

# GREEN GEN TOWY USK CONNECTION

Stage two consultation brochure March 2024

Delivering a positive energy future for Wales



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# Introduction

Green GEN Towy Usk is a proposed new 132kV (132,000-volt) electricity connection that will transport clean, green energy from renewable generators in Wales to the national transmission network.

In 2023 we consulted local people on our preferred route for the new connection. Since then, we have carefully considered all the feedback we received, alongside further environmental and technical assessments, and we have made a number of changes to our proposals.

We are now proposing that the majority of Section 1 of the route, from the proposed Nant Mithil Energy Park to Aberedw Hill, will be an overhead line supported on wood poles rather than steel pylons. We also propose to cross the River Towy near Llanarthney in Section 5 of the project using underground cables rather than overhead lines, to reduce the potential for effects on the views and landscape.

We have also made some alterations to the route in other places, and we are now consulting local people on our draft route alignment, which gives more detail on where the proposed new infrastructure might go.

**Our second round of consultation runs from Wednesday 13 March to Wednesday 8 May 2024.**

You can find more information about the consultation, the draft route alignment, and our revised proposals in this document and on our website [www.greengentowyusk.com](http://www.greengentowyusk.com).

# Addressing the climate emergency

**We want to make sure Wales has the energy it needs in a Net Zero world.**

**There’s endless potential for renewable energy in Wales – particularly from the wind that blows across our hills and mountains. But we need to get the green energy generated to the many homes, hospitals, schools, businesses, and communities that need it in the rest of Wales and beyond.**

Much of the existing electricity network infrastructure in Wales was built many years ago to transport energy from old fossil-fuel power stations in the north and south. The existing network in Mid Wales does not have nearly enough capacity to connect all the new renewable energy we need for our homes and businesses, locally and nationally. To end the use of fossil fuels we need new infrastructure, and quickly.

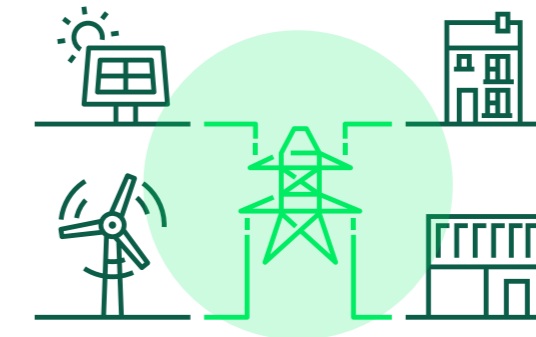
To respond to this challenge and the Welsh Government’s target to meet the equivalent of 100% of Wales’ electricity needs from renewable sources by 2035, we’re developing a stronger, more resilient renewable electricity network that is greatly needed in Wales – distributing clean, green energy.

We want to build a positive, clean future for us all. So we are acting now to build and operate a green energy network for Wales, that will make sure renewable energy can flow to our homes, hospitals, schools, businesses, and communities.

Green Generation Energy Networks Cymru (Green GEN Cymru) is playing a pivotal role in providing a reliable and robust distribution network that will tackle the energy crisis and climate crisis. It will also empower rural communities through investment, jobs, and skills, enabling communities to live modern electric lives.



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



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



**Acting fast and delivering projects efficiently**



## Who we are and what we do

**Green GEN Cymru is based in Wales and is developing green energy networks in Wales to meet the future needs of Welsh people, communities, and businesses.**

Green GEN Cymru will design, build, and operate a new 132kV (132,000-volt) distribution network needed to connect new Welsh renewable energy projects to the electricity transmission network, helping to get green energy to homes and businesses across Wales and beyond.

Green GEN Cymru has applied for an Independent Distribution Network Operator (IDNO) licence from Ofgem. The IDNO licence is required to allow Green GEN Cymru to transport renewable energy from where it is generated to the homes and businesses where it will be used. Ofgem have confirmed that the application is currently being assessed.

IDNOs are companies that develop, own, operate and maintain smaller, local electricity distribution networks (up to 132kV) within the regional Distribution Network Operator (DNO) network. In South Wales, the DNO is National Grid Electricity Distribution (NGED), and Scottish Power Energy Networks (SPEN) is responsible for the electricity distribution network across North Wales.

Our green grid network can provide a regional network solution for South and Mid Wales. Renewable energy generators will be able to apply to connect to it, reducing the need for more infrastructure in future. It also has the potential to support technologies like 5G that could help farmers, schools, and businesses to be at the cutting edge of technology while being based in a rural area. The connection could open up potential for business investment in the area and support the creation of jobs and skills and the transition from fossil fuels to renewable energy for heating homes and electric vehicles.

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

You can find out more at the Green GEN Cymru website [www.greengencymru.com](http://www.greengencymru.com).

## About Green GEN Towy Usk

**Green GEN Towy Usk will link Bute Energy's Nant Mithil Energy Park, which will generate clean, green energy in the Radnor Forest area, to the national grid.**

Importantly, other green energy projects – including Bute Energy's proposed Aberedw, and Bryn Gilwern Energy Parks – will also be able to connect to the proposed Green GEN Towy Usk line, reducing the amount of additional infrastructure needed in future. It is anticipated that the two energy parks will use single-circuit overhead lines supported on wood poles to connect to Green GEN Towy Usk.

Green GEN Towy Usk could also allow direct connection of community projects, while reducing pressure on the existing electricity grid, supporting energy resilience, green businesses and enabling green heating and the roll out of electric vehicles across Wales – particularly in rural areas.

The Green GEN Towy Usk proposal is for a new 132kV connection, approximately 97 kilometres in length between a substation in the Nant Mithil Energy Park and a new substation, to be developed by National Grid, on the existing 400kV (400,000-volt) transmission line near Llandyfaelog, in Carmarthenshire.

Our original proposal was for a double-circuit overhead line, carried on steel pylons, throughout the route. Following feedback received in our first round of consultation in spring 2023, along with further technical and environmental assessments, we have revised our plans.

Following consultation and further assessments we have revised our proposal to include a single-circuit overhead line, supported on wood poles in Section 1 of the route (from Nant Mithil Energy Park to a new switching station south of the A481 at the foot of Aberedw Hill) and a section of underground cable where the route crosses the River Towy near Llanarthney in Section 5 of the route.

**In this document you can find more detail on our proposals for each section of the route.**

**For more information about our first round of consultation, the feedback we received and how we took this into account, please see our Stage 1 Non-Statutory Consultation Report.**



## New renewable energy in Wales

Onshore renewable energy in Wales will provide greater energy security, reducing reliance on imported fossil fuels. Onshore wind offers the most cost-effective choice for new electricity in the UK – cheaper and quicker to deliver than gas, nuclear, coal and other renewables.

Headquartered in Cardiff and focused on Wales, Bute Energy is committed to playing a leading role in building a low carbon and prosperous country, delivering clean energy, and supporting viable communities, now and into the future.

Green GEN Towy Usk will connect Bute Energy’s proposed Nant Mithil Energy Park to the National Transmission System. Bute Energy’s proposed Aberedw and Bryn Gilwern Energy Parks, which are at an earlier stage of development, will also connect to Green GEN Towy Usk, via the same proposed switching station, reducing the need for individual connections from each of the energy parks to the National Transmission System.

Bute Energy’s portfolio of onshore wind farms, solar PV projects and co-located battery energy storage systems could have an installed capacity in excess of 3GW by 2030, making a substantial contribution towards meeting the renewable energy targets of the Welsh Government and the Net Zero carbon objectives of the UK Government.

For more information on the energy parks proposed by Bute Energy, please visit their website [www.bute.energy](http://www.bute.energy).

**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.”

- Up to **x70** wind turbines. Enough to power the equivalent of **375,700 thousand** homes per year\*
- Up to **427mw** of electricity
- Potential to displace **611,500 million tonnes of CO<sub>2</sub>** over the operational lifetime of the project

Indicative generation of the proposed energy parks; will be dependent on final design, turbine selection and capacity factor. \*Average UK household consumption taken from RenewableUK [www.renewableuk.com/page/UKWEExplained/Statistics-Explained.htm](http://www.renewableuk.com/page/UKWEExplained/Statistics-Explained.htm)

# THE NEED FOR CHANGE - DELIVERING A LOW CARBON FUTURE



## How we chose our preferred route for Green GEN Towy Usk in 2023

As we develop our projects, we consider the visual impacts of the overhead lines and how the potential for these can be reduced through careful routeing; for example, seeking to avoid towns and villages, and areas with environmental designations.

We apply the long-established Holford Rules for routeing overhead lines, key principles of which include avoiding prominent ridges and skylines; following broad wooded valleys; avoiding settlements and residential properties; and maximising opportunities for 'backclothing' and the screening of infrastructure.

Alongside landscape impacts, we consider other environmental and technical constraints and effects, including ecology and ornithology, recreation and tourism, hydrology, cultural heritage, ancient woodland, forestry, farming, and other land uses.

Feedback from stakeholders and local communities is also important in shaping our proposals, so at each development stage we consult on our plans.

Prior to our first round of consultation last year, we began by comparing the environmental, technical, and cost implications of 11 potential connection options (different points on the electricity transmission network in Wales and England), the findings of this work are presented in our **Green GEN Phase 1 Grid Connection Strategy**.

Following this work, we determined that on balance connecting the proposed Energy Parks to the national grid in the Carmarthen area was the most appropriate option balancing effects on communities, the environment, technical and cost considerations. This solution was taken forward for more detailed routeing studies and consultation.

Working with our environmental consultants, we identified corridors of land through which an overhead line route could be installed between Nant Mithil Energy Park, and the existing national grid network near Carmarthen, looking at how each might affect local communities, the landscape and views, biodiversity and geology, forestry, cultural heritage, flood risk, and other land uses.

From the corridors identified we selected the corridor that, on balance, best reduced the potential for effects on communities and the environment and then identified potential route options within it. Following further detailed environmental and technical appraisal, we selected a preferred route (a 200m swathe of land within which an overhead line could potentially be routed).

Our preferred route avoided the Bannau Brycheiniog National Park, sought to reduce the potential for impacts on the National Park and other sensitive landscapes, and considered how the amount of new infrastructure required could be reduced. We believed this route achieved the best balance between the potential impacts on the environment and the people who live, work, and enjoy spending their time in the area and our technical requirements. This was the subject of our first round of public consultation held in spring 2023.

### In our work we have considered



Visual effects



Community effects



Environment and heritage



Technical

#### More information

You can find more information about how we identified the route, and the other options we considered, in our **Routeing and Consultation Document** and our **Green GEN Phase 1 Grid Connection Strategy**.

## Overview of the planning and consultation process

New overhead lines of up to 132kV that are associated with devolved generation stations, are classed as a Development of National Significance (DNS) in Wales. This means that developers must submit consent applications to Planning and Environment Decisions Wales (PEDW), including a report on how we have consulted people about our plans, and final decisions are made by Welsh Ministers.

