



Preliminary Environmental Information Report Volume 2

Appendix 17.1 Transport Assessment Scoping Report

LLK1-ARU-REP-ENV-000017_AP17.1

Version 0.0

January 2026

LionLink:

LIONLINK:

Transport Assessment Scoping Report
April 2024



nationalgrid

Contents

1. Introduction	5
1.1 Introduction	5
1.2 Overview of the Project	5
1.3 Proposed Scheme	6
1.4 Study area	8
1.5 Approval process	10
1.6 Purpose of this TA Scoping Report	10
1.7 Report structure	11
2. Planning policy framework	12
3. Baseline conditions	13
3.1 Introduction	13
3.2 Study area	13
3.3 Land use	13
3.4 Baseline data collection/surveys	13
3.5 Highway network	14
3.6 Parking and loading	14
3.7 Public transport network and services	14
3.8 Public Rights of Way, Pedestrian and Equestrian Networks and Bridleways	15
3.9 Cycle network	15
3.10 Waterways and canals	15
3.11 Air transport	15
4. Scheme Description	16
4.1 The Proposed Scheme	16
4.2 Construction	16
4.3 Operation and maintenance	16
5. Assessment years	18
5.1 Construction	18
5.2 Operation and Maintenance	18

6. Future baseline	19
6.1 Introduction	19
6.2 Land use	19
6.3 Transport network changes	19
6.4 Future baseline conditions	19
7. Trip generation and distribution	21
7.1 Trip generation – Construction	21
7.2 Trip distribution – Construction	21
7.3 Trip generation – Operation	21
7.4 Trip generation – Distribution	21
8. Appraising the impact of the Proposed Onshore Scheme	22
8.1 Introduction	22
8.2 Construction of the Proposed Onshore Scheme	22
8.3 Assessment of the construction impact	23
8.4 Construction mitigation measures	23
8.5 Operation of the Proposed Onshore Scheme	23
8.6 Assessment of the operational impact	23
8.7 Operational mitigation measures	24
9. Mitigation	25
9.1 Design measures	25
9.2 Control measures	25
10. Glossary and Abbreviations	1

No table of figures entries found.

Figure 1.1 – Proposed Onshore Scheme Scoping Boundary	7
Figure 1.2 – Baseline Transport Network	9

No table of figures entries found.

No table of figures entries found.

1. Introduction

1.1 Introduction

- 1.1.1 Ove Arup & Partners (Arup) has been appointed by National Grid LionLink Limited (NGLLL) to prepare a Transport Assessment (TA) Scoping Report in support of the LionLink Scheme application for development consent.
- 1.1.2 NGLLL (the Applicant) forms one aspect of the National Grid Ventures (NGV) portfolio. NGV is one of four distinct electricity business entities under the umbrella of National Grid Plc (National Grid).
- 1.1.3 National Grid is the gas and electricity system operator in the UK and operates the high voltage electricity transmission system in Great Britain and owns the system in England and Wales. NGV operates outside of National Grid's core regulated business, and develops and operates energy projects, technologies, and partnerships to make energy cleaner, more secure and more affordable for consumers.

1.2 Overview of the Project

- 1.2.1 The Project comprises an electricity link with a capacity of up to 1.8 gigawatts (GW) between the National Transmission Systems (NTS's) of Great Britain and the Netherlands connecting into a wind farm in Dutch waters. This will provide enough electricity to meet the annual needs of approximately 1.8 million homes.
- 1.2.2 The Project is located partly in the territory of Great Britain and partly in territory of the Netherlands. This TA Scoping Report has been prepared to support the portion of the Project within the territory of Great Britain only.
- 1.2.3 The Project will be the second interconnector between Great Britain and The Netherlands, the first being the existing BritNed interconnector.
- 1.2.4 The GB portion of the Project is referred to as the 'proposed Scheme' and comprises the following key components:
 - The proposed Friston Substation;
 - Proposed high voltage alternating current (HVAC) Underground Cables between the proposed Converter Station in Suffolk and the proposed Friston Substation;
 - The proposed Converter Station in Suffolk, east of Saxmundham;
 - Proposed high voltage direct current (HVDC) Underground Cables between the proposed Converter Station in Suffolk, and a proposed Landfall at either Southwold or Walberswick; and
 - Submarine electricity cables from a proposed Landfall Site (at either Southwold or Walberswick) at the mean high-water mark at the UK coast to the edge of the UK Exclusive Economic Zone (EEZ).

1.3 Proposed Scheme

1.3.1 The proposed Scheme has been split between the proposed Onshore Scheme and proposed Offshore Scheme. This TA Scoping Report relates to the proposed Onshore Scheme which comprises the following:

- The proposed Friston Substation;
- Proposed HVAC Underground Cables between the proposed Converter Station near Saxmundham and the amended Friston substation;
- The proposed Converter Station near Saxmundham; and
- Proposed HVDC Underground Cables, between the proposed Converter Station east of Saxmundham, and a proposed Landfall at either Southwold or Walberswick.

