

VYRNWY FRANKTON CONNECTION

Stage one consultation brochure
September 2023

**Connecting renewable energy to
homes and businesses to address
the climate emergency**



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Green GEN Cymru is proposing a new 132kV overhead line, collector substation and cable sealing end compound to connect Llyn Lort and other energy parks in Mid Wales to the National Grid in Lower Frankton, Shropshire.

The Vyrnwy Frankton connection will be approximately 50km in length and will use 27m pylons.

This new connection will help address the climate emergency that is affecting our livelihoods by providing the necessary infrastructure to connect green energy to the grid, ready to supply homes and businesses.

Please read our consultation brochure to find out more about the project, why it is needed and details of the preferred route.

We look forward to receiving your feedback on our proposals which will be vital in helping us develop the project.

ADDRESSING THE CLIMATE EMERGENCY

The challenges of climate change are well recognised by the UK and Welsh Governments, and the local authorities in Powys and Shropshire. Both councils report that the effects of climate change are already being seen in the counties.

The UK and Welsh Governments both want to accelerate the development of renewable energy as part of plans to address the climate emergency. As we move away from fossil fuels, new energy generation will be located where it can capture sustainable sources like wind, tidal and solar. The electricity grid will also change to connect these new sources to homes and businesses.

In Mid Wales, new windfarms are proposed and the existing electricity network does not have the capacity to connect them – to end the use of fossil fuels we need new infrastructure and quickly.

Green Generation Energy Networks (Green GEN Cymru) is proposing a new substation and overhead line through the Vyrnwy Valley to connect to the existing electricity network near to Lower Frankton in Shropshire.

We know that people have differing views on new infrastructure, and we recognise people have concerns about pylons featuring in the landscape. Delivering the infrastructure we need to address climate change requires a careful balance. We are focused on causing the least disturbance to the environment and those who live, work and enjoy recreation close to our proposals.

Your feedback can help us better understand any potential effects of our proposals so we can develop them in response to local needs.

This document provides more information on our proposals, why they're needed, and how you can have your say.



**Powys County Council's
Strategy for Climate Change.**



“Ambitious action on climate change saves lives. Climate change is a significant global issue with local impacts for everyone. Powys has already experienced extreme weather events including flooding and storm damage. Although we are already experiencing the negative impacts of climate change, we can still decide what our future looks like. Our actions today impact on both current and future generations.”

**Mid Wales
Energy Strategy.**



“Transitioning to a modern, place-based decarbonised energy system that is fit for the twenty-first century poses significant challenges, but it also has the potential to bring great benefit, both for the environment and for economic and social wellbeing of our communities.”

**Shropshire Council's Climate
Change for Communities.**



“In Shropshire, long term climate change trends mean hotter, drier summers and milder wetter winters and an increase in extreme events across the seasons, including intense rainfall, extreme cold and heat waves. The extremity of change is expected to depend on future levels of emissions of climate change gases. The more that is done now to reduce emissions, the less extreme the expected impact in the future.”

**Renewable Energy in Wales,
Welsh Government.**



“As the global energy crisis deepens, domestic energy costs sky rocket, and the ticking of the climate catastrophe time bomb becomes ever more deafening, the case for rapid acceleration in renewable energy development has never been stronger.”

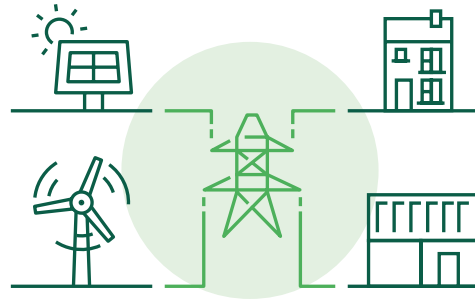
THE NEED FOR CHANGE – DELIVERING A LOW CARBON FUTURE



Addressing the climate emergency means:



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



**New grid infrastructure to connect
renewables to homes and businesses**



**Acting fast and delivering
projects efficiently**

Climate change is threatening our livelihoods, landscapes and wildlife.

Generating more energy from renewable sources and ending the use of fossil fuels is a key aim in addressing the climate emergency – an emergency recognised by the UK Government, Welsh Government, by Powys County Council, and Shropshire Council.

All agree that urgent action is needed to protect current and future generations from the effects of climate change.

The infrastructure we need to transition to a low carbon economy can also bring many benefits. It has the potential to create new skills and jobs, nationally and locally. And it will support the adoption of low carbon technologies in our homes and businesses.

Meeting these challenges and delivering on these opportunities will result in a significant change in how energy is generated and connected.

Renewable energy is being developed in new areas and the electricity grid will need to change to connect it to homes and businesses.

Green GEN Cymru's Vyrnwy Frankton connection will help deliver these priorities – connecting clean energy quickly and efficiently to help address the climate emergency.

ABOUT US

Green GEN Cymru is applying to Ofgem for an electricity license as an Independent Distribution Network Operator (IDNO), with plans to build and operate an electricity network for new renewables. Our connections will make sure renewable energy can flow to our homes, hospitals, schools, businesses, and communities.

We're an independent and fast growing business that is 100% funded by Bute Energy Group and its investment partners. We're playing a pivotal role in creating a more resilient and reliable network – providing for a future in which we all rely more on electricity as we move away from gas and oil.

We have a vision for a healthier, wealthier Wales that uses energy generation as a positive power for the world, for Wales, for local communities – for this and future generations.

On top of this we will invest millions of pounds directly into communities closest to our projects. As part of the Bute Energy Group, we could invest approximately £800 million into the fund throughout the lifetime of our projects, with an estimated £20 million a year to communities, all funded by our energy parks if consent is granted.

In an industry first, we will pay £7,500 per Megawatt (MW) of installed capacity into the fund which will then be shared with communities closest to our infrastructure projects, like the Vyrnwy Frankton connection.

The community fund will play an important role in promoting the wellbeing of the local community, by providing financial support for initiatives that improve the quality of life for communities and address social and economic concerns. Our dedicated community benefits team will work with local communities to identify areas, projects, groups and services that might benefit from investment.

This means there is an opportunity for everyone in the community to have their say on where they would like to see this money invested.

NEW ONSHORE WIND IN MID WALES

Llyn Lort Energy Park near Cefn Coch is one of the energy parks planned in Mid Wales. There is potential for other onshore wind developments in Mid Wales too.

With a total of 25 wind turbines, Llyn Lort could generate up to 165MW of electricity, enough to power 144,000 homes per year. This amount of green energy has the potential to displace 10.1 million tonnes of CO₂ per year.