Green GEN Cymru's approach to engagement for the Towy Usk connection is to carry out three rounds of consultation with communities and stakeholders, going beyond the PEDW 'good practice' guidance to ensure that local people have the opportunity to comment at each stage of the project's development.

The three rounds of pre-application consultation that we are carrying out are:

- First round of non-statutory consultation on our preferred route, which took place between 06 March and 28 April 2023;
- Second round of non-statutory consultation on a draft route alignment for the project, including proposed pylon and wood pole locations, underground cables and switching station, from Wednesday 13 March to Wednesday 08 May 2024;
- Statutory consultation on the draft application to PEDW, which is planned for 2025.



## First round of consultation

Our first round of consultation ran from 06 March 2023 to 28 April 2023.

We asked people for their views on our preferred route for Green GEN Towy Usk, and anything they would like us to take into account when developing our proposals, as well as wider questions about climate change, renewable energy, and how Bute Energy's Community Investment Fund could be used to support local communities.

People were able to comment on the route and project as a whole, but we also divided the route into five sections to make it easier for people to view and comment specifically on the area which was of most interest to them.

We held five drop-in public exhibitions in Penybont, Builth Wells, Llandovery, Llandeilo, and Llandyfaelog, where people could view detailed plans and ask questions of the project team, and we also made maps, documents and materials available on our dedicated project website [www.greengentowyusk.com](http://www.greengentowyusk.com).

We received 2,949 consultation responses, and carefully considered all the issues raised alongside further technical and environmental assessments. You can find more information about our first round of consultation, the feedback we received and our response to the issues raised, in our **Stage 1 Non-Statutory Consultation Report**.

## Round 2 events in your area



Events

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, by providing your feedback in our second round of consultation from **Wednesday 13 March to Wednesday 8 May 2024**.

Come and meet our team and ask questions to find out more about our proposals.

See event schedule on page **36**.



## Development of the project following the first round of consultation

Following the first round of consultation we re-examined our preferred route from an environmental, technical, and economic perspective to see if we could make changes based on the feedback received and our own further assessments and site visits.

We looked at where we could make changes to the route, and also reviewed where we might be able to change the proposed technology and infrastructure (such as where it may be more appropriate to use wood poles or underground cables instead of steel pylons). Following this work, we identified a draft route alignment (including potential pole and pylon positions) guided by the reviewed preferred route.

The draft route alignment takes account of the feedback we received from communities and stakeholders, and includes consideration of biodiversity, the landscape and views, cultural heritage, woodlands, flood risk, geology and soils, other land uses, and technical needs.

Details of how the route has been updated can be found in the detailed sections of this report, on pages [16](#) to [34](#), but in summary:

### Section 1

#### Nant Mithil Energy Park to Aberedw Hill:

Further assessment showed that the power generated from the proposed Nant Mithil Energy Park can be transported on a single 132kV circuit as far as Aberedw Hill (approximately 11.3km), where a switching station at the foot of the hill can transfer it to a steel pylon double circuit. The single 132kV circuit between Nant Mithil Energy Park and Aberedw Hill can be supported on wood poles, meaning that steel pylons are not needed on this section of the route.

The switching station can also accommodate energy from the proposed Aberedw and Bryn Gilwern Energy Parks, which are at an earlier stage of development. These would also be able to connect to the switching station using single 132kV circuits, likely supported on wood poles.

Locating the switching station at the foot of Aberedw Hill allows all three proposed energy parks to connect at the same point, thereby reducing the need for additional infrastructure that would have been required if they were to connect to the network in different places. The proposed route has been moved further away from Franksbridge than originally proposed, to increase the distance from the village.

### Section 2

#### Aberedw Hill to Llangammarch Wells:

Changes to the proposed route to reduce potential effects on ancient woodland, residential properties, and priority habitats; and landscape and visual effects where the River Wye is crossed.

### Section 3

#### Llangammarch Wells to Llandovery:

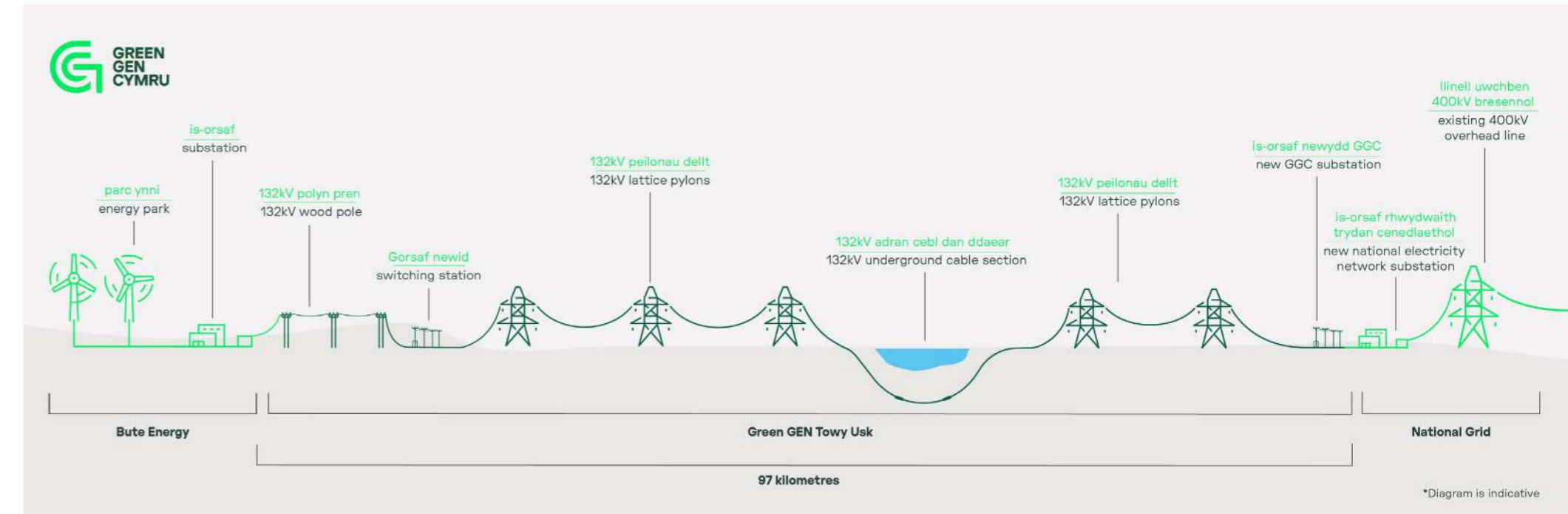
Changes to the proposed route to reduce visual effects at Cefn-gorwydd; and the introduction of two potential route options in the Crychan Forest area giving the potential to reduce potential effects on commercial woodland.

### Section 4

#### Llandovery to Llandeilo:

By following a route to the north of the River Towy, we have been able to reduce potential effects on the Towy Valley and Bannau Brycheiniog National Park, as well as visual effects at and around Llandovery and Felindre, and visual and heritage effects at and around Llangadog.

## Towy Usk connection - our revised plans



### Section 5

#### Llandeilo to Llandyfaelog:

Use of underground cables instead of an overhead line where the draft route alignment crosses the Towy Valley. At the end of Section 5, the proposed route has been moved further east to avoid the existing 132kV line and residential properties, and to reflect the proposed location for the National Grid substation.

Following feedback received at our first round of consultation, we also reviewed the Grid Connection Strategy to consider an additional option in England that was put forward.

We backchecked the methodology used in the Grid Connection Strategy and reviewed the additional option, and our conclusion is that the most appropriate connection option remains at a new substation in Carmarthenshire.

The Green GEN Phase 1 Grid Connection Strategy has been updated to reflect this work.

**We know that new infrastructure can be disruptive to communities. We are committed to doing everything we can to cause the least disturbance to the environment and those who live, work, and enjoy recreation close to our proposals.**

# Our draft route alignment explained

We have organised the draft route alignment that we are taking forward into five sections for ease of reference.

In the following pages there is more information on each section and what has influenced our decisions to date.

1	2	3	4	5
Nant Mithil Energy Park to Aberedw Hill	Aberedw Hill to Llangammarch Wells	Llangammarch Wells to Llandovery (Options A and B)	Llandovery to Llandeilo	Llandeilo to Llandyfaelog

## Events in your area

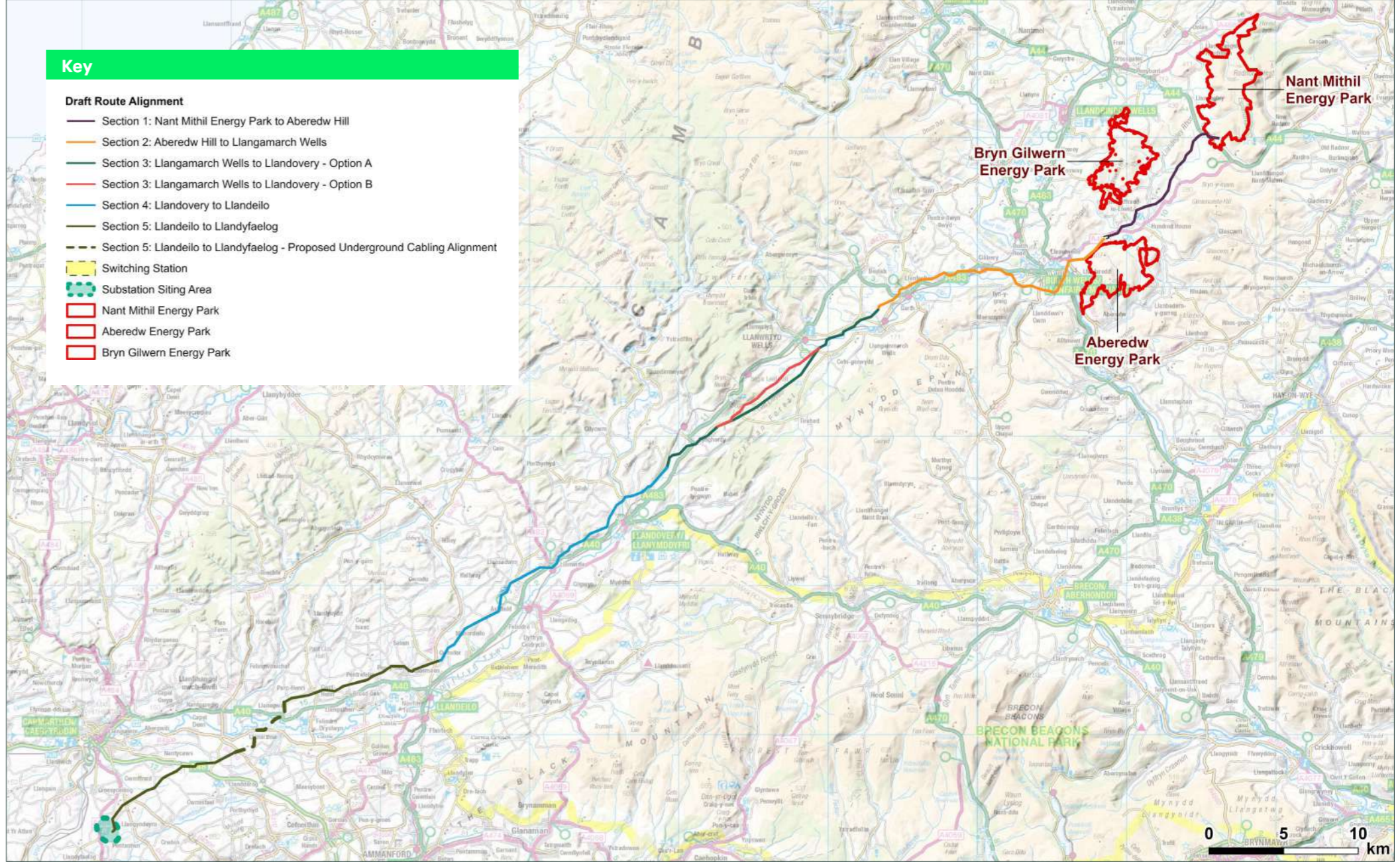
Come and meet our team and ask questions to find out more about our proposals. See event schedule on page [36](#).