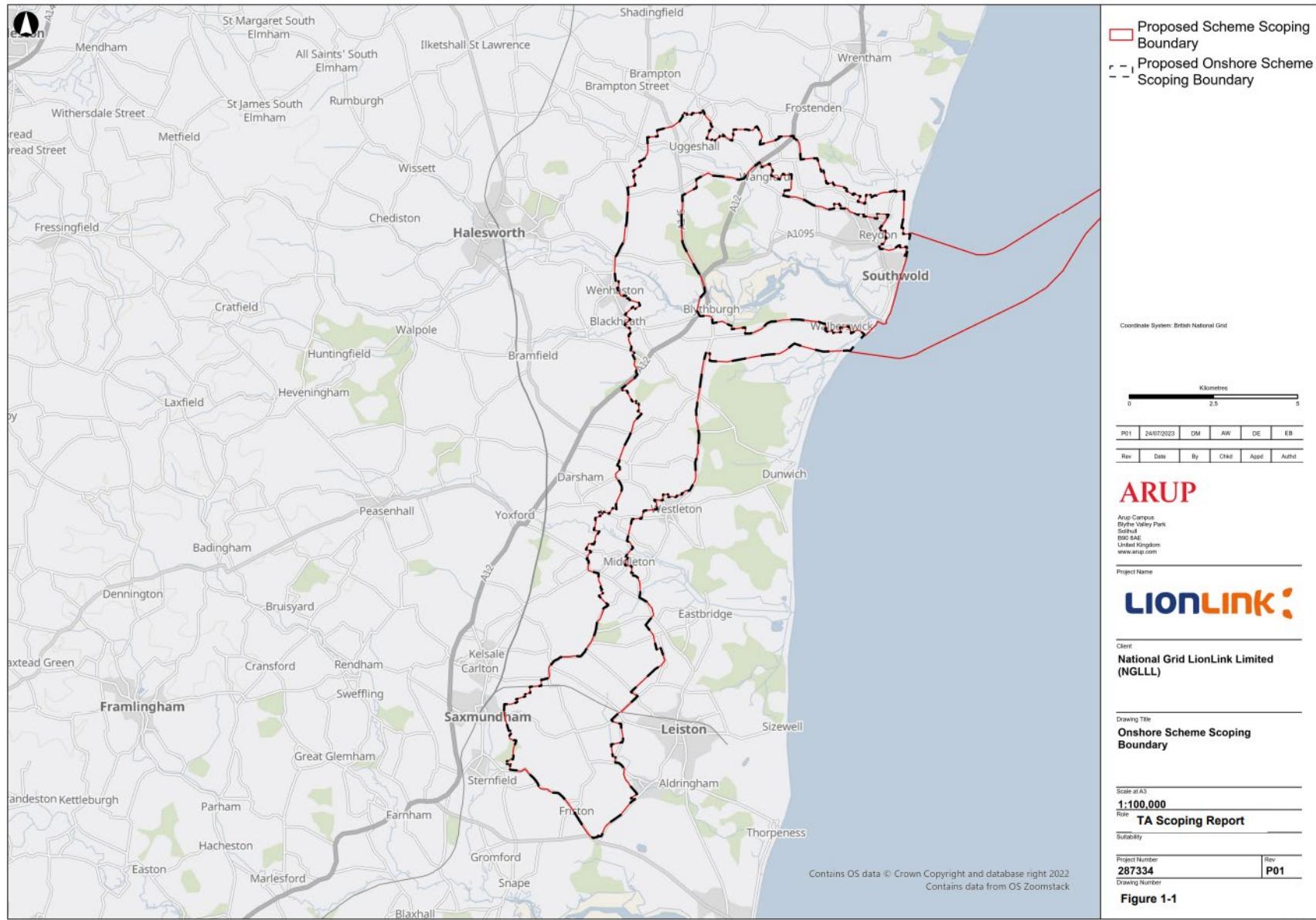
1.3.2 The proposed Friston Substation is located 1km to the north of Friston. From the substation, the proposed HVAC underground cable corridor would head northwest across farmland for approximately 2km towards the Converter Station which would be located on land to the east of Saxmundham. From the Converter Station, the HVDC underground cable corridor would head north across farmland for c.13km, passing the villages of Theberton, Middleton and Westleton and crossing the B1119 Leiston Road and B1122 Yoxford Road along with various unclassified roads, on its way towards Blythburgh.

1.3.3 As the HVDC underground cable corridor approaches Blythburgh, there are two options for the route, to suit the two landfall options – at Southwold and Walberswick. For the route to Walberswick, the cable corridor turns towards the east approximately 1km south of Blythburgh and potentially crosses the A12, B1387 The Street, B1125 Dunwich Road and Lodge Road before reaching Landfall at Walberswick, a distance of c.5km from south of Blythburgh.

1.3.4 The HVDC underground cable corridor to Southwold would continue north in farmland, past Blythburgh and Wenham towards Uggeshall, crossing the A12, B1387, B1123 Southwold Road, A145 and unclassified roads before turning towards the east. It would then cross farmland, the A12, B1127 Lowestoft Road and various unclassified roads before reaching Landfall at Southwold, a distance of c.14km from south of Blythburgh.

