National Grid's East Anglia GREEN non-statutory consultation

Response from Chelmsford City Council

Overall summary response

Chelmsford City Council (CCC) strongly objects to the proposals, as the consultation is considered premature and all potential options have not been fully explored and assessed. Notwithstanding the objection in principle, **CCC also has very serious concerns** about the preferred route itself.

1. Context

1.1 The East Anglia Green Energy Enablement (GREEN) is a proposal for an approximately 180km long, 400kV electricity transmission line in East Anglia between existing substations at Norwich Main in Norfolk, Bramford in Suffolk and Tilbury in Essex. The line will also connect to a new substation in Tendring.

1.2 The proposal would comprise of mostly 45-50m high steel lattice pylons and conductors (wires) with some underground cabling through the Dedham Vale Area of Outstanding Natural Beauty (AONB).

1.3 The preferred route corridor affects the rural north and west of Chelmsford City Council's administrative area. The length of the preferred route that passes through Chelmsford is referred to as Section K in the Corridor and Preliminary Routeing and Siting Study report (CPRSS).

1.4 The following sets out Chelmsford City Council's (CCC) response to the Non-Statutory Consultation that ran from 21 April to 16 June to which CCC has been granted an extension to enable the Council's response to be considered by the Chelmsford Policy Board.

2 National Planning Policy Context

2.1 It is noted that the proposal is a Nationally Significant Infrastructure Project (NSIP) and will be subject to a Development Consent Order (DCO) under the Planning Act 2008.

2.2 The project would be assessed against relevant National Planning Policy Statements (NPS).

- Overarching National Policy Statement for Energy EN-1
- Overarching National Policy Statement for Energy EN-5

2.3 Other documents, including, but not limited to the adopted Chelmsford Local Plan, may be material considerations to the Development Consent Order application.

3 Principle of the Upgrade

3.1 Chelmsford City Council (CCC) declared a Climate and Ecological Emergency in 2019. CCC supports the transition towards a low or zero carbon economy to address the impact of climate change and improve sustainability. This includes renewable energy production where this can be appropriately located and suitably mitigated.

3.2 CCC also recognises the rapidly growing need for electricity as the climate emergency requires us to help support the replacement of fossil fuels such as oil and gas as soon as possible.

3.3 However, this does not mean that all proposals which may assist in reducing climate change should be approved at any cost. Each proposal must be considered in the context of its benefits weighed against its harms. If the harm is not deemed to outweigh the benefits, then CCC would consider it appropriate to object to the proposals.

3.4 CCC supports, where appropriate, locally generated capacity (e.g. domestic, community photovoltaic and wind farms) as alternatives ahead of reinforcing the National Grid.

3.5 CCC would like to see evidence of the need for the new transmission line to meet future capacity requirements and to see that full consideration is given to improvements, rationalisations, or extensions to the existing infrastructure before any new electricity line is proposed. CCC would expect that the first stage for National Grid is to reassess and update, if necessary, its future needs statement as the 2021 Electricity Ten Year Statement states that there is sufficient capability to meet today's needs.

3.6 Although physically within East Anglia, the need for the powerline reinforcement is a national issue and should be assessed as such. The Government's national energy policy is to focus wind power generation offshore and a significant proportion of that is located in the North Sea off the east coast. This results in powerline reinforcements needing to cross East Anglia which are essentially transmitting power through the region to boost supply in the national Grid for the whole country.

3.7 A co-ordinated approach is required across the region to assess the proposals and CCC is working with Essex County Council (ECC) and other impacted local authorities in the region on the proposal.

3.8 ECC's Place Services has provided a technical response on landscape, archaeology, heritage and ecology on behalf all the authorities. Their response is provided in **Appendix A** to this response and should be read alongside CCC's response.

4 Principle of the Preferred Route

4.1 If the need for the new transmission line can be robustly justified, CCC supports efforts to find an appropriate route subject to all possible options being fully appraised and explained.

4.2 However, it is CCC's view that the preferred route is not justified, and further detail is required to understand the assessment process that has taken place.

4.3 CCC is concerned that the project is presented ahead of both an updated Offshore Transmission Network Review and the latest Networks Options Assessment (due at the end of June). As such, this consultation is considered premature as these publications may provide evidence to inform both the need for reinforcement and of alternative options to an overhead transmission line.

4.4 The consultation is considered to be inadequate since only one option is being proposed with very limited information provided on other options not taken forward.

4.5 CCC would have expected to see fully considered proposals for alternative corridors including:

- a strategic offshore link;
- an onshore route with underground cables in areas of high sensitivity.

4.6 Without these options, the consultation has missed the first step in engaging with a wider community on possible options for transmission and instead has already narrowed its focus to a single overhead powerline option (with the exception of undergrounding at Dedham Vale AONB).

4.7 CCC urges National Grid to carry out this wider options analysis and consult on all options, before any further detailed consideration is given to the overground option proposed.

4.8 CCC considers that there is no evidence to indicate that it will be technically unfeasible to transfer electricity from the coast, closer to its final destination with offshore High-Voltage Direct Current (HDVC) cables.

4.9 National Grid's Offshore Coordination Phase 1 Final Report 2020, states there are significant economic, social and environmental benefits in moving quickly to an integrated offshore network solution.

4.10 CCC is concerned that the potential for the use of offshore technology e.g. from Norwich to Grain does not appear to have been fully explored. This is in spite of the planned use of an offshore link between Sizewell and Richborough in Kent. Whilst three of the discounted options in the consultation documents (East 9, 12 and 13) do include an offshore link from Norwich to Grain, they also include

the overhead link between Bramford and Tilbury. It is not clear why both links are needed.

4.11 An alternative to the overhead powerlines could be a more extensive use of underground HVDC cables. However, undergrounding has been ruled out by National Grid solely on grounds of cost.

4.12 It is noted that an onshore undergrounding option was proposed between Necton and Tilbury (Option East 3). The reasons why this option was discounted has not been fully evidenced.

4.13 CCC would have expected to see more proposals for undergrounding cables along the preferred route. However, CCC does note that underground cables can also have significant landscape and environmental impacts as large swathes of land has to be cleared. The presence of the underground cable may also restrict how the land above it can be used in the future. EN 5 para 2.8.9 does not preclude the use of undergrounding outside of nationally designated sites for landscape importance such as National Parks and Areas of Outstanding Natural Beauty.

4.14 CCC questions whether overhead transmission lines are suitable in the long term compared with an offshore solution taking into account the anticipated impacts of climate change with more severe weather anticipated including strong winds and floods.

4.15 CCC strongly objects to the proposal at this stage given that it considers the consultation is premature and all potential options for transmitting electricity have not been fully explored and assessed.

5 Detailed Comments on the Preferred Route

5.1 Notwithstanding the above objection, CCC has the following comments on the impacts of the proposals on its area and communities.

5.2 The current preferred route is likely to cause damage to landscape and visual amenities, historic and nature conservation interests and residential amenities. It also has the potential to adversely affect future development expansion of the urban area of Chelmsford.

