The Sizewell C Project

8.13 Sustainability Statement
Appendix A Sustainability Performance of Associated Development

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Contents

Tables

Plates

None provided.

Figures

None provided.

1. Sustainability Performance of Associated Development

1.1 Introduction

1.1.1 This appendix provides a summary of how the off-site associated development complies with the relevant sustainability objectives as outlined in the main body of the Sustainability Statement. The objectives for skills and employment, health and wellbeing, and community services are addressed at the whole project scale, and are not repeated for each off-site associated development.

1.1.2 **Table 1.1** presents the findings of a sustainability appraisal which considers the relationship between the off-site associated development and the sustainability objectives. The table summarises performance against the themes and objectives of relevance alongside specific findings for each of the associated development sites. The themes relevant to this appraisal are as follows:

- Climate Change Mitigation and Adaptation
- Resources and Waste
- Movement of People and Materials
- Biodiversity and Ecosystems
- Water Environment

1.1.3 **Section 2.3** of the Sustainability Statement main report explains how the sustainability appraisal has been undertaken. The full sustainability framework is presented in **Table 2.1** of that section.

Table 1.1: Summary of Key Sustainability Issues and Initiatives for Off-Site Associated Development

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
Theme: Climate Change Mitigation and Adaptation	
Objective: To minimise greenhouse gas emissions and maximise resilience to climate change.	
Summary of Performance: The associated development facilities support the objective to minimise greenhouse gases by delivering key facilities to consolidate and ultimately reduce vehicle trips to the main development site during the construction phase. All sites therefore	

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
support this objective at a strategic level. The sites are an essential component of the overall Sizewell Project, which itself delivers low carbon energy on a scale which is important to meeting the UK's climate change objectives. Consideration has also been given to how associated developments offer resilience to climate change. Due to the relatively short duration of the park and ride and freight facilities, the longer term impacts from climate change and therefore their exposure to climate risk is less significant than the long term development. Notwithstanding this, the resilience characteristics of each of the Associated Development proposals has been considered in the Climate Change Resilience appraisal presented as a technical appendix to **Chapter 26, ES Volume 6.2**.	
Northern Park (Darsham) and Ride	The sustainability principles in the **Associated Development Design Principles** (Doc Ref 8.3) include a commitment to generally adopt a low energy design based on a hierarchy of minimising use, reducing waste, recycling and on-site generation. For each park and ride site, a Central Management System (CMS) for the lighting would be incorporated, which would be capable of dimming parts of the site independently from other parts, as usage changes through the day. This would also allow for seasonal variations in the operation of external lighting. Measures are also proposed in the **CoCP** (Doc Ref 8.11) to reduce the GHG emissions related to the construction of the park and rides. The sites are both located in Flood Zone 1, and the flood risk from all sources has been assessed as low, taking into account potential changes in the climate during the relatively short period of operation.
Southern Park (Wickham) and Ride	
Two Village Bypass Sizewell Link Road Yoxford and Other Highway Improvements	Measures are proposed in the **CoCP** (Doc Ref 8.11) to reduce the GHG emissions related to the construction of all highway improvements. The road designs incorporate sufficient drainage and culverts to withstand projected increase in future rainfall associated with climate change. In addition, the roads will be surfaced to a specific standard to withstand the projected increase in maximum summer temperature.
Freight Management Facility (FMF)	The sustainability principles in the **Associated Development Design Principles** (Doc Ref 8.3) include a commitment to generally adopt a low energy design based on a hierarchy of minimising use, reducing waste, recycling and on-site generation. Similar to the Park and Ride sites, a Central Management System (CMS) for the lighting would be incorporated, which would be capable of dimming parts of the site independently from other parts (with the site envisaged to be divided in 6–8 main sections), as usage changes through the day and to allow for seasonal variations in the operation of external lighting. Measures are proposed in the **CoCP** (Doc Ref 8.11) to reduce the GHG emissions related to the construction of the FMF.