Llyn Lort's location has been strategically selected to reduce effects on local communities while in a location with excellent wind resources, harnessing this power to supply homes and businesses with the energy they need for a low carbon future.

In Mid Wales and Shropshire, the existing electricity network does not have the capacity to connect new renewables to homes and businesses, locally and nationally – to end the use of fossil fuels we need new infrastructure and quickly. If we do not upgrade the electricity network quickly, we risk missing renewable targets and failing to address the climate emergency.

To provide feedback on the Llyn Lort consultation, please visit their website: www.llynlortenergypark.wales

Renewable Energy in Wales,
Welsh Government.



“There can be no illusion: without necessary investment in new grid infrastructure, or plans to upgrade existing infrastructure in Wales in the short term, there will not be the development in renewable energy to meet the 2030 and 2050 targets, let alone a new 2035 target.”



x25
wind turbines

enough to power

144
thousand
homes per year



-10.1
million
tonnes of CO₂ per year



up to

165 MW
of electricity



OUR PROPOSALS IN POWYS AND SHROPSHIRE

The existing electricity network does not have the capacity to connect the proposed energy parks. Green GEN Cymru is providing a new connection so the energy generated can be used in homes and businesses, locally and nationally.

The new connection needs to have sufficient capacity to carry the energy from the Llyn Lort Energy Park and other potential onshore wind developments in Mid Wales.

We've assessed options for how and where to connect the new energy parks to the existing electricity network, looking at options in Shropshire, North and South Wales.

A collector substation and a new 132kV connection to the national electricity transmission network in Shropshire is the most efficient way to do this – it would provide capacity for Llyn Lort and other proposed windfarms in Mid Wales and avoid the need for a network of many, smaller individual connections.

We also assessed options for a route for the new connection. While developing the preferred route we considered the Holford Rules, which set out principles for routing overhead lines, including choosing natural backgrounds rather than sky backgrounds, and using open valleys with wooded areas rather than areas at height.

The best performing options were to connect to a point near Lower Frankton in Shropshire, with a route through the Vyrnwy Valley and Shropshire.

Where we connect to the national electricity network, National Grid as owners of that network, would need to develop a substation to receive our 132kV connection. The design, development and consent of that substation will be managed by National Grid and is separate to our project.

In our work we assessed:



Visual effects



Community effects



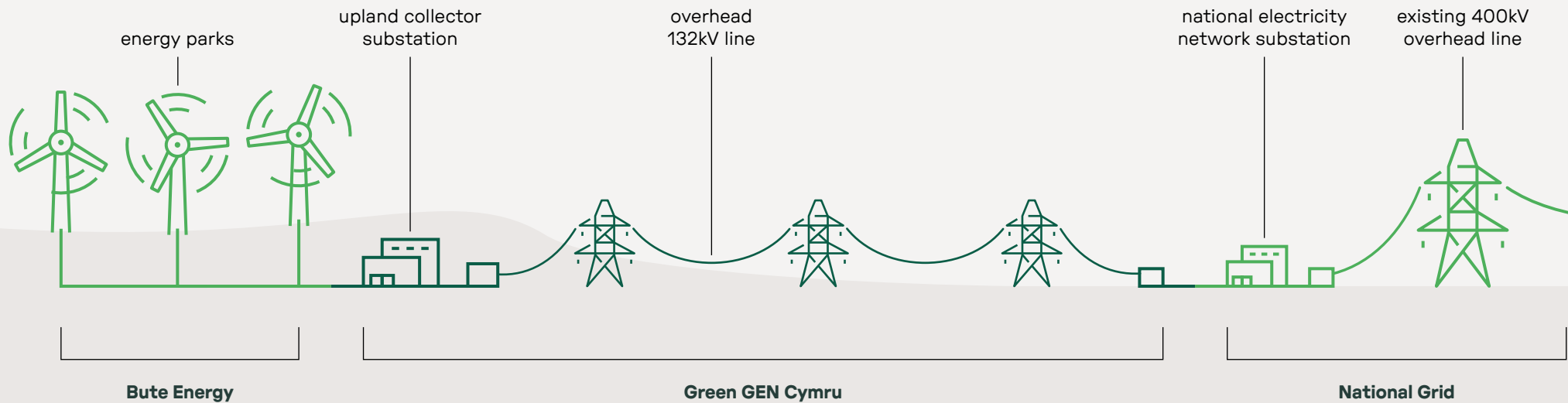
Environment and heritage



Costs



Technical needs



Green GEN Cymru's proposals are:

- A collector substation in the Powys uplands to receive connections from the energy parks
- An overhead line from the substation through the Vyrnwy Valley to a connection point on the national electricity network near Lower Frankton in Shropshire

We're proposing to use 27m steel lattice pylons. These are significantly smaller than the pylons proposed previously in the area by National Grid. The collector substation in the Powys uplands is less than half of the size of the substation previously proposed by National Grid.

We do recognise our proposals are similar to National Grid's previous plans in the area. We've completed our own new assessments and while the conclusions are similar, they are the result of original and independent work. You can read more about our assessment work in the following documents on our website:

- Grid Connection Strategy
- Routeing and Consultation Document
- Approach to Routeing Document

Your feedback

You can help us understand any potential effects and benefits that we may not have considered in our work to date, and to inform our work going forward. See page 12.

Bute Energy is also consulting on the Llyn Lort energy park at this time. While the projects are being developed and consulted on separately, they share the same consultation timeline. Please visit their website to find out more: www.llynlortenergypark.wales

WHY PYLONS – A PROVEN TECHNOLOGY TO MEET A PRESSING NEED

Pylons feature in many areas in England and Wales where landscape, agriculture and tourism are thriving parts of the local economy – electrical infrastructure and these activities co-exist in many places.

We're proposing to use 27m steel lattice pylons. These are significantly shorter and less bulky than the pylons proposed previously in the area by National Grid – any visual effects are significantly less as a result. While they were considered, we found that wood poles are not able to support the electrical capacity we need for this new connection.

