

Project Justification

“SSEN describes the Kintore-Hurlie-Tealing 400kV line as required to meet electrification demands as part of the Pathway to 2030 Holistic Network Design, yet it is not considered as an option in the National Options Assessment (NOA) 2021/22 Refresh.”

1) Can SSEN clarify how a report in July 2022 failed to capture this new infrastructure project?

The project is called Kintore to Westfield and has the Electricity System Operator (ESO) scheme name TKUP. Westfield is the Scottish Power Transmission (SPT) licence area. This refers to the uprating of the power corridor between Kintore and Westfield. It was initially described as a rebuild, whereby the existing infrastructure between Kintore and Tealing was to be removed on completion of the new build infrastructure. In the intervening period in 2022, the local generation and demand landscape changed and it was determined that the existing 275kV was required to be retained as removing it had a significant impact on bulk power transfer capability from north to south.

2) What fundamentally changed to bring the Kintore-Hurlie-Tealing 400kV line project to the fore?

As above, it was included in the initial NOA 21/22 but the status as a rebuild was changed as it was determined it was required in addition to the existing infrastructure and not in place of.

3) “Alternative East Coast Onshore Phase”, also known as TKU2, is listed as an option in the NOA 2021/22 Refresh but was not recommended. Why?

TKU2 was a non-build solution that looked to maximise capacity of existing assets. Ultimately it did not provide the minimum requirements for the necessary bulk power transfer on the east coast.

The NE of Scotland is a world leader in subsea pipeline and cable laying, and drilling technology, there are a lot of skills and expertise on the doorstep of this proposal. We know also that Spittal to Peterhead, Peterhead to Drax, Peterhead to South Humber are all going to be built offshore.

4) On what grounds did SSEN choose OHL for the Kintore to Tealing route?

Capacity, operability, constructability and maintainability. The environmental, technical, and operational constraints associated with undergrounding at extra high voltages, particularly 400kV, make the option extremely challenging to deliver in many areas of Scotland.

Some of the challenges that contribute to this position:

- 1. Technical Limitations:** No underground cables for these high voltages (275kV or 400kV) currently exist in our area. Underground cables need specific ground conditions and present challenges in maintenance and power restoration, especially if faults occur.
- 2. Environmental Impact:** Undergrounding can have lasting environmental effects, for example impacts on habitats and hydrology, and the area required for laying cables needs to be clear from significant constructions or vegetation for easy access during construction and repairs.
- 3. Terrain Concerns:** The region's terrain often has slopes that are difficult to install and finding a suitable route for underground cables without challenges is extremely difficult.
- 4. Infrastructure Needs:** For underground cables longer than 1-2km, additional substation infrastructure would be needed, enlarging the project's footprint.
- 5. Operational needs:** Restoring power in the event of a cable fault can take significantly longer than for an overhead line. Faults on overhead electricity lines can typically take a few hours to a few days to repair and are generally easy to locate. Underground cable faults often require

extensive works, specialist resource, tools and equipment to locate the fault, followed by significant civils work to expose the damage, replace the damaged section and then it can take up to a month to carry out the repairs. This presents significant risks to security of supply and network reliability. It also impacts on our ability to meet our licence obligations of maintaining an efficient transmission network.

6. **Cost:** Underground cables at 400kV are estimated to be between 5 and 10 times more expensive than overhead lines, and since these costs are reflected in consumer bills, it's a factor that needs to be considered.

Even if technically feasible, undergrounding over a significant length of or the entirety of a project would be unreasonable as it would be contrary to our licence obligations to be economic and efficient in respect of additional costs to the end consumer and also have additional risk to the electricity transmission network in the event of cable failure and consequent outages.

Given these constraints and our responsibility for an economical and efficient transmission network, overhead lines are our main choice for the onshore ASTI projects. Where there is a clear evidence base to justify undergrounding, this will be carefully considered. For more detailed information on the undergrounding of cables please see our document on challenges with undergrounding at 400kV [here](#).

5) Are SSEN able to clarify why additional offshore power transmission cables could not be laid to provide the necessary network?

In its assessment of what is required to meet 2030 targets, National Grid ESO concluded there is a need for both onshore and offshore projects.

From SSEN Transmission's perspective, we are progressing two 2GW HVDC links from Peterhead to England, Eastern Green Link 2 (EGL2) and EGL3; with an additional 2GW HVDC link, as part of a coordinated offshore grid from Fetteresso. This will deliver 6GW of boundary transfer capability, alongside that the onshore reinforcements will enable.