1.3.5 The proposed Onshore Scheme Scoping Boundary (hereafter referred to as ‘the Onshore Scoping Boundary’) is shown on Figure 1.1.

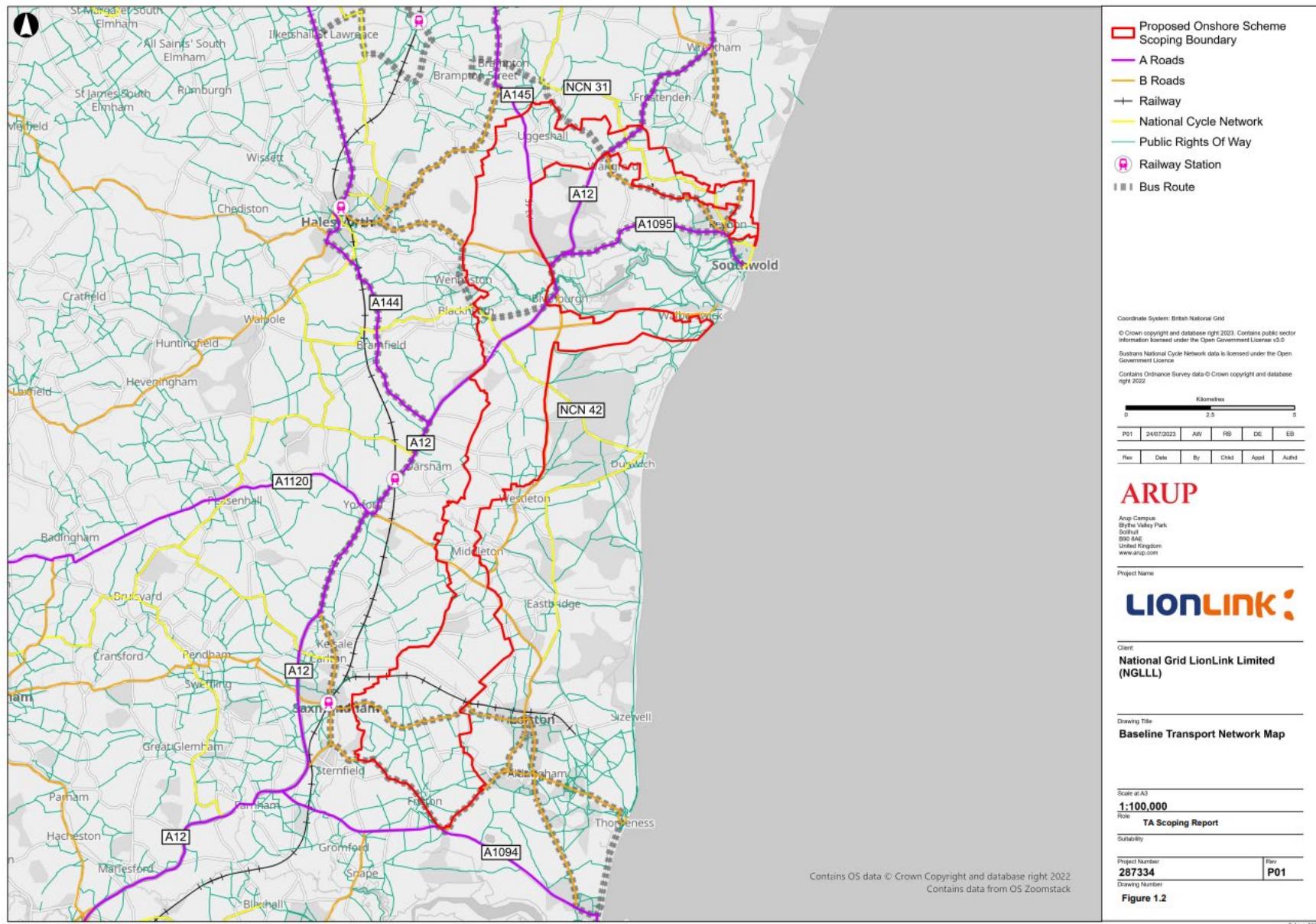
Figure 1.1 – Proposed Onshore Scheme Scoping Boundary



1.4 Study area

- 1.4.1 The extent of the study area for the assessment of transport impacts has not been defined in detail at this stage. However, it is likely to include areas of the transport network that are beyond the proposed Onshore Scoping Boundary, and the extent of the study area will be discussed with Suffolk County Council (SCC) as the Local Highway Authority, as the proposed Onshore Scheme evolves.
- 1.4.2 To inform this TA Scoping Report the baseline transport network in the vicinity of the proposed Onshore Scoping Boundary is shown on Figure 1.2. This highlights the key highways, bus routes and pedestrian/ cycle network including Public Right of Way (PRoW) that are in and around the Onshore Scoping Boundary and which may be impacted by the proposed Onshore Scheme depending on the evolving design.
- 1.4.3 The study area will be reviewed and, as appropriate, refined for the TA with only one Landfall and one HVDC Underground Cable Corridor being taken forward.

