

GREEN GEN CYMRU TOWY TEIFI

Phase two consultation brochure Spring 2025

A stronger, more resilient electricity network for Wales



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Introduction

Green GEN Cymru is developing a new 132kV electricity connection between the Lan Fawr Energy Park located east of Llanddewi Brefi, Ceredigion to a new National Grid substation at Llandyfaelog, Carmarthenshire to help build a stronger, more resilient electricity network for Wales that unlocks clean, renewable energy for our businesses, and communities.

We have updated our proposals in response to feedback to our first consultation in 2024 and our ongoing assessments. These include:

- A draft route alignment including proposed pylon locations.
- Sections of undergrounding.

This new connection is needed to add capacity to the local network, providing the necessary infrastructure to connect renewable energy to homes and businesses. It could also help support the widespread rollout of electric heating and vehicles, helping to address the climate emergency.

In this brochure you can find out how we have considered feedback in developing the new connection, and how you can share your feedback to further shape the proposals.

The design of the connection is still open to influence – we’re asking for feedback so we can continue to keep effects as low as possible.

Our consultation runs from 5 March to 16 April 2025.

We look forward to receiving your comments.



About us

Green GEN Cymru is working to develop a stronger, more resilient electricity network for Wales and beyond – distributing clean, green energy to our homes, hospitals, schools, businesses and communities.

As an Independent Distribution Network Operator (IDNO), Green GEN Cymru's proposed network aims to unlock Wales' energy potential and support, accelerate and enable the country's net zero transition. New grid infrastructure is also needed to strengthen energy resilience, add capacity to local networks, and help pave the way for the widespread rollout of green heating and electric vehicles.

The IDNO licence enables us to operate electricity distribution networks, supporting the growing demand for renewable energy across the country. As a regulated business, our distribution network can also allow direct connection for energy users – such as public buildings and businesses, and new energy generators including community and other renewable projects.

We are inviting expressions of interest from prospective customers, from both energy generators and energy users. If you would like to connect to our network, or are interested in an initial feasibility discussion, please contact customerconnections@greengencymru.com.

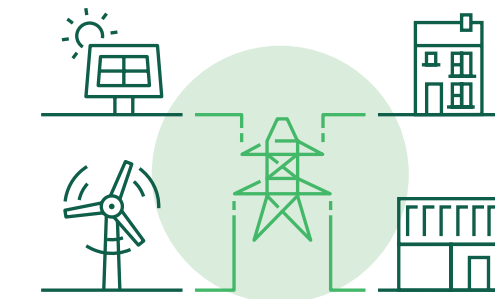
We're playing a pivotal role in developing a robust and reliable distribution network that can help tackle the energy crisis, climate crisis, as well as the cost-of-living crisis, empowering rural communities through reducing the pressure on the existing grid.

We are committed to working closely with Welsh communities and stakeholders as we develop our plans, to maximise the benefits and minimise the impacts for local people.

Adding needed grid capacity



**Increasing renewable generation,
reducing use of fossil fuels**



**Connecting electricity to
homes and businesses**



**Acting now to tackle the
climate emergency**

**Ceredigion County Council –
Achieving Net Zero by 2030**



“The climate emergency needs to be responded to at every level. In Ceredigion we need to respond at a county-wide level and as such organisations and individuals from across the county need to come together to find solutions and ensure substantial change happens quickly.”

**Carmarthenshire County Council's
Net Carbon Action Plan**



“We are committed to tackling climate change and acknowledge that we have a significant role to play in both further reducing our own greenhouse gas emissions and providing the leadership to encourage residents, businesses and other organisations to take action.”

Why the connection is needed

Tackling the climate emergency, connecting new renewable developments, expanding businesses and supporting the electrification of our heating and transport systems will require more grid capacity. These are challenges that Wales faces, ones that need to be tackled urgently and ones that Green GEN Cymru is trying to help address.

There is an abundance of clean, renewable energy in Wales, particularly from the wind that blows across our hills and mountains. New energy parks are proposed in the region, but the existing electricity network does not have the required capacity to connect them.

As an Independent Distribution Network Operator, Green GEN Cymru's role is to provide a connection for energy generators and users.

Without a connection, the renewable energy provided by these proposed energy parks could not be made available to communities and businesses, both locally and nationally.

If we do not upgrade the existing electricity network quickly, we risk missing renewable energy targets and failing to address the climate emergency. The Towy Teifi project could play an important role in addressing these concerns by delivering clean, renewable energy from where it is generated to the communities and businesses who need it.

Our proposals

Following our first consultation in 2024, we have developed our proposals in response to feedback and our ongoing assessments.

We have produced a draft route alignment showing proposed locations for the infrastructure we need.