An interactive map showing the draft route alignment can be viewed on our website at [www.greengentowyusk.com](http://www.greengentowyusk.com).

## More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website [www.greengentowyusk.com](http://www.greengentowyusk.com).

## Towy Usk draft route alignment





## SECTION 1: Nant Mithil Energy Park to Aberedw Hill

The draft route alignment starts at the proposed Nant Mithil Energy Park between Radnor and Llandrindod Wells at a new substation in the southwest area of the Energy Park (this substation will be included in the Energy Park planning application).

The draft route alignment heads southwest from the energy park to pass south-east of Franksbridge and Llansantffraed-in-Elwel, to reach a point near Llanfaredd, east of Builth Wells over a total distance of around 11.3km. This section will end at a proposed new switching station near the A481 at the foot of Aberedw Hill. The switching station will collect the power from the proposed Energy Parks in this area and connect it to the pylon route. The use of this switching station has enabled the change to wood poles from Nant Mithil.

The draft route alignment in this section will be a 132kV single-circuit overhead line supported on wood poles. There will be approximately 90 H-pole supports, typically 12.8 metres high and 127 metres apart (exact heights and distances will depend on ground conditions and the terrain to be crossed).

We are now able to use wood poles rather than the steel pylons originally planned for this section following further technical studies and the use of a switching station. Key considerations and themes raised in feedback for the preferred route and alignment design have included:

- visual effects at and around Franksbridge – the draft route alignment has been moved outside the previously preferred route in this location to increase the distance from the village.
- visual effects on users of tourist facilities, including Fforest Fields Caravan Park, where the draft route alignment has moved to the north of the previously preferred route.
- avoiding Ancient Woodland (for example near Hundred House).
- opportunities to reduce the views of the development against the skyline, such as screening by existing trees.
- minimising effects on the Cwm-Maerdy standing stone.

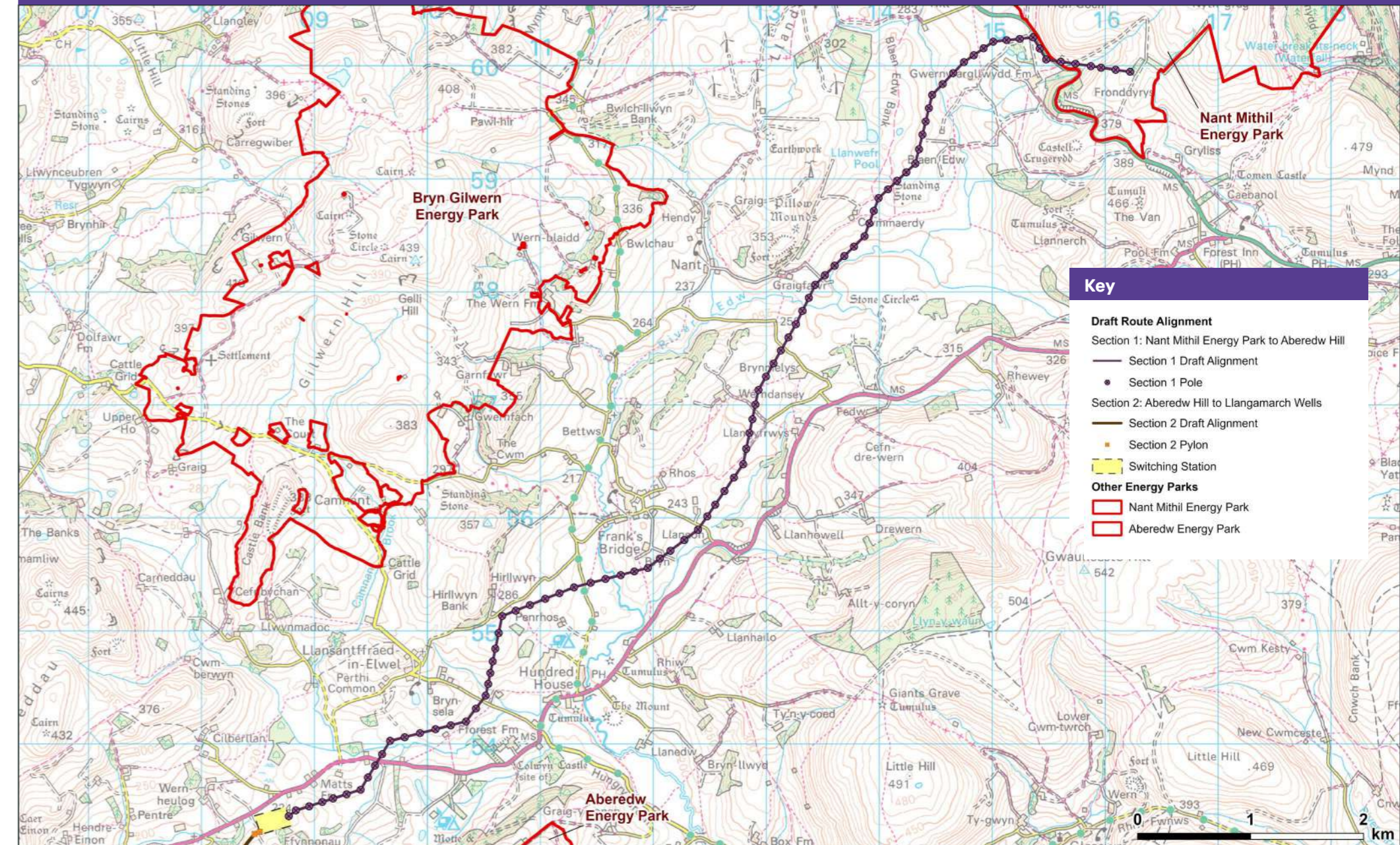
We recognise there are still sensitive locations in this section. Following the second round of consultation we will continue to give careful consideration to these as we develop our proposals, to identify if we can further reduce the potential effects. These locations include:

- Effects upon Cwm-Maerdy, Colwyn Castle and Bryntwppa stone row.
- Crossing the River Edw (it will be necessary for the conductors to oversail the river where it is crossed, but this does not mean that there will be any impacts on the wildlife for which the river is designated).

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the [Stage 1 Non-Statutory Consultation Report](#) on our website.

### Section 1: Nant Mithil Energy Park to Aberedw Hill



# Switching Station

The wood pole line will terminate at a proposed new switching station near the A481 at the foot of Aberedw Hill. The switching station will also be the end point for similar connections from the proposed Aberedw and Bryn Gilwern Energy Parks. This allows us to connect three proposed Energy Parks in one place, at a location that we believe has a lower impact on the environment and local communities than other potential sites.

From the switching station, a new double-circuit 132kV overhead line supported on steel pylons will be required to transport the energy onwards to join the national grid network.

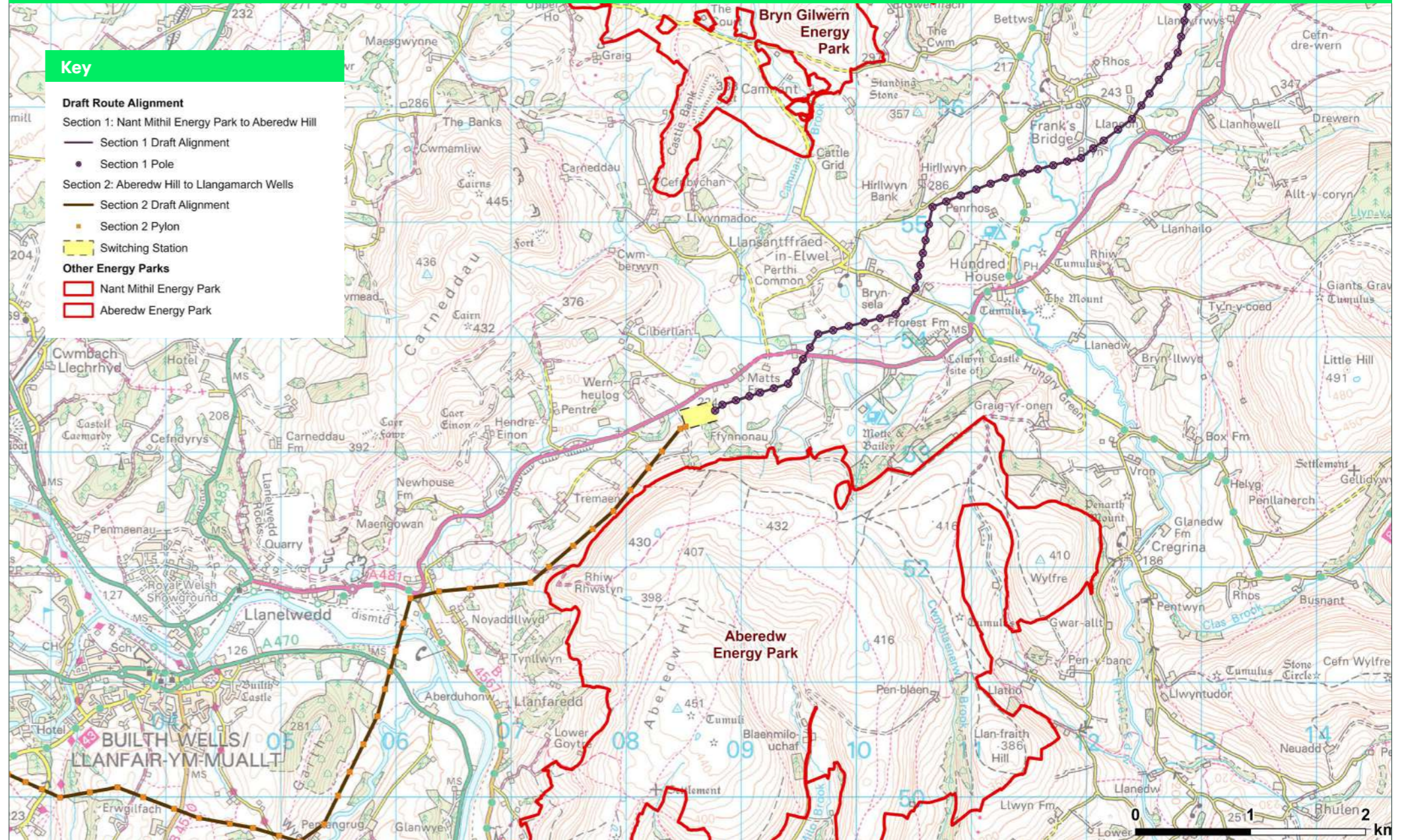
The switching station will be approximately 75m x 85m in size to accommodate the electrical equipment needed. The site will need to be larger than this as it will also need access roads, fencing and environmental measures including landscaping and screening planting, and its exact dimensions will be determined as we further develop our detailed plans.