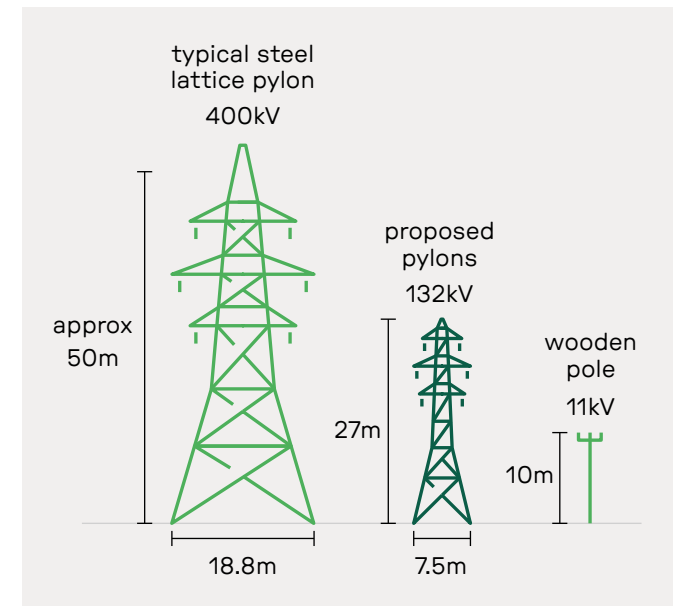
Pylons are used all over the world as a proven means of connecting energy safely, reliably and efficiently. Using pylons is in line with national policy guidance for electrical connections.

Underground cables are typically between 6 and 10 times more expensive than overhead lines. Underground cables require more land and create more ground disturbance during construction, when compared to pylons, which has the potential to create more significant ecological and archaeological impacts.

Overhead lines can be developed quickly – providing the new connection quickly is key if we're to bring low carbon energy to homes and businesses as soon as possible.

We know that people have differing views on new infrastructure, and we recognise people have concerns about pylons featuring in the landscape. Delivering the infrastructure we need to address climate change requires a careful balance. We are focused on causing the least disturbance to the environment and those who live, work and enjoy recreation close to our proposals.

We will develop our proposals sensitively and assess if any of the connection needs to be placed underground in response to ongoing assessments and consultation feedback.



A RESILIENT NETWORK FOR A LOW CARBON FUTURE

Our project can also contribute to a more resilient and reliable network for the region – providing for a future in which we all rely more on electricity as we move away from oil and gas.

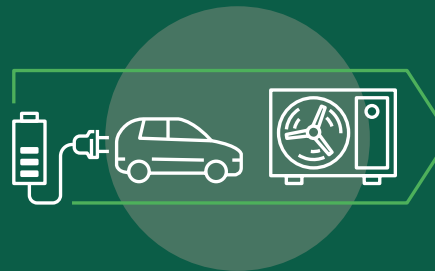
A high performing electricity network is key to:



ensuring homes, education and businesses, both locally and nationally, have access to low carbon energy



making the transition to a future in which we end the use of oil and gas



supporting the roll out of low carbon technologies such as electric vehicles, heat pumps and other technologies that will be normal in the future



helping communities prosper by providing electrical capacity to support investment in jobs, businesses, and housing

OUR AUTUMN CONSULTATION

This consultation is open from
6 September – 18 October 2023.

We're consulting on:

- the proposed site for the collector substation and cable sealing end compound in Powys
- the preferred route we've identified for an overhead line through Powys and Shropshire

Feedback from specialist organisations and communities is a key part of how we'll develop the project. We will use your feedback to review the decisions we've made to date and to inform our work going forward. Our next steps will involve more detailed routeing, and identifying locations for pylons and additional infrastructure.

We're asking for your feedback on:

- any factors you feel have not been considered in our work to date including the identification of the preferred route, collector substation and cable sealing end compound
- any factors you think we should consider when developing our proposals for the preferred route, collector substation and cable sealing end compound

We'd also like to know if you have ideas on areas in your community that could benefit from investment through our community benefit fund. More information on this is on page six.

To find out more about the Llyn Lort consultation, please visit their website:
www.llynlortenergypark.wales

How to provide feedback

There are several ways to provide feedback:



online feedback form on our website:
www.greengenvyrnwyfrankton.com



sending an email to:
info@greengenvyrnwyfrankton.com



sending written feedback to us:
FREEPOST Green GEN Cymru V2F

Please make sure you submit your feedback to us by **23:59 on 18 October 2023**. Any feedback received after this date may not be considered by our team.

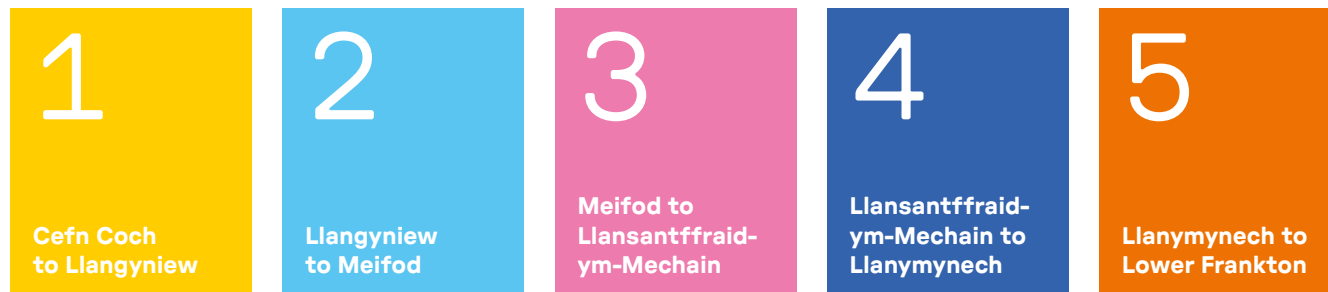
All the feedback we receive will be reviewed and carefully considered as we develop our plans.

Our consultation in autumn 2023 is the first in a two stage process – the second public consultation will be in 2024.



OVERVIEW

We have organised our proposals into sections. In the following pages there is more information on each section and what has influenced our decisions to date.



Engaging with landowners

While we're making every attempt to keep impacts on communities as low as possible, the route does cross through areas of agricultural land.

We understand our proposals may cause particular concerns for landowners and occupiers. Our dedicated lands team is in contact with landowners and are 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.





Events in your area

Meet our team and ask questions – details on page 26.