As set out in the 'Pathway to 2030 Holistic Network Design'¹ the ESO's assessment considered the following four objectives:

- Deliverability and operability
- Impact on the environment
- Impact on local communities
- Cost to consumers

It should be noted that overhead lines can carry roughly three times more power than subsea cables, making them more efficient and cost effective for energy bill payers. It is estimated that HVDC links (point to point) are six times more expensive over the lifetime of the asset than 400kV overhead lines and HVDC offshore grids (which connect to offshore platforms) more than 10 times more expensive.

Notwithstanding the additional costs, to deliver an additional three subsea cables and associated HVDC Converter Stations in the timescales required to meet 2030 targets would be extremely

¹ <https://www.nationalgrideso.com/document/262676/download>

challenging, not least due to significant constraints globally in HVDC infrastructure and specialist installation vessels.

Finally, technical challenges and constraints, alongside environmental constraints, further limit the use of only offshore solutions.

Moreover, onshore reinforcements help support local electricity needs and local decarbonisation ambitions, and improve the network's reliability across northern Scotland.

6) Why does the line begin in Kintore and end in Tealing? Has work already begun in Tealing?

Kintore is a major Hub on the east coast transmission network. It has numerous high-capacity connections to other major hubs in the north including Blackhillock, Rothienorman and Peterhead. Kintore will collect generation from these other Hubs via the incoming connections and transfer down south. Tealing is selected as preferred location as it reduces the overall amount of new infrastructure required to enable 400kV operation. Tealing is the last major Hub in SSEN licence area before connecting to Scottish Power Transmission's Licence area. The existing Alyth – Tealing and Tealing – Westfield OHLs require upgrade to 400kV operation and connection to the new site. Having the new site close to these existing OHLs reduces the extent of new infrastructure required.

No construction work has started on any sites for these schemes. Consent applications are due to be submitted towards the end of 2024.

7) Where does the energy come from for this project? and of that energy what percentage will be from onshore and offshore, respectively?

The infrastructure is required for both onshore and offshore generation. However, the primary driver for the new infrastructure is to accommodate Scotwind which is in turn supported by both UK and Scottish Government targets. This project is key to deliver against the UK Government's British Energy Security Strategy (BESS²), published in April 2022 in direct response to the energy crisis triggered by Russia's invasion of Ukraine, and the associated 50GW offshore wind target set out in the BESS.

Lack of Consultation

SSEN must consult properly on any route proposed. Consultation over the previous route absolutely cannot be used to justify the current major route change, especially when some of the criteria which forced the change of route are equally important on the new route.

8) When do SSEN plan to carry out a proper, new consultation with options to change the route?

F1.3 is a new route. During our previous consultation it was clear that section F was a highly constrained area and the new F1.3 route looks to offer another option that would avoid a number of constraints within this highly constrained area. Through the routeing process and taking on board consultation feedback we have not identified any further possible options in Section F, other than F1.3 that would allow us to avoid more constraints.

It is an important part of the process for us to consult on the new route and help inform the process for shaping an alignment. We are pleased to announce that our next round of consultation

² <https://www.gov.uk/government/publications/british-energy-security-strategy>

commences from 4 March with an event in Drumoak held on 20 March. The consultation materials are available on our website now and the feedback period is open until 30 April 2024.

Once the feedback period closes we will take the time to analyse the feedback and produce a report on consultation.

National Planning Framework 4 stipulates that “We will plan our future places in line with six overarching spatial principles”. The first of those is Just Transition: “We will empower people to shape their places and ensure the transition to net zero is fair and inclusive”.

9) Can SSEN describe how their consultation process regarding F1.3 has honored this principle?

In November 2020, SSE became the first company to produce a Just Transition Strategy, introducing 20 key principles to ensure fairness as we move away from carbon-heavy activities and embrace climate-friendly changes.

The Pathway to 2030 projects align with these principles, promoting job opportunities, local suppliers, and preserving cultural heritage. Early in project development, SSEN Transmission made sure to engage with communities for feedback and insight.

You can read more about our principals [here](#).