The proposed site has good access from the main A481 road, it is relatively flat, and it does not have any environmental designations. The location also provides opportunity for a single connection point for three different proposed energy parks, meaning that less infrastructure (fewer wood poles and no additional switching stations) will be required to connect each of them to the wider network.



Existing Builth Wells substation which provides an indication of the type of development the switching station will be.

## Switching station: at the foot of Aberedw Hill



## SECTION 2: Aberedw Hill to Llangammarch Wells

From the switching station near the A481 at the foot of Aberedw Hill, the connection will head south west, and to the south of Builth Wells, for approximately 19 kilometres towards Llangammarch Wells. The route in this section will be a double circuit 132kV overhead line supported on steel pylons.

There will be approximately 87 pylons, typically 29.5 metres high and 220 metres apart (exact heights and distances will vary depending on ground conditions and the terrain to be crossed).

Key considerations for the draft route alignment design have included:

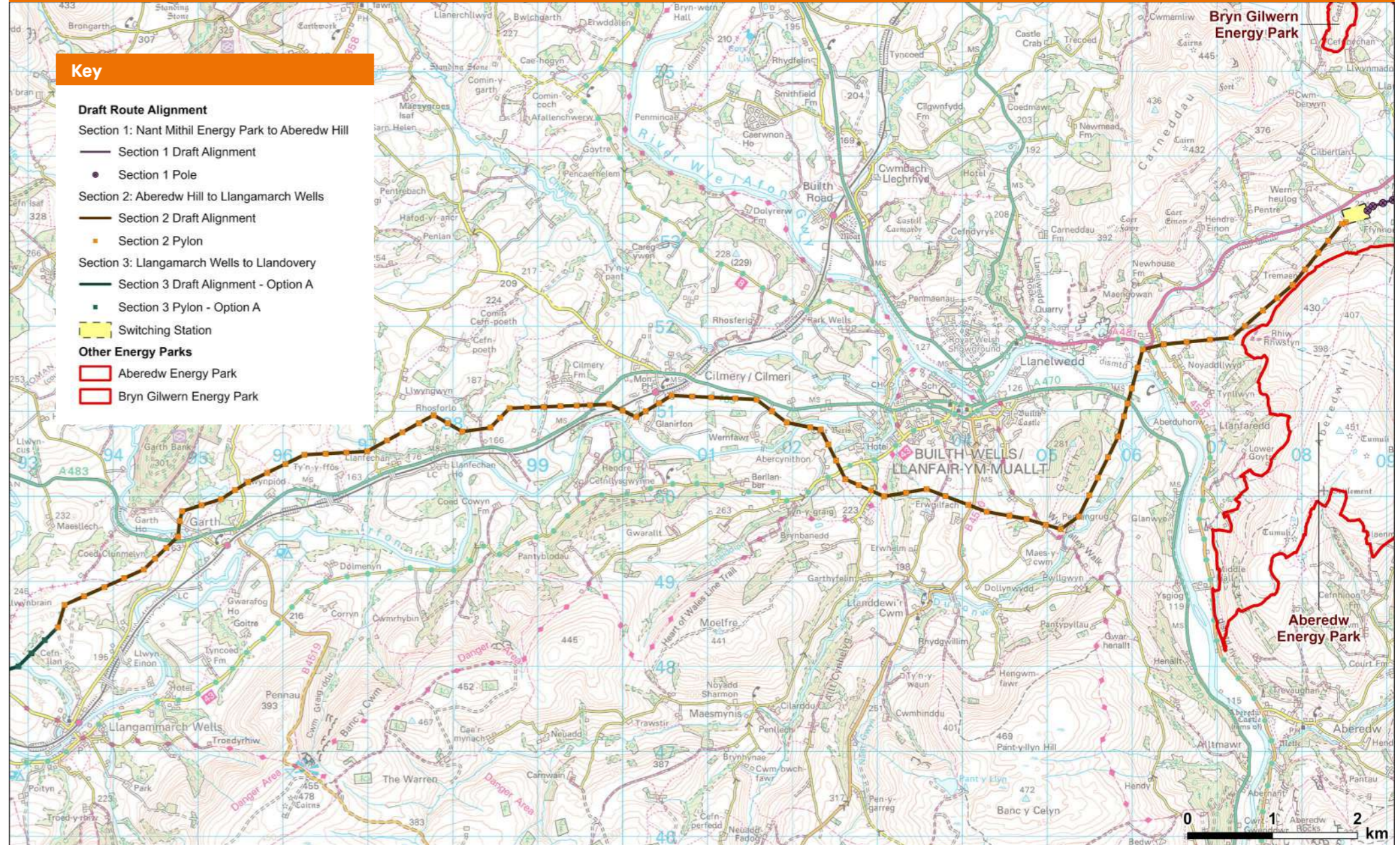
- Visual effects on residents around Tremaen – the draft route alignment has been moved south of the previously preferred route in this location to reduce the potential visual impact of the pylons, with the hillside acting as a backdrop.
- Landscape and visual effects at the River Wye crossing – the draft route alignment has been moved north to align with existing infrastructure.
- Interactions with Ancient Woodland (for example between Cilmeri and Garth) – the draft route alignment has avoided Ancient Woodland.
- Visual effects on users of tourist facilities – the draft route alignment has been moved as far west as possible from the edge of Builth Wells.
- Potential for effects upon Garth House and its associated parkland (taking into account other environmental and technical considerations near Garth House).

We recognise the Wye Valley and Builth Wells remain sensitive locations, and following the second round of consultation we will continue to give careful consideration to these as we develop our proposals. We will also give careful consideration to crossing the River Wye and the River Irfon and its tributaries (it will be necessary for the conductors to oversail the rivers where they are crossed, but this does not mean that there will be any impacts on the wildlife for which these rivers are designated)

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the [Stage 1 Non-Statutory Consultation Report](#) on our website.

### Section 2: Aberedw Hill to Llangammarch Wells



# SECTION 3: Llangammarch Wells to Llandovery

The draft route alignment in this section runs for approximately 18.5km towards Llandovery, with the double circuit 132kV overhead line supported on steel pylons. There will be approximately 78 or 79 pylons, depending on the option that is taken forwards, typically 30 metres high and 234 metres apart (exact heights and distances will vary depending on the ground conditions and the terrain to be crossed).

Key considerations for the draft route alignment design have included:

- Moving the route further away to the north-west from the settlement of Cefn-gorwydd, reducing the potential impact on views from residential properties.
- Impacts on woodland and forestry at Crychan Forest.
- Visual effects on users of the Heart of Wales Trail and visitors to Crychan Forest.

At the next design stage, we will give careful consideration to matters including:

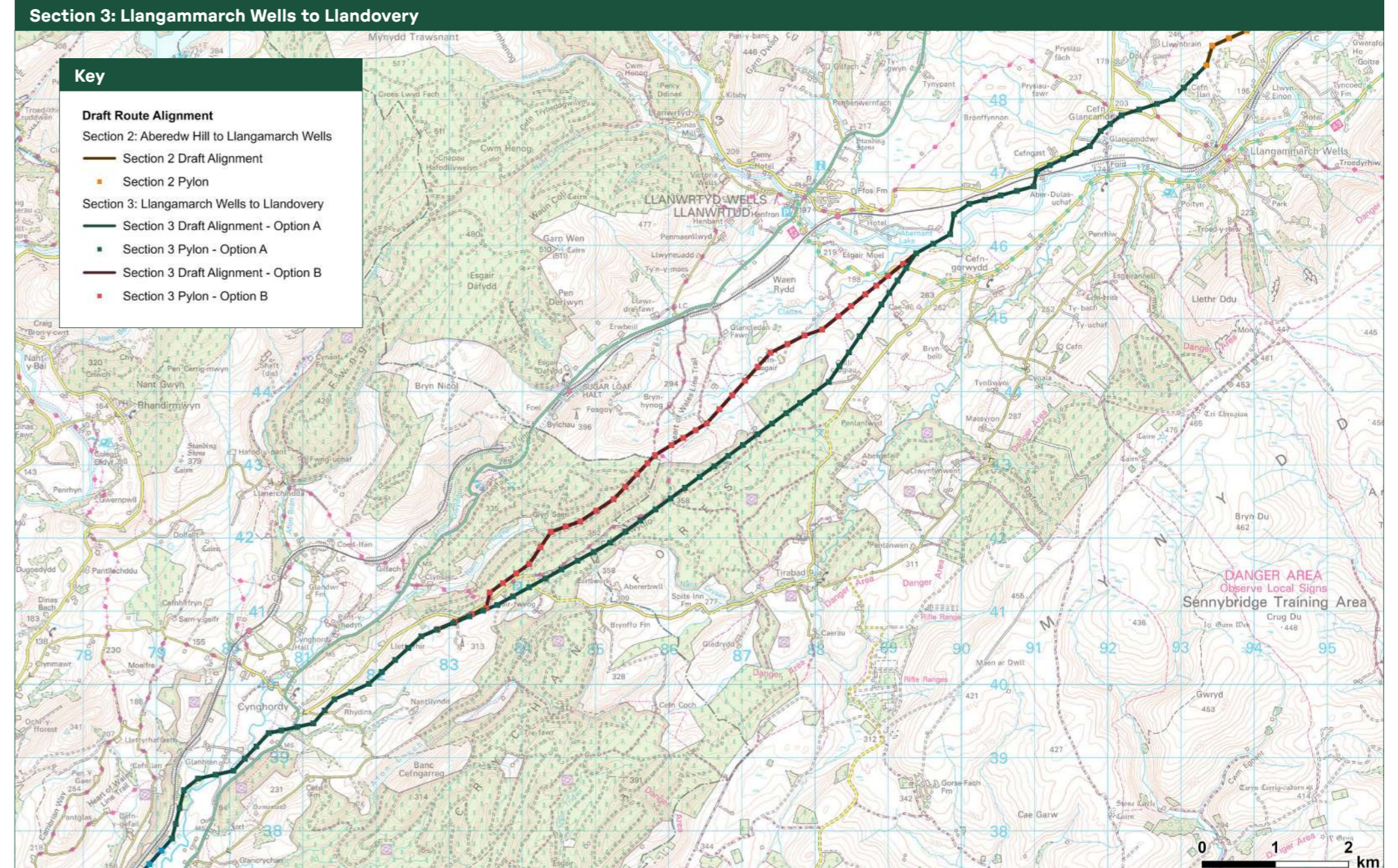
- Crossing the River Irfon and its tributaries (it will be necessary for the conductors to oversail the rivers where they are crossed, but this does not mean that there will be any impacts on the wildlife for which these rivers are designated).
- Potential effects upon Abererbwll Roman fort and the Roman road to the north. This will be informed by field survey.