Current and Future Planned Development

5.3 It is understood that the proposed route will seek to avoid areas proposed or allocated for new development in Local Plans. National Grid will therefore be aware of proposed new strategic developments coming forward in North and West Chelmsford in the adopted Chelmsford Local Plan 2020. These include:

- North of Broomfield, a residential-led development of around 450 new homes

- Great Leighs, a residential-led development of around 1,000 new homes
- West Chelmsford, a residential-led development of around 800 homes
- North East Chelmsford, a new Garden Community for 3,000 homes and 45,000 sqm of new employment floorspace
- North East Bypass, a single carriageway between Boreham and Great Leighs

5.4 CCC is concerned that the preferred route cuts through the North of Broomfield (SGS8) allocation and runs very close to the West Chelmsford (SGS2) allocation. It also crosses land reserved for Chelmsford North East Bypass which has recently been granted planning permission.

5.5 By routing the powerline corridor close to the western edge of Chelmsford's Urban Area, the proposed overhead line has the potential to adversely affect options for future growth of the city. This is especially important as growth in Chelmsford is already constrained to the south and west of the district, being located within the Metropolitan Green Belt.

5.6 CCC have started a review of the adopted Local Plan which will identify sites to accommodate growth requirements to 2041. More details are available on our Local Plan Review page which also contains the Council's Local Development Scheme. Overall, the area has significant development pressure, meaning that alternatives to the preferred route may be necessary.

5.7 Please also be aware that the proposed route is drawn adjacent to Broomfield Hospital Special Policy Area (Policy SPA 1 in Chelmsford Local Plan). The transmission line must not interfere with the emergency helicopter access to the hospital or with hospital equipment. The applicant is encouraged to liaise directly with the Civil Aviation Authority, the Hospital Trust and the Mid and South Essex Health and Care Partnership to discuss this issue.

Cumulative Impact

5.8 The route passes through an area subject to significant development pressures and as such cumulative impacts need to be considered as part of the proposals. This includes the Chelmsford North East Bypass, Radial Distributor Road 2 through Beaulieu and Channels, Longfield Solar Farm, the A12 Chelmsford to A120 widening scheme, works to the Boreham Interchange, Chelmsford Garden Community and other sites allocated in Chelmsford Local Plan. The cumulative construction impacts of these developments also needs to be considered.

5.9 CCC would expect that the impact of the proposed transmission line be carefully considered in light of existing and proposed developments in their vicinity and not in isolation.

Landscape, Visual Amenity, Green Wedge and Green Belt

5.10 The preferred route passes through largely flat or shallow sloped rural landscape including River Ter, the Upper Chelmer, Can and Wid River Valleys, Pleshey, Writtle, Boreham and Terling Farmland Plateau and Heybridge Wooded Farmland.

5.11 The areas around the river valleys within or close to the urban area of Chelmsford are designated as Green Wedge. The preferred route runs adjacent to the northern edge of River Chelmer North which is part of the Green Wedge. The Green Wedge is a unique designation in Chelmsford and has a multi-functional role providing opportunities for cycling and walking as well as being a wildlife corridor. The rural area to the west and south of Chelmsford is designated as Green Belt, forming part of London's Metropolitan Green Belt.

5.12 The consultation materials state that there is a preference for the route to the west of Chelmsford rather than to the east to avoid interactions with existing 400kV and 132kV overhead lines and the sharp changes of direction that would be required south of Chelmsford to connect with Section K.

5.13 The pylons would be 45-50m high and are likely to appear as large scale industrial and intrusive features in the landscape.

5.14 The proposed route crosses many public rights of way including the north western edge of the Centenary Circle and Essex Way Public Right of Ways and would be visible in long, medium and short distance views.

5.15 The pylons would be permanent and unsightly features within a landscape which is currently not disrupted by anything of this scale. Due to the scale and height of the pylons, it would not be possible to screen them or mitigate against them. Further, any partial screening proposed will take a long time to take effect. The proposal would lead to a significant change in the character and appearance of the landscape.

5.16 The impact of the proposal will be exacerbated by the closeness of the transmission line to the built-up area of Chelmsford especially at Broomfield and the stretch proposed to be drawn between the villages of Great and Little Waltham which is a significant 'pinch point'.

5.17 The villages of Great and Little Waltham are both designated as Conservation Areas (see Heritage section). The preferred route will also run close to Hylands Park, Chelmsford's largest public open space which is a Repton designed landscape and Registered Park and Garden, with Hylands House Grade II* listed. As such and in accordance with EN-1 quoted above, considerable importance and weight should be given to the desirability of preserving the setting of such assets.

5.18 The consultation documents acknowledge that the area to the west of Little Waltham and Hylands Park are amongst the areas along Section K of the preferred route with the greatest potential for significant adverse visual effects.

5.19 Consideration should therefore be given to using underground cables in those locations and different types of pylons with less visual impact such as the new ‘T’ style pylons (which are much shorter and with a smaller footprint).

5.20 The Braintree, Brentwood, Chelmsford, Maldon and Uttlesford Landscape Character Assessment, 2006 provides a comprehensive Borough/District-wide assessment of landscape character and would provide a useful reference for an anticipated future Landscape and Visual Impact Assessment. A Green Wedges and Green Corridor study was prepared in 2017 to support the Chelmsford Local Plan. This should also be considered with specific reference to the River Chelmer North.

5.21 A comprehensive Landscape and Visual Assessment undertaken to GLVIA 3 will need to be undertaken as part of any proposal.

5.22 A detailed landscape and ecological mitigation plan should identify measures to avoid, reduce or remedy impacts on the landscape including spacing and location of pylons. These may include landscape buffer areas and the use of natural features such as hedges and/or trees to screen the development. Phasing is also important, as where woodland planting is required as a mitigation measure, early planting will allow quicker maturity and desired screening.

5.23 Regard will need to be had to the cumulative landscape and visual impact. More information about the impact and consequently the visual and landscape mitigation that is required is needed to fully understand the enhancements that could be made.

5.24 CCC considers that existing site features such as existing hedgerows and ecological features should be retained to maintain landscape character.

5.25 Additional technical comments on landscape considerations of the proposals, coordinated by Place Services, are given in Appendix A.

Heritage

5.26 Chelmsford has a diverse range of heritage, including Scheduled Monuments, Registered Parks and Gardens, Conservation Areas, Listed Buildings and Locally Listed Buildings and archaeological sites identified within ECC’s Historic Environment Record. Within the rural areas there is proliferation of listed buildings dating from the fifteenth to the seventeenth centuries, reflecting the areas agricultural prosperity. These heritage assets often have a strong association with the rural landscape, which forms part of their setting and contributes to their significance. There are also a number of country houses within designed landscapes, who often rely on extensive planned views. There are also diverse archaeological sites, historic lanes and historic landscape features.

