2.18

Rampion 2 WIND FARM

Volume 2, Chapter 18:

Socio-economics

GoBe wood.

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18. Socio-economics

18.1 Introduction

18.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the preliminary results of the assessment of the likely significant effects of Rampion 2 with respect to socio-economics including jobs, economic output, the visitor economy, as well as onshore and offshore recreation. It should be read in conjunction with the project description provided in **Chapter 4: The Proposed Development** and the relevant parts of the following chapters:

- **Chapter 7: Other marine users** (for possible effects related to offshore sectors not covered by this chapter relating to recreation and the visitor economy);
- **Chapter 16: Seascape, landscape and visual** (for possible effects to offshore viewpoints to recreation and the visitor economy);
- **Chapter 19: Landscape and visual impact** (for possible effect from onshore viewpoints to recreation and the visitor economy, and tourism industry);
- **Chapter 22: Noise and vibration** (for possible effects to onshore noise interacting with onshore recreation and the visitor economy);
- **Chapter 24: Transport** (for possible effects to onshore traffic interacting with recreation and the visitor economy).

18.1.2 This chapter describes:

- the legislation, planning policy and other documentation that has informed the assessment (**Section 18.2: Relevant legislation, planning policy, and other documentation**);
- the outcome of consultation engagement that has been undertaken to date, including how matters relating to socio-economics in the Scoping Opinion received in August 2020 have been addressed (**Section 18.3: Consultation and engagement**);
- the scope of the assessment for socio-economics (**Section 18.4: Scope of the assessment**);
- the methods used for the baseline data gathering (**Section 18.5: Methodology for baseline data gathering**);
- the overall baseline analysis (**Section 18.6: Baseline conditions**);
- embedded environmental measures relevant to socio-economics and the relevant maximum design scenario considered (**Section 18.7: Basis for PEIR assessment**);
- the assessment methods used for the PEIR assessment (**Section 18.8: Methodology for PEIR assessment**);

- the assessment of socio-economics effects (**Section 18.9 - 18.11: Preliminary assessment** and **Section 18.12: Preliminary assessment: Cumulative effects approach**);
- consideration of transboundary effects (**Section 18.13: Transboundary effects**);
- consideration of Inter-related effects (**Section 18.14: Inter-related effects**);
- a summary of residual effects for socio-economics (**Section 18.15: Summary of residual effects**);
- an outline of further work to be undertaken for the Environmental Statement (ES) (**Section 18.16: Further work to be undertaken for ES)**;
- a glossary of terms and abbreviations is provided in **Section 18.17: Glossary of terms and abbreviations**; and
- references are listed in **Section 18.18: References**.

18.1.3 This chapter is also supported by the following appendices:

- **Appendix 18.1 Socio-economics cost and sourcing report, Volume 4**;
- **Appendix 18.2 Socio-economics technical baseline, Volume 4**; and
- **Appendix 18.3 Assessment of magnitude of PRoW affected by Rampion 2, Volume 4**.

18.1.4 The analysis presented in this chapter has identified the following significant residual effects:

- A **moderate** residual effects of construction activity on PRoW users of 829, 197, 2697 and 2298, as well as recreational angling;
- A **moderate/major** residual effect of construction activity on PRoW users of 36Bo and 1T, and scuba divers;
- A **moderate/major** residual effect of operation and maintenance (operation and maintenance) activity on PRoW users of 36Bo and 1T;
- A **moderate** residual effect of decommissioning activity on recreational angling; and
- A **moderate/major** residual effect of decommissioning activity on PRoW users of Bo36 and 1T, and scuba divers.

18.2 Relevant legislation, policy and other information and guidance

Introduction

18.2.1 This section identifies the legislation, policy and other documentation that has informed the assessment of effects with respect to socio-economics. Further information on policies relevant to the environmental impact assessment (EIA) and their status is provided in **Chapter 2: Policy and legislative context** of this PEIR.

Legislation and national planning policy

18.2.2 **Table 18-1** lists the legislation relevant to the assessment of the effects on socio-economics receptors.

Table 18-1 Legislation relevant to socio-economics

Legislation description	Relevance to assessment
National Parks & Access to the Countryside Act 1949 (as amended) (NPACA49)	
Part IV provided the mechanism for the creation of long-distance routes, now more commonly known as 'National Trails'.	Part IV of the Act provides the legal basis for designation of both the South Downs Way National Trail and, as amended by MACA09 (see below), the England Coast Path (ECP). The status of these routes as afforded by the legislation, requires appropriate importance to be given to these resources when assessing their sensitivity and the significance of effects upon them. Please refer to **Table 18-27** and **Table 18-28**.
Highways Act 1980 (HA80)	
Section 130 of the Act places a duty on the local highway authority (LHA) to assert and protect public rights of way (PRoW).	This section empowers and places a duty on the LHA to take action if the public's rights to enjoyment of a PRoW are unlawfully impeded. Any proposed disturbance to PRoW must be legal and have the approval of the LHA.
Countryside & Rights of Way Act 2000 (CROW)	
The Act required the drawing up by local highways authority of Rights of Way Improvement Plans (ROWIP). The Act also established certain categories of land as Access Land to which the public has certain rights of access.	The ROWIP is an important policy document that sets the context for any mitigation or remediation works that may be necessary. A number of areas of Access Land may be temporarily impacted by the Proposed Development. These have been considered in **Table 18-27**, and are shown in **Figure 18.4, Volume 3**.
Marine & Coastal Access Act 2009 (MACA09)	

Legislation description	Relevance to assessment
Part 9 of the Act provides the legislative basis for the creation of the ECP, including by amending the NPACA49.	The path of the ECP will be crossed by the offshore export cables at or near landfall. The crossing will be via horizontal directional drilling (HDD).

18.2.3 This assessment is also undertaken with specific reference to the relevant National Policy Statements (NPS). These are the principal decision-making documents for Nationally Significant Infrastructure Projects (NSIPs), which include:

- Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change ((DECC, 2011c));
- NPS for Renewable Energy Infrastructure (EN-3) (DECC, 2011b); and
- NPS for Electricity Networks Infrastructure (EN-5) (DECC, 2011a).

18.2.4 For socio-economics there is limited guidance on the methods to be used when assessing the effects of major infrastructure projects (such as Rampion 2) on national and local economies. **Table 18-2** lists the national planning policy relevant to the assessment of the effects on socio-economic receptors considered in the assessment.

Table 18-2 National planning policy relevant to socio-economics

Policy description	Relevance to assessment
EN-1 NPS for Energy (DECC, 2011c)	
EN-1 includes guidance on the socio-economic and tourism matters that need to be considered, which include**;** The creation of jobs and training opportunities; The effects on tourism; The effects of the proposed project on maintaining coastal recreation sites and features; Cumulative effects. In addition, EN-1 indicates that the assessment should describe the existing socio-economic conditions in the areas surrounding the proposed development, and should also refer to how the proposal's socio-economic impacts correlate with local planning policies.	Rampion 2 is likely to have the following socio-economic effects: Jobs and the economy – the construction, operation and maintenance, and decommissioning of Rampion 2 will support employment through project expenditure with supply chain businesses located within Sussex (defined as the contiguous area covered by East Sussex, West Sussex counties and the Brighton and Hove Unitary Authority) and nationally. This is considered in **Sections 18.9**, **18.10** and **18.11** of this PEIR chapter. Tourism – Tourism plays a major role within the local economy of the primary study area (i.e. Sussex). As such, the assessment considers the effects of Rampion 2 on the visitor economy in

Policy description	Relevance to assessment
Finally, EN-1 states that the inter-relationships of socio-economic impacts with other impacts should also be considered.	**Sections 18.9**, **18.10** and **18.11** of this PEIR chapter respectively. Coastal recreation sites – The construction and decommissioning (and much less so operation and maintenance phase) have potential to impact on certain offshore, inshore and onshore recreation activities. As such, the effect of construction, operation and maintenance and decommissioning on offshore, inshore and onshore recreation activities is considered in **Sections 18.9**, **18.10** and **18.11** of this PEIR chapter respectively. Cumulative effects – Alongside other developments, the construction, operation and maintenance, and decommissioning of Rampion 2 is likely to generate cumulative effects on the various receptors considered. As such, the cumulative effects of Rampion 2 are considered in **Section 18.12**. Baseline conditions – The current baseline conditions against which the effects of Rampion 2 are considered are presented in **Section 18.6** of this PEIR chapter. Inter-relationships – The inter-relationship of socio-economics with other effects are considered in **Section 18.14** of this PEIR chapter.
Build Back Better: Our Plan for Growth (HM Treasury, 2021)	
This policy paper sets out the UK Government's plan '*to deliver growth that creates high-quality jobs across the UK*' by building on the three core pillars of infrastructure, skills and innovation. The plan supports advancing the development of the offshore wind sector, with the objective being to quadruple capacity (up to 40GW) by 2030, supporting the creation of up to 60,000 jobs along the way.	Rampion 2 will generate opportunities to create jobs in the offshore wind sector, as the UK builds its offshore wind capacity (of up to 40GW) by 2030. The contribution of the project on job creation (and economic impact created) is considered in **Sections 18.9, 18.10** and **18.11** respectively.
UK Industrial Strategy (HM Government, 2017a)	

Policy description	Relevance to assessment
Sets out the Government's vision for the UK economy, with the Strategy's underlying motivation being '*to create an economy that boosts the productivity and earning power throughout the UK*'. The Industrial Strategy identifies five foundations, including investment in digital, transport, housing, low carbon and other infrastructure. It identifies clean growth as one of the main opportunities for the UK economy to take advantage of, through the '*development, manufacture and use of low carbon technologies, systems and services*', and states that offshore wind is one of the areas where the UK has world-leading capabilities. The Industrial Strategy aims to maximise the share of global markets taken up by UK businesses within the sector.	Rampion 2 will contribute to the UK Government's overall vision of the economy, especially by supporting growth in low carbon, contributing towards clean growth aspirations and further support growth both locally and nationally within the offshore wind sector.
Clean Growth Strategy (HM Government, 2017b)	
Connected to the UK Industrial Strategy, the Clean Growth Strategy seeks to ensure that economic growth goes hand in hand with greater protection for the natural environment. Within this is a commitment to help businesses and entrepreneurs seize opportunities of a low carbon economy, and specifically offshore wind. Under its ambition to deliver clean, smart, and flexible power the Clean Growth Strategy seeks to deliver a diverse electricity system that supplies homes and businesses with secure, affordable and clean power. The Strategy seeks to deliver this through the development of low carbon sources of electricity (including renewables) and acknowledges that the UK is well-placed to benefit and become one do the most advanced economies for smart energy and technologies.	Rampion 2 will support the UK Government's aspirations for clean growth. It will also help businesses especially those forming part of the Proposed Development's supply chain, as well as others with potential to contribute to seize upon the opportunity this offers.
UK Industrial Strategy: Offshore Wind Sector Deal (HM Government, 2019a)	
The Offshore Wind Sector Deal commits to help the industry raise the productivity and	Rampion 2 will support the UK Government's effort and ambition to grow