In this section, we have identified two viable options for the draft route alignment; **Option A** through the Crychan Forest, and **Option B** to the north-west of the Crychan forest.

We are asking local people and stakeholders for their feedback on both options **A** and **B** to help inform our decision about which one to take forward. Further information on these two options is available on page [24](#).

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website.



# SECTION 3: Llangammarch Wells to Llandovery

## Option A

Option A through the Crychan Forest follows the preferred route shown in the consultation in 2023 and would pass through approximately 5.2km of commercial forestry.

Feedback received in the first round of consultation raised concerns about the potential impacts on commercial forestry. Coupled with a recent update to Chapter 6 of Planning Policy Wales, in relation to the consideration of projects that would have an impact on woodland, we felt we should consider an alternative route option in this area.

## Option B

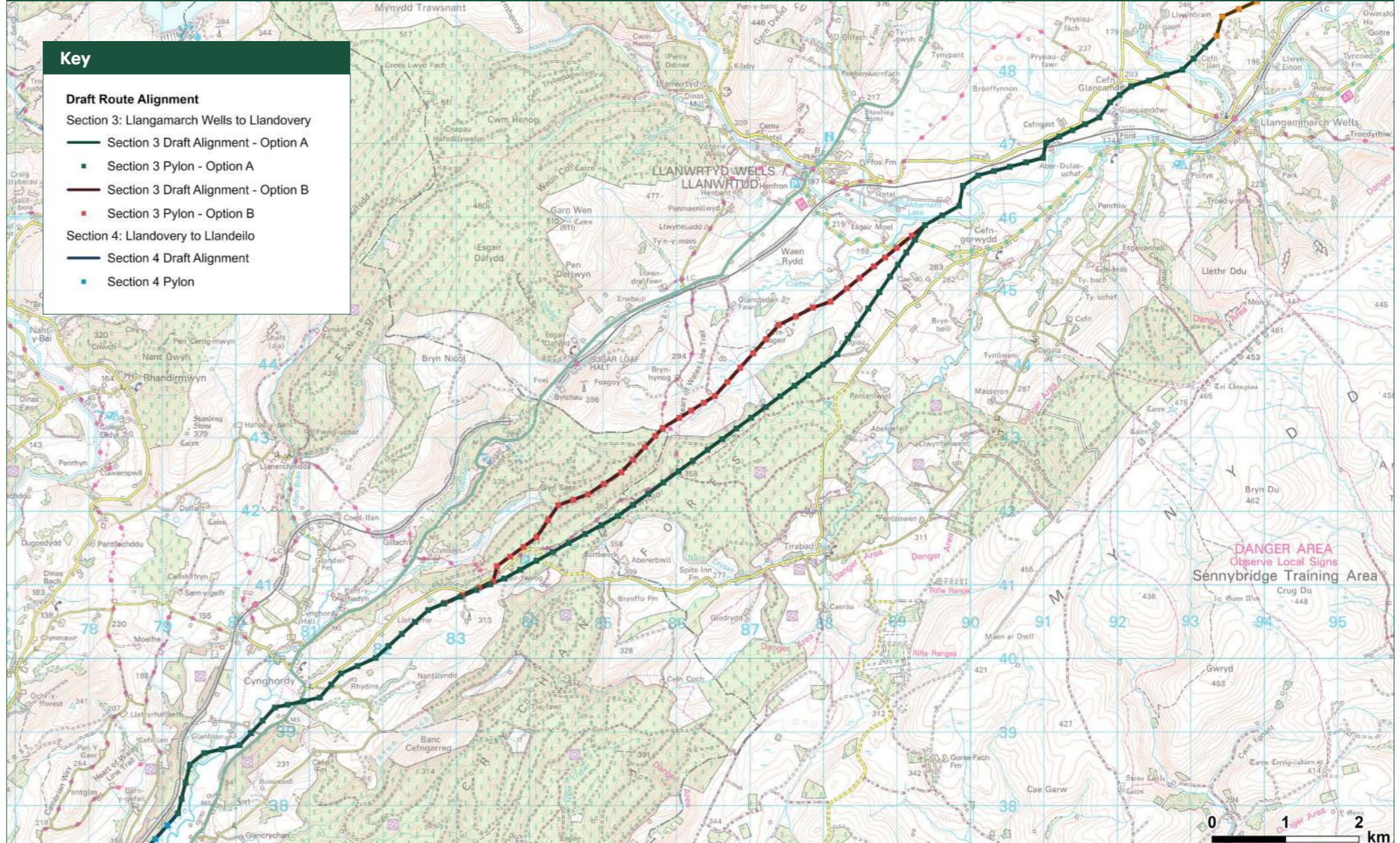
Option B to the north-west of the Crychan forest would have a reduced impact on commercial forestry and woodland but has potential for effects on areas with environmental designations. It would include an interaction with an area of Priority Habitat, include spanning a Site of Special Scientific Interest (SSSI), and would also be closer to some residential dwellings than the original preferred route.

On this basis we believe the options are evenly weighted and we are asking for people's views on both. We will consider feedback received in the second round of consultation, alongside further environmental and technical assessments, before deciding which option to take forward. We intend to present a single option at our next round of statutory consultation in 2025.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website.

### Section 3: Llangammarch Wells to Llandovery



## SECTION 4: Part 1: Llandovery to Llandeilo

The draft route alignment in this section runs for approximately 21 kilometres towards Llandeilo, with a double circuit 132kV overhead line supported on steel pylons. It now follows a route on the north side of the Towy Valley. There will be approximately 91 pylons, typically 30 metres high and 236 metres apart (exact heights and distances will vary depending on ground conditions and the terrain to be crossed).

Our previously preferred route (4S) was on the south side of the Towy Valley, but after considering feedback received in the first round of consultation, along with further environmental and technical studies, we have developed a draft alignment on the north side (previously referred to as option 4N, which was shown as an alternative option at the first round of consultation).

The previously preferred route would have involved passing to the west of Llandovery, close to the rugby club, golf course and a caravan park before crossing the floor of the Towy Valley to reach the southern side of the valley. The proximity of the line to Llandovery and the crossing of the valley in this location were key points raised through consultation feedback.

The previously preferred route would have involved two additional crossings of the River Towy, which is subject to multiple environmental designations. Whilst it is feasible that an overhead line could cross the river without direct impacts on the designations, we agreed it would be better to avoid these crossings if possible. The draft route alignment avoids those crossings in this section.

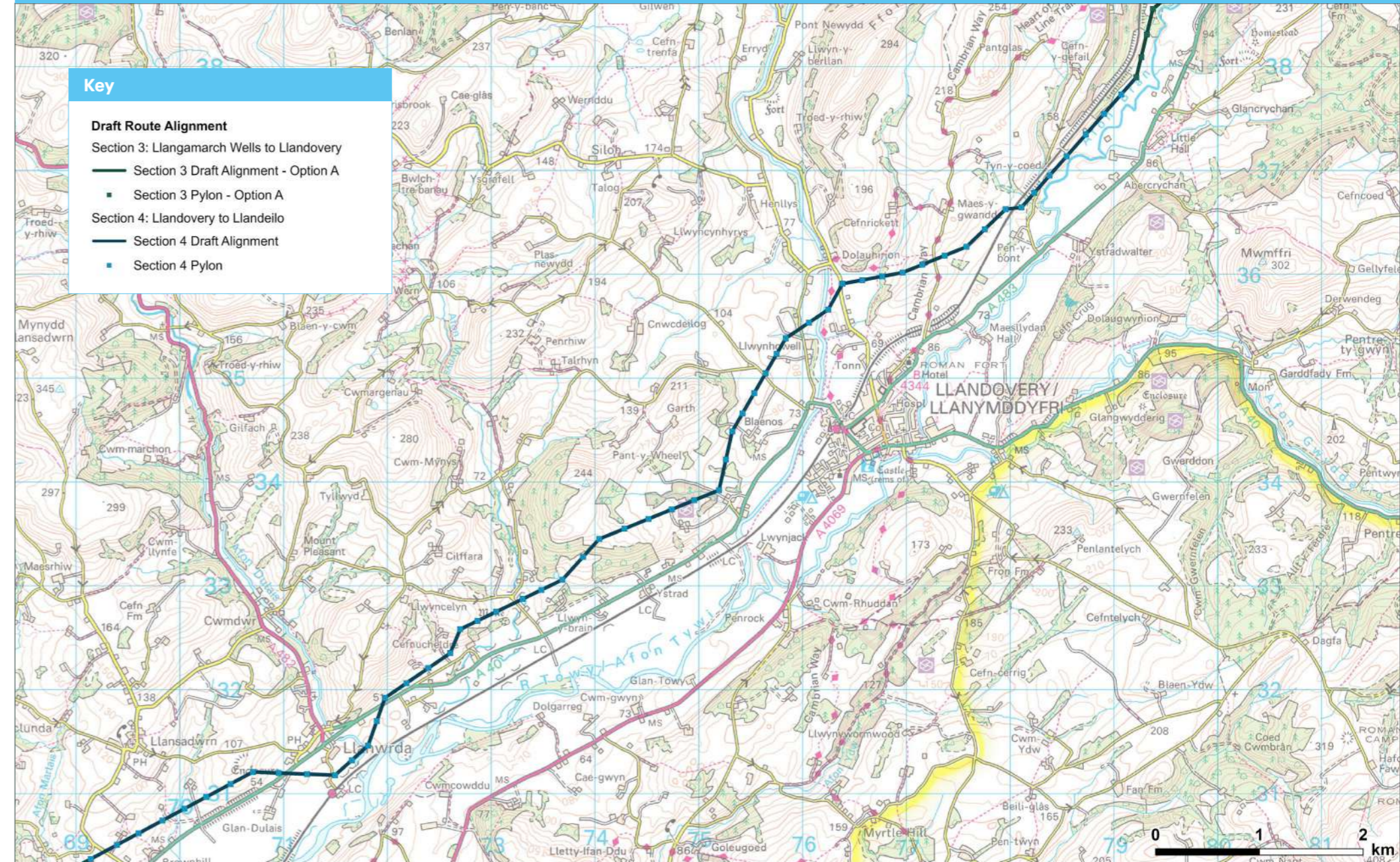
Through further investigation, we also agreed that the previously preferred route could affect views from Felindre and Llangadog, and open spaces around the Afon Sawdde.