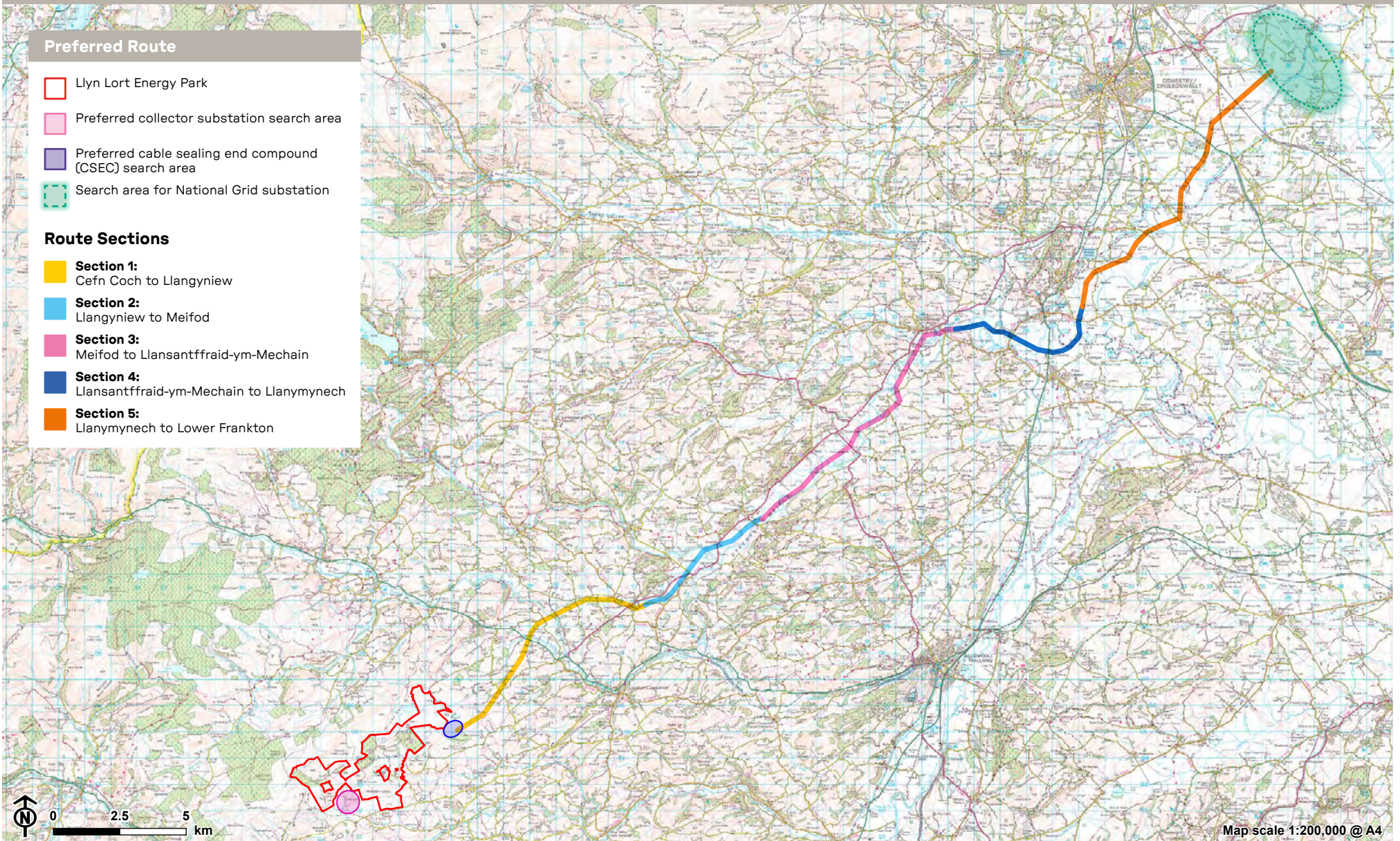
Overview

Preferred Route

-  Llyn Lort Energy Park
-  Preferred collector substation search area
-  Preferred cable sealing end compound (CSEC) search area
-  Search area for National Grid substation

Route Sections

-  **Section 1:**
Cefn Coch to Llangyniew
-  **Section 2:**
Llangyniew to Meifod
-  **Section 3:**
Meifod to Llansantffraid-ym-Mechain
-  **Section 4:**
Llansantffraid-ym-Mechain to Llanymynech
-  **Section 5:**
Llanymynech to Lower Frankton



Map scale 1:200,000 @ A4

SECTION 1: CEFN COCH TO LLANGYNIEW

This area ranges from open upland, undulating farmland and woodland on sloping valley sides, before changing to the lower river valley. The Afon Banwy and the smaller Afon Einion flow within the valley and join at Neuadd Bridge. The valley contains villages, holiday sites, infrastructure, and more trees in comparison to the upland areas. The route has been chosen to try and balance all of these considerations and reduce environmental effects where possible.

Collector substation and cable sealing end compound

The proposed collector substation location sits at the head of an upland valley, within a shallow bowl in the landscape. The area provides opportunities for routeing potential connections from other Energy Parks in the area. The proposed cable sealing end compound is located at the north eastern end of Llyn Lort Energy Park. It is close to a block of woodland which would provide potential screening, and sits within a shallow bowl which also provides some screening for the site.

Preferred route

The preferred route in this area has been chosen as it provides opportunities for reducing effects on residential properties. It also minimises the number of river crossings required and reduces interference with heritage sites when compared to the other options assessed.

Where the preferred route approaches the A458 it follows a less widely exposed part of the valley which offers opportunities to use the valley sides and existing woodlands for screening.

The preferred route is further from Moel Bentyrch which has wide views to the south east across the Banwy Valley.

This proposed route also gives options for avoiding existing infrastructure, including roads, and residential properties and businesses, and has the smallest area of common land of the options considered.

More information

For more detailed information on the route options we considered and how we identified the preferred route, please read the Routeing and Consultation Document on our website.