Figure 1.2 – Baseline Transport Network



1.5 Approval process

1.5.1 None of the components of the Project fall within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) defined under Part 3 of the Planning Act 2008 (PA2008). The Project therefore sought direction on 28th July 2022 under Section 35 of the PA2008 from the Secretary of State (SoS) for the Project to be treated as a development for which development consent under the PA2008 is required.

1.5.2 On 23rd August 2022 Section 35 direction was granted by the SoS on the grounds that:

- *"The proposed project is of national significance, taking into account that it forms part of a high voltage direct current electricity link with capacity of up to 1.8GW between the national transmission systems of Great Britain and the Netherlands."*
- *"The proposed project will play an important role in enabling an energy system that meets the UK's commitment to reduce carbon emissions and the Government's objectives to create a secure, reliable and affordable energy supply for consumers."*
- *"By progressing the development through the Planning Act 2008 development consent process, it would provide the certainty of a single, unified consenting process and fixed timescales".*

1.5.3 Following granting of the Section 35 Direction, the Applicant intends to apply for development consent under Section 37 of the PA2008 to the Planning Inspectorate (PINS). The application will provide details of the Project and will be accompanied by an ES.

1.6 Purpose of this TA Scoping Report

1.6.1 A TA is being prepared in support of the proposed Onshore Scheme application for development consent. This TA Scoping Report sets out the proposed approach and methodology that will be used in the preparation of the TA. The approach will be refined as the scope of the assessment of traffic and transport impacts develops with the final adopted approach reported in the TA Report itself.

1.6.2 The transport related environment impacts of the proposed Onshore Scheme will be considered directly as part of an Environmental Impact Assessment (EIA) through the Environmental Statement (ES). The TA will contribute to the Traffic and Transport chapter of the ES. In addition, the TA outputs will be used to inform other wider EIA considerations, including noise, air quality and health and wellbeing.

1.6.3 Due to the synergy which exists between the EIA and TA, there is a seamless relationship between those teams working on each of the assessments.

1.6.4 Following the identification of the transport impacts, including from an environmental perspective, consideration will be given to any requirement for mitigation measures. These will consider the construction and operational phases, and proposed design solutions will be recommended where appropriate.

1.6.5 This TA Scoping Report considers construction and operational impacts. It is however anticipated that the main transport impacts would be associated with the construction of the proposed Onshore Scheme. During the operational phase, the proposed Onshore Scheme will be manned by a limited number of operatives across the site, with additional infrequent trips associated with maintenance/inspections or repairs when required. In the event that the proposed Scheme is decommissioned, there is expected

to be fewer Heavy Goods Vehicle (HGV), Light Goods Vehicle (LGV) and construction worker movements than during the construction phase and decommissioning would not therefore be considered in the TA.

1.6.6 SCC as the Local Highway Authority will be consulted on the scope of the TA. As part of the engagement, it would be beneficial to agree key aspects of the TA with SCC as the work progresses, to help inform the Development Consent Order (DCO) Application and the preparation of a Principal Areas of Disagreement Statement (PADS).

1.7 Report structure

1.7.1 The purpose of the TA is to establish an assessment and appraisal of the proposed Onshore Scheme, in terms of the traffic and transport impacts and mitigation and to inform the EIA process.

1.7.2 This TA Scoping Report sets out the proposed approach to the components of the TA in the following sections:

- Chapter 2 - Planning policy framework;
- Chapter 3 - Baseline conditions;
- Chapter 4 - Scheme description;
- Chapter 5 - Assessment years;
- Chapter 6 - Future baseline;
- Chapter 7 - Trip generation and distribution;
- Chapter 8 - Appraising the impact of the proposed Onshore Scheme; and
- Chapter 9 - Approach to mitigation measures.

2. Planning policy framework

2.1.1 The TA will include a summary of national planning policy and best practice guidance, which underpins the TA. The TA will also include a summary of current, and emerging, local planning and transport planning policies and guidance where relevant to the proposed Onshore Scheme.

3. Baseline conditions

3.1 Introduction

- 3.1.1 The TA will set out the baseline traffic and transport conditions along the proposed Underground Cable Corridor, proposed Friston Substation, the proposed Converter Station and the proposed Landfall site, as well as the proposed construction routes.
- 3.1.2 The geographic extent of the study area will be a function of the proposed Onshore Scheme, construction traffic volumes and the associated routes for construction traffic. The precise extents of the study area have not yet been defined but will extend to deal with areas of potential significant traffic and transport impacts.

3.2 Study area

- 3.2.1 An overview of the study area will be provided which will include a general summary of the likely key issues for consideration within the study area.

3.3 Land use

- 3.3.1 The appraisal will identify the nature of the land use within the area (predominantly agricultural, urban etc.) and seek to identify any existing community facilities on which the impact of the scheme may need to be considered.