5.27 The various options, as indicated on the diagram on page 110 of the Routing and siting study report (April 2022), show alternative routes to the east of Chelmsford. The routing options were considered by the National Grid's consultant teams and the preferred route chosen based on environmental impacts and cost analysis. The criteria used for heritage is set out in table 3.1, where it is sought to avoid Scheduled Monuments and Registered Parks and Gardens, seek to avoid listed building by 50m and minimise within 100m and seek to minimise the impacts on Conservation Areas. The conclusion of the assessment was that all options would have adverse impacts on the historic environment, but the preferred route west of Chelmsford would avoid the direct impact of passing through the Chelmsford and Blackwater Navigation Conservation Area if the route passed to the east of Chelmsford and other impacts if it passed further east through Maldon District.

5.28 Whilst a number of consultant workshops are noted in the options document, it is unclear what evidence was used and how it was assessed, it is therefore difficult to judge if the preferred option corridor has the least impact on the historic environment. Further clarity should therefore be provided on the assessment of options.

5.29 The preferred route includes a graduated corridor (swathe) indicating the likely finalised routing. The scale of mapping does not give clarity on the precise route, so it is difficult to fully assess the proposals. Clearer mapping should be provided.

5.30 The preferred route passes through largely flat or shallow sloped rural landscape, the pylons and power lines would be 45-50m, which would appear as large scale industrial and intrusive features. This would have considerable adverse impacts on the setting of numerous heritage assets including an ancient monument, listed buildings, conservation areas and registered parks and gardens. Given the scale of the works it could impact on heritage assets for some distance away, several kilometres, more in certain circumstances.

5.31 The assessment criteria do not take account of historic landscape features, protected lanes, locally listed buildings or archaeological sites, which should also form part of future assessments. Historic landscapes often form part of the setting to listed buildings and locally listed buildings may have group value with other heritage assets, so the cumulative impacts need to be carefully considered. Detailed heritage assessments are required to fully understand, assess and mitigate the impacts.

5.32 It is important there is adequate land control as part of any scheme to allow adequate mitigation measures to be undertaken. For instance, the landscape character of Chelmsford was historically more wooded and the use of extensive woodland planting could be used to mitigate the impact on setting, but would require large areas to be effective. Phasing is also important, as where woodland planting is required as a mitigation measure, early planting will allow quicker maturity and desired screening.

5.33 The consultation documents indicate that standard above ground 45-50m high lattice pylons will be used through the route (other than for Dedham Vale AONB). The mitigation strategy is noted as:

Para 3.2.31 states 'For each relevant topic and where applicable, sub-topic, the appraisal considers the nature of identified receptors; receptor value and sensitivity to the Project; how a receptor may be affected by the Project; and whether such effects could be avoided or mitigated. Mitigation is considered in accordance with National Grid's mitigation hierarchy. The mitigation hierarchy is sequential, meaning that measures are not considered unless measures that precede them in the hierarchy have been considered first and deemed to be inadequate. The sequence in which measures should be considered is as follows:

- *careful routing;*
- *landscape mitigation planting;*
- *different lattice pylon design / conductor configuration;*
- *alternative pylon design (low height or T-pylon);*
- *reduction of 'wirescape' through distribution network rationalisation / undergrounding;*
- *reduction of 'wirescape' through transmission network rationalisation; and*
- *alternative technology (gas insulated lines, undergrounding).*

5.34 Spacing and location of pylons, mitigation measures and landscape restoration should also be considered. Enhancement opportunities should also be fully explored, for instance with existing lower voltage power lines routes below ground in the immediate setting of listed buildings, or heritage interpretation of historic landscapes and lanes, or a repair fund for heritage assets.

5.35 There are areas of clearly high sensitivity where more extensive mitigation will be required. This includes where there are groups of listed building close to the route. The route between Little Waltham and Great Waltham passes close by a number of heritage designations; the Ash Tree Corner Scheduled Monument, the Conservation Areas at both villages, the Registered Park and Garden and Grade I listed building at Langleys, the protected lane at Larks Lane and a number of other protected lanes and other listed buildings and non-designated heritage assets all of which gives a demand for a below ground mitigation option to be considered.

5.36 Regard will need to be had to the cumulative heritage impact.

5.37 Additional technical comments on heritage considerations of the proposals, coordinated by Place Services, are given in Appendix A.

Biodiversity

5.38 Chelmsford contains sites of international, national, regional and local nature conservation importance which we have a duty to protect. These include Sites of Special Scientific Interest (SSSIs), Ancient Woodlands, Local Nature Reserves and Local Wildlife Sites within or in proximity to the preferred route

corridor. These contribute towards local distinctiveness and need to be protected and enhanced.

5.39 The criteria used to assess impact on ecology is set out in Table 3.1 of the CPRSS document, where it is sought to avoid any nationally and internationally designated sites, Ancient Woodlands and SSSIs. Impact on local nature reserves should be minimised. There is no mentioning of Local Wildlife Sites (LWS).

5.40 The consultation documents conclude that Option ET1 was the preferred option from a biology and ecology perspective. It states that the main risks and constraints in section K arise from nationally designated sites with a reference to River Ter SSSI (in the north-east corner of Chelmsford, just outside the preferred route) as well as blocks of semi-natural woodland, outside the section. It also refers to several priority habitats identified across the section or adjacent including River Ter and Roxwell Brook.

5.41 The consultation documents conclude that there would be no direct effects on the River Ter SSSI or the Ancient Woodlands as they are outside the route. It goes on to say that given the importance and weighting in both planning and legal terms of such designated biodiversity and to Ancient Woodlands (in respect of potential indirect effects), they remain a potentially material constraint to development.

5.42 The consultation documents conclude that there is potential for permanent/temporary direct effects on Priority Habitats including loss of habitat, fragmentation and disturbance during construction. In operation there is potential for temporary indirect effects from maintenance visits, and limited risk of bird collision (though not for designated sites) given wetland habitats/rivers in the vicinity.

5.43 Although the preferred route seeks to avoid SSSIs and Ancient Woodlands, CCC does not accept the findings of the consultation documents as presented above.

5.44 The site abuts the River Ter SSSI and a series of Ancient Woodlands. The document has missed an SSSI called Newney Green Pit which is in the middle of the route to the west of Writtle as well as three Ancient Woodlands which are located in the middle of the route namely Osbornes Wood near the southern boundary of the administrative area of Chelmsford and Bushy Wood and Sparrowhawk Wood to the west and north of Broomfield. These should have been avoided in accordance with the criteria in Table 3.1.

5.45 CCC is not convinced that the benefits of this project outweigh the harm that could be done to these assets and the proposal appears to be contrary to EN-1.

5.46 It should also be borne in mind that whilst River Ter SSSI is outside the preferred route, this SSSI has a very large Impact Risk Zone (IRZ). The applicant is urged to consult Natural England to seek advice on the nature of any impacts on River Ter SSSI and how they might be avoided or mitigated.

The route should also avoid Newney Green Pit SSSI and Natural England consulted on the impact on this SSSI.