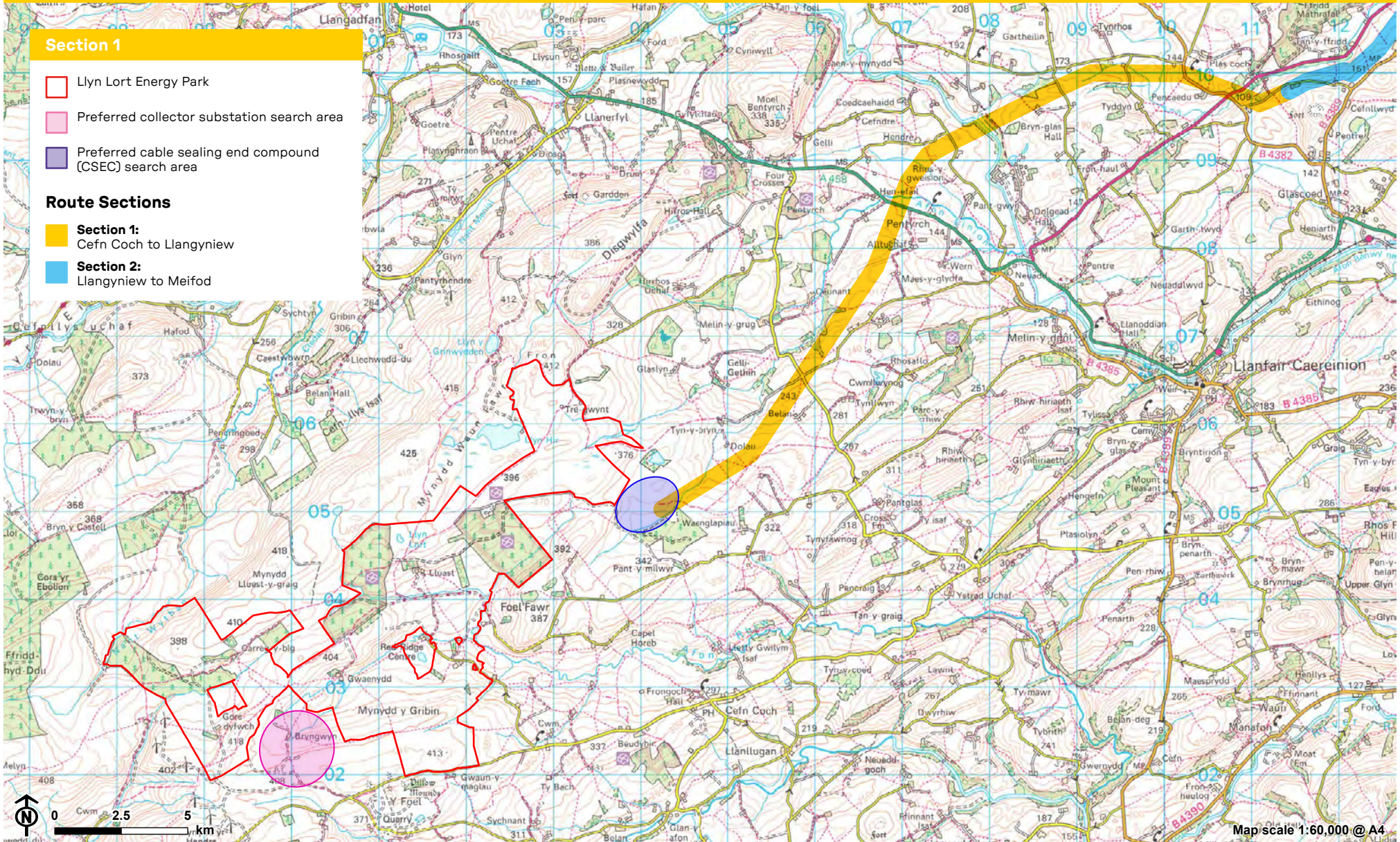
Section 1: Cefn Coch to Llangyniew

Section 1

- Llyn Lort Energy Park
- Preferred collector substation search area
- Preferred cable sealing end compound (CSEC) search area

Route Sections

- Section 1:**
Cefn Coch to Llangyniew
- Section 2:**
Llangyniew to Meifod



Map scale 1:60,000 @ A4

SECTION 2: LLANGYNIEW TO MEIFOD

This area includes rolling areas of woodland within the Banwy Valley, and the narrower but more visually open and steeply sided Vyrnwy Valley, with the Afon Vyrnwy meandering along the valley floor. As well as the villages of Llangyniew and Meifod, there are holiday sites within the area. Mathrafal is a well recognised heritage site, and there are ecologically important sites dotted throughout the area. Identifying a route in this section has sought to achieve the balancing of potential effects on all these features.

Preferred route

The preferred route in this area has been chosen to reduce effects across a range of areas including heritage, agriculture and biodiversity.

The preferred route is further away from Mathrafal and its surroundings compared to the other options we assessed. The Coed Ty-Mawr Site of Special Scientific Interest is avoided by the preferred route, and it crosses a shorter length of wood pasture and parkland compared to the other options we considered.

There are only very small areas of ancient woodland close to this section, as well as the smallest area of woodland.

More information

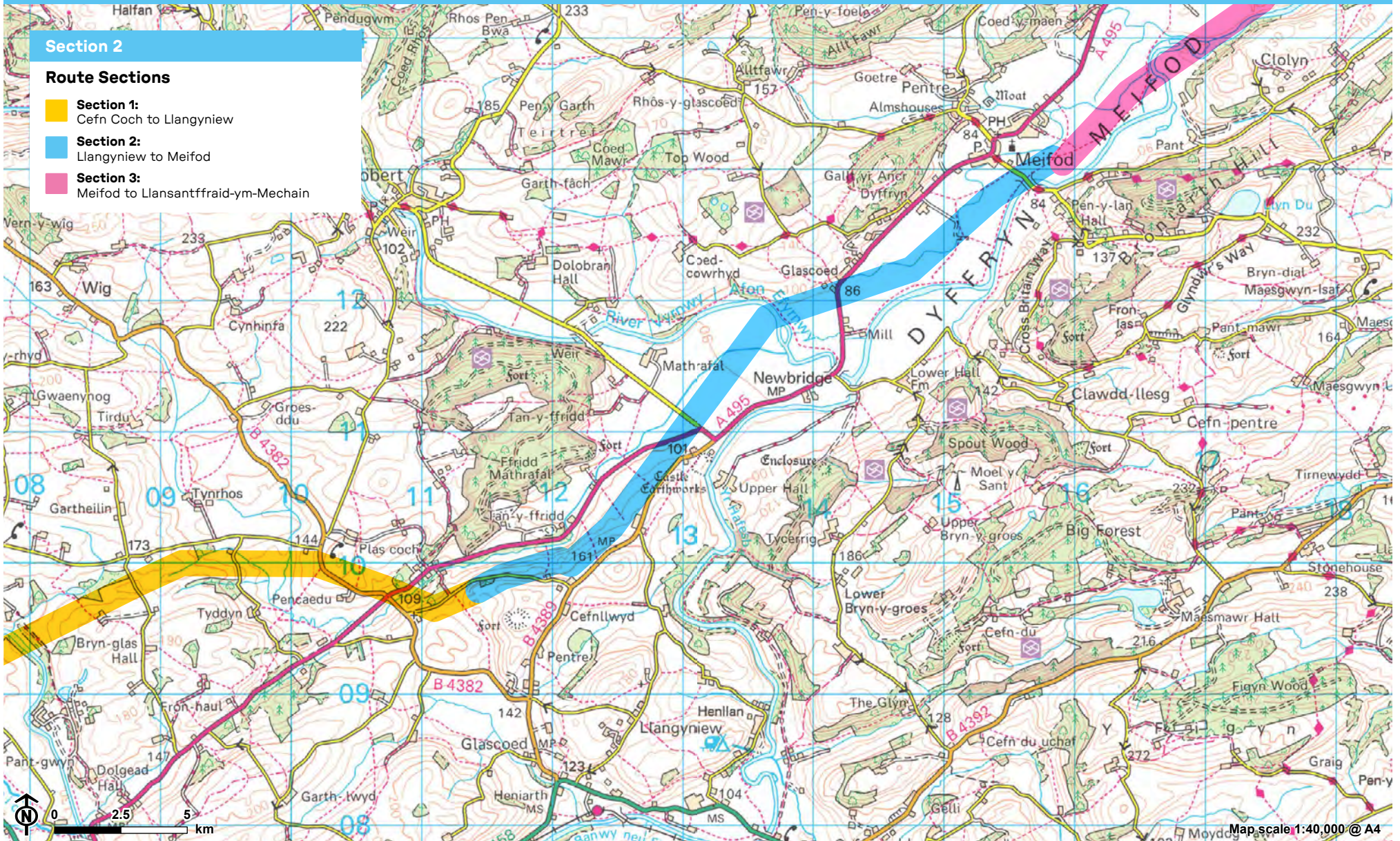
For more detailed information on the route options we considered and how we identified the preferred route, please read the Routeing and Consultation Document on our website.