3.4 Baseline data collection/surveys

- 3.4.1 Baseline data will be obtained from the following sources:
 - Local public transport information from SCC and local rail and bus operators;
 - Personal Injury Collision data from SCC;
 - OS Base Mapping to ascertain an accurate geographical representation of the areas in the vicinity of the proposed Onshore Scheme;
 - Highway boundary information from SCC; and
 - Traffic and non-motorised user counts where required.
- 3.4.2 Traffic flows and non-motorised user counts will be identified from historic data if appropriate and available, or counts will be undertaken at locations likely to be impacted by the proposed Onshore Scheme to determine the baseline conditions on the surrounding transport network.
- 3.4.3 The TA will provide an overview of the traffic and transport surveys undertaken in the area, which will include some or all of the following, depending on the location:
 - Automatic Traffic Count (ATC) - surveys to establish the existing link traffic volumes along the highway routes forming the study area.

- Classified Turning Count (CTC) - surveys at highway junctions, to identify the existing traffic demand and turning profiles at the key junctions located within the study area.
- Queue length surveys - as necessary, to coincide with the CTC surveys, such that this data can be used, in combination with the demand information, to assist in local junction model calibration where appropriate.
- Parking surveys - as necessary, to establish any relevant existing vehicle parking availability and issues in the study area.
- (PRoW surveys – as necessary to establish existing usage on routes impacted by the proposed Onshore Scheme. These will include river and canal banks, cycleways, bridle paths, walking routes and highways. The surveys will take account of the nature of the routes and their levels of utilisation.

3.4.4 In order to maintain the progress of the works, some traffic surveys were undertaken in early July 2023. Going forward, a programme for data gathering with details of survey locations will be agreed with SCC.

3.5 Highway network

3.5.1 A description of the strategic and local highway networks which could be affected by the construction or operational phase of the proposed Onshore Scheme will be presented. The description of the highway network will provide an overview of the strategic and local road network, including unclassified roads which may be affected by the proposed Onshore Scheme.

3.5.2 The section will seek to identify any constraints and summarise baseline daily and peak hour traffic flows and provide a review of personal injury collision data to identify any baseline safety issues.

3.6 Parking and loading

3.6.1 This section will provide an overview of any parking and/or loading restrictions which may impact on potential construction traffic routes in the area, such as areas where parking may create a bottleneck, or, at times of the day such as school pick-up / drop-off. Consideration will also be given to impacts on parking due the proposed Onshore Scheme.

3.7 Public transport network and services

3.7.1 Details of the existing rail and bus services expected to be affected by the proposed Onshore Scheme will be summarised taking into account:

- routes, including the areas served;
- frequency;
- local bus stop locations; and
- rail stations and rail lines, where relevant.

3.7.2 Local / community bus services, including school services will also be identified wherever possible.

3.8 Public Rights of Way, Pedestrian and Equestrian Networks and Bridleways

- 3.8.1 Details of the existing pedestrian networks and PRoWs, including footpaths, bridleways, Byways Open to All Traffic (BOATs) and Roads Used as a Public Path (RUPP), expected to be affected by the proposed Onshore Scheme during the construction and operational phases will be provided.
- 3.8.2 Surveys of the PRoWs which will be affected by the proposed Onshore Scheme will be undertaken, and the results of the surveys fed into the TA and, therefore, EIA processes.

3.9 Cycle network

- 3.9.1 Details of the existing cycle networks expected to be affected by the proposed Onshore Scheme during the construction and operational phases will be provided.

3.10 Waterways and canals

- 3.10.1 Details of the existing navigable waterways expected to be affected by the proposed Onshore Scheme during the construction and operational phases will be provided.

3.11 Air transport

- 3.11.1 There are no air transport facilities in the study area and this would therefore be scoped out.

4. Scheme Description

4.1 The Proposed Scheme

4.1.1 The TA will initially set out an overview of the proposed Onshore Scheme before providing the more detailed features relevant to the traffic and transport assessment.

4.1.2 The nature of the proposed Onshore Scheme is such that the greatest impact is likely to occur during the construction period, which is anticipated to be from 2026 to 2030. The peak construction period for the traffic impact assessment will be identified in the TA when more detailed construction information is available.

4.2 Construction

4.2.1 The construction aspects of the proposed Onshore Scheme will be set out, including the following elements where applicable (with supporting plans provided, where appropriate):

- construction activities, methodology and durations;
- work sites and access strategy;
- parking areas;
- Heavy Goods Vehicle (HGV) construction traffic routes;
- abnormal loads;
- construction vehicle flows;
- worker movements;
- temporary road closures;
- temporary road diversions;
- temporary rail closures; and
- temporary changes to PRoWs: crossings, diversions or closures.