The A4069, which passes through and to the south-east of Llangadog, is considered a key route into the Bannau Brycheiniog National Park (BBNP) and the stretch of the road between the settlement and the BBNP boundary acts as a gateway into the National Park. The previously preferred route could have interrupted views towards the BBNP in this part of the River Bran valley.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the [Stage 1 Non-Statutory Consultation Report](#) on our website.

### Section 4: Llandovery to Llandeilo, part 1



## SECTION 4: Part 2: Llandovery to Llandeilo

Further examination of the route within 4N suggested that the route could be modified to reduce sky-lining, thereby reducing impacts on the Towy Valley as a whole. The 4N route has been designed to be outside the Towy Valley Special Landscape Area and Registered Historic Landscape, as far as possible.

Moving the draft route alignment to the north side of the Towy Valley takes it further away from both the Bannau Brycheiniog National Park (BBNP) boundary and Llandovery itself and avoids the settlements of Felindre and Llangadog altogether. Route 4N also offers the potential for a shorter, straighter, and more direct route.

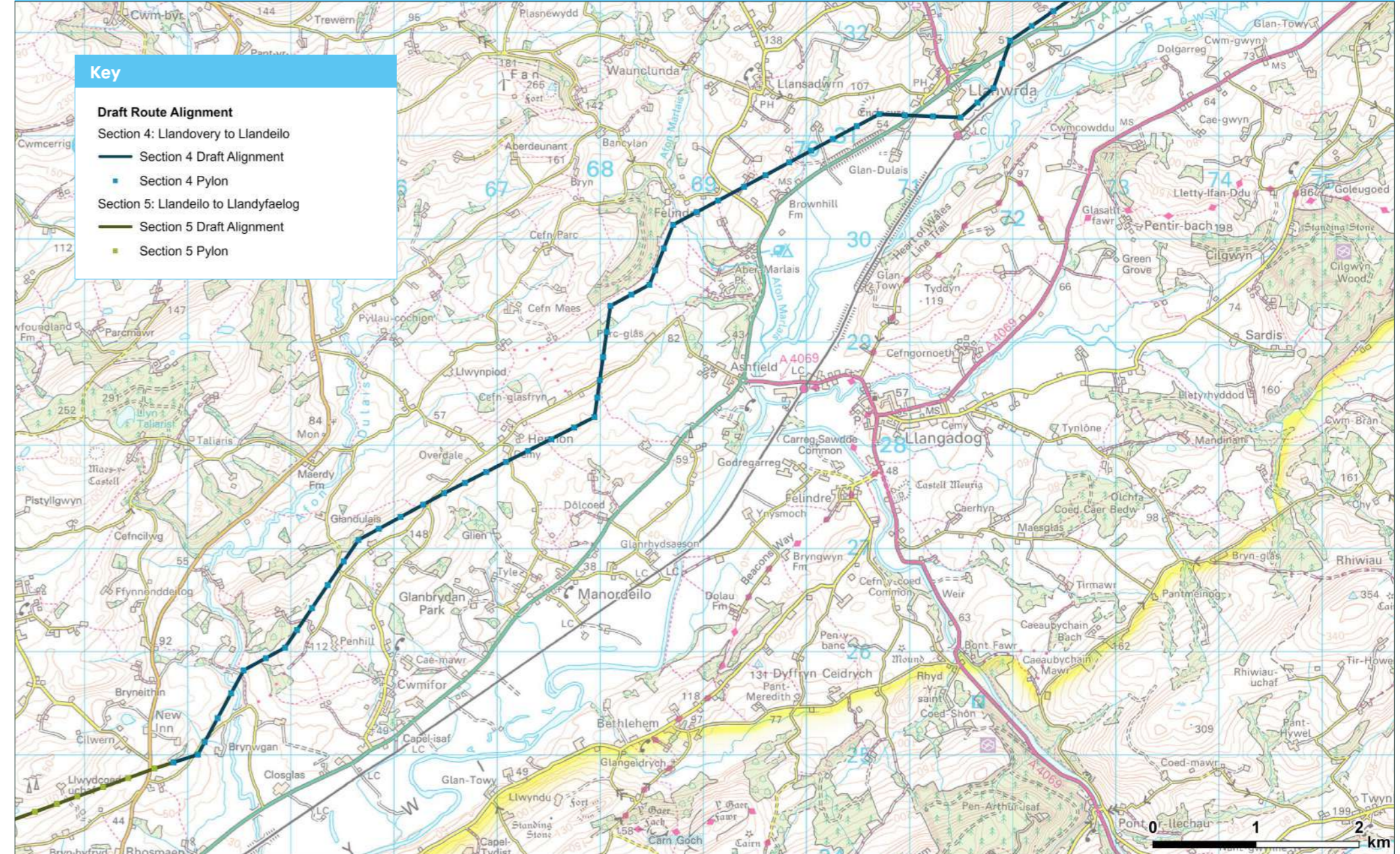
We recognise that this new draft route alignment could lead to impacts on areas of interest and locations in the north of the Towy Valley in section 4. We welcome feedback on our proposals to help inform our design and Environmental Impact Assessment.

At the next design stage, we will give careful consideration to potential effects on heritage features including Taliaris listed building and Registered Historic Park and Garden, and Cwm-Bran Camp.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the [Stage 1 Non-Statutory Consultation Report](#) on our website.

### Section 4: Llandovery to Llandeilo, part 2



# SECTION 5: Part 1: Llandeilo to Llandyfaelog

The draft route alignment in this section continues for approximately 28 kilometres. There will be approximately 99 pylons in this section, typically 29 metres high and 223 metres apart (exact heights and distances will vary depending on ground conditions and the terrain to be crossed).

Following feedback received in the first round of consultation, and our own further technical and environmental studies, we are now proposing to use underground cables rather than overhead lines where the draft route alignment crosses the River Towy (a length of about 5.5km).

In reaching this decision we considered how an overhead line might have significant effects on the landscape and views of the special landscape area, particularly around Paxton Tower and Dryslwyn Castle.

Our studies also indicated that an overhead line could present a collision risk to breeding and wintering birds on the River Towy Site of Special Scientific Interest (SSSI) and wider Towy floodplain, including geese, swans, ducks, gulls, and waders.

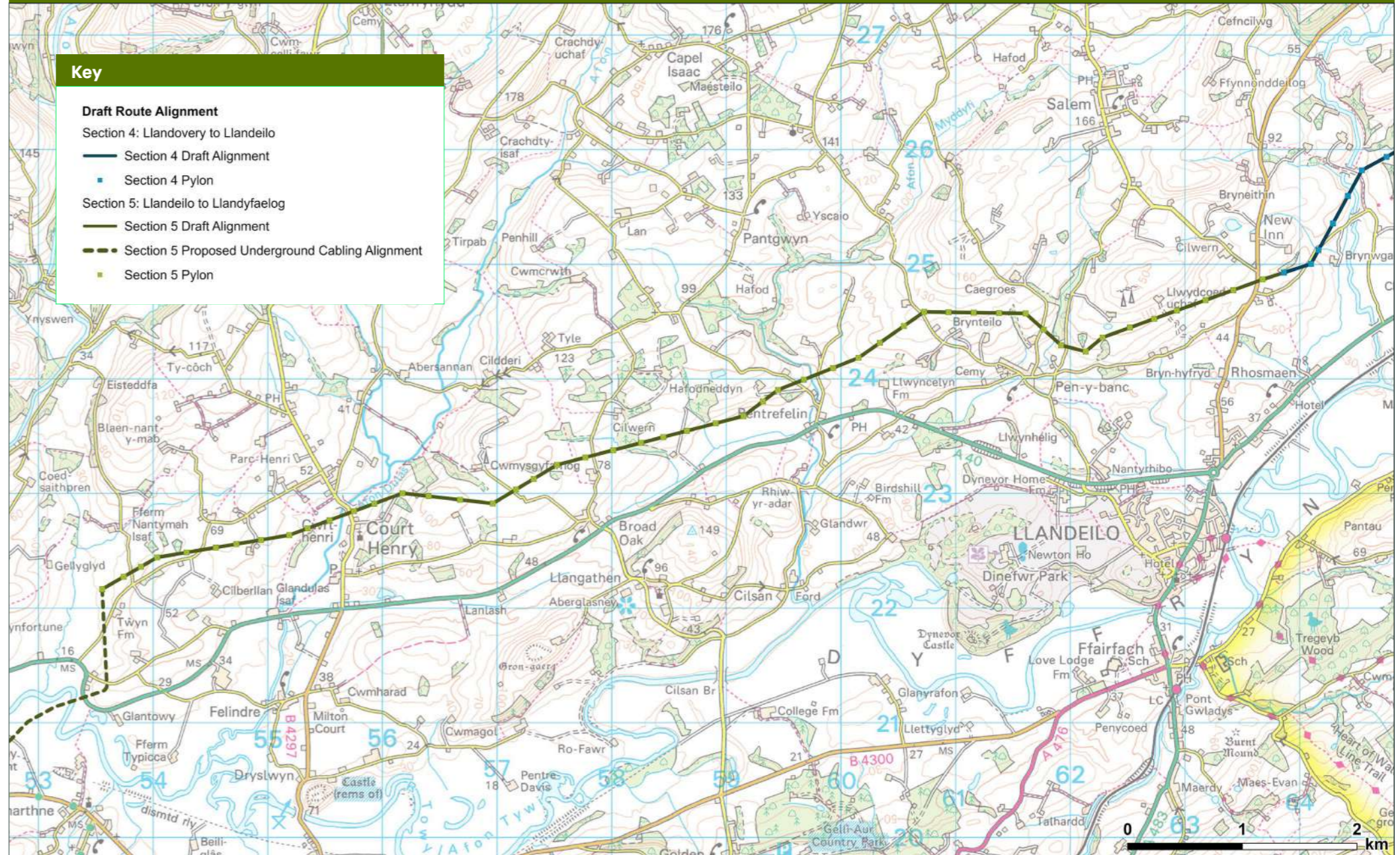
### Underground cables

Using underground cables to cross this particularly sensitive area would reduce the potential for effects on the views, landscape and wildlife. The underground cables would pass beneath the main A40 road and the River Towy at a point where they are close to each other, allowing us to minimise disruption to both the road and the river and complete the route in the most efficient way.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website.

### Section 5: Llandeilo to Llandyfaelog, part 1





# SECTION 5: Part 2: Llandeilo to Llandyfaelog

## Underground cables

Up to 18 underground cables could be required, laid alongside each other. This is because the double-circuit overhead line will have to match the power rating of the conductors on the overhead line. Where an overhead line changes to underground cable, a cable sealing end compound will likely be required.

We recognise that it would not be appropriate to cut a trench across the river and we are currently evaluating the best techniques to use for undergrounding in this section, for example Horizontal Directional Drilling (a form of tunnelling where a computer guided drill creates an underground cable route). Further information will be available in our next consultation.

