts, such as through the careful siting of infrastructure.

Q **Are you considering biodiversity net gain?**

A Biodiversity net gain (BNG) is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand. The government is consulting on how this should apply to Nationally Significant Infrastructure Projects, such as the Vyrnwy Frankton Project, with the aim of introducing this from May 2026. The expectation is this would require projects to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite habitat.

We will always seek to keep any effects on biodiversity as low as we can in the decisions we make.

We will comply with current guidelines in Wales and England on achieving a net benefit for biodiversity within the area. By working closely with the relevant stakeholders, we will work to deliver an environmental benefit that goes above and beyond these requirements.

Q **Have you considered flood risk in developing the proposals?**

A The national policy statement for energy, which provides the government's expectations on how nationally significant infrastructure projects should be developed, specifically requires that we consider flood risk as we develop our proposals.

It states: "where new energy infrastructure is, exceptionally, necessary in flood risk areas (for example where there are no reasonably available sites in areas at lower risk), policy aims to make it safe for its lifetime without increasing flood risk elsewhere and, where possible, by reducing flood risk overall. It should also be designed and constructed to remain operational in times of flood."

We are following these requirements and have considered flood risk and river patterns in developing the route alignment for the connection. As part of the statutory consultation we published a Preliminary Environmental Impact Report (PEIR). The PEIR sets out the initial environmental impacts of the proposals, including flood risk, and early considerations to manage or reduce these impacts, such as through the careful siting of infrastructure. Our Environmental Implications of Change Reports for the targeted statutory consultation sets out the flood risk of the proposed areas of change.

Pylons exist in flood plains across the country and we will ensure that we use appropriate construction methods in these sensitive areas.

Q **Will you replace any trees, hedgerows and vegetation removed during construction?**

A While routeing our project, we have sought to absolutely minimise the need to remove trees and hedgerows, avoiding and oversailing where possible. In line with emerging planning guidance which requires projects of national significance to deliver at least a 10% increase in biodiversity value, we would anticipate replacing all vegetation removed during construction and also increasing the amount of biodiversity, relative to the pre-development biodiversity value.

Q **Will you be undertaking surveys and which ones are needed?**

A While developing our proposals, we have undertaken a range of surveys over a wide area.

These involved a small number of people entering certain areas of land to undertake a range of archaeological, environmental and engineering surveys.

Over the next few months, these surveys will continue alongside intrusive surveys at carefully selected locations to ensure the design of the project is as appropriate as possible. All surveys will be done in correspondence with the landowner.

Q **Do you have permission to carry out surveys?**

A Our overwhelming preference is to agree access for surveys on a voluntary basis by way of survey licence. In the event access for surveys can not be agreed voluntarily, Green GEN Cymru may rely on the rights afforded to us under the Housing and Planning Act 2016.

Q **By allowing survey access to my land will I be accepting that the project is going ahead?**

A Allowing Green GEN Cymru access to land for engineering, ecological and environmental surveys does not prevent the landowner making representations about the project or remove the right to comment in any form.

Building and operating the connection

Q How do you plan to manage construction traffic on local roads and what transport routes do you intend to use?

A We are committed to causing the least disturbance possible to those living and working in the areas affected by our proposals. We will take advice from technical stakeholders and thoroughly assess the project's impact on local roads as part of a traffic and transport assessment, which is a requirement of the process we will follow to submit a planning application. This will include how we plan to manage construction traffic and minimise any potential impacts. We recognise the importance of maintaining connectivity between nearby towns and villages, and we will ensure that our work does not cause difficulty for those living and working in the area.

Q Will the overhead line emit any noise?

A High-voltage overhead lines can sometimes generate noise, under certain conditions. This often sounds like either a crackle or humming sound and occurs mainly during wet weather.

Noise may also arise as a result of wind blowing past the line or pylons. Any potential noise impacts will be assessed as part of the Environmental Impact Assessment (EIA) and this will include plans for mitigation.

We will always ensure that the designs of the overhead line and substation carefully consider any impacts on the local community.

Q What are electric and magnetic fields (EMFs) and are they safe?

A Electric Magnetic Fields (EMFs) are produced whenever electricity is used or transmitted. Our household wiring, appliances and electricity supply are all sources of EMFs. So, they are around us all the time in modern life. Overhead lines are a source, but just one of many. The maximum possible exposure under the overhead line is 38.9 microtesla, which is similar to what you would expect from using a hairdryer or walking close to a microwave when it's cooking. There are limits in place to protect us all against EMF exposure. These limits have been based on careful reviews of the science by independent experts, who recommend safe levels of exposure for the public. The exposure limit for members of the public is 360 microtesla, so even if you are standing directly underneath the overhead line, the levels are just a small fraction of the limit.

After many decades of research and hundreds of millions of pounds spent investigating the issue, there are no established health effects below the exposure limits. You can read more about EMFs in our EMF factsheet which is available here.

Effects on property

Q Would the project affect property values?

A We have considered the location of communities and individual properties in developing the route alignment, seeking to avoid particular areas or reduce impacts where we can. A study published in September 2024 for Scottish Renewables by BiGGAR Economics assessed the potential effects of power lines on house price trends, looking at the Beauly Denny line – a high voltage line through areas of rural Scotland, completed in 2015.