4.3 Operation and maintenance

4.3.1 The operational aspects of the proposed Onshore Scheme will be set out including the following elements where applicable (with supporting plans provided, where appropriate):

- vehicle and pedestrian access arrangements at Friston Substation, the proposed Converter Station and Landfall site;
- proposed car parking at Friston Substation, the proposed Converter Station and Landfall site i.e. for staff and maintenance;
- maintenance and servicing arrangements;

- permanent staffing of proposed Converter Station. Friston Substation and the Landfall site would not be staffed;
- permanent impacts on existing vehicle parking; and
- permanent changes to PRoWs: diversions or closure.

4.3.2 Note: it is not anticipated that permanent road closures and diversions would be required for the proposed Onshore Scheme.

5. Assessment years

5.1 Construction

5.1.1 The construction assessment will consider the background traffic flows (future baseline), in conjunction with the peak construction activities from the overall construction programme (whenever these may occur). Construction is expected to take place between 2026 and 2030 and on this basis it is proposed to use 2028 as the future baseline assessment year. The use of a single future baseline year provides a consistent basis upon which to assess construction impacts.

5.1.2 The impact assessment for the construction phase will include a Future Baseline (without construction) and a With Construction (Future Baseline plus construction) scenario. The traffic impact assessment will cover the following periods:

- weekday AM and PM peak hours, which will be informed by the baseline data.
- all day traffic flows (24-hour data).

5.2 Operation and Maintenance

5.2.1 It is not expected that a traffic impact analysis would be required for the operational phase of the proposed Onshore Scheme due to the low levels of travel demand from general maintenance activities and the permanent staffing of the proposed Converter Station, which is expected to have circa 15 permanent employees.

6. Future baseline

6.1 Introduction

6.1.1 The future baseline (2028) will consider committed developments and transport network changes, along with background growth.

6.1.2 The future baseline will be produced by growing the baseline traffic flows using TEMPro factors, and then adding any extra trips generated by committed developments where they exceed the TEMPro growth i.e. the difference between the committed development trip generation and the TEMPro growth would be added to the future baseline.

6.2 Land use

6.2.1 The section will set out any major committed developments or land use changes which may impact on the future baseline conditions within the area. Information on committed development(s) within the respective local authority areas will be obtained at the local level, through liaison with SCC as the highway authority, and the relevant planning departments, and then, as necessary, fed into the TA work.

6.2.2 Where there are no major committed developments or land use changes, the section will set out the approach adopted to determining the future baseline conditions.

6.3 Transport network changes

6.3.1 This section will set out any major committed or known changes to the transport network which may influence the future baseline conditions.

6.4 Future baseline conditions

6.4.1 Taking account of the proposed land use and transport network changes, this section will set out the future baseline conditions in the construction assessment year within the study area.

6.4.2 In particular, this section will consider:

- road network traffic flows - taking account of the proposed land use and transport network changes, this section will set out the future baseline conditions in the construction assessment year.
- accidents and safety - any potential issues identified with accidents and safety on the transport network which may influence the future baseline conditions.
- parking and loading - any potential parking or loading changes in the transport network which may influence the future baseline condition.
- rail - any major committed or known changes in the rail network which may influence the future baseline conditions.

- local bus and coach services - any major committed or known changes in the bus / coach network which may influence the future baseline conditions.
- pedestrians, cyclists and equestrians - any major committed or known changes in pedestrian, cycle and equestrian provision which may influence the future baseline conditions.
- waterways and canals - any major committed or known changes to waterways and canals which may influence the future baseline conditions.
- air transport - any major committed or known changes to air transport which may influence the future baseline conditions.

7. Trip generation and distribution

7.1 Trip generation – Construction

7.1.1 The estimate of the construction trip generation would take account of:

- the number of construction vehicles (including HGVs) travelling daily to/from the site during the construction period. This will include consideration of the movement of materials along the route.
- the number of workers/person trips travelling daily to/from the site during the construction period.
- modal split for construction workers.
- vehicle occupancy for cars/vans.

7.2 Trip distribution – Construction

7.2.1 The distribution of construction related trips would consider the following:

- construction vehicle (HGVs) routeing.
- likely catchment area for construction workers.
- identification of the distribution of trips by mode and time.
- assignment of the trips by mode.

7.3 Trip generation – Operation

7.3.1 The estimate of the operational phase trip generation would take account of:

- permanent staff located at the Converter Station.
- maintenance workers and frequency of visits.
- type of maintenance vehicles.

7.4 Trip generation – Distribution

7.4.1 The distribution of operational trips would not be considered due to the low level of travel demand in this phase, as set out in Section 5.2.

8. Appraising the impact of the Proposed Onshore Scheme

8.1 Introduction

8.1.1 The purpose of the impact assessments will be to ensure that the impacts and effects of the construction and operation are duly considered, to include the following:

- the TA and traffic and transport elements of the EIA.
- support the EIA, by providing traffic data to inform noise, air quality and health impacts, together with community severance and climate change.
- support the planning process for the application for development consent

8.1.2 The proposed Onshore Scheme will be assessed for both the construction and operational phases.

8.1.3 For construction, the impacts of the construction activities including movement of workers and materials and any significant temporary closures of transport infrastructure will be assessed against a common assessment year irrespective of when in the construction programme the impact occurs.