5.47 All the nationally and locally designated sites next to or within the proposed route need careful consideration as they are protected and highly sensitive landscapes. This includes Local Wildlife Sites which should form part of future assessments. There are some Local Wildlife Sites adjacent to and some partly within the corridor including Border Wood Lake, Langleys Deer Park, Stonage Wood and Lowley's Farm Meadow.

5.48 Consideration should be given to the impact of the proposal on trees protected by Tree Preservation Orders and protected hedgerows.

5.49 More information about the impacts of the proposal and consequently the visual and ecological mitigation that may be required is needed to fully understand the enhancements that could be made. However, retaining existing site features such as existing hedgerows and ecological features is crucial to maintain landscape character and support biodiversity which should include a significant Biodiversity Net Gain in line with The Environment Act.

5.50 Regard will need to be had to the cumulative biodiversity impact.

5.51 Full ecological and arboricultural surveys will be expected as part of the Environmental Impact Assessment in relation to protected species.

5.52 Additional technical comments on ecological considerations of the proposals, coordinated by Place Services, are given in Appendix A.

Socio-Economics

5.53 The proposals do not appear to bring any direct socio-economic benefits to Chelmsford. Opportunities for community benefit from the proposals should be explored, for example, providing jobs to local people both during construction and operation. Any proposals should also support existing and planned growth in our existing and future employment areas such as in Chelmsford Garden Community. Consideration should also be given to how the new infrastructure could connect with new housing and employment allocations and to the provision of a local community fund to assist the wider community affected by the proposal.

5.54 The consultation documents state that there is potential for the proposed infrastructure within the route corridor to interact with various existing, or proposed, commercial and leisure land-uses (for example solar generation, sports grounds etc) within or in proximity to the corridor. Whether or not there is a material effect on such activities or land-uses depends on detailed routeing and siting, and will also include consideration of potential mitigation and engagement with relevant parties. Affected parties may also be entitled to compensation, assessed in line with the Compensation Code.

5.55 The solar farm generation referred to in the consultation documents is Longfield Solar Farm as the northern edge of this proposed farm abuts the preferred route. CCC notes the DCO has now been submitted to the Secretary of State. King Edwards VI Grammar School's Sports Ground takes up the majority of the width of the preferred route. The preferred route also abuts one of the largest Rural Employment Areas in Chelmsford, Reeds Farm near Writtle. It also crosses a number of farms and runs very near a Writtle University College site.

5.56 CCC would urge National Grid to consider the routeing and siting of pylons very carefully in the above locations. The transmission line will need to avoid any direct impacts on business.

5.57 National Grid will need to consider appropriate compensation packages for homes and businesses directly affected by both the construction works, and any long terms impacts.

Flood Zones/Rivers

5.58 The route crosses river Chelmer in the north and River Can and Wid and their tributaries in the west and south. The rivers and river beds are located within Flood Zone 3 and this needs to be considered with regards finding safe grounds for positing of pylons, its footing and maintenance.

5.59 The applicant is encouraged to liaise directly with ECC's SUDs team as well as the Environment Agency and be guided by their response.

Waste/Minerals/Landfill/Hazardous Substance Sites

5.60 The proposed route passes through a large hazardous substance site safeguarding zone near Newney Green. This is likely to be a former gravel pit and now contains two areas of hazardous waste, with a contaminated land category 4. The proposed route contains four additional large areas of contaminated land in the middle or on the edge of the proposed route as well as several small sites. The final route needs to be very carefully planned to avoid disrupting any of these sites.

5.61 CCC will be guided by Essex County Council on this matter, as the waste and minerals authority. The applicant may also need to liaise with HSE.

Soil, Geology and Water

5.62 It is noted that soils, geology and water have been scoped out at this stage on the basis that these topic areas were not considered to have a significant effect on the determination of the preferred route.

5.63 With regards to soil, an Agricultural Land Classification (ALC) should be undertaken of the route. The pylons should be sited so that they avoid the Best and Most Versatile Land.

5.64 Within the Chelmsford area, the preferred route runs through predominately Grade 2 and Grade 3 agricultural land. The applicant should demonstrate the impact of the proposal and apply a sequential approach to the siting of pylons and routeing of the power lines.

Highways

5.65 There could be impacts on the local highway network from construction traffic, albeit short term during the construction phase. A Transport and Access Statement would be expected to consider the traffic impacts during construction and operation.

5.66 CCC will be guided by Essex Highways as a lead authority for this matter. This would also need to include consideration of any impacts on Public Rights of Way.

Noise/Air Quality/ Health/Residential amenity

5.67 It is not possible to make any judgements at this stage about how the construction or operational stage of the proposal might affect nearby residents living environments given that the exact route of the transmission line has not been defined and the lack of supporting evidence. It is acknowledged that during the construction phase, there will be periods when works are likely to be audible to nearby receptors.

5.68 CCC would seek to make sure careful consideration is given to the siting of pylons and overhead power lines near residential properties to minimise noise or health related issues both during construction and operation. CCC would expect to see more detailed assessments on these issues and the impacts of both overgrounding and undergrounding.

5.69 CCC has no comments from an air quality perspective at this stage regarding the proposed route. However, when further documents are issued in the future with environmental impact assessment and details about working practices, construction vehicle routes etc. then we may be able to provide comment.

6 Summary

6.1 CCC supports the transition towards a low or zero carbon economy in support of climate change and sustainability, including renewable energy production where these are appropriately located and can be suitably mitigated.

6.2 CCC would like to see the evidence to demonstrate that the proposed new reinforcement is needed beyond improvements, rationalisations or extensions to the existing transmission network.

6.3 CCC would like to see a focus on more locally generated sustainable power generation as well as a co-ordinated approach across the country to meet our

energy needs. The proposals are essentially about transmitting electricity supply across East Anglia to meet national energy demand.

6.4 Subject to the robust demonstration of need, CCC supports endeavours to find an appropriate corridor subject to all possible options being fully appraised and explained.

6.5 The consultation is considered to be inadequate since only one final option is being proposed with very limited information provided on other options not taken forward.

6.6 CCC questions the suitability of overhead transmission lines long term compared with an offshore solution taking into account the anticipated impacts of climate change.

6.7 CCC would have expected to see fully considered proposals for alternatives including:

1) a strategic offshore link;
2) an onshore route with underground cables in areas of high sensitivity.

6.8 Based on the above, **CCC strongly objects** to the proposals at this stage as the consultation is considered premature and all potential options have not been fully explored and assessed.

6.9 Notwithstanding this objection in principle, **CCC has very serious concerns** about the preferred route itself:

- CCC is concerned that the transmission line may adversely impact potential future growth of Chelmsford which is already constrained by the Metropolitan Green Belt.

- The transmission line must not interfere with emergency helicopter access to Broomfield Hospital or with hospital equipment.

- Cumulative impact needs to be considered as part of the proposals such as the Chelmsford North East Bypass, Longfield Solar Farm, the A12 Chelmsford to A120 widening, Chelmsford Garden Community and other sites allocated in Chelmsford Local Plan and possible future extension to these amongst others.