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	The proposed site is within Flood Zone 1. SuDs measures would be incorporated within the site to minimise surface water run-off.
Green Rail Route (GRR) and Other Rail Improvements	Measures are proposed in the **CoCP** (Doc Ref 8.11) to reduce the GHG emissions related to the construction of the GRR and other rail improvements. The proposed route of the GRR lies within Flood Zone 1. The majority of the proposed route for the Saxmundham to Leiston branch line lies within Flood Zone 1. A small section lies within Flood Zone 3. In order for any flooding risk to be mitigated, surface water run-off would be contained within the site through the use of swales and underground attenuation tanks. A high-level risk assessment of the functional operation of the rail route would be conducted in line with strict UK design standards. This would include consideration of any receptors and/or rail line features (such as signalling functionality) potentially sensitive to severe weather events, for both current and future climatic conditions. This would be achieved by designing the route and structures in accordance with the suit of network rail standards and the Governance for rail investment projects (GRIP) process. Further details are available in the **Associated Development Design Principles** (doc ref 8.3).
Theme: Resources and Waste	
Objective: To promote the sustainable use of natural resources and apply the principles of the Waste Hierarchy.	
Summary of Performance: The associated development sites would be designed and built proportionate to their design requirements and intended life. As these aspects are not governed by the strict requirements of a nuclear site licence, there is potentially greater flexibility concerning the design measures and opportunities available to embed EDF Energy's principle number 2 to 'promote a circular economy model'. The text below illustrates the measures that have been considered to address this principle. Such opportunities will continue to be explored through design development.	
Northern Park (Darsham) and Ride	The **Associated Development Design Principles** (Doc Ref 8.3) include a commitment that all buildings onsite would be pre-fabricated modular units, with off-site modular construction used where practicable. As referenced in the **Materials Management Strategy** (Doc Ref 6.2 Ch 3 App A), a cut and fill balance would be achieved at each site to minimise the volume of waste materials requiring offsite disposal. Further measures to minimise waste and manage safe disposal are set out in the **CoCP** (Doc Ref 8.11). At the end of the construction phase, the temporary park and ride facility would be removed and land restored to existing agricultural use.
Southern Park (Wickham) and Ride	
Two Village Bypass	All proposed highway works have been designed to re-use all suitable excavated material in the construction of the road and in

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
Sizewell Link Road Yoxford and Other Highway Improvements	landscaping features to reduce the requirement to import materials for construction and reduce the need to remove surplus materials from site. Measures are set out in the **CoCP** (Doc Ref 8.11) to minimise resource use. This includes a commitment to procure secondary or recycled materials where available and practicable, where site-won material is not available or suitable for re-use, and to specify geogrid or lime stabilisation methods to reduce the amount of granular fill required.
Freight Management Facility	The **Associated Development Design Principles** (Doc Ref 8.3) include a commitment that all buildings onsite would be pre-fabricated modular units, with off-site modular construction used where practicable. Once the need for the facilities has ceased, the temporary buildings and structures would be removed in accordance with the relevant demolition and restoration schemes, which would consider the feasibility of re-using buildings, modules and materials. Once cleared, the site would be returned to agricultural use following its decommissioning. This would be facilitated through the sustainable re-use of the soil resource, with measures set out in the outline **Soil Management Plan** (Doc Ref 6.3) to ensure the appropriate storage of soil, protection from erosion, and quality assurance.
Green Rail Route and other Rail Improvements	The proposed GRR route would be returned to agricultural use following the decommissioning of the rail route. This would be facilitated through the sustainable re-use of the soil resource, with measures set out in the outline **Soil Management Plan** (Doc Ref 6.3) to ensure the appropriate storage of soil, protection from erosion, and quality assurance.
Theme: Movement of People and Materials	
Objective: To minimise detrimental impacts on strategic transport network and promote sustainable transport.	
Summary of Performance: The nature of the associated development proposals offers strategic support for the sustainability objective to minimise detrimental impacts on strategic transport network and promote sustainable transport. Taken as a whole, the proposals which are driven by the Transport Strategy support the objectives. The following text demonstrates how each of the Associated Developments has been designed in support of the objective.	
Northern (Darsham) Park and Ride Southern (Wickham) Park and Ride	The location of both park and ride sites has been selected based on detailed analysis and consultation on the most appropriate locations, close to the A12, as set out in the **Transport Assessment** (Doc Ref 8.5), to capture as many movements as possible. The close proximity of the northern park and ride site to Darsham railway station provides further benefits. The design proposals for each park and ride site have incorporated measures to minimise the impact on existing pedestrian and cycle