8.1.4 For the operational phase, it is expected that the proposed Onshore Scheme would generate low levels of travel demand from general maintenance activities and staffing of the proposed Converter Station, as set out in Section 5.2. As a consequence, the assessment would be limited to an analysis of the operational trip generation and impact analysis would not be required.

8.2 Construction of the Proposed Onshore Scheme

8.2.1 The TA will set out the construction of the proposed Onshore Scheme within the study area. This will include:

- overview of the construction activities.
- details of work sites including details of proposed access locations.
- an overview of the construction programme.
- hours of operation.
- construction lorry routes and volumes, setting out the main proposed routes for lorry movements to and from the work sites and the duration of impacts.
- details of workforce and construction activity associated with each work site including an overview of the likely busy period and the duration of impacts.
- details of proposed traffic management, road closures and diversions that will be required to construct the proposed Onshore Scheme and the duration of impacts.
- details of PRoW closures and diversions that will be required to construct the proposed Onshore Scheme and the duration of impacts.

- construction HGV and abnormal load swept path analysis where appropriate.
- other avoidance and mitigation impacts.

8.3 Assessment of the construction impact

8.3.1 The TA will consider the impact of the construction of the proposed Onshore Scheme on each of the modes and users groups (where appropriate) that have been identified.

8.3.2 It is anticipated that the primary issues associated with the construction of the proposed Onshore Scheme will comprise of the impact of construction related movements and the potential need for temporary road and PRoW closures.

8.3.3 The TA will present the forecast impacts of the proposed Onshore Scheme on the highway, public transport and other transport networks and facilities. The assessments will be proportionate to both the scale of impact and the complexity of the issues raised. Consequently, for minor and simple impacts, a direct method of assessment would be adopted i.e. no traffic model. Where the issues are more complex (for example where there are complex, congested highway networks or significant road closures), the analytical tools may be more sophisticated.

8.3.4 Given the rural nature of the area and the construction methodology which includes trenchless construction and a haul road to mitigate impacts (see Section 9), it is proposed that the assessment would be based on a direct method of assessment.

8.4 Construction mitigation measures

8.4.1 Having identified the impacts from the construction of the proposed Onshore Scheme, it will be necessary to establish what mitigation measures are necessary to address the more significant impacts. The principle would however be to 'design out' such impacts where reasonably practicable – see Section 9.

8.4.2 Nevertheless, the assessment may identify further impacts and on the basis of those findings, consideration will be given to the requirement to deliver supplementary mitigation measures.

8.5 Operation of the Proposed Onshore Scheme

8.5.1 The TA will set out the operation of the proposed Onshore Scheme within the study area. This will include:

- operational trip assumptions.
- details of permanent PRoW closures and diversions.
- any other avoidance and mitigation measures.

8.5.2 Note: it is not anticipated that permanent road closures and diversions would be required for this type of scheme.

8.6 Assessment of the operational impact

8.6.1 The TA will consider the impact of the operation of the proposed Onshore Scheme on each of the modes and users groups (where appropriate) that have been identified.

8.6.2 Similar to the construction assessment, the TA will undertake a proportionate assessment of any operational impacts of the proposed Onshore Scheme. As set out in section 5.2, it is not expected that a traffic impact analysis would be required for the operational phase of the proposed Onshore Scheme due to the low levels of travel demand. The operational impact assessment will focus on other modes and user groups where applicable.

8.7 Operational mitigation measures

8.7.1 Having identified the impacts from the operation of the proposed Onshore Scheme, it will be necessary to establish what mitigation measures are necessary to address the more significant impacts. The principle would however be to 'design out' such impacts where reasonably practicable – see Section 9.

8.7.2 Nevertheless, the assessment may identify further impacts and on the basis of those findings, consideration will be given to the requirement to deliver supplementary mitigation measures.

9. Mitigation

9.1 Design measures

9.1.1 The principle, that will be adopted, will be to design the proposed Onshore Scheme, where reasonably practicable, to ‘design out’ adverse traffic and transport impacts. This means mitigation is an integral part of the design process. The TA analysis will be progressed alongside the design process, to help ensure that potential issues are identified and addressed at an early stage.

9.1.2 Mitigation measures should be proportionate to the potential impact of the individual element of the proposed Onshore Scheme. This will ensure that resources are appropriately focused on the impacts which will require the greatest priority.

9.1.3 To deliver the proposed Onshore Scheme in an efficient and cost-effective manner, without excessive disruption and impact on the environment and neighbouring communities, the proposed Underground Cable Corridors will typically be installed using open cut trench techniques. Where the proposed cable route is required to cross obstacles such as major roads (e.g. ‘A’ roads), railway lines and watercourses, a trenchless technique, such as Horizontal Directional Drilling (HDD) would be used to minimise disruption to transport users. In addition, the underground cables will generally be laid on section-by section basis, where practicable, to minimise the extent of the work area and the duration of working period per stage, in order to reduce the disruption to transport users.