- The preferred route passes through largely flat or shallow sloped rural landscape. The pylons would be 45-50m high and are likely to appear as large scale industrial and intrusive features. This would have considerable adverse impacts on the landscape and on the setting of heritage assets.

- There are areas of high sensitivity close to and between designated heritage assets where more extensive mitigation will be required. In such locations, underground cabling should be given serious consideration.

- The preferred route abuts River Ter SSSI and a series of Ancient Woodlands. There are also national and locally designated sites within the route which need careful consideration to minimise harm.

- The preferred route runs close to Longfield Solar Farm and across King Edwards VI Grammar Schools Sport's Ground. National Grid will need to consider appropriate compensation packages for homes and businesses directly affected by both the construction works, and any long terms impacts.

- The route crosses three rivers and their tributaries in the west and south, hence, this needs to be considered with regards finding safe grounds for positing of pylons, its footing and maintenance.

- The proposed route passes through a large hazardous substance site safeguarding zone near Newney Green as well as several contaminated land sites of various sizes. The final route needs to be very carefully planned to avoid disrupting any of these sites.

- The preferred route runs through predominately Grade 2 and Grade 3 agricultural land. The proposal should avoid the best and most versatile agricultural land.

6.10 The preferred route includes a graduated corridor indicating the likely finalised routing. More detail about the preferred route is required to fully understand the potential impacts and possible enhancements that could be made.

6.11 CCC urges National Grid to undertake and publish a range of detailed assessments prior to any submission of the DCO application. This includes but is not limited to reviewing the landscape and visual impact, impact on biodiversity, heritage, Agricultural Land Classification (ALC), impacts of noise and vibration, traffic and transport studies, cumulative impacts, socio-economic impacts and community gain.

Appendix A – Response from Place Services

The following response summarises the specialist views of Place Services' Archaeology and Historic Buildings Teams.

1.0 Archaeology (Richard Havis)

1.1 **General Comments:** At present the high-level assessment has only considered designated heritage assets without any assessment of the Historic Environment Record data. This information will need to be considered in advance of the final route decision and as part of any proposed application and EIA. The cropmark data held on the HER will be important in assessing the location for the route, and especially the sub-station in Tendring. With the majority of the route proposed as overhead lines careful assessment of the Historic Environment Record should allow much of the known below ground heritage assets to be protected.

1.2 The proposed undergrounding section, due to the destructive impact on surviving archaeological deposits, will require advance evaluation prior to submission of the DCO both in the form of geophysical assessment and trial trenching/bore hole assessment/palaeo-environmental assessment. As this area traverses a highly sensitive landscape which has been largely preserved from the medieval period, there is a high potential for both landscape features and below ground deposits to survive. Similarly, as this bisects the river valley there is a high potential for important palaeo-environmental deposits, as well as waterlogged deposits surviving in the valley.

1.3 **Section Specific Comments:**

The following table provides more specific comments by section:

Section	Comment
3.2.8	There is concern that the data retained within the Historic Environment Records has not been used to inform the constraint mapping. Any detailed design will need to include this detail.
3.3.7-8	This section identifies the fact that undergrounding has the potential for impact on archaeological deposits with the associated photos indicating the potential significant impact considering the land-take that is required. Large complex sites of heritage significance are frequently found on undergrounding projects and it is vital that these are identified as part of the initial phase of assessment so that an informed decision can

Section	Comment
	be made by the inspector. An understanding of the significance and complexity of the archaeological deposits is important to have at the time of submission so that a clear and robust mitigation or preservation in situ strategy can be agreed.
5.2.7	Although the large Scheduled Monument is identified at Ardleigh this fails to understand that the important cropmark complex extends much further than the scheduled area and that similar and potentially as important deposits are located within the vicinity of Ardleigh. A similar situation occurs in many areas within the Stour Valley.
5.5.4	There are concerns that the presence of extensive cropmark complexes may not have been taken into consideration for the undergrounding elements.
5.5.4	There is no consideration of below ground archaeological deposits and the destruction and finite nature of the archaeological deposits.
5.5.16 - 5.5.25	No mention is given of the significance of archaeological deposits destroyed or damaged by the undergrounding work.
5.5.26 and 5.5.27	In both cases the lack of assessment of the archaeological deposits/HER within this area is not identified. The loss of the archaeological deposits in this area will be a permanent impact.
6.5.5	There is no evidence that the consultants have assessed the data within the Historic Environment Record and historic environment impact seems to be restricted to where listed buildings are located.

2.0 Historic Buildings (Samantha Pace)

2.1 **General Comments:** Whilst the following Built Heritage Advice relates solely to the proposals which fall within Essex, the scheme should be considered holistically when developing the proposals to ensure a high-quality project which is sympathetic to the historic built environment.

The following advice is designed to inform the next steps in developing the proposals including the preparation of an Environmental Impact Assessment (EIA), and statutory consultations.

2.2 The EIA should include a Heritage Desk-Based Assessment (DBA), the objective of which is to identify all heritage assets which have the potential to be impacted by the proposals and which should therefore be taken forward for further assessment. A methodology for this should be provided and it is recommended that this is informed by *Historic Environment Good Practice Advice in Planning Note 12: Statements of Heritage Significance* and *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Second Edition),* which provides for a staged approach to proportionate decision-taking as follows:

Step 1: Identify which heritage assets and their settings are affected

Step 2: Assess the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated

Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it

Step 4: Explore ways to maximise enhancement and avoid or minimise harm

Step 5: Make and document the decision and monitor outcomes

2.3 In identifying which heritage assets and their settings may be affected (Step 1) it is recommended, given the scale and nature of the proposals, that a study area of 5km from the graduated swathe boundary is adopted. All heritage assets within this study area including Listed Buildings, Scheduled Monuments, Conservation Areas, Registered Parks and Gardens, and non-designated heritage assets should be identified.

2.4 The National Planning Policy Framework notes that the extent of a heritage asset's setting is not fixed and may change as the asset and its surroundings evolve. As such, heritage assets that are landmark buildings or buildings located on a higher topography may be situated outside of the study area but still require assessment. Therefore, it is recommended that a Zone of Theoretical Visibility (ZTV) is established. A ZTV overlayed with a Designations Map showing the location of all Listed Buildings, Scheduled Monuments, Conservation Areas, Registered Parks and Gardens, and non-designated heritage assets would be considered valuable in identifying those heritage assets which should be taken forward for further assessment.

2.5 Should it be determined that a heritage asset should be scoped out and not taken forward for further assessment, a clear and convincing justification for this should be provided.

2.6 Once all of the identified heritage assets which have the potential to be impacted by the proposals have been identified, the degree to which their settings and views make a contribution to the significance of the heritage assets or allow their significance to be appreciated, should be assessed (Step 2). This should seek to establish a heritage baseline for each asset.