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	routes and provide facilities in order to encourage access by foot or by bike. The proposals for the Northern Park and Ride include a new three arm roundabout on the A12 and a realignment of the A12 and Willow Marsh Lane. A section of Willow Marsh Lane would be closed for vehicular traffic but retained for use by non-motorised users. Some short-term road closures and diversions would be required during the highway construction works. The proposals for the Southern Park and Ride include a proposed access point from the existing slip road leading onto the A12. Most of the construction activity would not impact on A12 traffic, but when the tie-ins to the A12 are being built there would be some temporary traffic measures put in place. During the operational phase, traffic would be expected to increase on the network near the site, however this is outweighed by the positive effects of removing significant numbers of vehicles from the wider highway network.
Two Villages Bypass	Detailed analysis and consultation has been undertaken, as presented in the **Transport Assessment** (Doc Ref 8.5), identifying the proposed two village bypass as the most appropriate solution to reduce traffic flows on the A12 through Stratford St Andrew and Farnham. It is proposed to construct the two roundabouts that would connect the new road into the existing road network off-line to minimise disruption. It is proposed that the bypass would be adopted as public highway to form the new A12 as a legacy of the Sizewell C construction, permanently alleviating traffic concerns in Farnham and Stratford St Andrew.
Sizewell Link Road	The proposed Sizewell Link Road is to relieve the B1122 from the anticipated construction traffic associated with the main development site and reduce traffic passing through Theberton and Middleton Moor. A number of options were analysed and consulted on, with the proposed route considered to be the most direct and logical option. The proposed new road would be constructed offline, with short term traffic management needed in locations where the link road is proposed to join other existing roads. The proposed development would be permanent and is expected to become part of the adopted highway network, continuing to relieve the B1122 post construction.
Yoxford and Other Highway Improvements	The proposals offer the opportunity for improvements to existing junctions, and road networks in the area in order to mitigate some of the highway impacts expected from the development of the Sizewell C Project. The improvements to the Yoxford Roundabout in particular will deliver capacity improvements to the A12 at the

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	B1122 junction, and the location of the new roundabout has been deliberately offset from the A12 so that existing users can still use the road whilst the works are being carried out. The works would provide a long term legacy benefit.
Freight Management Facility (FMF)	The proposed site location for the FMF was chosen to accommodate HGVs arriving on the A14 from both the east and the west, as well as the need for them to continue to the main development site along the A12. Some short-term disruption to traffic flow including diversion could be experienced during the construction of the site access on Old Felixstowe Road, which is lightly used. The key intention of the freight management facility is to manage the efficient flow of HGV traffic to the Sizewell C construction site during the main development site construction phase. It also importantly provides a means of mitigation in the event of disruption on the A12 or local Sizewell C access roads, allowing HGVs to park in a safe, and suitable location, which does not impede existing road traffic until disruption clears.
Green Rail Route and Other Rail Improvements	In order to minimise HGV movements, the freight strategy requires the rail terminal to be within or very close to the Sizewell C main development site. This approach would enable freight trains to be unloaded close to where the materials would be used. The proposals include the rail terminal to be constructed within the main development site, with the green rail route selected as the preferred route, following a detailed optioneering exercise. The proposed rail extension route will intersect with the existing road network in two locations, at Buckleswood Road and the B1122 (Abbey Road). Some disruption will occur to users of the B1122 (Abbey Road) during the construction of a new level crossing. The B1122 (Abbey Road) will be temporarily re-aligned to the west of the existing carriageway. The proposed alignment of the proposed rail extension route minimises intersections with the existing road network, as well as providing some separation from Leiston. There are nine operational level crossings on the Saxmundham to Leiston branch line. Level crossing upgrades have been proposed which minimise the need for level crossing barriers to be closed and reopened manually, enabling them to reopen to traffic soon after a train has safely passed. These works would also ensure that the level crossings remain in use and that there would be no need to close or divert any public rights of way (PRoW) whilst the branch line is in operation. The freight trains would operate overnight after the last passenger train in order to not impact the existing passenger service on the East Suffolk line.