Section 2: Llangyniew to Meifod

Section 2

Route Sections

- Section 1:**
Cefn Coch to Llangyniew
- Section 2:**
Llangyniew to Meifod
- Section 3:**
Meifod to Llansantffraid-ym-Mechain



SECTION 3: MEIFOD TO LLANSANTFFRAID- YM-MECHAIN

This section of the route includes historic sites, woodland and areas valued for biodiversity. Meifod and Llansantffraid are the largest communities with individual dwellings dotted throughout the area. The Afon Vyrnwy meanders through the valley bottom with some steeper slopes and areas of woodland. To the north east of Meifod, the valley is quite wide and flat as it parallels the A495, before becoming more narrow and undulating near Waen Fach. The area near to Llansantffraid contains more settlements. The preferred route has been chosen to try and balance all of these considerations and reduce effects where possible.

Preferred route

The preferred route follows the natural path of the valley, avoiding the more small-scale, undulating and intricate landscape near Plas yn Dinas, near Colfryn and Trewylan, and the steeper and more exposed valley sides to the west of the A495.

The preferred route avoids crossing the A495, and while there are residential properties and holiday sites in close proximity in the valley and near Llansantffraid, we would look to continue to avoid any potential visual effects through detailed routeing and siting of the connection

Compared to the options we considered, this route has less effect on Safleoedd Ystlumod Tanat ac Efyrynwy (Tanat and Vyrnwy bat sites) Special Area of Conservation (SAC), which is an important location of lesser horseshoe bats and their breeding patterns.

More information

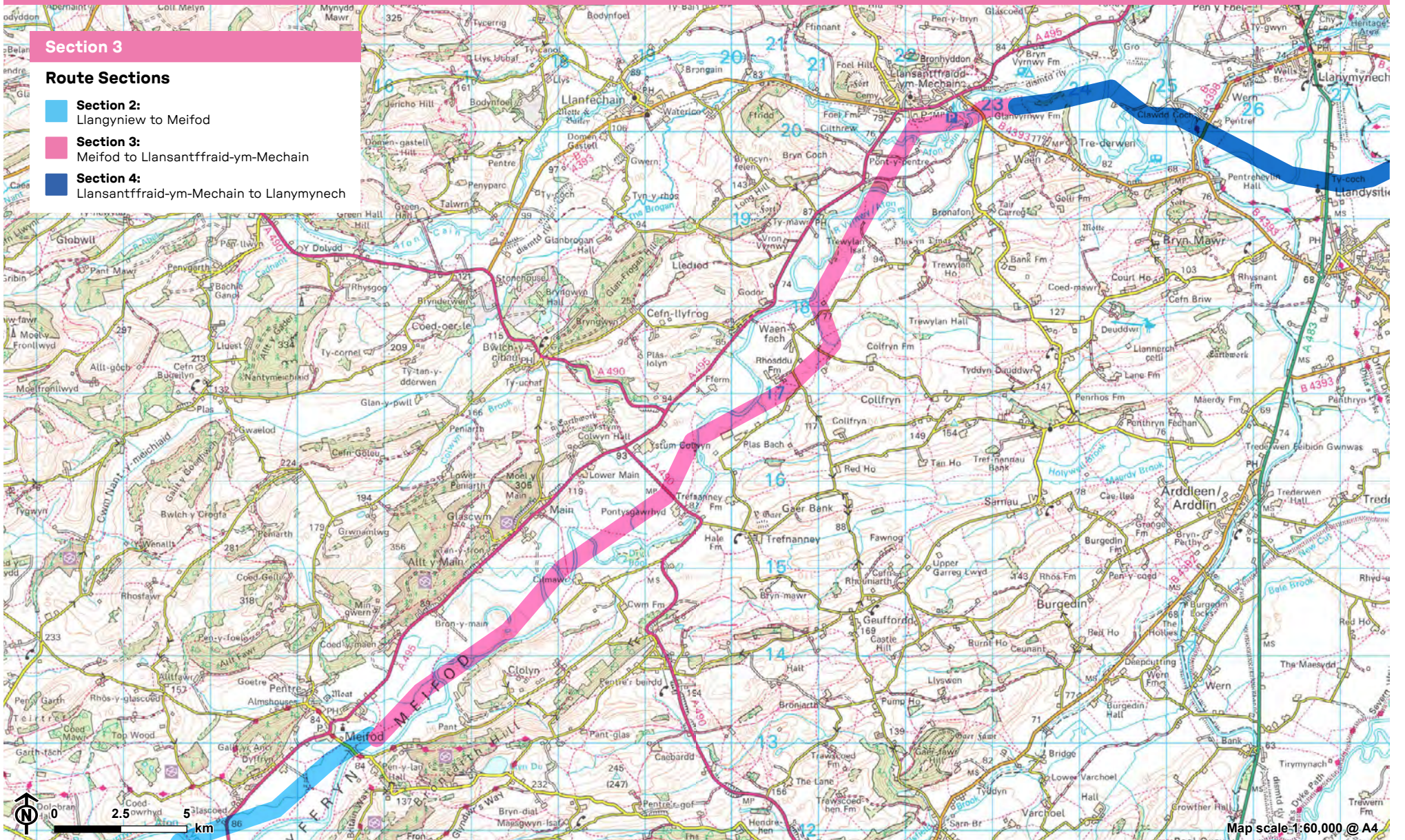
For more detailed information on the route options we considered and how we identified the preferred route, please read the Routeing and Consultation Document on our website.