2.7 The DBA should seek to demonstrate a sound understanding of historic use/land use and ownership, and identify which farm(s)/field(s) the heritage assets were historically and/or functionally associated with, in order to fully assess the impact of the proposals on the historic, architectural, and associative value of the heritage assets.

2.8 Furthermore, the views from and to each heritage asset should be carefully considered. The following would be considered valuable in establishing a heritage baseline:

- A ZTV overlayed with a Designations Map and a Viewpoint Location Plan, naming all Listed Buildings, Scheduled Monuments, Conservation Areas, Registered Parks and Gardens, and non-designated heritage assets

2.9 The methodology for the views and visual representations should be in accordance with the Guidelines for Landscape and Visual Impact Assessment (GLVIA3) and guidance notes provided by the Landscape Institute. It is further recommended that views be undertaken during winter months at a minimum, to reflect and consider the 'worst case scenario.' All viewpoints should be consulted and agreed.

2.10 The following publications and advice notes from Historic England are also useful guidance:

- Historic Environment Good Practice Advice in Planning 2: *Managing Significance in Decision-Taking in the Historic Environment*
- Historic Environment Good Practice Advice in Planning Note 3: *The Setting of Heritage Assets – (Second Edition)*
- Historic England Advice Note 7: *Local Heritage Listing – Identifying and Conserving Local Heritage (Second Edition)*
- Historic England Advice Note 10: *Listed Buildings and Curtilage*
- Historic Environment Good Practice Advice in Planning Note 12: *Statements of Heritage Significance*

2.11 Any heritage assets which are identified as being potentially impacted by the proposals should be taken forward for further assessment during

which the effects of the proposed development, whether beneficial or harmful, on the significance of the heritage asset or on the ability to appreciate it, should be assessed (Step 3).

2.12 The third stage of any analysis is to identify the effects a development project may have on settings and to evaluate the resultant degree of harm or benefit to the significance of the heritage assets. Again, the guidance provided in *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Second Edition)* should inform the methodology for analysis.

2.13 Given the scale and nature of the proposals, it is recommended that the evaluation extend to include an assessment of cumulative impacts which may arise from other large-scale developments or similar schemes. Furthermore, complex impacts arising from the development which may not be solely visual should also be assessed.

2.14 Once the extent to which heritage assets are impacted by the proposals, through change within their setting, is fully understood, ways to maximise enhancement and avoid or minimise harm should be explored (Step 4). There may be design amendments which could mitigate any identified harm, and these should be carefully considered.

2.15 Should the proposals result in residual ‘less than substantial’ harm, despite mitigation efforts, then paragraph 202 of the NPPF would be a relevant consideration and the Local Planning Authority is required to make a balanced judgement between the level of harm and the public benefits.

2.16 Paragraph 199 should also be considered as this gives great weight to the conservation of heritage assets, as well as the statutory duty of Section 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 under which local planning authorities should have special regard to the desirability of preserving the settings of listed buildings and the character and appearance conservation areas.

3.0 Landscape (Ryan Mills)

3.1 East Anglia GREEN is a proposal by National Grid Electricity Transmission (National Grid) to reinforce the high voltage power network in East Anglia, in order to meet future energy transmission demands. The proposals relate to several districts between South Norfolk and Tilbury, Essex.

3.2 Whilst the following Landscape Advice relates solely to the proposals which fall within the counties of Essex and Suffolk, the scheme should be considered holistically when developing the proposals to ensure a high-quality project which is sympathetic to the natural environment. The following advice is designed to inform the next steps in developing

the proposals including the preparation of an Environmental Impact Assessment (EIA).

3.3 Current route and design

We have reviewed the Corridor and Preliminary Routeing and Siting Study Report and appendices as well as the Public Consultation Strategy (all National Grid, April 2022). This provides comments on the North East Anglia connection (Norwich to Bramford) and the South East Anglia connection (Bramford to Tilbury). We also note the references to the Overarching National Policy Statement for Energy – EN1 and EN5, which references landscape and visual factors

3.3.1 We note that the routeing constraints in Tables 3.1 and substation siting constraints only refer to nationally designated sites and residential properties. However, we recommend that locally designated sites and similar e.g. Special Landscape Areas are also included as mapped landscape and visual constraints. It would also be beneficial for valued landscape qualities for landscape character areas to be analysed as these would be particular useful in ensuring landscapes outside of designations are appropriately reviewed and impacts minimised as far as practicably possible by routeing revisions, design optioneering and mitigation measures.

3.3.2 Para 3.2.10 states that the potential to route parallel in close proximity to existing 400kV overhead lines is a principal opportunity and would restrict the geographic extent of environmental effects associated with such infrastructure. Earlier indications of the proposed power line corridor showed this was the case, however, under the new proposals, a large section of the new overhead lines will be distanced from the existing line, introducing landscape visual impacts in areas where the baseline landscape has not yet been affected by electricity infrastructure. We note that the Holford and Horlock rules have been used as a guide to routeing and siting of new infrastructure, however we would advise further details on the existing constraints are provided to justify the new routeing proposals.

In addition, given the new route alignment, we would recommend alternative designs such as T-Pylons across the Essex region are explored to mitigate the visual impact of transmission infrastructure.

3.3.3 The location of Cable Sealing End (CSE) compounds and proposed substations must not only be carefully considered in terms of impacts on visual amenity and landscape character, but also in regard to the setting of the AONB. The Dedham Vale AONB Position Statement (revised Nov 2016) states that “The setting of the Dedham Vale AONB does not have a geographical border. The location, scale, materials or design of a proposed development or land management activity will determine whether it affects the natural beauty and special qualities of

the AONB. A very large development may have an impact even if some considerable distance from the AONB boundary." and "Adverse impacts might not be visual. The special qualities of the Dedham Vale AONB include tranquillity. A development which is noisy may well impact adversely on tranquillity even if not visible from the AONB." It is therefore considered that different locations of CSE compounds at extended distances from the AONB are explored to fully understand impacts on setting and natural beauty.

3.3.4 We also highlight that any undergrounding in visually sensitive areas such as AONBs, may result in increased landscape impacts from trenching and construction of Cable Sealing End (CSE) compounds and we would expect a full audit of the landscape features and habitats on site to be undertaken to inform the alignment and mitigation proposals.

3.3.5 The National Grid's Landscape Enhancement Initiative, which is part of the Visual Impact Provision project, is very much relevant to the AONB area. However, we would advise a similar framework approach is applied to the project as a whole given the evidence available that demonstrates the overall sensitivity of the landscape. Therefore, the extant and rationale for offsite planting and landscape improvement works should align with this initiative.

3.3.6 To help reduce adverse landscape and adverse impacts along the proposed route, we would recommend that strategic opportunities are taken to rationalise and upgrade/remove the existing 132kv lines where possible.