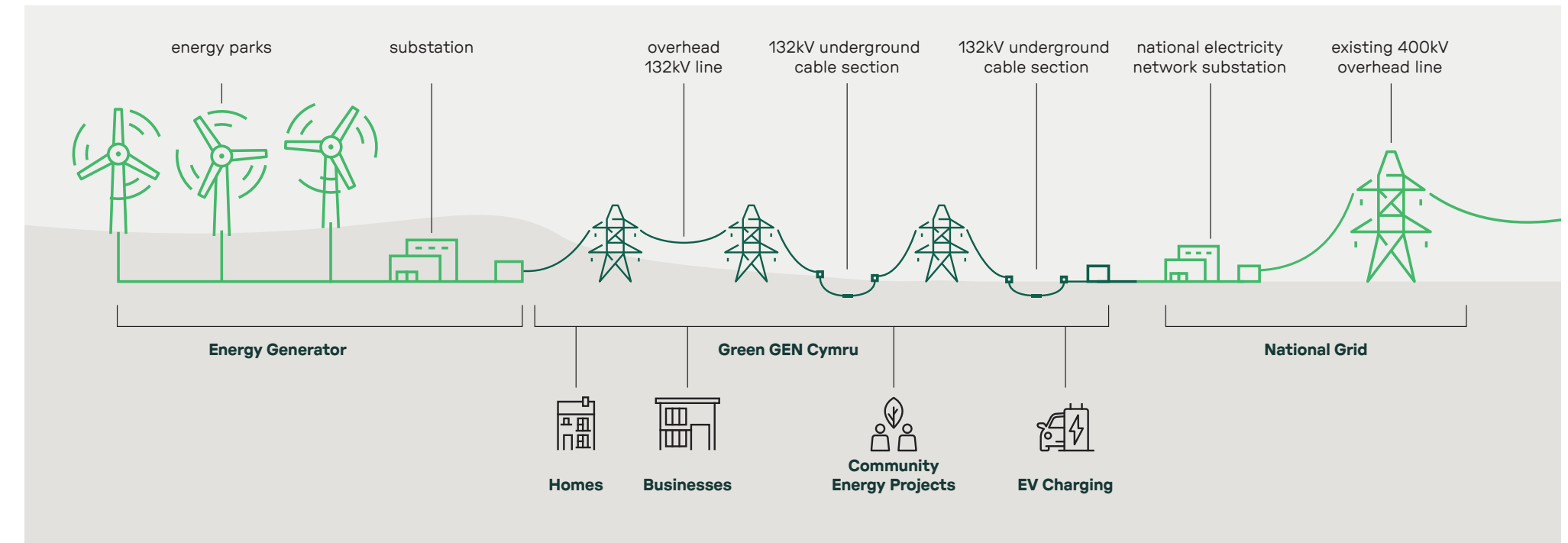
The draft route alignment outlines our plans for a 132 kV connection, measuring approximately 52km from Lan Fawr, Ceredigion to a new National Grid substation in Llandyfaelog, Carmarthenshire. Our latest proposals include:

- A new draft route alignment near Cwmann, further away from homes and the primary school.

- A section of undergrounding in the Merlin's Hill area in recognition of its cultural and historical significance.
- A second section of undergrounding near to Llandyfaelog substation to help manage visual effects in an area where there is already existing infrastructure.
- A draft route alignment showing proposed locations for pylons, seeking to keep effects as low as we can on communities and the landscape.

The more detailed design will give people a much better sense of what the connection could look like from where they live.

The design includes pylons with an average height of 29.5m. These are the smallest pylons available to us to carry the amount of power being generated.



Providing feedback

Feedback we have received to date from local people, landowners, and specialist organisations has been important in developing our proposals, alongside our own assessments.

Our proposals are still open to influence, and we'd like your feedback so we can continue to look at ways to keep effects as low as we can. Please tell us if there are changes you think we can make to improve or reduce impacts and, importantly, why.

We're asking for comments on:

- Our draft route alignment, including proposed pylon locations and sections of undergrounding.
- Any other information or impacts we should consider when reviewing and developing our proposals.

We can only consider feedback about our proposals, not wider themes such as energy generation or government policy.

We have organised the draft route alignment into five sections. The feedback form is organised into similar sections, there is also space to provide broader feedback specific to the overall project.

Please submit your feedback to us by 23:59 on Wednesday 16 April 2025. Any feedback received after this date may not be considered by our team. All the feedback we receive will be reviewed and carefully considered as we develop our plans.

The more detail you can provide, the better we can understand the potential impacts of our work. We look forward to receiving your feedback.

There are several ways to provide project feedback.

- Online feedback form on our website: **www.greengentowyteifi.com**
- Hard copy feedback form, available at consultation events or on request
- Sending an email to: **info@greengentowyteifi.com**
- Sending written feedback to: **FREEPOST GREEN GEN CYMRU TT**

We are holding community consultation events for you to find out more about our proposals. You can talk to our team and view a digital 3D model of the connection.

Consultation event locations

Event	Date	Time
Aberduar Baptist Chapel, Glanduar, Llanybydder SA40 9RS	Thursday 20 March	2pm-7pm
Llanpumsaint Memorial Hall, Llanpumsaint, Carmarthen SA33 6BZ	Friday 21 March	11am-4pm
Peniel Community School, Peniel, Carmarthen SA32 7AB	Saturday 22 March	10am-3pm
Lampeter Wellbeing Centre, Peterwell Terrace, Lampeter SA48 7BX	Thursday 27 March	2pm-6pm
Llandyfaelog Community Hall, Llandyfaelog, Kidwelly SA17 5PA	Friday 28 March	2pm-7pm
Pencader Pavillion, Pencader, Carmarthen SA39 9ER	Saturday 29 March	10am-3pm