Underground cables are larger in diameter than overhead line conductors because they require additional shielding and insulation.

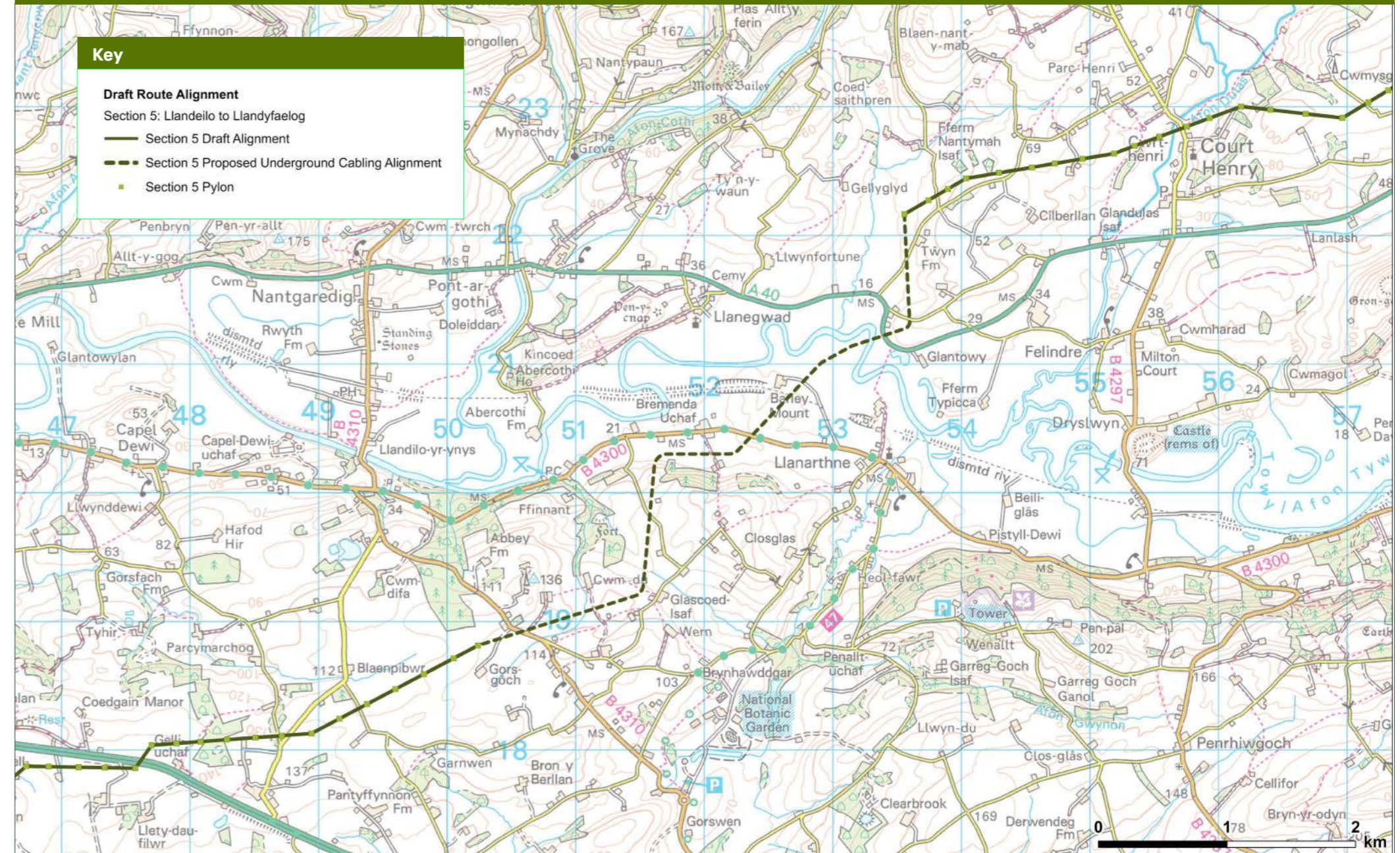
There are different ways of installing underground cables, including open trenching, and cable ploughing (where specialist machinery is used to plough a trench of the required depth).

Following construction, the ground will be restored to its previous use and hedgerows replanted. There may be some restrictions around tree planting to ensure that the cables operate safely and securely.

## More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website.

### Section 5: Llandeilo to Llandyfaelog, part 2



# SECTION 5: Part 3: Llandeilo to Llandyfaelog

Careful consideration will be given during the design stage to banksides and gravel beds used by sensitive breeding bird species within the River Towy SSSI, including little ringed plover, common sandpiper, kingfisher and sand martin.

More information about the construction of underground cables and overhead lines can be found on pages **40 to 44** on this document.

The proposed 400kV substation in this location will be owned and operated by National Grid Electricity Transmission (NGET).

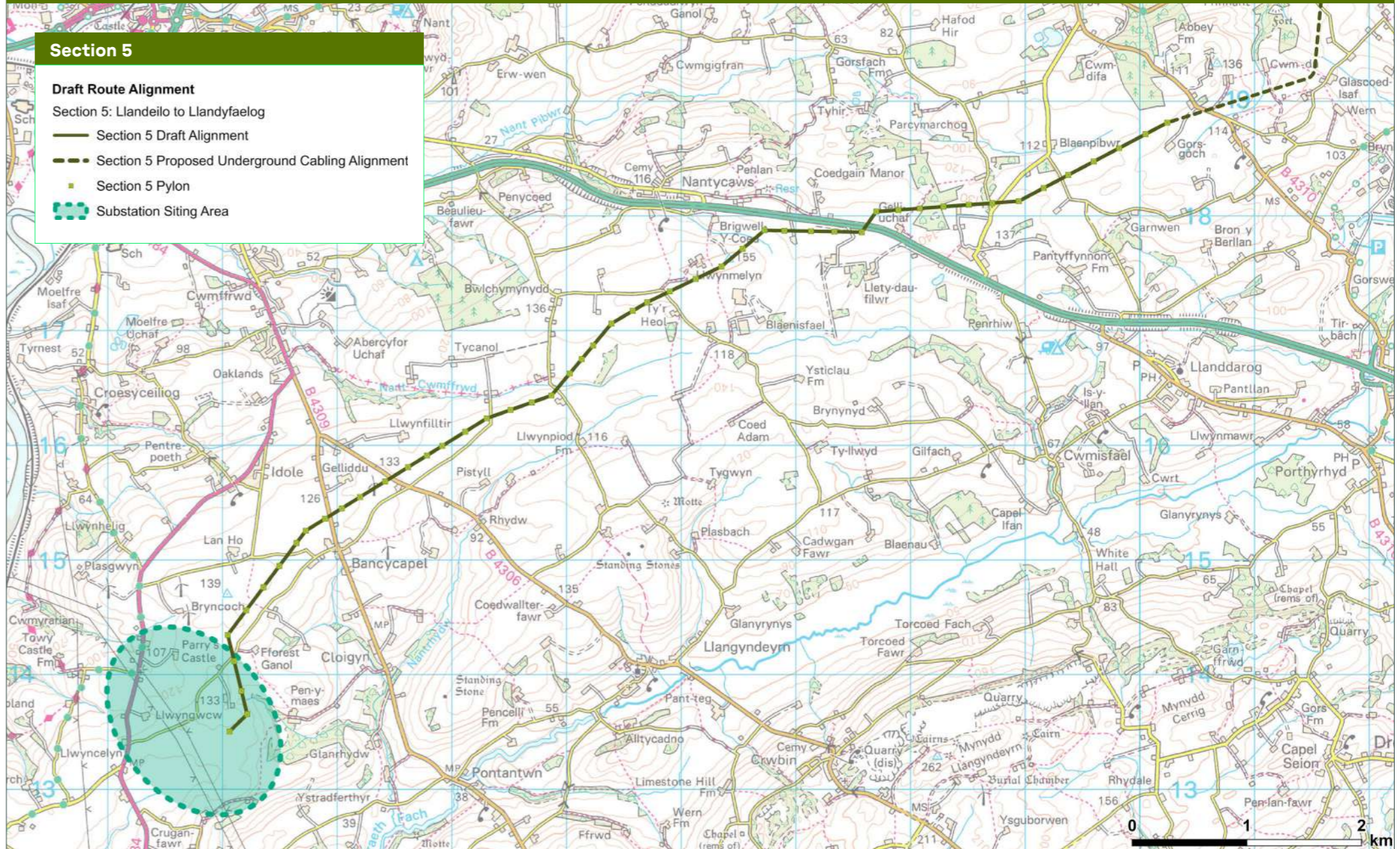
The new substation is required to satisfy an increased electricity demand and two generation connection requests in the area from National Grid Electricity Distribution (NGED) and Green GEN Cymru.

The exact location for Green Gen Cymru 132kV substation has not yet been confirmed although it is anticipated this will be sited adjacent to the proposed 400kV substation. The plans for the Green GEN Cymru substation will be included in the DNS application for our Towy Usk grid connection project.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website.

### Section 5: Llandeilo to Llandyfaelog, part 3



## What we are consulting on now

This second round of consultation is running from Wednesday 13 March to Wednesday 8 May 2024.

### We are asking for your feedback on:

- Any factors you think we should consider when developing our proposals for the route alignment, including the proposed locations of pylons, wood poles, underground cables, and switching station site.
- Your views on whether we should select Option A or Option B for the draft route alignment in the Crychan Forest area (section 3).
- Any factors you feel have not been considered in our work to date that will help us identify any potential issues and finalise our detailed plans before we prepare our consent applications.

We'd also like to know if you have ideas on areas in your community that could benefit from investment through Bute Energy's community investment fund. Please see page [46](#) for more information.

### Find out more at our community events

You can find out more about the project and meet the team at our consultation events, where you will also be able to see a computer visualisation of the draft route alignment.

### Event timetable

Location	Date and time
<b>Montgomery Pavilion</b> Royal Welsh Showground, Builth Wells LD2 3SY	Wednesday 20 March, 2pm to 7pm
<b>Llanarthney Community Hall</b> Llanarthney, Carmarthen SA32 8JD	Thursday 21 March, 3.30pm to 7.30pm
<b>Llandeilo Fawr Civic Hall</b> 17 Crescent Road, Llandeilo SA19 6HW	Saturday 23 March, 11am to 4pm
<b>Penybont District Community Centre</b> Penybont, near Llandrindod Wells LD1 5UA	Tuesday 9 April, 2pm to 7pm
<b>Llandovery Rugby Club</b> Church Bank, Llandovery SA20 0BA	Wednesday 10 April, 2pm to 7pm
<b>Llandyfaelog Community Hall</b> Carmarthenshire SA17 5PA	Thursday 11 April, 2pm to 7pm



Please give us your views, even if you have already commented during the first round of consultation in 2023.