As part of our routeing procedures, we develop projects that incorporate consultation events at the different stages of the design development where people have opportunity to feed into the development process. We have undertaken consultation on route options in Section F, within which Drumoak is positioned, during May to July 2023. Our Report on Consultation (RoC) has provided information on how we have considered and responded to consultation feedback, which has resulted in the proposed new route F1.3. We are now undertaking consultation on F1.3 to gather views on this route, having identified that it offers a potential less constrained route than those previously consulted upon.

Stakeholder feedback is considered and does influence the development design as evidenced by the changes we have made since the last consultation between May and July 2023. We ensure the consultation we undertake which includes public consultation events, meetings with Community Councils and other statutory bodies, attendance at public events and other forms of correspondence are over and above the minimum best practice requirements for section 37 applications. Best practice comprises two consultation events and there is no statutory pre-application consultation procedures for section 37 applications under the Electricity Act. We will exceed the best practice requirement by the time we submit the section 37 application as we are seeking to develop projects sensitively to reduce impacts to communities as much as possible and consultation feedback is key to achieving this outcome.

As you will know by now, our community has been shocked and stunned by SSEN’s surprise announcement of a new and un-consulted preferred route. During the last consultation process, the results of our questionnaire demonstrated that the residents were fundamentally opposed to the pylons in entirety. The fact that SSEN has moved the route nearer to villages, schools, and closer to one of the oldest Keeps in Scotland (to name but a few pinch points), is widely considered by those living on the proposed corridor, a crass error of judgement. Clearly, our community needs to know how this latest route was decided and how exactly SSEN evaluated and made their choice.

10) When are SSEN going to publish their criteria and methodology for the public to understand how such an inappropriate decision can occur?

SSEN Transmission's Overhead Line Routeing Guidance has been shared with the Community Council and a copy can be requested from them.

11) Routes F1.3 and F2 sit alongside 2 High Pressure Gas Pipelines. Can you tell us what the safe operating distances from pylons up to 68m in height are for those, and how they are decided: what guidance would be followed?

There are numerous gas and oil & gas pipelines along the route from Kintore to Tealing and we make best efforts to avoid them but that is not always possible. The exact constraints around proximity are site specific. We work closely with the pipeline operators to mitigate risk, develop safe systems of work both during the construction and operation of the OHL. We have good experience of working closely with pipeline operators across our licence area and will continue to engage with them as the project develops.

Transparency

It isn't at all clear how the decisions are being made. In particular, how a consulted preferred route was switched, for a route that has not been consulted on.

The communities need to see the all the information associated with the key decisions. This should include:

- **Site specific assessments such as ground investigations, bird surveys, LiDAR flights as well as ecological & archaeological walkovers.**
- **Details of consultations and conversations that have influenced the current preferred routing.**
- **Details of how the preferred routing can possibly meet the necessary criteria.**
- **Full EIA details**

12) When will this information become available?

The majority of the information listed will be in the Environmental Impact Assessment Report (EIAR) being prepared to accompany the section 37 application. The EIAR will be ready towards the end of 2024.

Ground Investigations (GI) works and LIDAR flights are undertaken during the design development process when we are considering tower positions. This information is not usually provided with information presented in the EIAR, except where it has been critical to inform a design decision. This information is used to inform design requirements and tower positioning but does not inform the routeing process.

There are some elements of the survey work that we undertake for ecology and ornithology that we are not permitted to share publicly. This is information pertaining to locations of protected species of animals and birds. We compile confidential annexes to the EIAR and these are sent directly to the Energy Consents Unit and to Nature Scot.

The front chapters of the EIAR will explain the routeing process, the decisions that have been made according to the routeing criteria that underpins our routeing process. We also document the consultations that have been undertaken in the EIAR alongside the issuing of Reports on Consultation after our consultation events.

Environment

The community were clear that, by asking questions such as the following is by no means them accepting the proposals and we feel it's important to ensure that is stated before asking, however If this project were to go ahead as planned, it will have a very significant impact on the communities it touches. It would permanently degrade the ambiance of these areas.

13) When will an Environmental Impact Assessment be carried out?

An EIA will be carried out over Summer/Autumn of 2024 and will be submitted as part of the Section 37 application for consent to the ECU at end of 2024.

14) How is this permanent long term environmental and health impact balanced against the short-term cost savings involved with this outdated technology compared with the alternatives?

As part of the OHL routeing process, we seek to design out impacts, as far as possible, such that there are no long-term impacts from the OHL development. Where impacts are identified we apply mitigation to reduce the effects of the impact during construction and for its operational life.