Policy description	Relevance to assessment
competitiveness of UK companies to ensure the UK continues to play a leading role as the global offshore wind market continues to grow in the decades to 2050. Key commitments include: Increasing UK content to 60% of value associated with offshore wind farm activity by 2030; £250 million industry investment in building a stronger UK supply chain to support productivity and increase competitiveness; Provide forward visibility of future Contracts for Difference (CfD) rounds with support of up to £557 million; Increase exports five-fold to £2.6 billion by 2030.	the offshore wind sector, increase UK content and build a stronger and more productive supply chain. Whilst the Proposed Development does not directly contribute towards increasing exports, it will support this ambition through the development and increased capability of local and national supply chains.
UK Industrial Strategy: Tourism Sector Deal (HM Government, 2019b)	
The Tourism Sector Deal builds on the UK Industrial Strategy by creating a framework that positions the tourism industry to take advantage of new markets whilst also leveraging initiatives designed to deliver on the Industrial Strategy's grand challenges relating to the data driven economy (i.e. artificial intelligence (AI)), clean growth and ageing society. The Tourism Sector Deal sets out an ambitious agenda that will deliver increases in productivity and investment that will benefit local economies across the country. It introduces the concept of Tourism Zones, bringing together businesses and local organisations to establish a co-ordinated strategy for growth and sustaining visitor numbers throughout the off-season. By 2025, The Tourism Sector deal aims to: More than double the size of the industry nationally to £268 billion; Growth employment in the sector 3.8 million;	Tourism is a key sector in the study area, particularly the area around Brighton and Hove. The construction, operation and decommissioning of Rampion 2 may have an impact on the volume and value of the tourism economy. The preliminary assessment considers this qualitatively in **Sections 18.9**, **18.10** and **18.11** respectively.

Policy description	Relevance to assessment
Deliver a 1% increase in productivity worth £12 billion to the national economy.	
National Planning Policy Framework (NPPF) (MHCLG, 2019)	
The NPPF emphasises that one of the overarching objectives of the planning system is to contribute to the achievement of sustainable development. This includes backing the transition to low carbon. In paragraph 148, NPPF explains that the planning system should support the transition to a low carbon future, and states that the planning system should space places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and provide resilience to the impacts of climate change, whilst also supporting the delivery of renewable and low carbon energy and associated infrastructure.	Rampion 2 supports the UK's transition to low carbon energy sources, and the aim to reduce greenhouse gas emissions from the use of fossil fuels.
UK Marine Policy Statement (MPS) (HM Government, 2011)	
The MPS states that properly planned developments in the marine area can provide both environmental and social benefits, whilst also driving economic development, providing opportunities for investment and generating export and tax revenues. This includes the '*obvious*' social and economic benefits from such an increase in network capacity, most notably the facilitation of offshore renewable energy.	Experience from elsewhere (including the existing Rampion 1 Offshore Wind Farm) shows that offshore wind farm projects can provide both environmental and social benefits, whilst also driving economic development, providing opportunities for investment and generating export and tax revenues. Rampion 2 will deliver electricity, a valued commodity that underpins most economic activity in one way or another. This wider economic and social impact of offshore wind generated electricity is however not considered within this assessment.

Local planning policy

18.2.5 **Table 18-3** lists the local planning policy relevant to the assessment of the effects on socio-economic receptors.

Table 18-3 Local planning policy relevant to socio-economics

Policy description	Relevance to assessment
Coast to Capital Local Enterprise Partnership Strategic Economic Plan (C2CLEP, 2018)	
The Coast to Capital LEP's Strategic Economic Plan (SEP) identifies eight economic priorities for the area, including: **Priority 3 – Invest in sustainable growth;** **Priority 5 – Pioneer innovation in core strengths; and** **Priority 8 – Build a strong national and international profile.** **The SEP identifies that energy generation is critical to the economy, but argues that emission reduction targets should be** achieved without sacrificing economic growth.	The SEP highlights some of the LEP area's projects supporting a reduction in carbon emissions, including the existing Rampion 1 project. The SEP also highlights the LEP's *Energy Strategy* (published with the South East and Enterprise M3 LEPs) which prioritises renewable energy generation as one of the five themes in the strategy.
South East LEP Strategic Economic Plan (SELEP, 2014)	
The South East LEP's (SELEP) SEP sets out a number of growth ambitions for the LEP area, which include: The creation of 200,000 sustainable private sector jobs; and Leverage investment totalling £10 billion, in order to accelerate growth, jobs and homebuilding. The SEP cites the opportunity for investment in renewable energy via Rampion 1. It identifies the Newhaven Clean Tech and Maritime Growth Corridor as benefitting greatly as a result of Rampion 1 operation and maintenance port activities being based in Newhaven.	Rampion 2 will support aspirations set out within the SELEP's SEP by encouraging the creation of sustainable jobs and leveraging additional investment. Furthermore, although the location of the operation and maintenance port for Rampion 2 is yet to be confirmed, Newhaven is identified as the likely option. Synergies created by the Proposed Development will ensure the ongoing growth of the Newhaven Clean Tech and Maritime Growth Corridor, whilst also promoting growth of the offshore wind sector within the wider LEP area.
West Sussex Plan (WSCC, 2017)	

Policy description	Relevance to assessment
The *West Sussex Plan* sets out several priorities that are particularly relevant to the construction of a new offshore wind farm. This includes the ambition to attract and support businesses (as well as people) who want to work in West Sussex, making the county a more prosperous place, and becoming one of the largest renewable energy providers nationally.	The Proposed Development will support the County Council's ambition for West Sussex to become one of the largest renewable energy providers nationally. In addition, the construction of Rampion 2 has potential to support increased expenditure with local businesses, both those forming part of the offshore wind sector's supply chain, but also businesses in other sectors more widely.
West Sussex Economic Growth Plan (WSCC, 2018a)	
The *West Sussex Economic Growth Plan* is designed to support achieve the ambitions set out within the *West Sussex Plan*. It identifies four priority themes which are relevant to the proposed development: Strengthening the vibrancy of coastal towns; Embedding the green energy sector, proving a platform for innovation and a new economic identity for West Sussex; Promote West Sussex as a great place to visit, work and live; and Support the development of a high-quality and enterprising workforce that meets both current and future needs. The *Growth Plan* argues that Rampion 1 and Your Energy Sussex Partnership*, 'are evidence that the county is one where new and innovative approaches to energy efficiency and generation can be successfully implemented. Expanding this opportunity sector could therefore place West Sussex as a national green energy lab, and further support specialist manufacturing activity, ultimately driving income generation and growth*'.	The Proposed Development supports all four priorities outlined, in addition to the Plan's ambition to embed the green energy sector within the local economy.
West Sussex Rights of Way Management Plan, 2018-2028 (WSCC, 2018b)	
The Plan is the West Sussex ROWIP, as required by CROW, and makes the following relevant statements:	Rights of way management proposals are set out in detail in the Draft Public Rights of

Policy description	Relevance to assessment
WSCC has a policy to provide the least restrictive access, preferring gaps over gates and gates over stiles. WSCC has a commitment to work closely with the SDNPA to achieve a high-quality PRoW and access network. WSCC seeks to protect path users' rights and their convenience, and will look to propose improvements and enhancements for all NMUs whether this is to an existing route, such as creating structure free access, or the creation of a new route (including upgrades such as a footpath to a bridleway).	Way Management Plan (PRoWMP) (see **Appendix 24.2, Volume 4**). Reinstatement of paths will be designed to be at least as good a standard as before their disturbance. Plans will be developed to minimise any short-term impact on path users and to ensure their rights and convenience are fully reinstated following disturbance.
Horsham District Planning Framework (Horsham District Council, 2015)	
The *Horsham District Plan* seeks to ensure that future development within the district is based on sustainable development principles that strike the correct balance between economic, social and environmental priorities, whilst also supporting employment that fosters economic growth and regeneration.	The Proposed Development will support *Horsham District Plan* in its ambition to ensure that new development promotes the supply of renewable, low carbon and decentralised energy. In addition, the Proposed Development has potential to general supply chain expenditure, and support the growth of the district's economy,
South Downs Local Plan (SDNPA, 2019)	
Strategic Policy SD 20 Walking, Cycling and Equestrian Routes: 6. Development proposals will be permitted provided that they: a) Maintain existing public rights of way; and b) Conserve and enhance the amenity value and tranquillity The SDLP states that "Developments affecting PRoW must refer to the *Rights of Way Improvement Plan* for the local area…". Strategic Policy SD45 Green Infrastructure (GI):	The onshore cable route of necessity crosses many PRoW. The iterative design process has sought to minimise crossings, to avoid medium or long-term disruption and minimise short-term impact. Details for minimising disruption are included in the PRoWMP (see **Appendix 24.2, Volume 4**). The West Sussex ROWIP has been used to guide project design. Embedded environmental measures are presented in **Section 18.7**.

Policy description	Relevance to assessment
3. Development proposals that will harm the GI network must incorporate measures that sufficiently mitigate or offset their effects.	
Arun Local Plan (Arun District, 2018)	
The A*run Local Plan* identifies economic growth for job creation as the district's number one priority, which is to be achieved by encouraging employment growth in sectors such as manufacturing and marine-based activities.	Policy ECC DM1 Renewable Energy in the *Arun Local Plan* states that renewable energy projects will be expected to contribute to the social, economic and environmental development, and overall regeneration of the district. The Proposed Development has potential to support this whilst also encouraging and growing a low carbon economy.
Mid Sussex District Plan (Mid Sussex District Council, 2018)	
The *Mid Sussex District Plan* is underpinned by four priority themes that promote the development of sustainable communities. In particular, the *Mid Sussex District Plan* aims to provide opportunities for people to live and work within the communities, reducing the need for commuting.	The Proposed Development has potential to generate and support local employment as a result of increased expenditure locally as a result of both construction and operation activities.
East Sussex Growth Strategy (ESCC, 2014b)	
The *East Sussex Growth Strategy* sets out the strategy for economic growth in East Sussex, and is built around the three pillars of business, place and people.	The Proposed Development has potential to support employment in East Sussex, especially during its operation and maintenance phase (assuming that Newhaven harbour is chosen as the wind farm's operation and maintenance base) and will contribute to local economic growth as measured in increased gross value added (GVA).
East Sussex Cultural Strategy (ESCC, 2014a)	
The *East Sussex Cultural Strategy* prioritises tourism, and aims to develop and promote the cultural tourism offer, raise its profile and attract more visitors and businesses.	Offshore wind farm projects often raise concerns about the potential impact they could have on local tourism economies. The assessment considers the potential impact of construction, operation and

Policy description	Relevance to assessment
East Sussex aims to have a high value visitor economy and have a distinctive offer by being renowned for its natural assets, heritage, culture, market and coastal towns.	decommissioning on the volume and value of tourism economy in **Sections 18.9, 18.10** and **18.11** respectively.
Brighton & Hove City Plan Part 1 (Brighton & Hove City Council, 2016)	
The *Brighton & Hove City Plan* provides the overall strategic and spatial vision for the future of Brighton & Hove through to 2030. This plan sets out a number of strategic objectives which are of relevance to the proposed development, including: SO1 – ensuring that all major new development in the city supports the regeneration of the city. SO3 – Develops Brighton & Hove as a major centre on the south coast for sustainable business growth and innovation. SO7 – contribute to a reduction in the ecological footprint of Brighton & Hove and champion the efficient use of natural resources and environmental sustainability.	The Proposed Development has potential to generate employment within the Brighton & Hove city area (and across Sussex more widely), through its construction, operation and maintenance and decommissioning phases. Rampion 2 will also support the City Plan's ambitions to support city regeneration efforts, foster innovation and business growth, and reduce the city's overall carbon footprint.