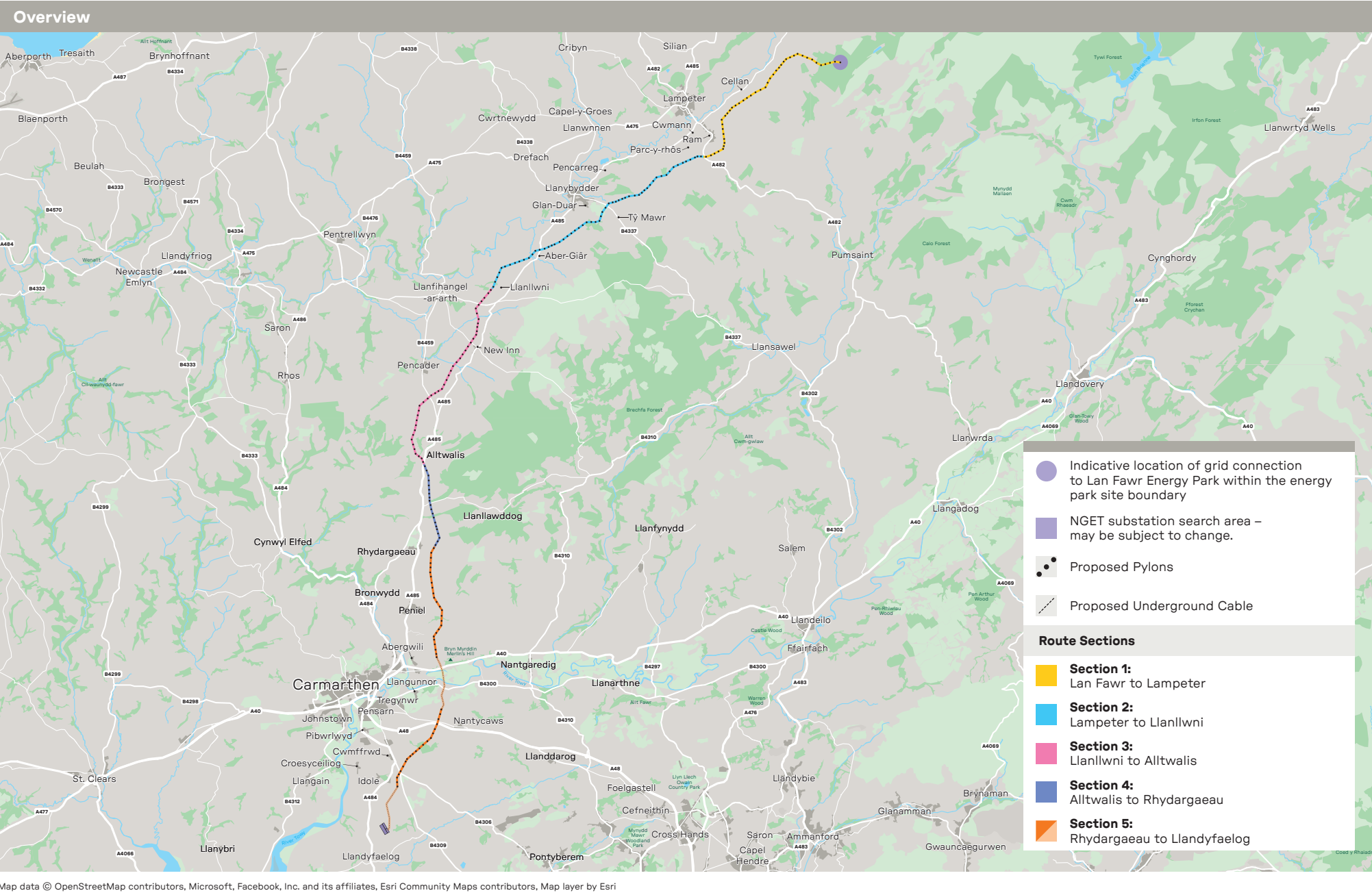


Developing the draft route alignment

We've developed a draft route alignment which includes sections of undergrounding, proposed pylon locations, and associated infrastructure.

The draft route alignment has been planned in great detail and is still open to change. In addition to the feedback received to date, we have considered a range of factors including:

- **Technical:** making sure the connection would operate safely and securely
- **Ecology:** such as important plant and animal species
- **Cultural heritage:** areas of historical significance, such as archaeological sites
- **Cost:** making sure the connection would be cost-effective to build and operate, in line with Ofgem's requirements to help keep consumer electricity bills as low as possible
- **Landscape:** the setting of the landscape, including views to and from the area
- **Socio-economic factors:** including tourism and other activities, such as agriculture
- **Obligations & regulations:** national and regional planning guidance and law, which include statutory requirements placed on us when operating as an IDNO



Section 1: Lan Fawr to Lampeter

Our draft route alignment starts at the proposed Lan Fawr Energy Park. The final positioning and full details of the onsite substation will be included in the energy park planning application.

The draft route alignment follows a westward direction towards Llanfair Clydogau and the Afon Teifi, before turning southwest and passing Pentrefelin, Cellan and Ram. Crossing the A482, Section 1 finishes at a point southeast of Parc-y-rhôs.

The draft route alignment in this section will measure approximately 9.8 km in length, supported by approximately 44 steel lattice pylons.

Key considerations for the draft route alignment for Section 1 include:

- **Residential properties** – in response to public feedback the draft route alignment has been moved further eastwards to maximise distances from properties in Cwmann and Ram.
- **Local primary school** – as a result of public feedback, we have moved the draft route alignment outside the Preferred Route Corridor in this location to increase distance from Ysgol Carreg Hirfaen, the local primary school.