Regarding health and OHLs, the UK Government, following advice from Public Health England, has set guidelines on safe levels of exposure to electric and magnetic fields (EMFs).

These guidelines, adopted in 2004, are based on international standards by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). These guidelines are designed to set conservative exposure levels for the general public to electric and magnetic fields and they are endorsed by the UK's health protection agency Public Health England, the World Health Organisation and the UK Government.

The electricity industry abides by these rules, ensuring that all new equipment is safe according to official guidelines (assets.publishing.service.gov.uk/media/5a796799ed915d07d35b5397/1256-code-practice-emf-public-exp-guidelines.pdf). A Code of Practice, published jointly in 2012 by industry and the then Department for Energy and Climate Change (now part of the Department for Energy Security and Net Zero), sets out all the practical details needed to apply the exposure limits for transmission lines. The electricity industry designs all new equipment to comply with the Government guidelines as set out in the Code of Practice. This includes measures such as adhering to statutory ground clearance requirements and ensuring optimum phasing of high voltage double circuit overhead lines.

Further information on EMFs can be found on Energy Networks Association's website.

Property Value & Compensation

Clearly, pylons are a low-cost option, yielding value for shareholders, the government and ultimately taxpayers & customers. Affected properties suffer loss of value as a result of such a project.

15) How would the affected homeowners be compensated fairly, commensurate with real property value loss, should the project proceed?

In terms of entitlement to compensation, this is governed by law under the Electricity Act 1989 and the Land Compensation Act 1961. Compensation will be considered on an individual basis in accordance with current legislation.

We understand that there is concern about potential impact to property values. To date, we have not seen clear, objective evidence that this project will have a direct impact on the value of properties. The current proposals are still under consultation and subject to change. As the proposed alignment for the overhead line is determined, we will engage with property owners about any evidenced impacts. SSEN Transmission is obliged to follow a legal framework, therefore any perceived effects on value of property need to be addressed on a case-by-case basis.

Each case will therefore be considered on its own individual merits within the statutory framework of the Electricity Act 1989 and the Land Compensation Act 1961.

The government is looking to firm up its plan to offer up to £1000 towards a household's electricity bill, per year, for 10 years, for those living closest to the pylons.

16) How much has SSEN considered this cost - as well as the cost of; compensation mentioned previously and any compulsory purchases that may be required - to the British public when totaling the overall cost of the project?

Guidance by UK Government is still to be developed, SSEN-T were not involved in developing potential policy. Total cost to be assessed by OFGEM

Who has the right to do this to us?

As we discussed at a previous meeting, the news of this proposed OHL has already had an impact on people in our communities. Sadly, there are residents who live on the proposed corridor who are already feeling mentally and physically unwell as a result of the proposal.

17) What legal and moral right does SSEN have to desecrate our countryside, devalue our houses, and decide on pylon sizes and the corridors?

SSEN Transmission holds a transmission licence under the Electricity Act 1989. In terms of section 9(2) of the Act, SSEN Transmission has a statutory (legal) duty to develop and maintain an efficient, coordinated and economical system of electricity and in doing so, it is our job to balance a range of factors in determining our proposed route for this critical national infrastructure. This includes environmental, technical and economic factors, alongside community and wider stakeholder feedback.

Under our electricity transmission licence, we also have an obligation to provide connections to our network and where there is a need to increase the capacity of our network, as is the case with the Kintore-Tealing 400kV project, we work with the ESO and other Transmission Owners to develop options. We also require regulatory approval from Ofgem, which was provided in December 2022 as part of its Accelerated Strategic Transmission Investment (ASTI³) Framework decision.

The development of our projects is also undertaken in line with established Scottish Government Planning Policies, including the recently adopted National Planning Framework 4; and our legal obligations under our electricity transmission licence, which itself is underpinned through legislation and regulation.

The Future

It has been stated previously that networks are not built to accommodate future requirements. If that is entirely true, and with the potential of more Windfarms both on and offshore being planned,

³ https://www.ofgem.gov.uk/sites/default/files/2022-12/ASTI%20decision%20doc%20-%20Final_Published.pdf

Scotland could expect to see the requirement for more and more infrastructure as the situation unfolds.

18) Thinking about our Communities specifically, how many more routes could we expect to be proposed in the future in this area?