Please note: Whilst no part of the onshore PEIR assessment boundary falls within East Sussex and/or Brighton and Hove, the *East Sussex Growth Strategy*, *East Sussex Cultural Strategy*, and the *Brighton & Hove City Plan Part 1* are included to reflect the fact that the socio-economic impacts are anticipated to be felt across the wider Sussex area.

Other relevant information and guidance

18.2.6 A summary of other information and guidance relevant to the assessment undertaken for socio-economics is included below:

- HM Treasury (2018) The Green Book – The assessment draws on the methods and principles set out within the latest iteration of The Green Book (published in December 2020).
- West Sussex Transport Plan 2011-26 – The plan includes the following goals that are relevant to outdoor recreation:
  - maintaining PRoW to a good standard (pg.21);
  - developing opportunities to improve access to, and within the National Park particularly for walking and cycling (pg.26); and

- maintaining Equestrian Facilities - maintaining multi-use routes such as bridleways to a good standard (pg.32).

- West Sussex Walking and Cycling Strategy 2016-2026 - The West Sussex Walking and Cycling strategy includes the following two objectives that are relevant to the outdoor recreation element:
  - to help people to access rural areas and enjoy walking and cycling; and
  - build on its recent 'West Sussex Weekends' campaign, and work alongside the South Downs National Park Authority (SDNPA) to promote walking and cycling in the country as enjoyable leisure activities and encourage walking and cycle tourism.
- SDNPA Partnership Management Plan 2020-2025 – Policy 28 of the SDNPA Partnership Management Plan sets out an ambition to improve and maintain PRoWs and access land, provide a better-connected and accessible network for a range of abilities and users, and reduce conflict where this occurs.
- South Downs Cycling and Walking Strategy 2017-2024 – Priority Action AN4.2 in the strategy seeks to deliver added value to the SDNPA's RoWIPs through a Miles Without Stiles/Access for All programme, including the removal of stiles and other barriers, in addition to surface improvements.
- Environmental Impact Assessment: Appraising Access (2020) – The Institute of Public Rights of Way & Access Management (IPROW) published its guide on how PRoW and wider outdoor access resources should be assessed for the purposes of an EIA. This document has guided the assessment of the impact of Rampion 2 on (onshore) outdoor access.
- British Standard for Gaps, Gates and Stiles (BS709:2006) – The standard is about ensuring the least restrictive access infrastructure is used in any given situation and ensuring that the access provided is adequately maintained. The standard sets out minimum dimensions for structures and a hierarchy for their use (e.g. Gaps>Gates>Kissing Gates>Stiles), and notes that stiles should only be used in exceptional circumstances.
- Countryside for All (2005) – First published as the 'BT Countryside for All Good Practice Guide' in 1997, this guide was maintained by the Fieldfare Trust until 2018, and is now updated by Paths for All (2019). The guide presents a benchmark of best practice for countryside access for disabled people, helping to ensure compliance with the requirements of the Equality Act 2010.
- Best Value Performance Indicator 178 (BVPI178) – BVPI178 was developed by the Audit Commission as part of a suite of performance indicators for local government known as the Comprehensive Performance Assessment. BVPI178 is now redundant for its original purpose but is still used by some local highway authorities as the only national comparator for management of PRoW networks. Although no longer carrying official weight, the 'easy to use' standard is a useful way of determining that a path is of an adequate standard for public use. Individual paths were assessed for ease of use by the public. Paths identified as 'easy to use' are typically:
  - free from unlawful obstructions;

- the surface and lawful barriers are in good repair and to a satisfactory standards; and
- paths are signed where they leave a metalled road.

18.3 Consultation and engagement

Overview

18.3.1 This section describes the outcome of, and response to the Scoping Opinion in relation to socio-economics assessment and provides details of the ongoing informal consultation that has been undertaken with stakeholders and individuals. An overview of engagement undertaken can be found in **Section 1.5** of **Chapter 1: Introduction** of the assessment.

18.3.2 Given the restrictions which have been in place due to the COVID-19 pandemic during this period, all consultation has taken the form of conference calls using Microsoft Teams.

Scoping opinion

18.3.3 Rampion Extension Development Limited (RED) submitted a Scoping Report (RED, 2020) and request for a Scoping Opinion to the Secretary of State (administered by the Planning Inspectorate (PINS)) on 2 July 2020. A Scoping Opinion was received on 11 August 2020. The Scoping Report set out the proposed socio-economics assessment methodologies, outline of the baseline data collected to date, and the proposed scope of the assessment. **Table 18-4** sets out the comments received in Section 4 of the PINS Scoping Opinion 'Aspect based scoping tables – Offshore' and how these have been addressed in this PEIR. A full list of the PINS Scoping Opinion comments and responses is provided in **Appendix 5.1: Response to the Scoping Opinion, Volume 4**. Regard has also been given to other stakeholder comments that were received in relation to the Scoping Report.

Table 18-4 PINS Scoping Opinion responses for socio-economics assessment

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
4.14.1	The Inspectorate considers that the impacts of construction, O&M and decommissioning activity on changes to population structure as a result of increased demand for labour and the subsequent demand for housing accommodation are likely to be negligible and any effects will be spread further wider than the immediate area. The Inspectorate agrees that these	This comment is acknowledged.

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
	matters can be scope scoped out from the ES has significant effects are unlikely to occur.	
4.14.2	The Inspectorate agrees that significant effects on inshore recreation activity during operation and maintenance are unlikely and that the ES will assess operational effects in terms of offshore recreation. However, reference to zones of influence (ZOI) and study areas are made in […] without reference to spatial extent of 'inshore' and 'offshore' areas. Without fully understanding the extent of the inshore area as defined in the context of socio-economic assessment […] the Inspectorate cannot agree to scope this matter out of the ES.	Please refer to **Figure 18.1** and **Figure 18.2, Volume 3** for an overview of the spatial extent of the various ZOIs used in the assessment. Under the maximum design scenario considered no maintenance is anticipated to be required on the export cable located within the inshore zone (defined as the area extending 250m out to sea from landfall). The assessment of the Proposed Development's impact on inshore recreation during the operation and maintenance phase is considered alongside the impact on offshore recreation.
4.14.3	Whilst Table 5.15.1 summarises the ZOIs to be considered for the various receptor groups as part of the socio-economic assessment, figures would assist in understanding their spatial extent and the entirety of the study area (onshore and offshore).	Please see **Figure 18.1** and **Figure 18.2, Volume 3** for an overview of the spatial extent of the various ZOIs used in the assessment.
4.14.4	Any key assumptions made in developing estimates on the anticipated construction programme and phasing should be clearly set out and consideration given to a 'worst case' scenario in the duration and definition of 'temporary' effects in considering the overall significance of effect. This includes assumptions on the use of local ports for construction. […] It is not clear whether the 'two scenarios based on varying assumptions' are intended to represent alternative 'realistic'	More detail on the approach to socio-economic impact assessment is presented in **Section 18.8** of this chapter. Additional detail on the approach to the economic impact of Rampion 2 is presented in **Appendix 18.1: Socio-economics cost and sourcing report, Volume 4**. Following discussions with RED, it was decided that a single scenario which represents a realistic base case (i.e. worst-case), is considered. That said, when considering jobs and the economy,

PINS ID number	Scoping Opinion comment	How this is addressed in this PEIR
	scenarios, or whether they are 'best case'/'worst case' in terms of local, regional or national impacts. This should be set out clearly in the ES.	the overall impact is anticipated to be positive. Overall, there is potential for local expenditure to be higher than that identified in the assessment, generating additional benefits.
4.14.5	A number of sources set out in Table 5.15.3 are stated as 'TBD', including Recreational activity and Ports and harbour infrastructure for which the coverage of the study area is also stated as 'TBD'. It is unclear whether these datasets would be obtained in the course of data collection from other aspect chapters. The ES should clearly set out these data sources and their spatial coverage and how all of these have been derived from the effort made to agree with relevant consultation bodies.	A detailed list of data and information sources used in the assessment is set out in **Appendix 18.2: Socio-economics technical baseline, Volume 4**. Furthermore, a list of the stakeholders approached as part of the socio-economics assessment is presented in **Section 18.5** of this chapter. This includes references to discussions about and approach to collating key data sources (where relevant).
4.14.6	The ES should take account of the current West Sussex County Council Economic Growth Plan 2018-2023 in considering baseline conditions and assessing significance of socio-economic effects.	Local Policy (including the West Sussex County Council Economic Growth Plan 2018-2023) is considered in detail in **Appendix 18.2, Volume 4** and summarised in **Section 18.3** of this chapter.

18.3.4 Public Health England (PHE) submitted a number of consultation responses as part of the Scoping Opinion. The ones relevant to socio-economics and responses to where (and/or how) these comments are addressed within the preliminary assessment are outlined in **Table 18-5**.

Table 18-5 PHE Scoping Opinion responses for socio-economics assessment

Scoping Opinion comment	How this is addressed in this PEIR
a. Employment opportunities including	The preliminary assessment considers Rampion 2's impact on the potential to support local employment as a result of construction, operation and maintenance and decommissioning activity in **Sections**

Scoping Opinion comment	How this is addressed in this PEIR
training opportunities.	**18.9, 18.10** and **18.11** respectively. Whilst the benefits of supporting employment and training opportunities are noted, these are not considered in the assessment. Within one of the embedded environmental measures (see **Section 18.7**) RED has committed to work with local partners to maximise the ability of local people to access employment opportunities associated with construction and/or operation and maintenance activity (C-35).
b. Local business activity	The preliminary assessment considers the Rampion 2's potential to result in local expenditure being captured by local businesses (thereby supporting the Sussex economy). This is identified in **Section 18.4** of the preliminary assessment, and is outlined in more detail in **Appendix 18.1, Volume 4.** RED has committed to identify opportunities for companies based or operating in the region to access supply chain for the Proposed Development (C-34). Please note that the preliminary assessment considers only the direct and indirect benefits associated with Rampion 2 but does not quantify the Proposed Development's induced benefits. The presence of non-local employees working on Rampion 2 has potential to generate additional expenditure with local businesses (such as in the accommodation and food service sectors).
c. Regeneration	The matters outlined within PHE's response to the Scoping Report (RED, 2020) (i.e. rebuilding and housing improvements in deprived neighbourhoods) are not relevant to the socio-economics preliminary assessment.
d. Tourism and Leisure Industries	The construction, operation and maintenance and decommissioning impacts of Rampion 2 on leisure, community and housing has been scoped out of the preliminary assessment on the basis that the impacts on population structure, and demand for housing and local services is likely to be negligible and any effects spread wider than the immediate area. Given that the proportion of construction expenditure captured by local businesses is anticipated to be relatively low (as outlined in **Section 18.4** and detailed in **Appendix 18.1, Volume 4**), it is not anticipated that Rampion 2 will generate demand for additional floorspace for local businesses. The Proposed Development's impact on the volume and value of the Sussex economy during construction, operation and maintenance and decommissioning of Rampion 2 is considered in **Sections 18.9, 18.10** and **18.11** respectively. The Proposed Development's impact on access to and enjoyment of onshore, inshore and offshore recreation is assessed in **Sections 18.9, 18.10** and **18.11** respectively. In undertaking the assessment,

Scoping Opinion comment	How this is addressed in this PEIR
	consideration has been given to the mental health and wellbeing benefits to users' ongoing access to the various receptors assessed.
e. Community/ social cohesion and access to social networks	As outlined above (see **Table 18-4**) and below (see **Table 18-9**) the Proposed Development's impact on population, the need for housing and local communities has been scoped out of the assessment on the basis that impacts are likely to be negligible and any effects spread wider than the immediate area.
f. Community engagement	Whilst the application for Rampion 2 is separate from the operational existing Rampion 1 project, RWE already has a strong track record supporting public participation and community engagement (through the Rampion Community Benefit Fund). Detail of public/community engagement undertaken to date as part of the Rampion 2 DCO process is outlined in **Section 18.3** of this chapter.