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
Theme: Biodiversity and Ecosystems	
Objective: To minimise impacts on protected habitats, species, valuable ecological networks and ecosystem functionality, and enhance these where possible.	
Summary of Performance: Through optioneering and consultation, the locations of the proposed associated developments have been selected to meet this objective where possible. Further to this, the design has been developed to minimise land take and avoid impacts on protected habitats and species. Where impacts cannot be avoided, mitigation measures have been included to minimise the impacts. Permanent legacy developments, including the Sizewell Link Road, Two Village Bypass and Yoxford Roundabout have been assessed using the biodiversity metric (Biodiversity Metric 2.0 issued by Defra and Natural England) and in combination with the Main Development Site would deliver overall net gain for the Project. Further details are available within the Biodiversity Metric Calculations (Doc Ref ES Volume 2 Ch 14, Appendix 14E)	
Northern Park (Darsham) and Ride	The proposed landscape strategy for the site would minimise loss of habitats through supplementary planting, including the replacement of hedgerows, and adopting management regimes that minimise the impact on neighbouring habitats and enhance biodiversity. A minimum 20m buffer plus sustainable drainage infrastructure (proposed as swales) is proposed to provide a separation between the parking area and Little Nursery Wood, and a 10m buffer on the north-east and south-west boundaries to provide protection to existing hedgerows. The lighting would be designed to minimise impact on bats, following relevant Institute of Lighting Professionals (ILP) guidance. Measures are proposed in the **CoCP** (Doc Ref 8.11) to minimise impact during construction, following good practice construction management techniques. A restoration plan is proposed to reclaim the land and return it to its current use at the end of the Sizewell C construction phase.
Southern Park (Wickham) and Ride	The landscape strategy for the site would minimise loss of habitats through supplementary planting and adopting management regimes that enhance biodiversity. Woodland blocks on the perimeter are to be retained in their entirety, with security fencing on the site boundary to prevent damage (preferably close-boarded fencing to also minimise noise and light spillage), and a 10m buffer between the woodland and the development. The pond would be retained and included within the water management system. It is recommended that bat boxes are installed in the retained trees. The lighting would be designed to minimise impact on bats, following relevant (ILP) guidance. Measures are proposed in the **CoCP** (Doc Ref 8.11) to minimise impact during construction, using good practice construction management techniques. Following operation, the development

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	would be returned to its existing use.
Two Village Bypass	Best practice construction management measures for control of pollution and minimising impact on ecology during construction will be deployed through the **CoCP** (Doc Ref 8.11). During operation, measures would include SuDS infrastructure, use of bunds and fencing to minimise noise and light spill, minimising light along the route where not required for safety, in line with highway standards. Careful consideration has been given to the design and construction of the bridge over the River Alde, including a proposed single span bridge to minimise landtake and minimise impact on otters and water voles. The landscape proposals include native woodland and hedgerow planting to minimise habitat fragmentation and provide visual screening. As stated in the **Associated Development Design Principles** (Doc Ref 8.3), bat boxes will be installed on retained trees in suitable locations within the site boundary. One bat box will be installed per tree with medium or high bat roost potential that is due to be lost, whether or not a roost has been identified. A variety of bat boxes will be used to support different species.
Sizewell Link Road	The route of the proposed Sizewell link road has been designed to avoid direct land take from designated sites. The site boundary has also been amended and reduced where possible to avoid direct and indirect impacts to ponds where possible. The route is predominantly arable farmland. Existing woodland and hedgerows would be retained where possible, except where the route crosses field boundaries or tree belts. The proposed planting includes replacement habitat for the loss of woodland and hedgerows and would use native species only. Grassed areas are also proposed along the length of the route, including on embankments to help buffer any potential impacts to nearby ecological features. The route of the proposed development would be mostly unlit, thereby maintaining a dark corridor, minimising the potential impacts to nocturnal species Measures would be installed into the road design to maintain connectivity for great crested newts, as explained in the Terrestrial Ecology and Ornithology chapter of the **ES** (Doc Ref 6.6 Ch 7). As for the two village bypass above, best practice construction management measures would be implemented through the **CoCP** (Doc Ref 8.11).
Yoxford and Other Highway Improvements	The sites are generally existing road infrastructure and roadside vegetation. Minor design changes since the Stage 3 consultation are now proposed to avoid the Sandy Stilt Puffball fungi found in Roadside Nature Reserve 197, located on the southern side of the B1122 (Middleton road) along the southern boundary of Yoxford Junction