SSEN Transmission is the transmission owner in the north of Scotland. We have a licence obligation to provide a connection to the transmission grid. We do not govern what technology and how many developers connect. The developer industry is driven by third party commercial organisations and we have no means of knowing how many developers will eventually apply for connection agreements.

19) Why don't we get the whole, potential long-term picture now which reflects the implications of the new licenses being issued, so we don't just get hit with one new project on top of another without any idea of the overall cumulative impact?

The process of achieving a contracted grid connection can take several months from application to acceptance. During this time, there is an obligation on SSEN-T and the ESO to maintain confidentiality. Once an offer is accepted it is in the public domain. Similarly, when there is a network upgrade or reinforcement required it also becomes publicly available via the ESO. Developers do not need land rights or consents to apply for a grid connection. Therefore, the number of projects that have connection offers does not necessarily reflect the number of projects that will be fully developed and connect to the grid. Part of our licence obligation is to develop the network in an efficient and coordinated manner based on the available information. We have no certainty of developer activity until they apply and eventually accept an connection offer.

Details of contracted connections to the Transmission network across the UK can be found here: https://www.nationalgrideso.com/data-portal/transmission-entry-capacity-tec-register/tec_register

Economics

Within SSEN's Pathway to 2030 programme, there is a statement that the £10 billion programme of investment into the Transmission network across the north of Scotland will support 20,000 jobs across the UK, 9000 of which will be in Scotland.

20) Can you please provide clarification how you have come to the conclusion that creating 9,000 jobs in Scotland will add £billions to the economy?

This analysis was undertaken independently by BiGGAR Economics on behalf of SSEN Transmission. The findings of the analysis can be accessed on BiGGAR Economics' website here: [Economic Impact of SSEN Transmission's capital investment programme - BiGGAR Economics](#)

21) Are you any closer to setting out more details of these opportunities?

We are committed to deliver legacy benefits to the regions and communities that host our infrastructure as we deliver our pathway to 2030 schemes. This will include local supply chain opportunities (25% local spend commitment), biodiversity net gain, a commitment to support the delivery of at least 200 new homes as part of our accommodation strategy and networks community benefit funding which the UK Government is currently developing guidance on. This could be worth around £100m based on current thinking. You can read more about our commitments in this press release here: [Major jobs boost for the north of Scotland as community-led changes to £20bn electricity upgrades announced - SSEN Transmission \(ssen-transmission.co.uk\)](#)

In addition to the above we're creating direct jobs in our business, based across our network area with our staff numbers having more than tripled from 500 roughly two years ago to roughly 1700 today. This is resulted in us opening a new office in Aberdeen to provide more capacity for our staff in the North East. We have committed to create a further 400 jobs this coming year which will include opportunities for early careers such as graduates, apprentices and trainees.

As the development of our Pathway to 2030 schemes continue we are keen to work with communities to ensure the benefits delivered through our projects can be maximized where possible.

22) Why do project economics not include loss of capital value and loss of visual amenity along the route?

We will be providing a Socio-economic report as part of the Section 37 (S37) submission that will provide further information on the economics of the proposed development.

Landscape & Visual effects are considered within the EIAR and would also be referred to within the socio-economic report.

Enforcing criteria

As it stands, the proposal provides us with a 1km wide route, we understand that SSEN have mentioned various criteria linked to distances that they will aim for / must adhere to.

23) Where can we get confirmation of what the mandatory criteria is?

There generally is no minimum criteria for clearance to properties etc. However, we need to develop the infrastructure in such a way that minimises overall impact. We will aim to be a minimum of 100m from properties and are targeting 170m and further where constraints allow, to maximise the distance from properties.

24) How do we as a community ensure that critical criteria are enforced? Criteria such as distance from properties (170m) and gas lines etc?

Communities can provide formal representations as part of the S37 consent process to the ECU once SSEN has submitted the S37 application. Section 37 consent is not granted until all land rights are secured and this could potentially include a crossing agreement with pipeline operators. We would ultimately not be able to progress construction activities over or around the pipelines without securing agreement.

Health & Safety

25) What are the issues that the communities should be aware of regarding the pylons and overhead lines?

Would not encourage any interference with the infrastructure. The technical and physical aspects are determined by clearance and safety requirements, in part determined by our internal standards and The Electricity, Safety, Quality and Continuity Regulations of 2002 (ESQCR). These govern how we minimise any safety impacts on those living and working around the infrastructure.