Evidence Plan Process (EPP)

Introduction

18.3.5 The Evidence Plan Process (EPP) has been set up to provide a formal, non-legally binding, independently chaired forum to agree the scope of the assessment, and the evidence required to support the DCO Application. For socio-economics, further engagement has been undertaken via the Evidence Plan Process (EPP) via two expert topic groups (ETG) held in October 2020 and March 2021 which provided a wide range of consultees the opportunity to comment on the proposed approach to the assessment and raise any concerns, including the impact of construction, operation and maintenance and decommissioning of Rampion 2 on the tourism economy. The first meeting introduced the Proposed Development and the proposed approach to scoping the EIA (October 2020 ETG meeting) and the second meeting updated stakeholders on progress of the PEIR (March 2021). Approach to data collection and PEIR Assessment approach was discussed and agreed with Stakeholders during these ETGs.

West Sussex County Council

18.3.6 Engagement was undertaken with the Senior Access Officer at West Sussex County Council (WSCC) in the form of emails and a telephone conversation. This was to identify key outdoor recreation assets that may be affected by the construction, operation and maintenance, and decommissioning of Rampion 2, and to flag up any potential issues that may need particular considerations. Possible data sources needed for the assessment were also discussed.

South Downs National Park Authority (SDNPA)

18.3.7 Engagement was also undertaken with SDNPA's Access and Recreation Lead via email. The purpose for this engagement was to identify key outdoor recreation assets that may be affected by the construction, operation and maintenance, and decommissioning of Rampion 2, to flag up issues needing particular consideration and to identify possible data sources.

South Downs Way

18.3.8 Email contact was also made with the National Trail Officer for the South Downs Way. This was to identify specific issues related to Rampion 2 crossing the South Downs Way.

Informal consultation and engagement

Introduction

18.3.9 Outside of the official consultation process, informal consultation has been ongoing with a number of prescribed and non-prescribed consultation bodies and local authorities in relation to socio-economics. A summary of this informal consultation undertaken between the completion of the Scoping Report (RED, 2020) and up to and including March 2021 is outlined in this section.

Brighton and Hove City Council

18.3.10 Engagement with Assistant Director, City Development and Regeneration at Brighton and Hove City Council at the start of December 2020 to discuss the social and economic implications of Rampion 2, in particular on businesses that could form part of the Proposed Development's supply chain, tourism and the economy more widely.

Visit Brighton

18.3.11 Engagement with the Head of Sales, Marketing and Partnership at Visit Brighton to discuss the implication of the construction, operation and maintenance, and decommissioning of Rampion 2 on the volume and value of tourism, as well as onshore and offshore recreation within the study area (i.e. Sussex). Requests have also been made for the supply of any economic impact studies/research relevant to the study area and/or the impact of the existing Rampion 1 project on local tourism, but not yet received. At present there is no specific evidence assessing the economic impact of Rampion 1 on the volume and value of tourism locally.

West Sussex County Council

18.3.12 Engagement with officers at WSCC including the Senior Access Officer, the Countryside Team Leader and the Senior Estates Surveyor has been ongoing since mid-November 2020, primarily in the form of email correspondence. Requests were made for the supply of any user-count data that could show volumes and patterns of use of visitors to the Downs Link. The data supplied has

been used in the assessment. Data was also requested for any countryside car parks, but none is available.

Natural England

18.3.13 Email contact was established with the Coastal Access Lead Advisor, Sussex and Kent Team at the start of November 2020. This was to request any data available for the use of the ECP near Atherington. However, no data was available, and it was noted that whilst the ECP at this stretch was not yet opened, the PRoW that it will use was open.

South Downs National Park Authority

18.3.14 Requests for visitor survey results and people counter data were sent to the Access and Recreation Lead at SDNPA (via email) in mid-November 2020, along with a request for information about any other data sources that may be relevant for the assessment.

18.3.15 The National Trail Officer was also approached by email in mid-November 2020 to request data from the people counters along the South Downs Way. It was noted that 2020 was an a-typical year for countryside access, and therefore a request for the most recent data pre-2020 was also submitted, but not yet received.

Sustrans

18.3.16 Due to the COVID-19 pandemic, the telephone lines to the Sustrans office were unmanned. An approach was therefore made (via email) at the start of November 2020 to the Sustrans South Office, with a request for contact details to the relevant officer to discuss potential implications for National Cycle Network route 2, and regional route 232. Two follow-up emails were sent throughout the rest of November 2020, but no substantive reply was received.

BEKS Kitesurfing School

18.3.17 Online research indicated that the BEKS Kitesurfing School operates from beaches near to Littlehampton. Email contact was made to request more specific location information, in addition to numbers and patterns of teaching activity. This information was supplied by BEKS Kitesurfing School.

Aspire

18.3.18 Online research has shown that the Aspire River Arun Swim may take place in the vicinity of the proposed River Arun cable crossing location. An email was sent in late November 2020 to request more information about the location of the swim and its date. This information was supplied by Aspire, and has been used to inform the preliminary assessment.

West Sussex Local Access Forum

18.3.19 The West Sussex Local Access Forum (WSLAF) was approached by email sent through the WSCC Senior Access Officer in March 2021 with a general request for its opinion of or information about the comprehensiveness of the resources to be

assessed; any particular impacts that might be envisaged and potential mitigation; events that take place in the corridor vicinity; and other local groups that should be contacted. An informative response was received from the WSLAF.

South Downs Local Access Forum

18.3.20 The South Downs Local Access Forum (SDLAF) was approached by email sent through the SDNPA Strategy Lead Access & Recreation in April 2021 with a general request for its opinion of or information about the comprehensiveness of the resources to be assessed; any particular impacts that might be envisaged and potential mitigation; events that take place in the corridor vicinity; and other local groups that should be contacted.

Informal consultation – January / February 2021

18.3.21 RED carried out an Informal Consultation exercise for a period of four weeks from 14 January 2021 to 11 February 2021. This Informal Consultation exercise aimed to engage with a range of stakeholders including the prescribed and non-prescribed consultation bodies, local authorities, Parish Councils and general public with a view to introducing the Proposed Development and seeking early feedback on the emerging designs.x

18.4 Scope of the assessment

Overview

18.4.1 This section sets out the scope of the PEIR assessment for socio-economics. This scope has been developed as Rampion 2 design has evolved and responds to feedback received to date (as set out in **Section 18.3**), PINS's *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements* (Version 7, PINS, 2020). Please note that information presented in the PEIR is preliminary, therefore this scope will be reviewed and may be refined as Rampion 2 evolves and as a result of ongoing consultation.

Spatial scope and study area

18.4.2 **Table 18-6** below sets out the spatial scope used in the socio-economics assessment. It shows that the effect of Rampion 2 on economic receptors (i.e. jobs and GVA) is assessed at the national (i.e. UK) and Sussex levels, whilst the effect related to tourism and recreation (both onshore and offshore) is assessed at a much local level.

18.4.3 Given Rampion 2's location relative to the south coast, in addition to the topography of the study area (i.e. Sussex), the effect of Rampion 2 on the tourism economy takes into account the area from which its wind turbine generators (WTG) may, in theory, be visible (henceforth referred to as the Zone of Theoretical Visibility (ZTV)). This roughly aligns with this assessment's definition of the Sussex impact area, and includes the onshore part of the PEIR Assessment Boundary (which includes the onshore cable corridor from landfall to onshore substation).

18.4.4 Likewise, the assessment of the effect of Rampion 2 on recreation takes into consideration the offshore part of the PEIR Assessment Boundary which includes the offshore cable corridor (including both offshore and inshore zones), in addition to the onshore cable corridor from landfall to onshore substation.

18.4.5 An overview of the spatial areas referenced in the socio-economics assessment is presented in **Figure 18.1** and **Figure 18.2, Volume 3**.

Table 18-6 Summary of receptor groups and ZOI used

Receptor group	UK	Sussex	Offshore	Inshore	Onshore
Economy (jobs & GVA)	✓	✓			
Tourism Economy (offshore & onshore)		✓			
Recreation (offshore, inshore & onshore)			Offshore PIER boundary	Inshore PEIR boundary (defined as 250-metres buffer from mean low water)	Onshore PEIR boundary

Temporal scope

18.4.6 The temporal scope of the assessment of socio-economics is consistent with the period over which Rampion 2 will be delivered and covers the construction, operation and maintenance, and decommissioning phases.

18.4.7 It is assumed that the development and construction phase of Rampion 2 will take up to a maximum of four years, commencing in 2026. The operational lifespan of Rampion 2 is assumed to be 30 years. At this stage, the proposed approach to the decommissioning of Rampion 2 is uncertain. As such, the assessment of the decommissioning phase is based on the assumption that this will be in reverse of the construction phase.

Potential receptors

18.4.8 The spatial and temporal scope of the assessment enables the identification of receptors which may experience a change as a result of Rampion 2. The receptors identified that may experience likely significant effects for socio-economics are outlined in **Table 18-7** below.

Table 18-7 Receptors requiring assessment for socio-economics

Receptor group	Receptors included within group
Economy	Jobs and GVA
Tourism economy	Volume and value of tourism activity both onshore and offshore
Recreation	- Onshore recreation receptors (including users of PRoW, access land and cycling routes) - Inshore/offshore recreation receptors (including bathers, surfers, recreational sailing and scuba diving participants)

18.4.9 The list of receptors will be kept under review during the EIA as more detailed information is obtained during baseline surveys and other forms of data collection by other aspects and will be reflected in the final ES.

Potential effects

18.4.10 Potential effects on socio-economic receptors that have been scoped in for assessment are summarised in **Table 18-8**.