### How to provide your feedback

You can find more information about the consultation, including ways to provide your feedback on our website:



website: [www.greengentowyusk.com](http://www.greengentowyusk.com)



sending an email to: [info@greengentowyusk.com](mailto:info@greengentowyusk.com)



sending written feedback to us:  
**FREEPOST GREEN GEN TOWY USK**

Please submit your feedback to us by **23:59 on Wednesday 8 May 2024**. 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.



## What happens next?

New electricity transmission lines of 132kV that are associated with a devolved Welsh generating station are classed as a Development of National Significance (DNS) in Wales. This means developers must apply for planning consent to Planning and Environment Decisions Wales (PEDW), and final decisions are made by the Welsh Ministers.

Feedback from our public consultation and from 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 form part of the 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 (PAC) period, where people will be able to review and comment on the detailed designs and the draft Environmental Statement.

### Project timeline

**Spring**  
First public consultation

**2023**



**2024**

**Spring**  
Second public consultation

Third public consultation (statutory)

**2025**



**2025**

Application submission to PEDW for acceptance and examination

Application decision

**2026**

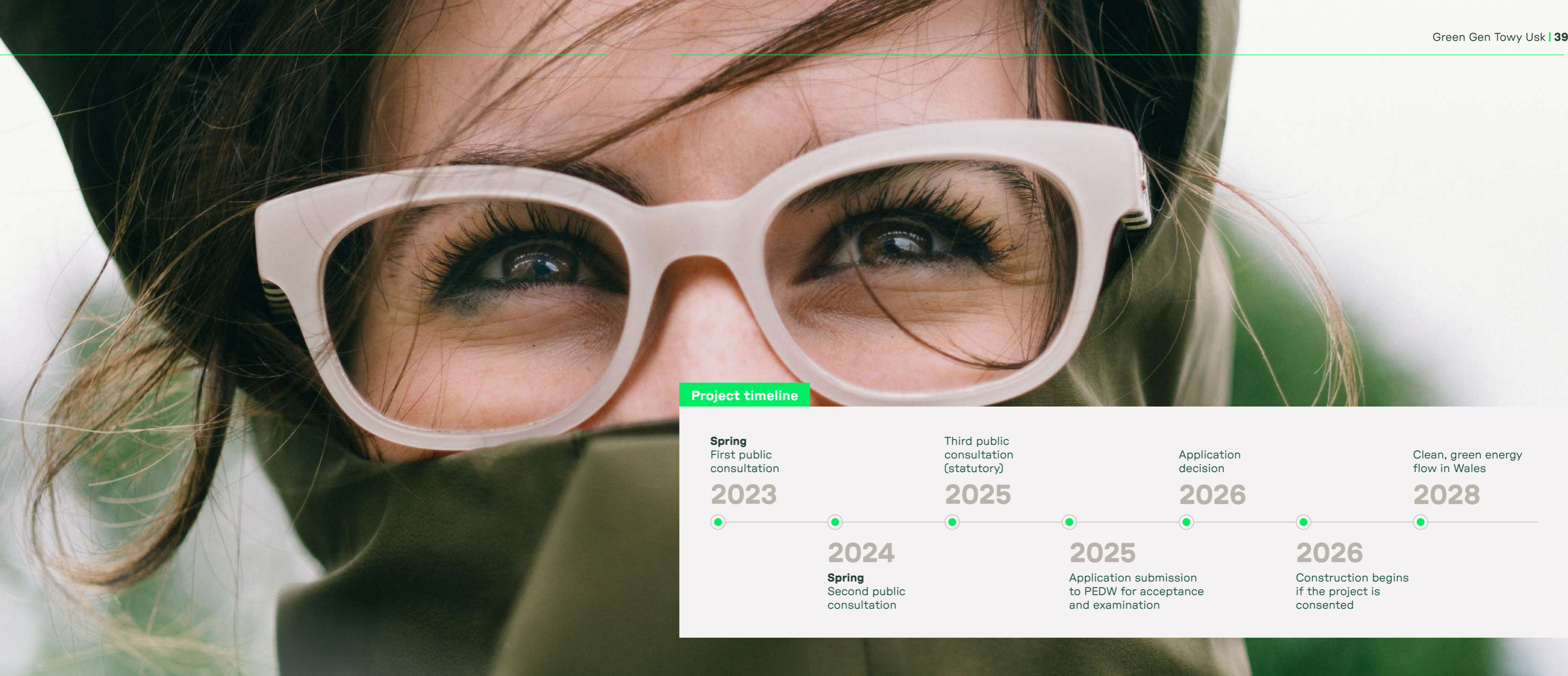


**2026**

Construction begins if the project is consented

Clean, green energy flow in Wales

**2028**



## How overhead lines are installed

Green GEN Cymru will follow established procedures for the safe construction of overhead lines, working carefully to minimise disturbance to local people wherever possible.

### Building overhead lines

#### Site set-up and temporary construction compounds

We will need to create temporary construction compounds at points along the route, for deliveries, storage of materials, office space, welfare facilities and vehicle parking. The compounds will be at strategic positions, ideally near major roads to minimise disturbance to local communities. They will be removed following construction and the land returned to its original condition.

Construction of the overhead line begins with creating a temporary access track to the pylon site, fencing off a safe working area, clearing vegetation and carrying out any drainage works required.

#### Pylon foundations

Excavators then dig a foundation hole for each leg of the pylon. The pylon leg is fixed in place, the foundation is concreted and then backfilled with soil ready for re-seeding.

#### Building pylons

Pylons are delivered to site in sections by lorry. The pylon sections are assembled on the ground and then lifted into place using a mobile crane.



#### Attaching the wires

Once the pylons are assembled, we hang the wires (conductors) that carry the electricity – a process known as ‘stringing’.

We string a section of pylons at a time. We’ll need to erect scaffolding and netting where the route crosses areas such as roads, rivers, and railways, during the stringing. We may need to close some roads for short periods or use traffic lights or ‘Stop and Go’ boards when during this work.

Running blocks are then fitted to the insulators and the conductors are pulled through by a winch machine.

There will be temporary ‘pulling areas’ along the route. The most appropriate solution for each location will be determined as the project develops further.

#### Wood pole lines

The construction of wood pole lines follows a similar process to the building of lattice pylons, but the foundation excavations are smaller, and the poles can often be put in place using a hiab wagon (crane lorry) rather than a larger mobile crane.



## How underground cables are installed

### Underground cables

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 road.

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 motorways or major A-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 by Horizontal Directional Drilling (HDD) techniques.

Green GEN Cymru intend to use trenchless technology to install underground cables where the draft route alignment proposes to cross the A40 and the River Towy, passing safely beneath the road and the river and minimising disturbance to the environment. We will be developing a detailed design for this crossing as we finalise our plans following the second round of consultation.

### Cable ploughing

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



**Cable sealing ends**

Cable sealing ends are required wherever underground cables are joined to overhead lines to allow the safe transfer of energy from one to the other. These usually take the form of a platform or cable sealing end compound to accommodate the equipment required.

The Green GEN Towy Usk project is likely to require a sealing end compound at each end of the underground cable section.



An example of a cable sealing end

**Reinstatement**

Once the overhead line is constructed, all temporary access tracks and working areas will be removed and the land reinstated to its original condition.



## Working with landowners and occupiers

**Green GEN Cymru is committed to building strong working relationships with landowners and occupiers as we develop our proposals for Green GEN Towy Usk. We will work with you as we develop our plans, and we encourage you and/or your representatives to contact us if you have any questions.**

When planning and developing our projects, we need to carry out surveys to help inform both the scheme's design and the Environmental Impact Assessment.

We need to survey a wide area to ensure we understand the local environment, how it might be affected by our work and any mitigation required. The results of the surveys will help inform decisions on the routing and siting of the Green GEN Towy Usk project. Some surveys, such as those of birds or bats, need to be carried out at specific times of the year to provide information on nesting or habitat usage.

We will work closely with landowners and occupiers to agree access so that surveys are carried out, wherever possible, at appropriate times and with as little inconvenience as possible.

Allowing Green GEN Cymru access to land for surveys does not stop landowners taking part in the consultation and commenting about the Green GEN Towy Usk project at any time.

Our land agents, Bruton Knowles, will continue to seek voluntary agreements with landowners and occupiers for access, but where that cannot be achieved, we may need to seek relevant legal powers.



## Community Investment

Bute Energy is committed to paying £7,500 per megawatt installed on all the energy parks it is developing through an independently governed Community Investment Fund. The fund will benefit not just local people close to the energy park sites, but communities along the route of the grid connections too.

Green GEN Towy Usk will connect the Nant Mithil, Aberedw, and Bryn Gilwern Energy Parks to the national grid. If these proposed energy parks are approved, communities along the proposed Towy Usk connection will be eligible to apply to the Bute Energy Investment Fund which has projected value of approximately 2.5 million per annum.

To ensure this fund achieves the biggest impact and enables large scale multiyear legacy projects, Bute Energy has established a Community Investment Team whose sole responsibility is to engage and work with individuals, charities, and groups in the areas in and around its sites. The team comprises staff focusing on various themes, including Recreation & Health, Natural Environment & Cultural Heritage, Education, Social Mobility & Training, addressing the Cost of Living crisis and Social Mapping.

### More information

For more detailed information about our first round of consultation, the feedback we received and our response to the issues raised, please read the **Stage 1 Non-Statutory Consultation Report** on our website [www.greengentowyusk.com](http://www.greengentowyusk.com).

Recognising that every community is unique, the Community Investment Team are talking to residents and using data and ongoing research to map the needs of communities in detail, identifying the greatest challenges to target and prioritise the engagement that could bring about the most impactful benefits.

Through feedback from the first round of consultation, engagement with local people and extensive social research, the top 5 place-based challenges identified along the Towy Usk route are:

1. Community Life and Resilience
2. Agriculture
3. Access to transport and transport infrastructure
4. Support local businesses, micro enterprises, and organisations
5. Loneliness and isolation.

The Bute Energy Community Investment Team are dedicated to ensuring that communities are prepared from day one to utilise the fund which will go live on completion of the Energy Parks expected in 2028. They are already meeting, collaborating, and working with a wide range of groups and stakeholders, from local schools, sports teams, and transport groups to national organisations involved in health, culture and environmental and rural affairs.

**The Community Investment Team welcomes engagement from groups and organisations the length and breadth of Towy Usk connection route.**

Do you know of any groups, organisations, or initiatives where the Bute Energy can offer some support? If you have any ideas on how and where you'd like to see the money invested and utilised once the Energy Parks come into operation, we'd like to hear your thoughts.

### Wider benefit

In addition to a specific Community Investment Fund, Bute Energy and Green GEN Cymru are committed to maximise the social value of their proposals, by ensuring any contracted partners are focusing on investing jobs, time, resources, and money into the communities near our projects. This includes encouraging staff recruitment in Wales, local volunteering and maximising supply chain opportunities in the areas where we are working.







Website  
[www.greengentowyusk.com](http://www.greengentowyusk.com)



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**FREEPOST GREEN GEN TOWY USK**