26) What do you estimate is the reach of the electro-magnetic envelope around multiple 400 kV cables running through the environment? Particularly compared with the existing power lines?

We are aware of the public concerns about this and are engaging with various colleagues and industry counterparts to help inform the response and will look to provide an update in due course.

However, we would like to reassure you that we develop, build and operate our infrastructure to meet all health and safety legislation and guidance set by relevant bodies - including the UK Government, Scottish Government, the Health and Safety Executive and our regulator, Ofgem – including that associated with Electro Magnetic Fields (EMFs).

The guidance we follow, which remains subject to ongoing review as required, ensures that safety measures will be applied to our 400kV overhead line infrastructure protecting us all against EMF exposure, keeping our network safe for the public.

Pylon Type

We understand that there are various designs in terms of Pylon design, including for example the new T-pylon.

27) Can you tell us what options for pylon type and size there are in the UK?

There are a number of structures available for carrying overhead power lines. These include the traditional steel lattice pylons, wood/steel/composite poles and as mentioned above the newer T- pylon used recently by National Grid. Each structure comes with its own limitations on when and where it can be used, including voltage requirements, ground conditions, access, among a number of other considerations. Size of pylon is dependent on the voltage required and the required clearances to maintain a safe and secure operation at 400kV typically results in much larger structures.

28) We understand the proposed pylons are to be significantly higher (on average 20m but up to 30m taller) than those we see in the area already, why are the proposed pylons so large?

The size of a pylon is dependent on the voltage requirements of the circuit. The existing circuits in the region are predominantly made up of 132kV and 275kV circuits. The new proposed line is 400kV, due to load requirements, and therefore clearance requirements are increased to ensure safe and secure operation of the OHL.

29) What pylon design options have been considered for this route?

The SSE400 towers that are currently used for the Beaully – Denny circuit. These are specifically design for 400kV operation.

30) What type are being planned? And why?

The T-Pylon has been designed and developed to suit the needs of National Grid and their operating area in England and Wales. Unfortunately, this means it not readily suitable for the use in the North of Scotland for several reasons:

- Loads from the weather, such as wind and ice, are much more severe in SSEN Transmission’s operating area compared to National Grid’s. As a result, the span between structures would have to be reduced from the current 350m. This would mean more structures being needed, which would increase the visual impact, the land occupied and the amount of construction traffic on the roads. The lattice steel towers proposed by SSEN Transmission can readily do spans between 350m and 400m.

- The composite material used to make the diamonds on the T-Pylon could have a life span as short as 20 years, compared to the 40-50 year life span of the glass insulators used on lattice steel towers. Due to the size and weight of the diamonds, combined with the need to lower the circuit completely to replace the diamond, there would be the potential need for a major refurbishment scheme every 20 years.
- The steel pole sections of the T-Pylon are around 3.5m in diameter, and with an overall structure height 35m; it would likely require around 6-9 large low-loaders to deliver the structure to site. This would have a significant impact on local traffic, particularly where roads pass through communities. Additionally, such vehicles may not be able to reach more remote sites on single track roads. Use of the T-Pylon would potentially limit any new lines to major roads and prevent the routing of lines away from communities where possible. Steel lattice towers are delivered as bundles of angle steelwork and can be transported by fewer and smaller vehicles, reducing the impact of construction traffic.
- Due to the concentration of the loads at the base of a narrow pole, rather than over the wider spaced legs of a lattice steel tower, the T-Pylon requires a substantial foundation with a large amount of concrete which is not possible to source in some areas of Scotland.
- The T-Pylon design can only turn angles up to 30°. Existing lattice steel tower designs can turn up to a 90° angle. This greatly improves the ability for new lines to avoid communities, viewpoints, and site scientific and environmental importance. Using the T-Pylon with its limited ability to change direction of the powerline, would greatly reduce SSEN Transmission's ability to route the line to minimise its impact.
- The T-Pylon supports an entire circuit on a single diamond. In the unlikely event of a failure the entire circuit would be lost. Due to the size and weight of the combined compared to smaller individual insulator sets used on lattice steel towers, they would take substantially longer to repair, greatly increasing the time to restore power.

Based on the above we do not feel that the feel that the T-Pylon is suitable for use on our schemes and that it would result in lines that have a greater impact on local communities and the environment whilst also increasing construction traffic.

We intend to use SSE400kV towers as these are specifically designed for 400kV operation.