Table 18-8 Potential effects on socio-economic receptors scoped in for further assessment

Receptor	Activity or impact	Potential effect
Construction		
Economy	Impact on employment as a consequence of construction of the wind farm.	Potential for expenditure on the construction of Rampion 2 to support UK and Sussex-based companies that are directly engaged in its construction supply chain. This includes indirect employment supported through these businesses' supply chains.
Economy	Impact on GVA as a consequence of construction of Rampion 2.	Potential for expenditure on the construction of Rampion 2 to support GVA output in UK and Sussex-based companies that are directly engaged in its construction supply chain. This includes indirect GVA created through the wider supply chain.
Tourism economy	Impact on volume and value of the tourism economy as a consequence	Changes to the number and overall expenditure by visitors (both day and overnight) to the local area during the construction phase. This includes an

Receptor	Activity or impact	Potential effect
	of construction activity.	assessment of the impacts arising as a result of any visual impacts from the construction of offshore infrastructure, in addition to the impacts generated by onshore construction activity.
Onshore recreation	Impact on onshore recreational and utility assets (including PRoW, Access lands, Rivers and event participants) as a result of trench excavation, duct laying, the need for lay-down areas and haul roads.	Direct effects on onshore recreational and utility users as a result of temporary obstruction to public access routes and/or diversion of PRoW, the temporary exclusion from areas of access land, temporary disturbance and reduced amenity, as well as interruption to public events (e.g. sponsored walks, cross country running competitions, mountain bike rides. Not all event organisers engage with WSCC or the SDNPA about their event, however a combination of advance information about planned works, both on-site and on-line will enable organisers to avoid clashes).
Onshore recreation	Impact on onshore recreational users as a result of substation construction.	Direct effects on users of PRoW as a result of the temporary (or permanent) closure and/or diversion of PRoW.
Inshore and offshore recreation	Impact on access to and enjoyment of inshore and offshore recreation activity as a consequence of construction activity.	Temporary loss of amenity and/or disturbance to inshore and offshore recreation as a result of construction activity and/or safety zones implemented during the construction of Rampion 2.
Operation and maintenance		
Economy	Impact on employment as a consequence of operation and maintenance	Potential for expenditure on goods and services to support employment in UK (and Sussex-based) companies that are directly engaged in the Proposed Development's operation and maintenance supply chain. Rampion 2 could also go on to support

Receptor	Activity or impact	Potential effect
	activity and supply chain expenditure.	employment indirectly within the wider supply chain.
Economy	Impact on GVA supported as a consequence of operation and maintenance activity.	Potential for expenditure to support GVA output in UK and Sussex-based companies that are directly engaged in its operation and maintenance supply chain. The Proposed Development could also go to support GVA creation indirectly within the wider supply chain.
Tourism economy	Impact on volume and value of the tourism economy as a consequence of operation and maintenance activity.	Changes to the number and overall expenditure by visitors (both day and overnight) to the local area as a result of operation and maintenance activity. This considers the visual impact of Rampion 2's offshore infrastructure, in addition to the impacts generated by onshore infrastructure.
Onshore recreation	Impact on access to onshore recreation assets as a consequence of operation and maintenance activity.	It is very unlikely that there will be any significant disturbance of recreation assets during the operation and maintenance phase. If repairs are needed, these will be implemented from the joint pits, or other infrastructure without the need for trenches to be re-opened.
Inshore and offshore recreation	Impact on inshore and offshore recreation activity as a result of operation and maintenance activity.	This includes the loss of amenity and/or disturbance to inshore and offshore recreation as a result of operation and maintenance activity and/or safety zones implemented during any repair works required.
Decommissioning		
It is assumed that the decommissioning phase of Rampion 2 will be similar in nature, but no worse than the impacts identified during the construction phase.		

Activities or impacts scoped out of assessment

18.4.11 A number of potential effects have been scoped out from further assessment, resulting from a conclusion of no likely significant effect. These conclusions have been made based on the knowledge of the baseline environment, the nature of planned works and the wealth of evidence on the potential for impact from such projects more widely. The conclusions follow existing best practice. Each scoped out activity or impact is considered in turn below and an indication given of whether the scope has evolved since Scoping.

Table 18-9 Activities or impacts scoped out of assessment

Activity or impact	Rationale for scoping out
Impacts of construction, operation and maintenance, and decommissioning activity on changes to population structure as a result of increased demand for labour.	The effects generated during the construction and decommissioning phases of Rampion 2 will be temporary and over a relatively short period. Whilst the investment will support employment in construction and manufacturing activity, the majority of these are likely to be located outside Sussex. Labour supporting installation and/or decommissioning activity is likely to be drawn from a wide area (including Sussex-based and a catchment of up to 90-minutes' drive). Overall, it is anticipated that only a proportion of the labour required will be in-migrants to the Sussex population. This will likely represent a very small proportion of the area's current population, and will have a negligible impact on the population structure, demand for housing and local services.
Demand for local accommodation and local services to support changes to local labour market during construction, operation and maintenance, and decommissioning activity of Rampion 2.	The effects generated during the operational phase will be longer-term, however the magnitude of impact will be of a smaller scale than that identified for either construction and/or decommissioning phase. Whilst this will depend on direct employment at the Rampion 2 operation and maintenance base (assumed to be located in Sussex), and the level of expenditure with local businesses, the number of jobs supported will represent only a small proportion of the current Sussex population. On this basis, it is assumed that Rampion 2 will have a negligible impact on the population structure and demand for housing and local services during its operation and maintenance phase.

18.5 Methodology for baseline data gathering

Overview

18.5.1 Baseline data collection has been undertaken to obtain information over the study areas described in **Section 18.4: Scope of the assessment**. The current baseline conditions presented in **Section 18.6: Baseline conditions** sets out data currently available information from the study area/s.

Desk study

18.5.2 The data sources that have been collected and used to inform this socio-economics assessment are summarised in **Table 18-10**.

Table 18-10 Data sources used to inform the socio-economics PEIR assessment

Source	Date	Summary	Coverage of study area
Sub-national GVA	1998-2018	Current position and trends in the following for relevant study areas: - total GVA; - GVA in sectors of interest; - GVA per head; and - GVA per worker.	Local authority boundaries (including full coverage of Sussex).
Business Register and Employment Survey (BRES)	2009-15 and 2015-19	Current position and long-term trends in: - total employment (including full-time equivalent (FTE) employees); - sectoral mix; and - employment in relevant sectors: (i) energy sector, (ii) construction and manufacturing sectors relevant to offshore wind, (iii) tourism, (iv) ports and maritime activity, and (v) recreation activity.	Local authority boundaries (including full coverage of Sussex).
UK Business Counts	2010-19	Current position and long-term trends in total stock of businesses, including size and sectoral breakdown.	Local authority boundaries (including full coverage of Sussex).

Source	Date	Summary	Coverage of study area
Employment forecasts	2020-40 (or similar period)	Projected changes in (i) total employment (FTEs), and (ii) sectoral mix. Also provides historic data for range of economic and labour market indicators. The availability of forecasts will need to be determined in due course and could be provided/made available via various sources (e.g. LEP, etc).	Typically local authority boundaries (including full coverage of Sussex).
Mid-year population estimates	2001-19	Current position and long-term trends in total and working age population.	Local authority boundaries (including full coverage of Sussex).
Sub-National Population Projections	2018-41	Projected total and working age population.	Local authority boundaries (including full coverage of Sussex).
Annual Population Survey	2004-20	Current position and long-term trends in: - the local labour market including (i) economic activity, (ii) employment, and (iii) unemployment; - qualifications; and - occupations.	Local authority boundaries (including full coverage of Sussex).
Local tourism surveys	Latest available (referenced in PEIR)	Annual estimates of volume and value of tourism activity (day visitors and staying visitors); accommodation occupancy surveys.	Brighton & Hove
Economic Impact of Tourism	Latest available (referenced in PEIR)	Volume and value of tourism economy and the impact of visitor expenditure on the local economy	Brighton & Hove

Source	Date	Summary	Coverage of study area
WSCC	May 2020	Indication of the significant recreational assets that may be affected	Onshore part of the PEIR Assessment Boundary
SDNPA	May 2020	Indication of the significant recreational assets that may be affected, plus list of third-party events known to take place on countryside assets.	Onshore part of the PEIR Assessment Boundary through the SDNP – approximately 33% of total route.
WSCC	November 2020	User data for Downs Link	Onshore part of the PEIR Assessment Boundary
SDNPA	November 2020	User data for South Downs Way	Onshore part of the PEIR Assessment Boundary
English Nature	November 2020	No data available for Climping but data supplied for other coast path sections.	Landfall area only.
Sustrans	November 2020	No data supplied	Crossing of NCN 2 and regional route 232 (Downs Link) only.
BEKS Kitesurfing School	November 2020	Data about numbers and frequency of use of Climping beach.	Landfall area only.
Aspire	November 2020	Route of annual River Arun swim	Rive Arun crossing point only.
West Sussex Interactive Map	November 2020	Online digital version of the definitive map of public rights of way used to identify PRoW in the study area.	Onshore part of the PEIR Assessment Boundary
MAGIC – Multi-agency Geographic Information for the Countryside	November 2020	Used to identify the full suite of formally defined access and recreation assets, ranging from Access Land to Millennium Greens	Onshore part of the PEIR Assessment Boundary

Source	Date	Summary	Coverage of study area
Google Earth	May 2020	A basic understanding of the recreation geography and identify any assets not recorded on the OS sheets or MAGIC.	Onshore part of the PEIR Assessment Boundary
On-line searches onshore	November 2020	Used to identify recreational pursuits involving the Rivers Arun and Adur. Both rivers are used for swimming events and angling. Both are tidal into the study area and small boats, especially canoes, kayaks and stand up paddle boarders use both rivers.	River Arun from Littlehampton to Arundel. River Adur from Steyning to Henfield.
On-line searches onshore	November 2020	Used to identify public events taking place on assets within the onshore temporary cable corridor and its zone of influence.	Onshore part of the PEIR Assessment Boundary
On-line searches inshore	November 2020	Used to identify recreational pursuits in the vicinity of Climping Beach. While the beach is recognised to be quieter than most on this stretch of coast, it is used regularly by windsurfers and kite surfers. At least one kite surfing school uses the beach for lessons.	Inshore at Climping Beach.
Recreational activity	Latest available	Data on use of offshore and related onshore recreational resources close to offshore wind farm infrastructure and the export and onshore temporary cable corridor.	Onshore part of the PEIR Assessment Boundary

Site surveys

18.5.3 **Table 18-11** sets out an overview of the survey work that was undertaken as part of the socio-economics assessment

Table 18-11 Site surveys undertaken

Survey type	Scope of survey	Coverage of study area	Survey status
Cable Corridor 'Walkover' Survey (August 2020)	Two days spent walking key recreational assets around the expected landfall point, onshore temporary cable corridor and substation search areas. Survey was to: understand the nature and context of the assets; Indicate usage levels; 'ground-truth' information from desk studies; and look for otherwise unrecorded assets.	The complete onshore temporary cable corridor was sampled, as was the substation search areas.	Survey work complete

Data limitations and assumptions

18.5.4 The most up-to-date information available has been used in the preparation of the baseline for the existing socio-economics and tourism environments. However, there is often a lag in the publishing of national datasets, meaning there is the possibility that some information may not be up-to-date. For example, employment data published by the Office for National Statistics (ONS) usually has a one to two-year lag but is still the best data for employment. These data limitations will not have a material effect on the predictability or accuracy of the impact assessment in this instance.