Section 3: Meifod to Llansantffraid-ym-Mechain

Section 3

Route Sections

- Section 2:**
Llangyniew to Meifod
- Section 3:**
Meifod to Llansantffraid-ym-Mechain
- Section 4:**
Llansantffraid-ym-Mechain to Llanymynech



SECTION 4: LLANSANTFFRAID-YM-MECHAIN TO LLANYMYNECH

This area includes the villages of Llanymynech and Four Crosses, cultural heritage sites, and small blocks of ancient woodland. The river meanders significantly at this point, with biodiversity sites along its banks. The Montgomery Canal here is a recognised recreation and heritage feature, with the Offa's Dyke Path also crossing through. There are established caravan parks along the Vyrnwy Valley. Identifying a preferred route in this section has sought to achieve the balancing of potential effects on all these features.

Preferred route

The preferred route has been selected as it provides the best opportunities to reduce effects on villages, compared to other options we considered, and has kept an equal distance between properties where possible. The route crosses a less open section of the valley near to Carreghofa Locks where existing woodland will provide some screening to minimise visual effects. We would look to continue to minimise any potential visual effects through detailed routeing and siting of infrastructure.

More information

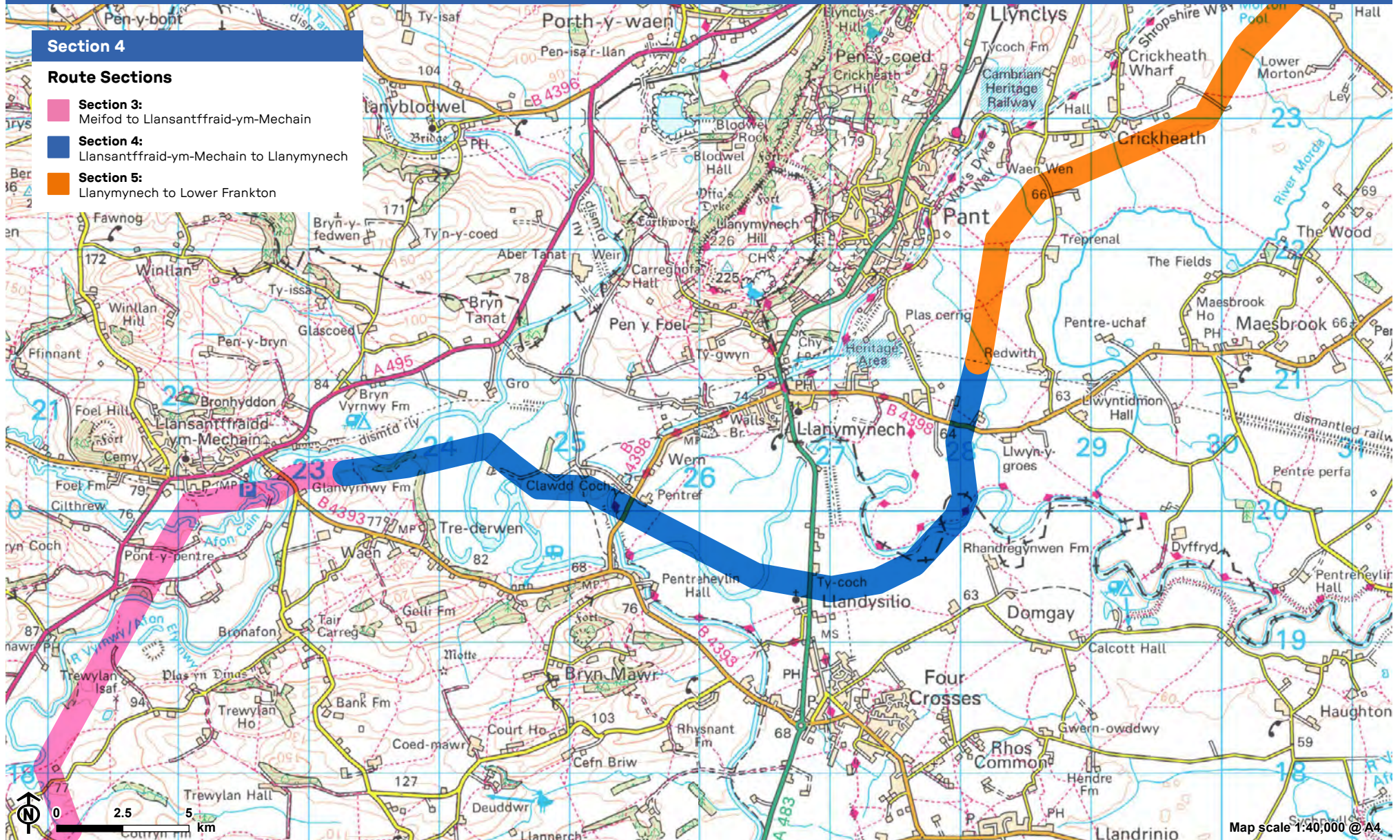
For more detailed information on the route options we considered and how we identified the preferred route, please read the Routeing and Consultation Document on our website.

Section 4: Llansantffraid-ym-Mechain to Llanymynech

Section 4

Route Sections

- Section 3:**
Meifod to Llansantffraid-ym-Mechain
- Section 4:**
Llansantffraid-ym-Mechain to Llanymynech
- Section 5:**
Llanymynech to Lower Frankton



SECTION 5: LLANYMYNECH TO LOWER FRANKTON

In this area the landscape opens up to a wider and generally low-lying area, with trees, villages and individual dwellings dotted throughout. There are heritage features throughout including scheduled monuments, conservation areas, listed buildings, and areas of historic parkland. The Midlands Mere and Mosses is recognised as an important wetland, and there are small areas of peatland in the area. Identifying a route in this section has sought to achieve the balancing of potential effects on all these features.

Preferred route


The preferred route offers good opportunities to minimise effects on residential areas and properties compared to the other options we considered and is routed an equal distance between residential properties where possible. It also avoids areas with higher elevation which could result in the connection being more visible. The preferred route provides some opportunities for screening and backdrop from existing trees, especially in the areas near Aston Hall and Pant. The route also avoids areas of mapped peatland compared to the other options we assessed.

More information




For more detailed information on the route options we considered and how we identified the preferred route, please read the Routeing and Consultation Document on our website.