Contract Award

The community would like to understand in more detail how contracts / projects are issued from National Grid.

31) Can you tell us whether the East Coast 400kV projects were tendered, or are they automatically allocated to SSEN as the Transmission Operator in this area?

As part of Ofgem's ASTI Framework decision, they confirmed that each of the 26 projects (GB wide) included in the ASTI Framework will be exempt from consideration of competition via a competitive delivery model⁴.

Engineering

The North East of Scotland has faced some significant challenges with weather of the last few years, with seemingly increased exposure to storms and high winds.

32) How have climate change predictions influenced pylon design?

OHL Transmission circuits rarely have weather related faults and are designed to withstand the weather conditions that they are exposed to. In addition, when there are faults, they can be easily identified and returned to service.

33) What are the carbon emissions associated with building the OHL system?

There are carbon emissions associated with the manufacturing and installation of the assets on the project; these are referred to as capital carbon emissions. As with any project of national infrastructure significance, there is a capital carbon footprint associated with their creation; however these must be viewed in the balance of the lifetime of these assets, 50+ years, and that over time these emissions will be balanced out, and indeed eliminated, by the function which they provide – to connect low-carbon renewable based generation into the UK's energy system.

34) And how do they compare with other options?

Alternative options to building an OHL system is the undergrounding of the cable across its route; from a carbon and environmental point of view; there is significantly more disruption and negative impact from this option given the scale of trenching needed, as well as carbon intensive plant machinery to excavate these areas; as well as the impact on peatland also which is a natural carbon sink.

Ornithology, Wildlife, and biodiversity

In winter, every year, thousands of geese feed on the proposed route, similarly to Loch of Skene. These geese will inevitably fly through the power lines.

35) How has this been evaluated?

SSEN Transmission has undertaken surveys of wintering geese (in agreement with NatureScot) to understand more about the numbers and movements of geese and other bird species in the area. The survey data will be analysed by SSEN Transmission's ornithological consultants to help to understand the patterns and directions of movement of geese between the loch and surrounding feeding areas. This information will then be used to inform an assessment of the predicted effects of the proposed overhead line (OHL) on geese and other birds, as part of an Environmental Impact Assessment (EIA). If this assessment identifies a potential for significant effects from the proposed development on geese, mitigation measures such as the use of bird diverters attached to the OHL cables will be specified. SSEN Transmission will also undertake a Habitats Regulations Appraisal (HRA) of the proposed OHL in relation to the specific interests of the Loch of Skene which is designated as a Special Protection Area (SPA) in relation to its wintering wildfowl populations.

36) How much detail does SSEN currently have on the effects to wildlife and biodiversity on the proposed route through our area?

In addition to the ornithological surveys described above, SSEN Transmission has undertaken habitat and protected species surveys along the proposed route for the OHL. Further fieldwork to update these surveys will be undertaken Spring 2024. Areas have been identified which either have confirmed signs of protected species, or suitable habitat with potential to support these species. The information from field surveys will be supplemented with ecological data on habitats and species records sourced from wildlife organisations. The data obtained from surveys and desk study have been used to help inform environmental constraints appraisal and the selection of the proposed route for the OHL through the work completed to date on route options, in consultation with stakeholders such as NatureScot and SEPA. The baseline ecological and ornithological information gathered will be used to

inform ecological and ornithological impact assessments of the proposed OHL as part of the EIA. The findings of the EIA will be presented in an EIA Report that will be submitted by SSEN Transmission to the Scottish Government for the Section 37 consent to construct the project.

Removal/ Decommissioning

Our understanding is that the current project is upgrading the OHL to the West of Drumoak and Durriss to 400kV and this proposal would introduce a brand-new OHL at 400kv. Leaving the existing line to the east of Drumoak and Durriss at 275kV.