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	and avoid encroaching into the adjoining nature reserve. Temporary construction lighting would be designed to minimise light overspill.
Freight Management Facility (FMF)	The proposed site is predominantly Grade 3 and 4 agricultural land, with a small infiltration pond in the north-western corner. There are no statutory designations within or immediately adjacent to the site. All species-rich hedgerows would be retained. The landscaping proposals include three grassed landscape bunds, to provide a visual and noise buffer between the site and surrounding habitats, as well as additional screen planting to supplement the existing boundary vegetation. Further details of the proposed mitigation is set out in Terrestrial Ecology and Ornithology chapter of the **ES** (Doc Ref 6.8 Ch 7). As with all proposed Associated Development, best practice construction management measures would be implemented through the **CoCP** (Doc Ref 8.11). Upon completion of construction of the power station, the FMF would be removed and the land restored to its original condition.
Green Rail Route (GRR) and other Rail Improvements	The proposed development area of the GRR is currently Grade 2 arable land. There are several blocks of woodland within the site area, including Buckle's Wood CWS which is an ancient semi-natural woodland located adjacent to the site. This CWS would be retained in its entirety to protect existing habitats and species. Additionally, the majority of hedgerows are to be retained and only four small sections of defunct, species-poor hedgerow and one section of species-rich hedgerow would be removed. Grassed earthwork bunds and topsoil storage areas are intended to screen the adjacent landscape, and any construction and operational lighting would be limited to minimise impacts on any nocturnal species. As with all proposed Associated Development, best practice construction management measures would be implemented through the **CoCP** (Doc Ref 8.11). Upon completion of construction of the power station, the GRR would be removed and the land restored to its original condition.
Water Environment	
Objective: To protect surface (including coastal) water and groundwater quality (including distribution and flow), and enhance where feasible.	
Summary of Performance: Consistent with this sustainability objective, each associated development proposal has been assessed for potential risks to the water environment and appropriate mitigation measures proposed, along with a sustainable drainage strategy.	
Northern Park (Darsham)	The design includes a sustainable drainage strategy, compromising of the provision of four swales and two detention ponds. Petrol/oil interceptors and silt traps would be incorporated within the drainage

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
and Ride	design where considered necessary. Measures are proposed in the **CoCP** (Doc Ref 8.11) to mitigate groundwater and surface water impacts during construction, following good practice construction management techniques. This includes temporary SuDS implemented early in the construction phase, with containment within the site, and relevant pollution control measures. The main car parks would have permeable surfaces. Foul sewage from the operational facility would be collected and would either pass through a septic tank or a package treatment works prior to its discharge. The sustainability principles in the **Associated Development Design Principles** (Doc Ref 8.3) include a commitment to install water-efficient fittings to help reduce water consumption.
Southern (Wickham) Park and Ride	The existing pond will be retained within the development site. During the construction phases, bunds and ditches would be used to isolate, and capture, any off-site run-off. During the operational phase, it is likely that infiltration to the ground would be viable, and SuDS would be implemented to provide a natural approach to managing drainage. The main car parks would have permeable surfaces and the use of infiltration ponds, including in the north-east corner of the site where surface water flood risk is currently high, would help mitigate any negative impacts. The sustainability principles in the **Associated Development Design Principles** (Doc Ref 8.3) include a commitment to include water-efficient fittings to help reduce water consumption. Measures to minimise risk of water pollution during construction are proposed in the **CoCP** (Doc Ref 8.11) as set out above.
Two Village Bypass Sizewell Link Road Yoxford and Other Highway Improvements	Measures to minimise risk of water pollution during construction are proposed in **CoCP** (Doc Ref 8.11) as set out above. During construction, any surface water runoff would be contained within the site, with infiltration to the ground prioritised wherever feasible, with interception preventing the supply of sediment and other contamination to the surface drainage network Once constructed, water draining from the road infrastructure would pass through appropriate drainage, including the incorporation of bypass separators, where necessary.
Freight Management Facility	The sustainability principles in the **Associated Development Design Principles** (Doc Ref 8.3) include a commitment to include water-efficient fittings to help reduce water consumption. Measures to minimise the risk of water pollution during construction are proposed in the **CoCP** (Doc Ref 8.11) as set out above. SuDS would be implemented for the operational phase of the freight management facility to allow surface water run-off to infiltrate into the ground, with a swale constructed across the northern boundary, and part of the eastern boundary to ensure that surface water run-

Associated Development Site	Key Sustainability Issues and Initiatives Proposed
	off is contained within the site. Foul sewage is to be treated on-site, before being channelled into the SuDS infrastructure.
Green Rail Route and other Rail Improvements	The proposed drainage design would incorporate the existing land drainage network. Measures to minimise risk of water pollution during construction are proposed in the **CoCP** (Doc Ref 8.11) as set out above. Temporary SuDS would be implemented for the construction phase of the development to reduce any risks of contaminants. The implementation of SuDS in the operational phase of the proposed development would allow surface water run-off to infiltrate into the ground.

1.2 Conclusion

1.2.1 The off-site associated development is a fundamental aspect needed to deliver the Project in a sustainable manner. This appendix provides a summary of how the off-site associated development complies with the relevant sustainability objectives. The objectives for skills and employment, health and wellbeing, and community services are addressed at the whole project scale, and are not repeated within this appendix. The remaining objectives, listed under the themes Climate Change Mitigation and Adaptation, Resources and Waste, Movement of People and Materials, Biodiversity and Ecosystems and Water Environment are supported by the proposals for off-site associated development.