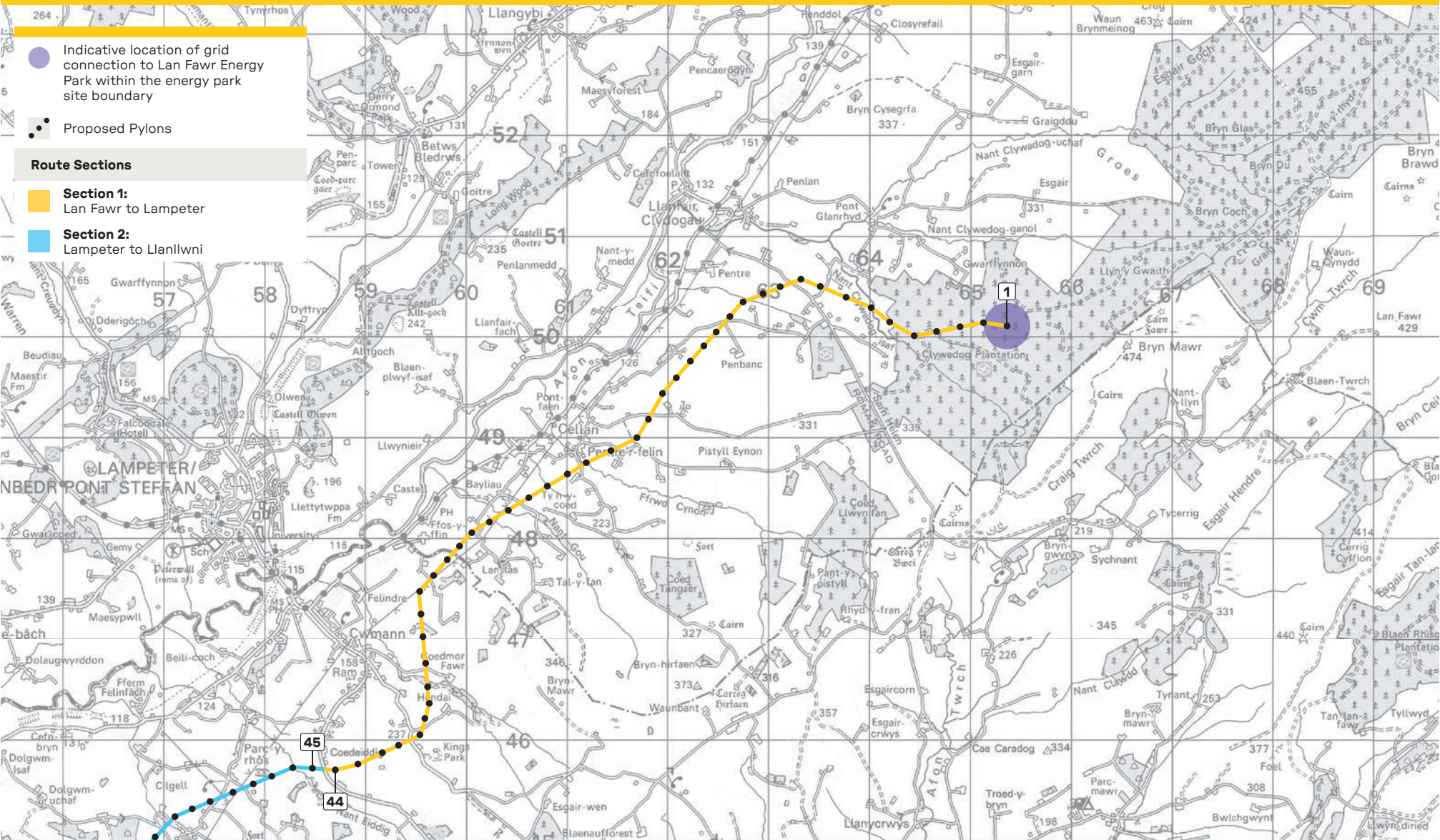
- **Flood risk** – whilst choosing pylon locations, precautions have been taken to avoid placing pylons in two areas of flood zone in the vicinity of Pentrefelin.
- **Woodland** – the draft route alignment ensures any tree loss is minimised and avoids crossing areas of ancient woodland.
- **Important habitats** – pylon locations have been carefully selected to avoid known priority habitats such as Purple Moor Grass and Rush Pastures, and Lowland Dry Acid Grassland. Priority habitats will be addressed through detailed design once we have identified their locations during site surveys. The final pylon locations will be chosen to avoid these areas as much as possible.

More information

For more detailed information on route options considered and how we identified the draft route alignment, please read the Routeing and Consultation Document on our website: www.greengentowyteifi.com



Section 1: Lan Fawr to Lampeter



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Open source datasets used to produce constraints mapping obtained from:
Natural Resource Wales, Cadw, Data Map Wales, Ordnance Survey, West Wales Biological Information Centre, Royal Society for the Protection of Birds, British Geological Survey, Dyfed Archaeological Trust, National Forest Inventory Wales, Carmarthenshire County Council, Ceredigion County Council, The Coal Authority, Llwodraeth Cymru, National Grid, UK Government, Welsh Government, Ministry of Defence

Section 2: Lampeter to Llanllwni

From Parc-y-rhôs, Section 2 follows a southwest direction, passing southeast of Llanybydder and progressing north of Aber-Giâr, before intersecting with the A485 and the Nant Hor. Avoiding areas of steep slopes around Mynydd Pencarreg and Mynydd Llanybyther, the route continues southwest and then southward, passing northeast of Aber-Giâr and to the east of Llanllwni.

The draft route alignment in this section will span approximately 12.5km, supported by 57 steel lattice pylons.

Key considerations for the draft route alignment for Section 2 include:

- **Residential properties** – the draft route alignment is placed outside the Preferred Route Corridor in this area to increase distances from residential properties in Llanybydder, Rhydybont and Ty Mawr, whilst ensuring it is not positioned too close to scheduled monuments and woodland in the area.
- **Existing electricity infrastructure** – the draft route alignment is outside the Preferred Route Corridor to ensure a safe and suitable distance from existing and proposed electricity infrastructure in the northern part of the Preferred Route Corridor, notably an existing 132kV overhead line.

- **Landscape and views** – the draft route alignment has been carefully selected to avoid Mynydd Llanllwni, which is recognised as a special landscape area.
- **Important habitats** – the draft route alignment provides opportunities to avoid important habitat in this area, including Caeau Blaenbydernyn, a Site of Special Scientific Interest.

More information

For more detailed information on route options considered and how we identified the draft route alignment, please read the Routeing and Consultation Document on our website: www.greengentowyteifi.com



Section 2: Lampeter to Llanllwni



Section 3: Llanllwni to Alltwalis

At Section 3, the draft route alignment continues in a southwest direction passing the B4336, the Afon Talog and the Afon Gilwydeth, to the northeast of Llanllwni, New Inn and Gwyddgrug. Continuing southwest, the draft route alignment passes southeast of Pencader and Dolgran, crossing the A485 and finishing at a point east of Alltwalis.

The draft route alignment in this section will span approximately 10km, supported by 44 steel lattice pylons.