3.3.7 <u>Norwich to Bramford – Sections C-E</u>

As noted in Recommendation no.1, other landscapes outside of nationally designated landscapes should be appropriately analysed and the route designed accordingly. The Draft NPS EN-1 (Para 2.11.20) states "The Secretary of State should also have special regard to nationally designated landscapes, where the general presumption in favour of overhead lines should be inverted to favour undergrounding. Away from these protected landscapes, and where there is a high potential for widespread and significant landscape and/or visual impacts, the Secretary of State should also consider whether undergrounding may be appropriate, now on a case-by-case basis, weighing the considerations outlined above."

Therefore, we would advise that a detailed assessment of other valued landscapes such as the Waveney Valley and Gipping Valley are undertaken and in turn National Grid considers additional undergrounding in these areas.

3.3.8 <u>Bramford to East Anglia Connection (EAC)</u>

The landscape south of the AONB contributes towards its setting and therefore careful consideration for the route and design need to be taken. We note that the landscape around Lawford and the proposed substation location is an open and exposed plateau with a low density and rural settlement pattern, therefore any changes to the skyline in the form of multiple pylons may have detrimental impacts on both character and visual amenity. Currently the proposed routes to and from the EAC are proposed as overhead pylons, however given the pylons will be seen in combination with each other, the potential impacts could be significant. For this reason, we would recommend National Grid explore options to continue the proposed undergrounding through the AONB, to the EAC.

3.3.9 The landscape response to cumulative impacts at and around the Bramford Sub-station needs to be carefully considered. Currently there is a number of live and upcoming applications in and around the Bramford area of an industrial character, that will have a detrimental impact on the landscape and Bramford as a settlement. Mitigation measures such as the reinforcement of historic field boundaries, restoring and planting hedgerows, as well as increasing the stock of hedgerow trees are important measures to consider on site.

We would expect preliminary consultations on other national grid schemes to be provided at the earliest opportunity to allow us to understand the cumulative impacts and assess whether there are opportunities for cumulative mitigation measures both on and off site.

3.4 Next Steps

The National Planning Statement (NPS) EN-1 Section 5.9 also sets out recommendations and requirements in relation to landscape and visual impact. These are detailed below in *italics*:

> *The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England* (NPS EN-1 Para 5.9.5).

3.5 In Suffolk, the primary source of information for the landscape baseline is the Suffolk Landscape Character Assessment, which has informed the district level BMSDC Landscape Guidance (2015) and the Managing a Masterpiece LCA.

On this basis it is recommended that the Suffolk LCA provides the overarching framework for the baseline study, with further reference to the BMSDC Guidance and Managing a Masterpiece Study for localised

details on local character and cultural heritage within the AONB and the Stour Valley project area.

3.6 In Essex, the primary sources of information for the landscape baseline include [but are not limited to]:

- Essex Landscape Character Assessment (Chris Blandford Associates, 2003);
- Braintree, Brentwood, Chelmsford, Maldon And Uttlesford Landscape Character Assessments (Chris Blandford Associates, 2006);
- Tendring Landscape Character Assessment Volume 1 and 2 (LUC, 2001); and
- Land of the Fanns Landscape Character Assessment (Alison Farmer Associates, 2016)

On this basis it is recommended that the Essex LCA provides the overarching framework for the baseline study, with further reference to the District level assessments. That said, given most of the baseline documents are now over 15 years old, we would recommend National Grid consider undertaking a review/update of the LCA / Detailed Landscape Characterisation Study to help inform the routeing and design options for the new network, as well as landscape mitigation and enhancement measures.

> *"The applicant's assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character"* (Para 5.9.6).

3.7 GLVIA3 recognises that landscape value is not always signified by designation: 'the fact that an area of landscape is not designated either nationally or locally does not mean that it does not have any value' (paragraph 5.26).

3.8 In determining landscape value, TGN 02-21 'Assessing the Value of Landscapes Outside National Designations' has recently been published and builds on the details within GLIVIA3 and the assessment of value (GLIVIA3 Box 5.1).

3.9 For instance, Table 1 of the TGN provides a range of factors that can be considered when identifying landscape value. This includes the incorporation of cultural associations (natural heritage and cultural heritage) into consideration of landscape value, which is greatly supported.

> *"National Parks, the Broads and AONBs have been confirmed by the Government as having the highest status of protection in relation to landscape and scenic beauty* (Para 5.9)

… consideration of such applications should include an assessment of:

- *the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy;*
- *the cost of, and scope for, developing elsewhere outside the designated area or meeting the need for it in some other way; and*
- *any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated."* (Para 5.10)

3.10 It would be expected that the following reference/guidance documents are considered and used as part of any future assessment. This includes:

- Dedham Vale AONB and Stour Valley Management Plan
- Dedham Vale AONB Natural Beauty and Special Qualities and Perceived and Anticipated Risks (July 2016)
- Managing a Masterpiece Evaluation Report (Dec 2013)
- Valued Landscape Assessment Stour Valley Project Area (March 2020)

4.0 Ecology (Sue Hooton)

4.1 Current route and design

We have reviewed the Corridor and Preliminary Routeing and Siting Study Report and appendices as well as the Public Consultation Strategy (all National Grid, April 2022). This provides comments on the South East Anglia connection (Bramford to Tilbury) including a new East Anglia Connection substation.

4.2 We note that the routeing constraints in Tables 3.1 only refer to statutory designated sites and we strongly recommend that non-statutory designated sites e.g. LoWS are also included as mapped ecological constraints although many are ancient woodland, an irreplaceable habitat. We welcome that the substation siting constraints in Table 3.2 include Priority habitats but again recommend that non-statutory designated sites e.g. LoWS are also included to avoid significant ecological impacts as this could trigger the need to deliver compensatory habitat.

4.3 We highlight that any undergrounding in visually sensitive areas such as AONBs, may result in increased ecological impacts from trenching and construction of Cable Sealing End (CSE) compounds and we are willing to be involved in fine tuning the locations and methodologies, with site visits as considered appropriate.

4.4 We appreciate that the details for ecological survey & assessment for protected and Priority species likely to be present in the Preferred Corridor and would be affected, will come at a later stage.

4.5 We note that if any ecology constraints are scoped out of the Options Appraisal, they would still be covered in the Environmental Statement for assessment.

4.6 Bramford to East Anglia Connection (EAC)

We understand that the route in this section, as well as the substation site, will need to fit in with other projects e.g. Bramford to Twinsted NSIP, and we would welcome the opportunity to input local knowledge to this element of the project.

4.7 We note that para 5.5.3 recognised that from a Biodiversity and Ecology perspective, Options BE1 and BE2 were considered to perform more poorly than other options due to the potential for a Likely Significant Effect (LSE) on the Stour and Orwell Estuaries SPA and supporting Cattawade Marshes SSSI (which forms part of the SPA). We welcome this as NPS- EN5 states that particular attention will be needed to minimise the likelihood of large birds such as swans and geese colliding with overhead lines associated with power infrastructure particularly in poor visibility.