18.5.5 Since January 2013, the number of people claiming Job Seekers' Allowance and Universal Credit have been combined. The new dataset combining the two means that it is no longer possible to get an accurate indication of the number of people seeking work in occupations related to construction, operation and maintenance, and decommissioning phases of offshore wind farm developments. This has implications for the level of quantitative analysis which can be undertaken in the baseline section and subsequent assessment.

18.5.6 There are challenges with disaggregating GVA data by sector to measure the impact of Rampion 2 in the context of the renewable energy or tourism sectors. The data is only available at broad Standard industrial Classification (SIC) code level, which does not lend itself to defining a renewable energy sector, especially below national geographical level. This means that the assessment of GVA impacts is undertaken against a whole economy baseline. Quantitative definitions of magnitude are adjusted accordingly for GVA receptors to reflect the breadth of the measure.

18.5.7 When submitted, the DCO Application will not include development activities at potential construction ports. Where necessary, these will be subject to separate consent(s) such as planning permission and/or a Harbour Revision Order. RED is currently considering ports suitable for the construction base for the offshore elements of the Proposed Development (including ports in Sussex, but also elsewhere in the UK). Port selection will be dependent upon receipts of a consent,

a CfD award and on the findings of further technical studies and commercial negotiations.

18.5.8 For the socio-economic assessment, it is assumed that the operation and maintenance port will be located in Sussex. It is likely that the existing facilities at Newhaven Port will be used (and expanded if necessary) as the base for operation and maintenance of Rampion 2, as this will yield synergies and enable effective coordination with the existing operations team on Rampion 1. There is, however, the possibility of a supplementary satellite facility further west in Sussex.

18.5.9 At this stage, the total generation capacity of Rampion 2 is yet to be formally determined. This will depend on the number of turbines installed, their generation capacity as well as potential future improvements to WTG efficiency. However, the working assumption is that Rampion 2 will have an overall generation capacity of 1,200MW. The assessment is therefore based on this assumption. It is noted that should the generation capacity of Rampion 2 be less, any impacts and associated effects could be reduced in magnitude.

18.5.10 The assessment considers a UK study area to enable the national significance of the socio-economic effects to be assessed. It should be noted that the effects of Rampion 2 within the context of the UK study area appear low. However, these have been included to demonstrate the absolute scale of the potential effects for the UK. Where data is not available at the UK level (such as employment data from BRES), Great Britain (GB) is used as an alternative measure.

18.5.11 It is assumed that the construction phase (i.e. including the development, manufacture of the various components (WTGs, towers, foundations, substations and cables), installation and commissioning) will last up to four years. At this stage it is not possible to robustly model the impacts at different stages of the construction period, and as such the assessment assumes a uniform level of annual employment and GVA generation across all four years. Although there are likely to be peaks and troughs throughout the period, this provides a reasonable estimate of impacts and enables a robust assessment of effects to be undertaken.

18.5.12 There is limited availability of data on the volume and value of the visitor economy at both the district and other local levels. For example, tourism data has a limited timeseries, often the data is presented on a yearly basis and may not account for in-year highs and lows due to the seasonal nature of tourism. In addition, the data on activities of tourists, length of visit, nature of accommodation is somewhat limited in coverage of the local study area. The baseline analysis presents long-term data on the volume and value of the tourism economy for only Brighton and Hove. This is the result of data availability, rather than any commentary of the importance of Brighton and Hove relative to the rest of Sussex.

18.5.13 The tourism employment figures calculated in this report are based on SIC codes defined by the United Nations World Tourism Organization (UNWTO) for tourism industries. This definition is broader than the definition of the accommodation and food services sector (as set out in BRES). Such data faces the same issues as the employment data mentioned above, but is the best data available for the assessment of tourism employment within the Sussex study area.

18.5.14 It is methodologically challenging to identify the impact of energy infrastructure on the tourism economy, as there are several other factors which can be more

significant in influencing both long and short-term visitor patterns. This includes weather, the availability of cheap flights to overseas destinations, changes in preferences and changes to the local offer.

18.5.15 This point is especially relevant for 2020, where it is recognised that there have been changes in the patterns and quantities of outdoor recreation undertaken during the COVID-19 restrictions. However, it is not currently clear how significant these changes are, and their lasting effect on patters and volume of use.

18.5.16 The data used in the assessment of onshore recreation has been interpreted in light of the limited quantitative, but anecdotal evidence of recent changes. As these point to significant increases in outdoor recreation use (overturning the slight decline experienced in recent years as shown in Natural England's Monitoring of Engagement with the Natural Environment (MENE) surveys), the worst-case scenario has been adopted, and assumed that the increased levels of use seen throughout 2020 will be maintained for the foreseeable future.

18.5.17 The literature examining the impact of energy infrastructure projects tends to be dominated by ex-ante assessment. The evidence is also dominated by opinion poll evidence which is often general, rather than scheme-specific. There is limited detailed ex-post evidence on the impact of onshore and offshore energy (and related infrastructure) on tourism economies. Furthermore, there is no comparison of ex-ante, and ex-post evidence for specific wind farms.

18.5.18 To counter this, the assessment has also considered tourism data for other areas from across the UK where one or more offshore wind farms are visible from the coast (such as the North Norfolk coast). In the case of offshore wind farm experience along the south coast, data comparing the volume and value of tourism activity before, during and after the construction of the existing Rampion 1 project has also been considered.

18.6 Baseline conditions

Current baseline

Introduction

18.6.1 This section provides an overview of the current socio-economic context, and highlights the key indicators (for instance of jobs, GVA, tourism, as well as onshore, inshore and offshore recreation) against which the impact of Rampion 2 is assessed. A detailed description of the current baseline environment is presented in **Appendix 18.2, Volume 4**.

Economy

Employment

18.6.2 Data from the ONS indicates that, in 2019, there were approximately 744,000 jobs (total employment) in Sussex, which equates to an estimated 590,500 full-time equivalent employee (FTE) jobs. In the ten years to 2019, the Sussex economy grew by around 72,000 FTE jobs (+14%) with the annual change in job numbers

largely following the national trend (+13% growth nationally since 2009). Within Sussex, Brighton & Hove has experienced the highest growth rate between 2009-19 (of +21%).

18.6.3 An analysis of employment sectors within Sussex highlights the importance of wholesale & retail, health & social work, and education. These sectors are all more concentrated locally than is the case nationally, and together represent 39% of all FTE jobs in Sussex.

18.6.4 In the context of offshore wind farm developments, construction, manufacturing, professional services and hospitality are particularly important. The accommodation & food sector is more concentrated in Sussex than it is nationally (with a Location Quotient (LQ) of 1.3).

Offshore wind supply chain capacity and capability

18.6.5 Compared to other areas of the country, such as off the coast of East Anglia and the North East coast of England, the Sussex economy has limited offshore wind development over the past decade, with current offshore wind development limited to the existing Rampion 1 project, which was the South East's first offshore windfarm.

18.6.6 Although the number of businesses involved in the offshore wind sector to date has been limited, this number is likely to increase over time as new offshore wind farms nationally are extended and/or new ones built-out. The industry is anticipated to grow as offshore wind generation capacity nationally builds up to 40GW of generation capacity by 2030.

18.6.7 Given the recent development of the offshore wind industry in Sussex, there may be opportunities for businesses across several sectors to benefit from the construction and operation and maintenance activities related to Rampion 2. Employment data (see **Table 18-12**) shows a shortage of employment at the Sussex level for a number of key strategic sectors.

Table 18-12 Employment in Key Strategic Sectors, 2019

Sector	GB employment (FTEs)		Sussex Employment (FTEs)		
	Number (000s)	%	Number	%	Sussex LQ
Manufacturing	2,290	9.1%	44,250	7.5%	0.83
Construction	1,366	5.4%	30,250	5.1%	0.95
Land based transport	528	2.1%	8,750	1.5%	0.71
Civil Engineering	192	0.8%	3,100	0.5%	0.69

Sector	GB employment (FTEs)		Sussex Employment (FTEs)		
	Number (000s)	%	Number	%	Sussex LQ
Energy Generation	127	0.5%	2,700	0.5%	0.91
Marine Transport	12	0.05%	48	0.01%	0.17

Source: ONS, (2019a)

Gross value added

18.6.8 Data from the ONS indicates that Sussex contributed just over £40.1 billion gross value added (GVA) to the UK economy in 2018. GVA per head of population data shows a significant gap between Sussex and the UK, with GVA per head in Sussex being 22% below the national average (or approximately £23,600 per head compared with £28,700 per head nationally).

18.6.9 Within Sussex, East Sussex sits far below the national average, with a GVA per head of £16,000. This reflects the relatively high presence of low skilled occupations locally, and the sectoral composition within the employment base (characterised by relatively low value sectors). As the centre of economic activity in Sussex, Brighton & Hove is an exception with a GVA per head of £29,000, which is over the national average. This can be explained by the presence of higher-value jobs in the city.

Table 18-13 GVA and GVA per head, Sussex, 2018

Area	Total GVA (£ million)	GVA per head
West Sussex	£22,837	£26,600
East Sussex	£8,884	£16,000
Brighton & Hove	£8,410	£29,000
Sussex	£40,131	£23,600
South East	£277,260	£30,400
UK	£1,908,608	£28,700
UK excl. London	£1,458,330	£25,400

Source: ONS, (2020). Please Note: GVA estimates are rounded to the nearest million £.

Population

18.6.10 Sussex has a total population of around 1.71 million people, of whom 1.03 million (or 60%) are of core working age (ie. aged 16-64). Overall, around 22% of the total population in Sussex is aged 65 and over (23% in West Sussex, 26% in East Sussex and 13% in Brighton & Hove). This is higher than the national average (of 19%) in 2019.

18.6.11 From 2010 to 2019 Sussex has experienced a significant quantity of net migration into the area, having seen a net additional 203,000 migrants over the period. This is significantly higher than the overall population increase experienced over the same period (+116,000). Roughly a quarter (53,000) of Sussex's net additional migrants are international migrants and roughly three quarters are UK migrants (150,000).

18.6.12 Brighton & Hove attracted almost half of the additional net international migrants (24,000) to Sussex, whilst seeing relatively less internal net migration than the rest of Sussex. In contrast, East Sussex mainly saw net additional migrants in the form of internal migration.

Labour market indicators

18.6.13 Sussex outperforms many of the national comparators on a number of key labour market indicators. Sussex's economic activity rate (of 82%) is higher than the UK average (of 79%), as is its employment rate (79%) when compared with the national average (76%). Furthermore, the proportion of core working age residents who are economically inactive is below the national average (of 18% *vs* 21% nationally).