Key considerations for the draft route alignment for Section 3 include:

- **Residential properties** – we’ve moved the draft route alignment outside the Preferred Route Corridor, to increase the distance from Llanllwni, Alltwalis and Pencader. The draft route alignment also considers the position of scattered properties in the area.
- **Historic features** – the route has been carefully selected to ensure a reasonable distance from Castell Du Castle Mound, a scheduled monument located in Dolgran and Maesycrugiau Hall, a Registered Historic Park and Garden to the west of Llanllwni.

- **Landscape and views** – the draft route alignment is outside the Preferred Route Corridor to avoid locating pylons on the higher ground to the east, where they could be more visible.

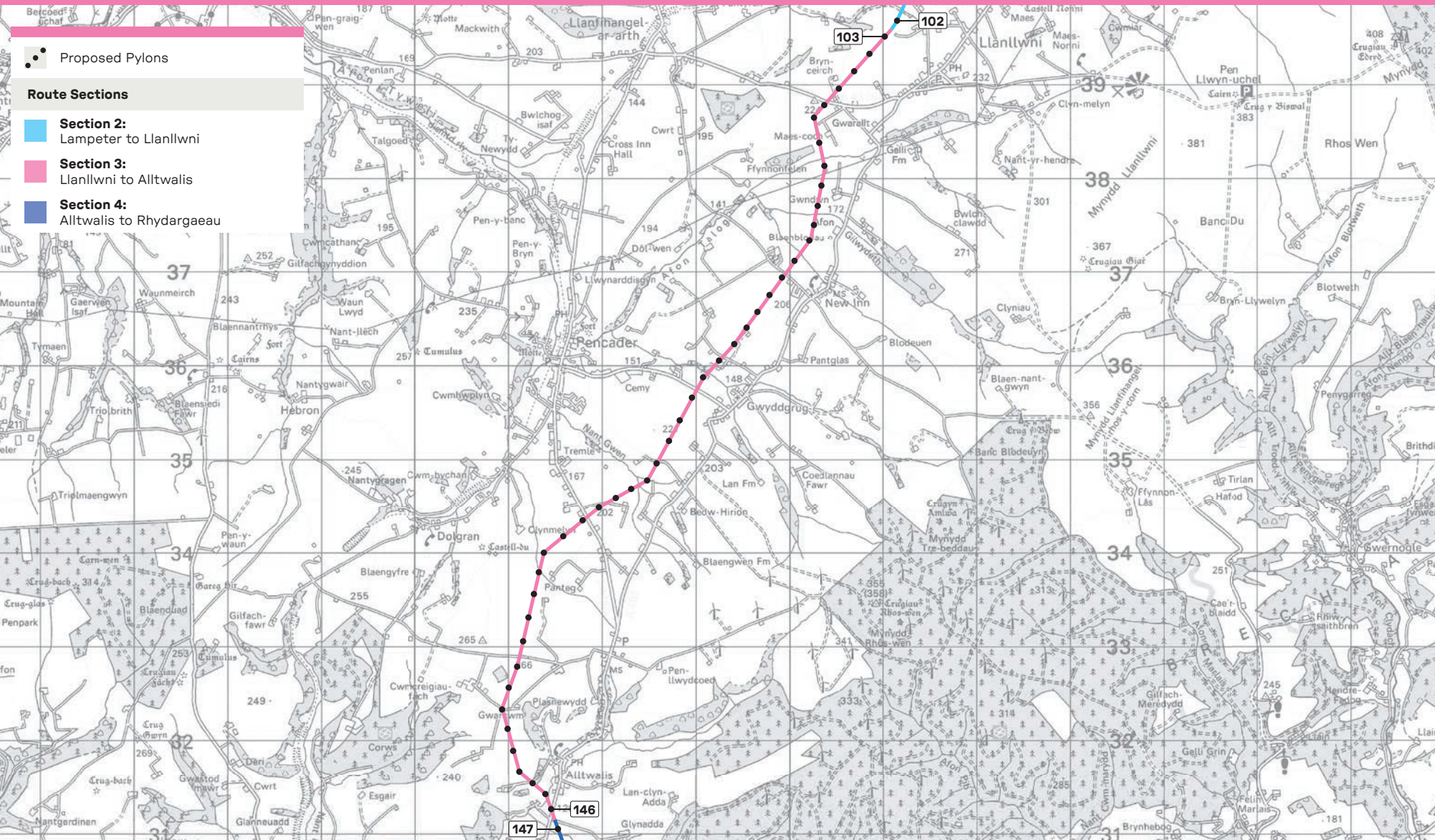
At the next design stage, we will give careful consideration to how the hilly terrain in this area can be used to screen views of pylons where possible and to avoid any potential effects on the setting of historic features in the area.

More information

For more detailed information on route options considered and how we identified the draft route alignment, please read the Routeing and Consultation Document on our website: www.greengentowyteifi.com



Section 3: Llanllwni to Alltwalis



Section 4: Alltwalis to Rhydargaeau

At Section 4, the draft route alignment follows a southerly direction, crossing the Afon Gwili and skirting the eastern periphery of Pontarsais. Continuing southwards, it crosses the Nant Corrwg and passes to the east of Rhydargaeau.

The draft route alignment in this section will span approximately 4.2km, supported by 20 steel lattice pylons.

Key considerations for the draft route alignment for Section 4 include:

- **Residential properties** – the draft route alignment is placed outside the Preferred Route Corridor towards the east, to increase distances from residential properties located near the A485 at Pontarsais and the village of Rhydargaeau.
- **Flood risk** – we have chosen a route that avoids multiple areas of flood zone associated with the Afon Gwili, avoiding areas of woodland along the riverbanks.
- **Heritage features** – the draft route alignment is outside the Preferred Route Corridor to ensure the Towy Valley Historic Landscape Area is avoided as much as possible.