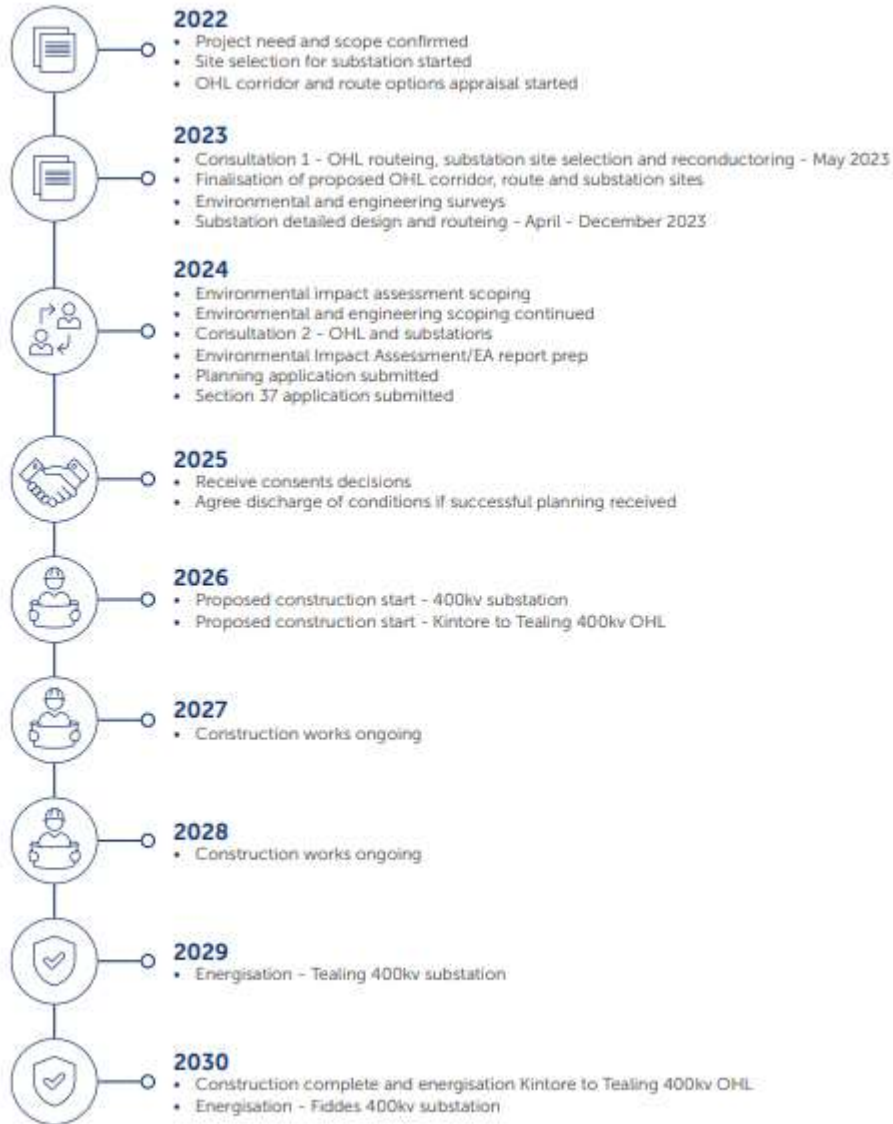
37) Given the increased capacity of a new line, will SSEN be amalgamating old infrastructure and removing it in our area?

The overall rationalization of the network is under consideration but need to be considered with respect to the overall operability and security of the network. The existing 275kV still provides an important power transfer route from north to south and removing it would potentially have a significant impact on power transfer capability.

Timetable

To help us understand the next steps and associated timelines for this project.

38) What is SSEN's timetable for consultation, routing, and construction?



What should we be worried about?

The proposed route runs near houses and through farmlands in Durris and (the area of) Drumoak, close to the villages of Drumoak and Park, and of particular concern, the Primary School in Drumoak.

39) If you lived in the village and your children went to the school, what particular, short- and long-term things would worry you?

SSEN Transmission is required to develop and maintain an efficient, coordinated and economical electricity transmission system in its licenced area. To achieve this licence requirement, we undertake a routeing process that seeks to balance technical, cost and environmental considerations, to select a proposed alignment which is economically viable, technically feasible, minimises impacts on the environment and reduces disturbance to those living, working, visiting or using the environment for recreational purposes. The alignment also must be capable of being granted consent by the Scottish Government.

As such, we are developing an OHL that meets Health & Safety requirements of the electricity industry (refer to q14). We design out impacts as far as possible and commit to mitigation measures to reduce any remaining impacts. We are required to agree mitigation with regulators through the EIA-process and seek opportunities to provide community benefit and biodiversity net gain. We must also implement all commitments made in the EIA along with further obligations set by statutory stakeholders through conditions that are contained within the consent for the OHL development. Throughout the process of developing a new OHL we are considering how impacts can be avoided and mitigated during the design, construction and operation.