BiGGAR Economics surveyed estate agents from areas surrounding the Beauly Denny line. The study found that the uncertain period during the planning process did have some effect on the housing market, but that once the line was built housing market trends along the power line have mirrored those of the wider local authorities.

Macroeconomic factors have been the principal drivers of house price growth and the power line has had no noticeable impact on house prices.

The Beauly Denny power line stretches from Beauly, north of Inverness, to Denny near Falkirk. This project is 137 miles long and has pylons almost double the height of the pylons proposed for Vyrnwy Frankton.

The report is available here: **https://www.scottishrenewables.com/publications/1714-house-prices-impact-ofbeauly-denny-grid-infrastructure**

Q **The government announced it was considering reducing energy bills for communities hosting infrastructure – what's the status of this?**

A The government completed and reported on a consultation on the role played by local communities which host transmission network infrastructure. This consultation was about the high voltage transmission network, not the distribution network, which is what the Vyrnwy Frankton project would become.

The government is moving ahead with its plans following the consultation. We are monitoring the situation and will comply with any relevant legislation. More information is available here: **https://www.gov.uk/government/publications/community-benefits-for-electricity-transmission-network-infrastructure**

Q **How will you support those that are likely to be directly impacted by the project?**

A We understand the effect on those impacted by our proposals including homeowners, landowners and the local community, and we are committed to ensuring that any impacts are mitigated as much as possible. While we're making every attempt to keep impacts on communities low, the route alignment does cross through areas of agricultural land. Our dedicated lands team are talking to landowners and working closely with those who are most affected by our proposals. If you have an interest in land affected by our proposals and have not been contacted by our lands team, please get in touch.

Q **How will you compensate landowners that have equipment on their land?**

A This is proposed to be our last round of consultation, and we are still asking for feedback on the work we have done to date and how we should further develop our proposals. It is very important to us that people respond to this targeted statutory consultation and tell us their concerns so we can work to reduce the effects on communities and individual properties. Once we have refined our proposals, we will work with landowners affected to discuss how we can support them. We will work hard to reduce impacts on individual properties but if the final design does impact your property, we will discuss what compensation is available to you in line with current legislation.

Consultation and feedback

Q **What did we do with the feedback to statutory consultation?**

A We analysed all feedback from our statutory consultation, and it has influenced what areas we are consulting on during this targeted statutory consultation. We have published our statutory consultation Feedback Summary Report. The report summarises the feedback we received and our response to the comments received. As part of the application to the Planning Inspectorate, we will publish a Statutory Consultation Report detailing the feedback received and our response to those comments.

The Feedback Summary Report is available on our website.

Q **Where I can view all changes made at the targeted statutory consultation?**

A You can find information on all areas of change in the leaflets available on our website.

Q **How will my feedback be considered and why is it important?**

A We are legally required to have regard to all the feedback we receive during the targeted statutory consultation. Your feedback will be assessed by our project team, who will consider it as part of a review of the proposals. Feedback from the communities will be considered alongside feedback from specialist stakeholders, environmental assessments, and engineering requirements such as safety and efficiency.

As part of our application for development consent, we will publish a Consultation Report explaining the feedback we've had and how we've had regard to it in developing the project. As part of this report, a section will include information on the targeted statutory consultation.

We anticipate the targeted statutory consultation to be our last consultation on the project. It's important you take part if there is any information you want us to consider.

Q **What feedback do you want?**

A Your knowledge is very valuable to us and we welcome any detailed feedback you have on specific changes on our proposals. We'd like your feedback on these specific areas of the route so that we can continue to look at ways to keep effects as low as we can. We are keen to understand if people have comments on the potential environmental effects of the proposals or ideas for mitigating these effects, and also comments on the potential benefits of the project. Please tell us if there are changes you think we could make to improve the proposals or reduce impacts and, importantly, why.

Q **How do I give feedback on a specific area?**

A You're able to provide feedback through the following channels:

- Emailing your comments to **info@greengenvyrnwyfrankton.com**
- Completing the hard copy form and posting it to our freepost address **FREEPOST Green GEN Cymru V2F**.

Please reference which area of the targeted statutory consultation you're providing feedback for.

Q **Can I give feedback on the whole project?**

A During this targeted statutory consultation, we are seeking feedback specifically on the updated areas of the draft route alignment. We welcome detailed comments on how these changes may affect the local area, as this will help us refine our proposals.

Q **Will there be more targeted consultation?**

A We anticipate this will be our last consultation period before we submit our application to the Secretary of State for Energy and Net Zero via the Planning Inspectorate later in 2026.

Q **Is the Rhiwlas statutory consultation part of this project?**

A The Rhiwlas statutory consultation relates to Green GEN Cymru's proposal for a 132 kV overhead line, approximately 35km in length, supported on wood poles. This would run between Rhiwlas Energy Park near Llangurig and Cors y Garreg substation.

The Rhiwlas statutory consultation will run from 11 February to 11 March 2026. If you would like to provide feedback on that proposal, please visit the project website: **www.rhiwlasgen.wales**