9.1.4 Where road closures are required, the period of the closure would be kept to a minimum and diversions would be via the most appropriate alternative route. Access to properties would be maintained at all times.

9.1.5 Where PRoW closures are required, the period of the closure would be kept to a minimum, and a diversion provided where necessary and practicable,

9.1.6 Construction traffic would be routed along classified roads as far as possible, and haul roads would be used to minimise construction vehicle movements on less appropriate roads.

9.2 Control measures

9.2.1 In addition to the design measures, an important element in the overall approach to mitigation is the Code of Construction Practice (CoCP), which will be developed for the proposed Onshore Scheme and contains control measures and the standards to be implemented throughout the construction of the project.

9.2.2 The CoCP will contain a list of relevant good practice measures, including the following key commitments relating to traffic and transport:

- A Construction Traffic Management Plan (CTMP) will be produced prior to construction.
- Appropriate site layout and housekeeping measures will be implemented by the contractor(s) at all construction sites. This will include but not be limited to:

- Managing staff/vehicles entering or leaving site, especially at the beginning and end of the working day; and
- Managing potential off-site contractor and visitor parking.
- Vehicles will be correctly maintained and operated in accordance with the manufacturers recommendations and in a responsible manner. All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so. In addition, plant and vehicles will conform to relevant applicable standards for the vehicle type.
- The CTMP will set out measures to reduce route and journey mileage to and from, as well as around site, and prevent nuisance to the residents, businesses and the wider community caused by parking, vehicle movements and access restrictions. It will also provide suitable control for the means of access and egress to the public highway and set out measures for the maintenance and upkeep of the public highway. The plan will also identify access for emergency vehicles. It will also set out measures to reduce safety risks through construction vehicle and driver quality standards.
- The contractor(s) will implement a monitoring and reporting system to check compliance with the measures set out within the CTMP. This will include the need for a Global Positioning System (GPS) tracking system to be fitted to HGVs to check for compliance with authorised construction routes. The contractor(s) will also be expected to monitor the number of construction vehicles between the site and the main road network. Deviations from the authorised routes or changes to traffic levels that are higher than the CTMP assumptions will require discussion of the need for additional mitigation measures with highways authorities.
- Any potential temporary road closures will be applied for/detailed in the DCO. Any required temporary diversions will be clearly signposted and would include the duration of the diversion and a contact number for any concerns.
- All designated PRoW will be identified, and any potential temporary closures applied for/detailed in the DCO. All designated PRoW crossing the working area will be managed with access only closed for short periods while construction activities occur. Any required temporary diversions will be clearly marked at both ends with signage explaining the diversion, the duration of the diversion and a contact number for any concerns.

9.2.3 In addition to the above, construction vehicles will be managed at any road/ rail/ pedestrian/ cycle crossing points and further details will be provided within the Framework CTMP.

9.2.4 At this stage, the number of workers required to construct the Proposed Onshore Scheme is unknown. However, it is anticipated that an outline Construction Workers Travel Plan (CWTP) would be prepared in parallel with the preparation of the TA. The need for the outline CWTP would be reviewed and discussed with SCC as the construction design evolved, to check that the nature of the works and staffing levels would be sufficient to make a CWTP effective.

9.2.5 For the operational phase, the low staffing levels are considered insufficient to warrant the preparation of an operational Framework Travel Plan.

10. Glossary and Abbreviations

10.1.1 Acronyms detailed within this document:

- AADT Annual Average Daily Traffic
- Arup Ove Arup & Partners
- ATC Automatic Traffic Count
- BOATs Byways Open to All Traffic
- CoCP Code of Construction Practice
- CTC Classified Turning Count
- CTMP Construction Traffic Management Plan
- CWTP Construction Workers Travel Plan
- DCO Development Consent Order
- Defra Department for Environment, Food and Rural Affairs
- EEZ Exclusive Economic Zone
- EIA Environmental Impact Assessment
- ES Environmental Statement
- GPS Global Positioning System
- GW Gigawatts
- HDD Horizontal Directional Drilling
- HGV Heavy Goods Vehicle
- HVAC High Voltage Alternating Current
- HVDC High Voltage Direct Current
- LGV Light Goods Vehicle
- National Grid National Grid Plc
- NGV National Grid Ventures
- NGIH National Grid Interconnector Holdings Limited
- NGLL National Grid LionLink Limited
- NSIP Nationally Significant Infrastructure Project
- NTS's National Transmission Systems
- OS Ordnance Survey
- PA2008 Planning Act 2008
- PADS Principal Areas of Disagreement Statement

- PEI Report Preliminary Environmental Impact Report
- PINS Planning Inspectorate
- PRoW Public Rights of Way
- RUPP Roads Used as a Public Path
- SCC Suffolk County Council
- SoS Secretary of State
- SPR Scottish Power Renewables
- TA Transport Assessment
- TEMPro Trip End Model Presentation Program
- UK United Kingdom

National Grid Lion Link Limited

Company number 14722364

1-3 Strand

London

WG2N-5EH

United Kingdom

nationalgrid.com/lionlink