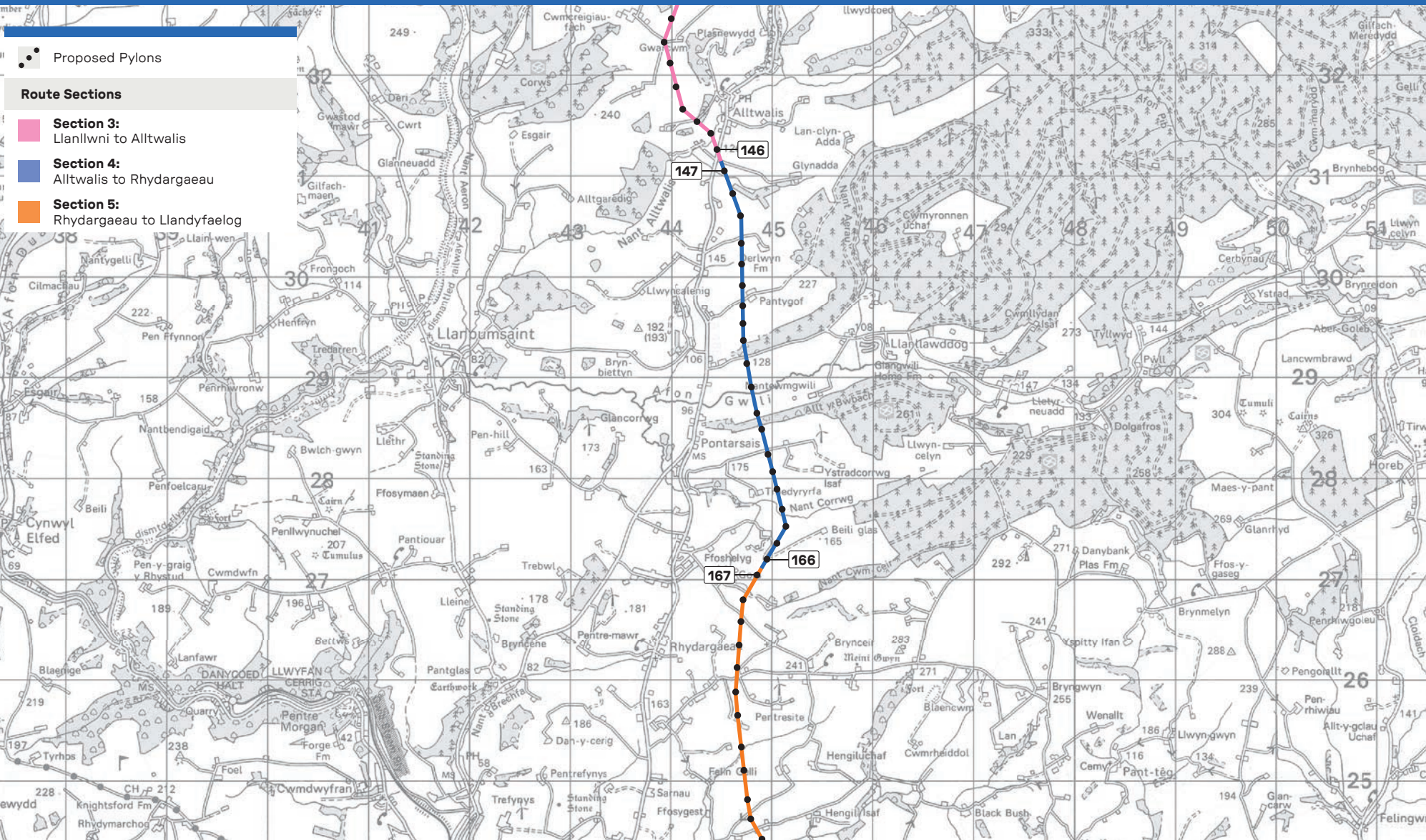
At the next design stage, we will carefully consider the woodland southeast of Rhydargaeau, as part of field surveys to ensure we keep tree loss to a minimum.

More information

For more detailed information on route options considered and how we identified the draft route alignment, please read the Routeing and Consultation Document on our website: www.greengentowyteifi.com



Section 4: Alltwalis to Rhydargaeau



Section 5: Rhydargaeau to Llandyfaelog

At Section 5, the draft route alignment continues southward from Rhydargaeau to the east of Peniel, Abergwili and Carmarthen, crossing the A48 and B4309 before finishing at a proposed switching station in Llandyfaelog. The final positioning of the converter station will be included in the substation planning application.

Section 5 is made up of a mix of electricity infrastructure, including 46 steel lattice pylons spanning approximately 10km between Rhydargaeau and Llandyfaelog.

Following public feedback and further technical and environmental studies, we are proposing the use of underground cables at two separate locations, one at Merlin's Hill and another at Llandyfaelog. The combined length of the proposed underground cabling at Section 5 is approximately 5km. Proposed pylon locations and sections of undergrounding are shown on the map.

Key considerations for the location of pylons and underground cables include:

- **Residential properties** – the draft route alignment better avoids the villages of White Mill and Cwmffrwd.
- **Woodland** – the draft route alignment is placed outside the Preferred Route Corridor in this area, reducing the amount of woodland affected by underground cabling west of Merlin's Hill.