4.8 We recommend that crossing the Suffolk/Essex county boundary needs careful consideration as Swans are a qualifying feature of the Stour & Orwell Estuaries SPA which includes Cattawade Marshes SSSI. We highlight that this would trigger a requirement for a shadow HRA screening report to assess impacts from EA GREEN, either alone or in combination with other plans and projects.

4.9 We note that, overall, western options (Options BE3 and BE4) are preferred from a Biodiversity and Ecology perspective as they would not be likely to result in LSEs on these designations. However, with the exception of Option BE3, which contains (though does not route through) the Hintlesham Great Wood SSSI, all options avoid smaller areas of high amenity value or scientific interest (Holford Rule 2). Whilst Options BE3, BE4 and BE5 do contain more areas of woodland than the other options, the corridors are considered to be of sufficient width to allow the identification of alignments which would avoid such woodland. We agree that further work is required as part of the detailed routeing process to refine an alignment to comply with this rule as far as possible. Whilst more westerly options are preferred from a Biodiversity and Ecology perspective, Option BE5 is assessed to have the least potential of those that pass through the Dedham Vale AONB to have potential for effects resulting in LSEs on the designations of the Orwell Estuaries SPA and Cattawade Marshes SSSI (part of the above SPA).

4.10 Based on the information provided, we support the graduated swathe for Bramford to EACbased on **Option BE5 is the preferred option.**

4.11 EAC

We note that from an Ecology and Biodiversity perspective in relation to the siting of the substation, all the siting option zones were considered comparable when applying standard best practice mitigation measures. With regard to the 400kV overhead lines, all corridors were assessed as neutral, and could support a route alignment, subject to appropriate and localised mitigation hierarchy mitigation and habitat reinstatement.

4.12 Based on the information provided, we support **Zone A as the preferred option for the EAC.**

4.13 We understand that the substation site will need to fit in with other projects e.g. Five Estuaries and North Falls NSIPs, and we would welcome the opportunity to input local knowledge to fine tuning this element of the project to confirm a location with the chosen siting zone around the existing substation.

4.14 EAC to Tilbury

We note that Abberton Reservoir SPA falls wholly within the Study Area (it is surrounded) and is included for the same reason. Species dependant on these designated areas may forage, roost or migrate (on a daily and/or seasonal basis) on non-designated habitats surrounding the designations or further inland.

4.15 We also note that from a Biodiversity and Ecology perspective, corridor options composed of sections furthest from the coast (Sections F, G, H, J, K and R) are preferred from the EAC substation to Tilbury. These corridor options are not likely to result in adverse effects on the integrity of internationally designated sites, or at the very least present significantly less risk in respect of Likely Significant Effects (LSEs) on the integrity of the international and supporting nationally designated sites. The relevant sites are listed below:

- Section N (Colne Estuary SPA, Colne Estuary Ramsar, Colne Estuary SSSI, Blackwater Estuary SPA, Blackwater Estuary Ramsar, Blackwater Estuary SSSI, Essex Estuaries Special Area of Conservation, Abberton Reservoir SPA, Abberton Reservoir Ramsar and Abberton Reservoir SSSI);
- Section P (Blackwater Estuary SPA, Blackwater Estuary Ramsar, Blackwater Estuary SSSI, Essex Estuaries SAC Essex Estuaries (and component SSSIs); and
- Section S (Crouch and Roach Estuaries SPA, Crouch and Roach Estuaries Ramsar, Crouch and Roach Estuaries SSSI, Benfleet and Southend marshes SPA, Benfleet and Southend Marshes Ramsar (and component SSSIs), Thames Estuary and Marshes SPA,

Thames Estuary and Marshes Ramsar (and component SSSIs), Outer Thames Estuary SPA, Outer Thames Ramsar , SAC Essex Estuaries SAC and Blackwater Estuary SPA, Blackwater Estuary Ramsar , Blackwater Estuary SSSI and Pitsea Marsh, Langdon, Vange & Fobbing Marshes, Holehaven Creek Mucking Flats and Marshes SSSIs).

4.16 These designated sites (which include highly mobile qualifying interest features) and functionally linked habitats, are sufficiently close to the corridor options east of Colchester and which are close to the coast, to mean that direct or indirect effects would result in LSEs on the integrity of the designated sites. In addition, these corridor options cross potential connectivity pathways to the designated sites (e.g. River Blackwater) which would be likely to result in LSEs and with potential for Adverse Effects on Integrity (AEoI) of the designated sites, during both construction and operation of the transmission connection. This potential long term operational effect arises from the potential collision of those species with overhead lines (the earthwire is typically of most concern in 400kV overhead line connections due to its lower visibility) as highlighted above in relation to NPS EN5. The employment of alternative technology such as undergrounding in the ZOI is a potential mitigation, but in itself, may result in LSE or AEoI so would trigger a requirement for a shadow HRA screening report to assess impacts from EA Green, either alone or in combination with other plans and projects.

4.17 We acknowledge that the Blackwater Estuary and Abberton Reservoir are likely to have a considerable level of exchange of birds between them (a functional relationship that is not fully understood at this stage of appraisal), including species that are known to be vulnerable to risk of overhead line collision. This has the potential to apply to some or all of the other designations along the coastal corridor options. Thus, it confers further significant complexity in terms of both approach to survey and assessment, and thus the evidential burden on the project in terms of the quality and amount of the survey data required to rule out AEoI beyond all reasonable scientific doubt, in consultation with Natural England.

4.18 It is acknowledged that section R would fall within close proximity to the Thames Estuary and Marshes SPA (and Ramsar site) with the potential for LSEs. However, due to the orientation of section R, which approaches the coast from inland rather than running parallel to the coast, it is not in such close proximity to the designations. It is therefore likely to have less adverse effects than of section S, the only alternative to link to Tilbury Substation. Therefore, whilst there is potential for some LSEs to occur, the weight of probability is that any AEoI are potentially more capable of being adequately negated through

mitigation measures. Should AEoI remain, it would be necessary to demonstrate no better alternative (section S does not provide this) and Imperative Reasons of Overriding Public Interest (IROPI), and clear and demonstrably sufficient levels of compensatory measures to demonstrate the maintenance of overall coherence of the designated site affected, would be required. Section R thus provides the preferable alternative to section S, which is adjacent to the designated sites and the expert assessment is that the latter is more likely to result in AEoI.

4.19 We therefore welcome that Option ET1, routeing to the north of Colchester and to the west of Chelmsford (composed of either Section F and G, or Sections H and J, plus Sections K and R) was therefore considered the preferred option from a Biodiversity and Ecology perspective.

4.20 Based on the information provided, we support the graduated swathe for EAC to Tilbury based on **Option ET1 is the preferred option.**

4.21 **Other matters**

We are concerned that more information is needed to understand the impacts on hedgerows along the route, particular those that could be important for bat foraging and commuting routes for Barbastelle bats or Dormouse.

4.22 **Next Steps**

We seek to inform choices on micro routeing to avoid ecological features including veteran trees (irreplaceable habitat) and species options for restoration planting schemes as well as securing temporary mitigation measures during construction