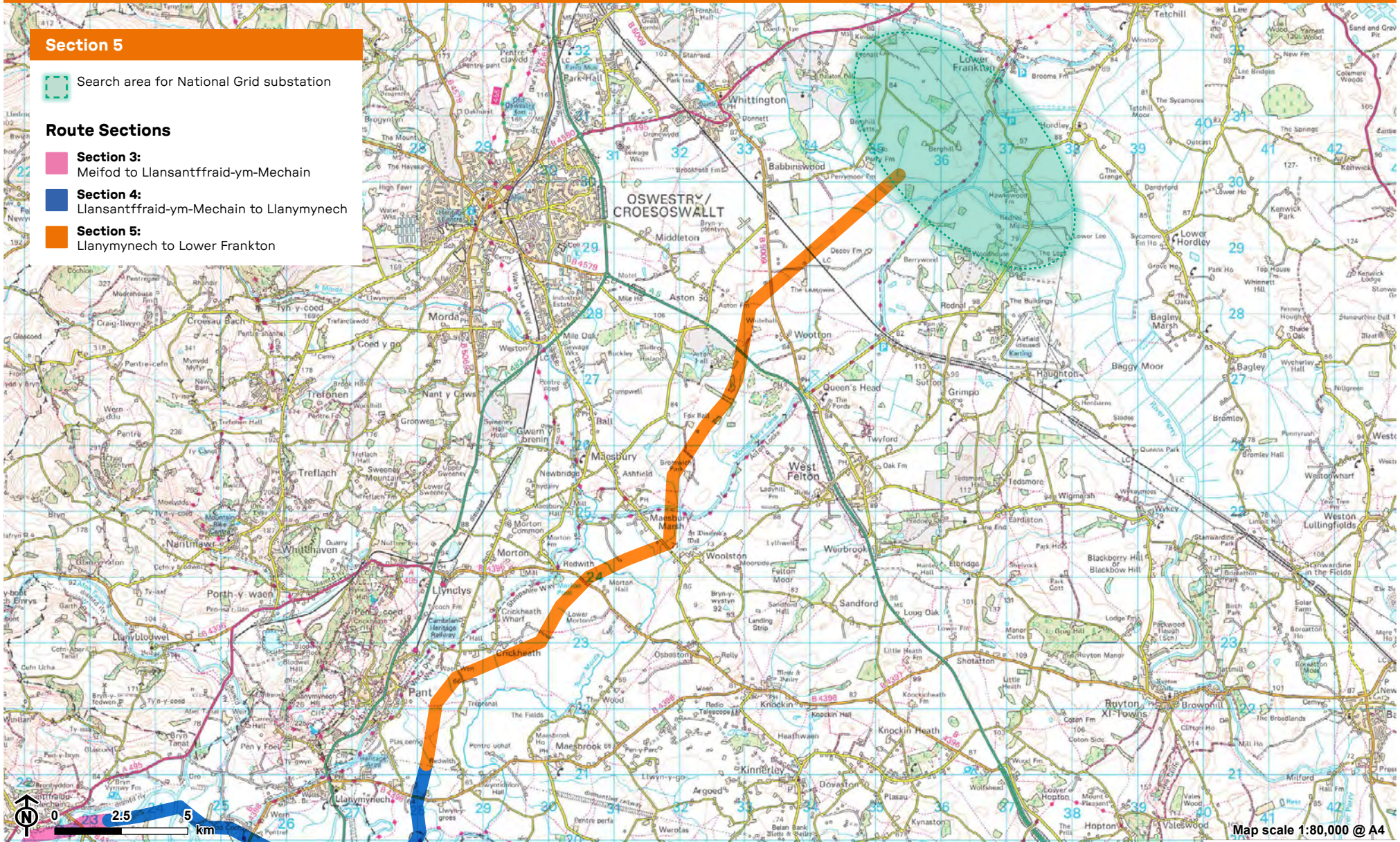
Section 5: Llanymynech to Lower Frankton

Section 5

 Search area for National Grid substation

Route Sections

-  **Section 3:**
Meifod to Llansantffraid-ym-Mechain
-  **Section 4:**
Llansantffraid-ym-Mechain to Llanymynech
-  **Section 5:**
Llanymynech to Lower Frankton



Map scale 1:80,000 @ A4

FIND OUT MORE

You can also find out more about the project and meet the team at our consultation events and webinars.

Event timetable		
Hordley & Bagley Village Hall Lower Hordley, Ellesmere, Shropshire, SY12 9BQ	21.09.2023	14:00-19:00
Llanymynech Village Hall Station Road, Llanymynech, Oswestry, Shropshire, SY22 6EE	22.09.2023	14:00-19:00
Llanfair Caereinion Public Hall and Institute Bridge Street, Llanfair Caereinion, Welshpool, SY21 0RY	23.09.2023	11:00-16:00
Llansantffraid Community Centre Treflan, Llansantffraid-Ym-Mechain, SY22 6AE	27.09.2023	14:00-19:00
West Felton Village Hall Holyhead Road, West Felton, Oswestry, Shropshire, SY11 4EH	28.09.2023	10:30-17:00
Meifod Village Hall Community Centre, Meifod, SY22 6DF	29.09.2023	15:00-19:00
Webinars		
Webinar 1	15.09.2023	13:00-14:00
Webinar 2	18.09.2023	19:00-20:00

Please visit our website to view our project animation and to register for the webinars:
www.greengenvyrnwyfrankton.com

Supporting documents

We have published the following documents for the consultation. They can be viewed at www.greengenvyrnwyfrankton.com and are available by contacting our project team.



Grid Connection Strategy



Routeing and Consultation Document



Approach to Routeing Document

PLANNING PROCESS AND PROJECT TIME LINE

Proposed new 132kV overhead line projects that are more than 2km in length and are partly in England and partly in Wales are classified as Nationally Significant Infrastructure Projects (NSIPs).

Developers of NSIPs must apply to the UK Government, via the Planning Inspectorate, for a development consent order to build and operate their project. This process places several requirements on developers including thorough environmental assessment, and consultation with communities and stakeholders.

As our current proposals are for overhead lines we are following this process. You can read more about the planning process here:

<https://infrastructure.planninginspectorate.gov.uk/>

Our consultation in autumn 2023 is the first in a two stage process – there will be a second consultation in 2024.

Project timeline

September – First public consultation

2023



Submit our development consent order for review

2025



Construction begins if the project is consented

2027



2024

Second public consultation



2026

Earliest the application would be decided



2028

Vyrnwy Frankton connection is operational





www.greengen.vyrnwyfrankton.com



info@greengen.vyrnwyfrankton.com



0800 915 3590



FREEPOST
Green GEN
Cymru V2F

We have used sustainable sources for the production of this brochure.