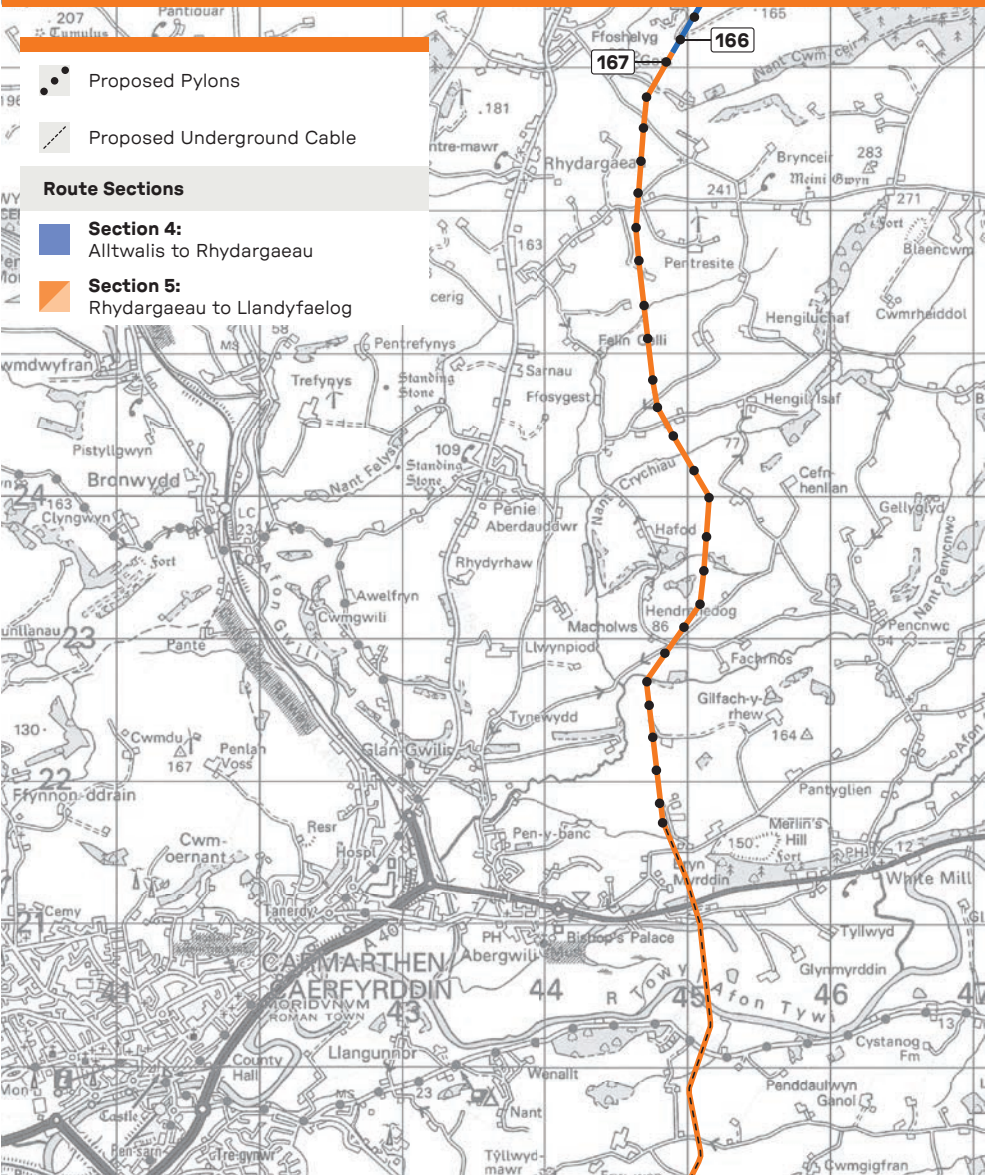
- **Flood risk** – we have chosen underground cable to cross underneath the Afon Tywi to avoid the need for pylons within the flood zone.
- **Biodiversity** – we have chosen to go under the Afon Tywi, a Site of Special Scientific Interest, and Special Area of Conservation. The draft route alignment avoids important habitats such as Lowland Fens and Reedbeds, and Purple Moorgrass and Rush Pastures.
- **Heritage features** – in response to public feedback, we are proposing undergrounding at Merlin's Hill, an important Scheduled Monument in the area, whilst also avoiding Bishops Palace, a Registered Park and Garden at Abergwili.
- **Existing infrastructure** – the draft route alignment ensures the Project does not run parallel to an existing 132 kV wood pole overhead line in the area.

More information

For more detailed information on route options considered and how we identified the draft route alignment, please read the Routeing and Consultation Document on our website: www.greengentowyteifi.com