18.6.14 The average unemployment rate in Sussex (3.9%) is slightly higher than the average for the UK as a whole (3.7%). There is however a marked variation within Sussex with West and East Sussex having an unemployment rate of around 3% whereas Brighton & Hove has an unemployment rate of 6%.

Claimant counts

18.6.15 Claimant count data highlights the changing number of claimants over the last seven years. From 2013, the data shows falling rates across the UK and Sussex as the UK economy continued its recovery from the recession. However, since 2016 the number of claimants as a proportion of working age population in both Sussex and nationally has increased slightly. The proportion of claimants in Sussex has been below the UK average however it is noticeable that the gap between Sussex and the UK proportion has decreased over the last seven years.

18.6.16 Most recently, in December 2020, there were 60,500 claimants in Sussex, representing 5.9% of the population aged 16-64. The spike in claimants in 2020 is largely the result of restrictions placed by the Government on businesses in response to the COVID-19 pandemic.

Tourism economy

Tourism in Sussex

18.6.17 Tourism (as defined by the United Nations World Tourism Organisation (UNWTO, 2019)) is estimated to support 77,000 FTE jobs across Sussex (13% of total FTE jobs). Of these, 43,500 jobs are located in West Sussex, 17,500 are in East Sussex and 16,000 FTE jobs are in Brighton & Hove. The tourism sector supports 13% of all employment locally, which is higher than the national average.

18.6.18 Since 2014 the number of FTE tourism jobs within Sussex has grown by 9%, which sits below the employment growth seen within the tourism sector nationally (15%). Most notably the growth of tourism jobs has lagged in East Sussex which saw a growth rate in FTE jobs of just 3% compared to 10% in Brighton & Hove and 12% in West Sussex.

18.6.19 As the central location for tourism within Sussex, Brighton & Hove attracted 10.7 million day and 1.6 million overnight visitors in 2019. This generated an overall contribution of £1,303 million to the economy and supported (directly and indirectly) 17,984 jobs. In comparison the smaller town of Hastings attracted 3.8 million day and 0.5 million overnight visitors. This generated a GVA of £358 million to the economy and supported (directly and indirectly) 7,030 jobs.

18.6.20 This data points to billions of pounds of value being created and tens of thousands of jobs being supported every year across Sussex through the activity of the tourism sector.

Visit Brighton visitor survey insights

18.6.21 Visit Brighton (Tourism South East, 2018) have conducted a number of visitor surveys, the latest survey was conducted in 2018. These surveys provide useful insights for the assessment of the tourism baseline.

18.6.22 The highest proportion of visitor survey respondents indicated that the main purpose of their visit to Brighton & Hove was for ‘leisure/holiday’ purposes (79%). Twelve percent were in Brighton & Hove primarily for the purpose of visiting friends or relatives. 2% were language students, 3% were on a special shopping trip and 1% were visiting for business purposes.

18.6.23 Thirty percent of staying visitors were on a short break of 2-3 nights, 19% for 1 night, 30% for 4-7 nights, 12% for 8-14 nights and 9% for more than 14 nights. Of the visitor groups staying overnight in Brighton & Hove, 64% were using serviced accommodation.

18.6.24 When asked what the main trigger had been for initiating their visit to Brighton & Hover, 26% said it was to visit the sea/beach and 18% said it had been to visit friends and/or relatives. Eleven percent had visited previously, 11% just wanted a day out and 7% had been triggered by the good summer weather.

18.6.25 The most popular activity undertaken by visitors was just walking around (81%), followed by going out for something to eat (76%), visiting the beach/seafront (75%), shopping (51%) and visiting a tourist attraction (46%). The main attractions visited were the pier (59%), the Royal Pavilion (29%) and the British Airways i360 (23%).

18.6.26 The average overall spend on eating out, shopping, entertainment and travel/transport among visitors staying overnight in Brighton & Hove in 2018 was £71.65 (per person per 24 hours). Expenditure on commercial accommodation was £105.47 (£94.94 in 2016). When added together the average total spend for staying visitors, was estimated to be £177.12 per person per night.

18.6.27 Day visitors on holiday visiting Brighton & Hove spent an average of £96.63 per person per day during 2018 Eating out accounted for the highest proportion of their spend. Day visitors from home to Brighton & Hove spent an average of £45.46 per person per day during 2018.

Nature of tourism offer in Sussex

18.6.28 Sussex is home to several attractions attracting over 100,000 visits per year. The most popular of these is Brighton Pier which consistently brings in between 4 and 5 million visitors per year, in 2019 Brighton Pier hosted 4.9 million visitors and has seen increasing levels of visitor numbers from 2012 to 2019.

Table 18-14 Visitor attractions in Sussex which attracted over 100,000 visitors in 2019

Attraction	No. of Visitors	District
Brighton Pier	4,901,221	Brighton & Hove
Nymans	382,948	Mid Sussex
Wakehurst	312,813	Mid Sussex
Royal Pavilion	301,675	Brighton & Hove
Sheffield Park Garden	295,384	Wealden
Petworth House & Park	186,316	Chichester
Fishers Adventure Farm Park	176,932	Horsham
Southwater Country Park	170,000	Horsham
Standen	166,337	Mid Sussex
Bodiam Castle	165,785	Rother
Tulleys Farm	140,000	Crawley
Batemans	124,788	Rother
Horsham Museum & Art Gallery & Visitor Information Centre	109,255	Horsham

Source: Visit England (2020).

Onshore recreation

Public rights of way and promoted routes

18.6.29 The landfall, onshore temporary cable corridor and onshore substation will potentially impact up to 136 PRoW, as recorded on the WSCC Interactive Map (WSCC, 2012), and allowing for a 500m buffer each side of the onshore temporary cable corridor. All of the paths surveyed were open and in acceptable condition. The paths were all assessed for relative levels of use using Strava Global Heatmap traces and Google Earth imagery. The results have been fully tabulated in **Annex 18.2.1** of **Appendix 18.2, Volume 4**.

18.6.30 Only a small number of paths in the onshore temporary cable corridor appear to be frequently or heavily used, these are listed, from south to north, in **Table 18-15** below:

Table 18-15 Key PRoW within the onshore temporary cable corridor

Parish	Path No.	Type	Notes
Climping	829	Footpath	Will become part of ECP. Crossing will be via HDD
Climping	197	Byway open to all traffic	Byway may be subject to movement of construction traffic.
Warning Camp	3740	Bridleway	Also a 'G' class road – G49. The bridleway will not be crossed, but lies within the ZOI.
Burpham	2221	Bridleway	Also private vehicular route. The bridleway will be crossed using a trenched crossing.
Burpham	2191-2	Bridleway	The bridleway's northern terminus will be within close proximity to the trenched cable route.
Angmering	2260	Bridleway	The bridleway will be crossed by the onshore cable corridor using a trenched crossing, entailing temporary disruption
Storrington & Sullington	2092	Restricted Byway	This path forms part of the South Downs Way National Trail, and is heavily used. IT will be crossed using a trenched crossing.

Parish	Path No.	Type	Notes
Washington	2665	Bridleway	The bridleway will be crossed by the onshore cable corridor using a trenched crossing, entailing temporary disruption.
Washington	2697	Bridleway	The bridleway wull be crossed by the onshore cable corridor. It is also a potential construction vehicle access route, leading to an extended period of disruption.
West Grinstead	3514	Bridleway	Part of the Downs Link, a busy, promoted route for cyclists, walkers and horse riders. This path is on an embankment at the crossing point, which is likely to increase the duration of disruption.
West Grinstead	2372_2	Bridleway	The bridleway is part of the Downs Link. Although it will not be crossed by the onshore cable corridor, it may be used as an access route for construction vehicles, and so users may experience intermittent disruption.

18.6.31 All other paths in the study area show signs of low or moderate levels of use.

18.6.32 The promoted routes crossed by the onshore temporary cable corridor consist of the ECP, Monarch's Way, the Downs Link and the South Downs Way National Trail.

18.6.33 The ECP along Climping Beach has not yet been approved by the Secretary of State. Therefore, its future status as a national trail is unlikely to be having much impact upon current (or pre-COVID-19) levels of use. Most users of the path are probably beach users or local walkers/dog-walkers. Once officially opened, it is expected that path use will increase. An indication of the levels that can be expected can tentatively be drawn from data from opened sections of the ECP in southern England.

18.6.34 Data from Natural England (unpublished report, D. Pearce, 2020. pers. comm.) record that the ECP at Pegwell Bay in Kent received about 46,500 visits per annum for 2017 and 2018. This figure is higher than is expected at Climping Beach as Pegwell Bay is closer to large centres of population. However, the seasonal and weekly patterns of use give a guide to the patterns of use that can

be expected. At Pegwell Bay it has been found that there is a large seasonal change, with the colder months (i.e. October to March) recording half or less of the visits recorded between April and September. The peak months of July and August (212 visits/day and 210 visits/day respectively) are approximately four times as busy as the quietest months of December and January (of 54 visits/day). The weekly distribution of visits shows an average of 115.8 counts on weekdays and a weekend average of 172. Therefore, weekend days generally have around 1.5-times the number of visits. Sunday visits are slightly higher than Saturday (176 Sunday, 168 Saturday).

18.6.35 No figures have been found for use of Monarch's Way. The Strava Heatmap suggests that it is only moderately trafficked.

18.6.36 The South Downs Way shows up on Strava Heatmap as a heavily trafficked route. The South Downs National Park Authority maintains several people counters along the route, including one at Kithurst Hill – approximately 1km from the expected cable crossing. Data have been supplied for 1/4/2015 to 31/3/2016, as this is the most recent year for which reliable data is available due to problems with data collection (pers. comm. Andy Gattiker, 23/11/20).

18.6.37 The total number of users has been recorded by mode of use; 31,929 walkers, 12,173 cyclists and 179 horse riders. The year-round average daily traffic is 33 cyclists and 87 walkers per day. However, there is a seasonal variation, with July being the busiest month. A total of 5344 walkers used this part of the South Downs Way during July, or approximately 1,200 per week. Of these, on average about 130 used the SDW each weekday, 290 on a Saturday and 257 on a Sunday.

18.6.38 For cyclists on the South Downs Way, visits peaked at 1895 for July 2015, with an average 39 cyclists per weekday, 133 on Saturdays and 109 on Sundays.

18.6.39 January was the quietest month with a combined average of only 56 users per day, compared to a combined average of 224 users per day in July.