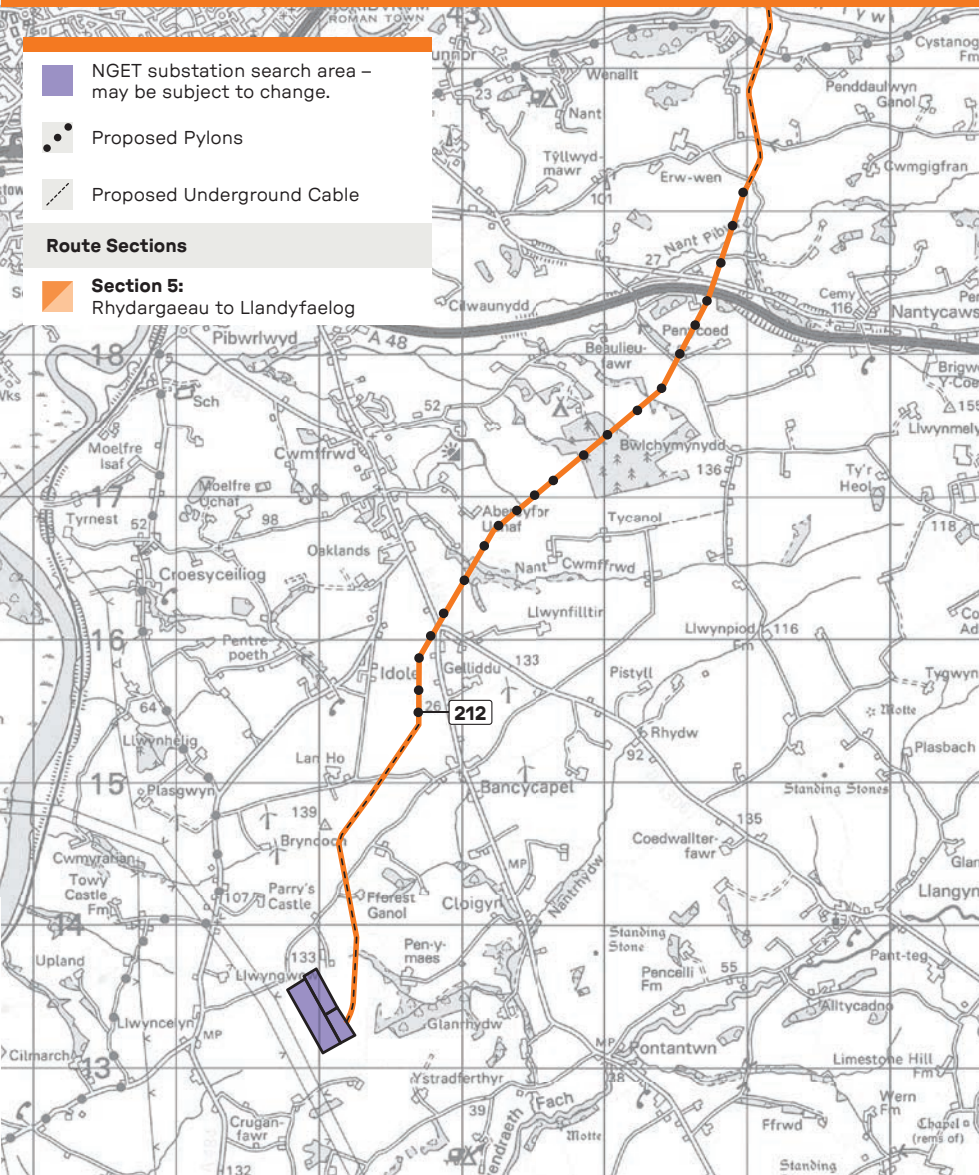


Section 5: Rhydargaeau to Llandyfaelog (north section)



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Section 5: Rhydargaeau to Llandyfaelog (south section)



Pylon design – what we’re proposing

The pylons we’re proposing have an average height of 29.5m – these are the smallest pylons available to us to carry the amount of power being generated. On average, the 212 pylons would typically be spaced 270 metres apart.

Technologies used for new electricity networks are considered in terms of community feedback, terrain, environment, land use, operation and maintenance, the power being transferred across the network, as well as cost.

When taking account of the local environment, such as the landscape, topography and woodland, and the policy requirements for overhead lines, we believe this pylon design offers the most appropriate solution.

Given the height and design of this pylon, trees and other landscape features would offer screening opportunities. Together with careful routeing, they offer opportunities to manage visual effects.

Lattice pylon key features:

- Tried and tested technology that is seen in communities across the country.
- Designed to minimise visual impact on the surrounding landscape.
- Suitable for enclosed undulating landscapes as the hills would act as a backdrop, with less of the pylon seen above the skyline.
- Designed to withstand extreme weather conditions, such as high winds and ice formation on the conductors.
- They exist in flood plains across the country and we will ensure that we use appropriate construction methods in these sensitive areas.



Installing underground cables

We are proposing two separate sections of underground cabling as part of our draft route alignment, one at Merlins Hill and another at Llandyfaelog, totalling approximately 5km. This decision has been influenced by consultation feedback and our own ongoing assessments.

Underground cables can be installed using multiple techniques, typically digging, or ploughing trenches in which the cables can be laid.

Before work starts, the 'working width' of the area is fenced off to secure the site and protect livestock. A temporary haul road is created for construction vehicles, vegetation is removed, topsoil is excavated and stored for re-use following construction, and appropriate drainage and temporary environmental protection measures are put in place.

Trenches can vary in width depending on ground conditions, the number of cables to be installed and their voltage, which determines how far apart the cables must be spaced. Underground cables are thicker than overhead conductors because they require insulation and shielding. A trench for a double-circuit electricity line of 12-18 cables can be similar in width to a dual carriageway.

Cables are delivered to site on drums and are then winched into place. Joint bays (usually underground concrete chambers) and link boxes are required at each point where cable lengths need to be joined together.

Once cable installation is complete, the trenches are backfilled (using the original topsoil wherever possible), all temporary haul roads, surfacing and fencing are removed, and the land is reinstated to its original condition.

Trenchless techniques

In some situations, such as when crossing roads, rivers or railway lines, it is not appropriate to dig trenches for underground cables. In these situations, cables can be installed in tunnels, or through augur-boring or Horizontal Directional Drilling (HDD) techniques.

Cable ploughing

Cable ploughing may be able to be used for underground construction and Green GEN Cymru is talking to contractors to understand the viability, impacts and costs of this approach.



Undergrounding section showing one circuit at two cables per phase. Towy Teifi is anticipated to need a land area at least twice this width.



Information to support the consultation

All documents for this consultation are available to view on our website: www.greengentowyteifi.com

- Phase One non-statutory consultation report – January to March 2024
- Brochure
- Feedback from
- Frequently asked questions
- Stage Two Routeing and Consultation Document



What happens next

Our project is is being promoted as a Development of National Significance (DNS) in Wales. As developers, we will submit our planning application to Planning and Environment Decisions Wales (PEDW) for review, before a final decision is made by the Welsh Ministers.

Feedback from the public, local authorities, community councils and national organisations will help us develop a final design for the project. We will also carry out further technical assessments and surveys to inform our Environmental Impact Assessment (EIA).

The EIA will then be reported in an Environmental Statement, which sets out the potential impacts of the project and any proposed mitigations.

Before we submit a consent application to Welsh Ministers, there will be a statutory Pre-Application Consultation period, where people will be able to review and comment on the detailed designs and the draft Environmental Statement.

Current Project Timeline





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