18.6.40 Horse riding on this part of the South Downs Way is negligible, with less than 1% of traffic being equestrian.

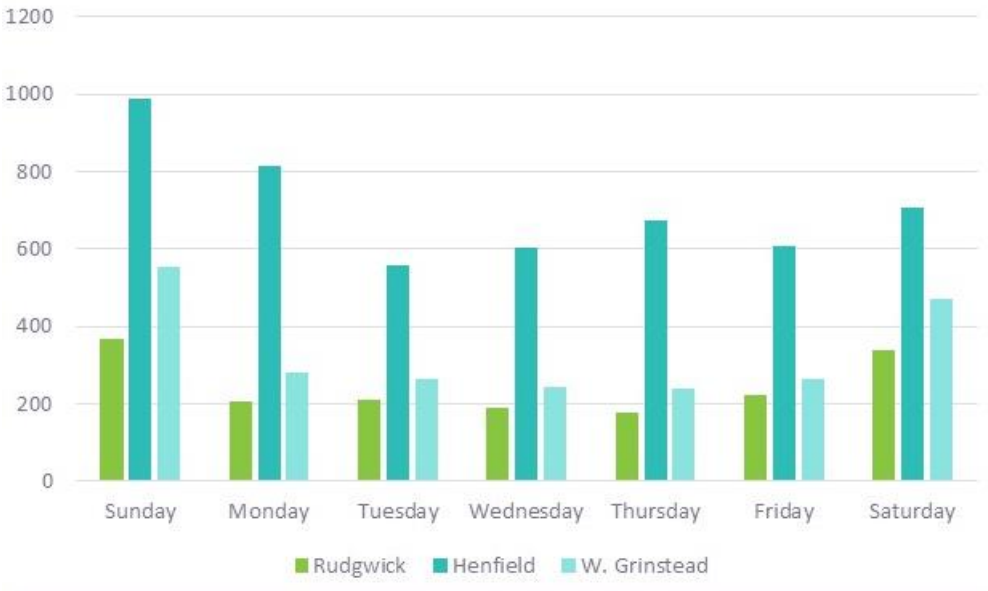
18.6.41 The Downs Link is a 37-mile bridleway route connecting the North and South Downs Way National Trails to the coast at Shoreham. The Downs Link is also promoted by Sustrans as its regional route 223.

18.6.42 The cable route will cross the Downs Link between Partridge Green and Henfield. The route shows up on Strava Heatmap as being heavily used. A walkover survey (20/8/20) showed a high level of use, particularly with groups of young cyclists and families. Walkers were also in abundance. A sole horse rider was seen near to Partridge Green.

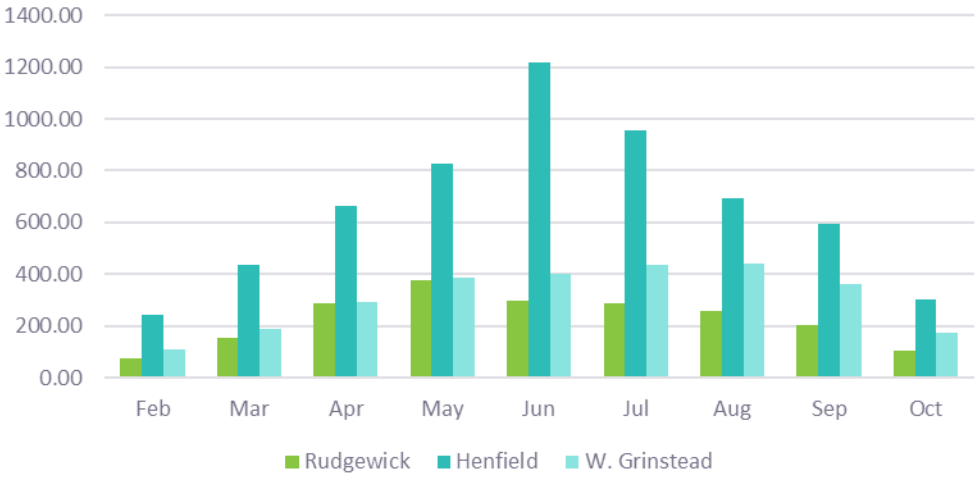
18.6.43 Data has been obtained for traffic counters at three locations on the Downs Link at Henfield, West Grinstead and Rudgwick. The data cover the period 9 February 2020 to 8 October 2020. This period is predominantly within that covered by various levels of COVID-9 related restrictions and so the data cannot be taken to be strictly representative of pre-COVID use rates. In the absence of data covering 2019, it is not possible to quantify what changes in level of use have taken place but it is reasonable to assume that usage has probably increased and that, therefore, the data represent likely highest levels of use.

18.6.44 The total recorded users for the data period are: Henfield – 171,968; West Grinstead – 80,418; and Rudgwick – 59,441. The data give the weekly and monthly patterns of use shown in **Graphic 18-1** and **Graphic 18-2** below. The full data are shown in **Annex 18.2.2** of **Appendix 18.2, Volume 4**.

Graphic 18-1 Average number of users per day of the week



Graphic 18-2 Average daily users by month



18.6.45 From the data presented above it is apparent that there is a considerable increase in use during the warmer months at all sites but especially as recorded by the Henfield counter. It is also apparent that numbers of users are generally higher on a Sunday, though the mid-week fall in numbers is less notable for Henfield than for the other sites.

18.6.46 The Downs Link is on a low embankment, an old railway base, in the area of the expected cable crossing point.

Cycling routes

18.6.47 There are two promoted cycling routes to be crossed: National Cycle Network route 2, and regional route 223. Route 223 runs over the Downs Link, as discussed above.

18.6.48 National Cycle Network route 2 is a long-distance route which, when fully complete, will link Dover to St. Austell. The route will be crossed approximately 1km north of Climping Beach. At this location, National Cycle Network route 2 runs on the minor road known as Ferry Road. No quantitative user data is available but Strava Heatmap suggests frequent use by cyclists.

Rivers Arun & Adur

18.6.49 Both rivers are important recreation assets and both will be crossed by the onshore cable corridor using HDD. The River Arun will be crossed about 2km from the coast at Littlehampton. The western fork of the River Adur will be crossed about 2km south of Partridge Green, west of Henfield.

18.6.50 Both rivers host annual swimming events attracting more than 350 participants each. The rivers are both also recognised as kayaking/canoeing rivers, though they are both heavily tidal – restricting canoeing opportunities. Angling also takes place along both rivers. Both rivers have public footpaths following one or both banks.

Access Land

18.6.51 Access Land is land designated under the CROW Act, giving the public a right of access for the purposes of open-air recreation. The study area includes land that is registered common land and land that qualifies as ‘open country’ under CROW.

18.6.52 There is a small number of commons that are in the vicinity of the onshore cable corridor, but none are directly crossed. The commons within the zone of interest are:

- unnamed common adjoining Spur Road, Climping (CL48, TQ005008);
- Horsebridge Common (CL22, TQ180151);
- Bines Green (CL21, TQ184169); and
- Washington Common (CL258, TQ115140).

18.6.53 Several parcels of other Access Land are in the vicinity of the onshore cable corridor and two will be crossed, both are near the northern border of the South Downs National Park Authority, near Sullington Hill. There is a concentration of ‘open country’ access land along the northern border of the Downs, providing a large public access resource over approximately four miles of the National Park boundary.

18.6.54 The potentially affected Access Land parcels are at:

- Perry Hill, TQ054096;
- Barpham Hill, TQ064103;

- Unnamed, TQ086113; and
- Sullington Hill, TQ096122.

Other public green space

18.6.55 While not a registered common and therefore not Access Land, there is one other block of public green space that falls within the onshore cable corridor. This is the Washington Recreation Ground and Allotments (TQ122132) which has one football pitch, one cricket pitch and parking for 12 vehicles. The land lies directly on the cable route and but will be crossed using HDD. Two abutting parcels of land are also recognised as public green space, these are Jockey's Meadow and The Triangle, shown in **Figure 18.4, Volume 3**.

Inshore and offshore recreation

Overview

18.6.56 The key inshore and offshore recreation activities along the Sussex coast which are likely to be impacted by the construction, operation and maintenance, and decommissioning activities related to Rampion 2 include:

- Wind and kite surfing;
- Bathing;
- Scuba diving;
- Recreational angling; and
- Recreational sailing, canoeing, paddle boarding and kayaking.

Wind surfing and kite surfing

18.6.57 There is a strong surfing community along the Sussex coast. The bathing waters within the study area are attractive for many water sports. Areas which attract surfers include:

- Littlehampton – the beach is reasonably exposed which leads to good surfing conditions;
- Brighton – Surfing is an important part of the Brighton culture and the area has a large surfing community. Surfing is popular around the Marina, at the Wedge and at the West Pier;
- Eastbourne – Eastbourne has good facilities for a variety of water sports and good conditions for surfing; and
- West Wittering – A quieter spot for surfing with good surfing conditions.

18.6.58 Active Sussex lists the following surfing clubs on their website:

- Brighton Surf Lifesaving Club;
- Shore Surf Club East Wittering; and
- X-Train, West Wittering.

18.6.59 Surfing can only occur during suitable weather conditions which allow for surf and swell with the best time of the year being autumn – winter but with frequency of activity often occurring summer to autumn.

18.6.60 Windsurfing is also a popular water sport activity in Sussex with a number of designated clubs and schools located on the coast. Popular locations for windsurfing and kitesurfing include Camber and Chichester which are home to the Kitesurf centre in Camber and Chichester Watersports. Brighton is also a popular area for windsurfing and kite surfing.

18.6.61 Other water based powered craft for use in water sports are known to occur within the Sussex area including speedboating and water-skiing. These activities tend to occur mainly in Spring and Autumn. Water based crafts for use of water sports can be launched from a number of facilities along the Sussex coast.

18.6.62 One kite surfing school regularly uses the inshore waters at Climping beach, based near to the car park at Atherington. Other schools use the location on an occasional basis. Numbers of kite/wind surfers is generally five to 20 and can be on any day according to prevailing conditions. (Pers. comm. C. Miles 2020).

Bathing

18.6.63 Bathing is a popular recreational activity along the Sussex coast due to the number of beaches available. Main use of bathing waters is predominantly in spring and summer during March to November with peak activity during the school summer holidays. Beaches which are notable to visitors and locals include:

- Climping Beach;
- Brighton Central;
- Hove Lawns;
- Marina St Leonards;
- West Wittering;
- Bognor Regis East;
- Littlehampton Coastguards;
- Pelham Beach, Hastings;
- Saltdean, Brighton; and
- Worthing Beach.

18.6.64 The Blue Flag award is an internationally recognised designation which will attract tourists to beaches in the area. Blue Flag beaches are designated at the following locations in Sussex (Visit South East England, 2021):

- Brighton Central – a popular shingle and sand beach in one of Britain's most famous seaside resorts. The area has a refurbished pier, fun fairs, arcades, local boutique and shopping in The Lanes. There are water sports available on Brighton beach such as kayaking and stand-up paddle boarding;

- Hove Lawns - Hove seafront begins at Hove Lawns and stretches right along to Hove Lagoon, near Portslade. This is a popular stretch of coast for walking along the seafront;
- Marina St Leonards - St. Leonards is a resort beach within the district of Hastings in East Sussex. The beach is predominantly shingle, with shallow sand flats exposed at low water; and
- West Wittering – Popular with wind and kite surfers and offers views of Chichester Harbour and the South Downs and beyond. The area is internationally recognised for its wildlife, birds and unique beauty.

18.6.65 As is the case of the Blue Flag beaches, locations that are designated as clean bathing waters are likely to attract tourists to the beaches in that area. Sussex has a significant number of beaches with excellent water quality. Of the 27 bathing water beaches in Sussex which have had their water quality rated, the water quality at 16 beaches was rated as 'excellent', eight beaches rated as 'good' and three rated as 'sufficient' (as set out by the Environment Agency).

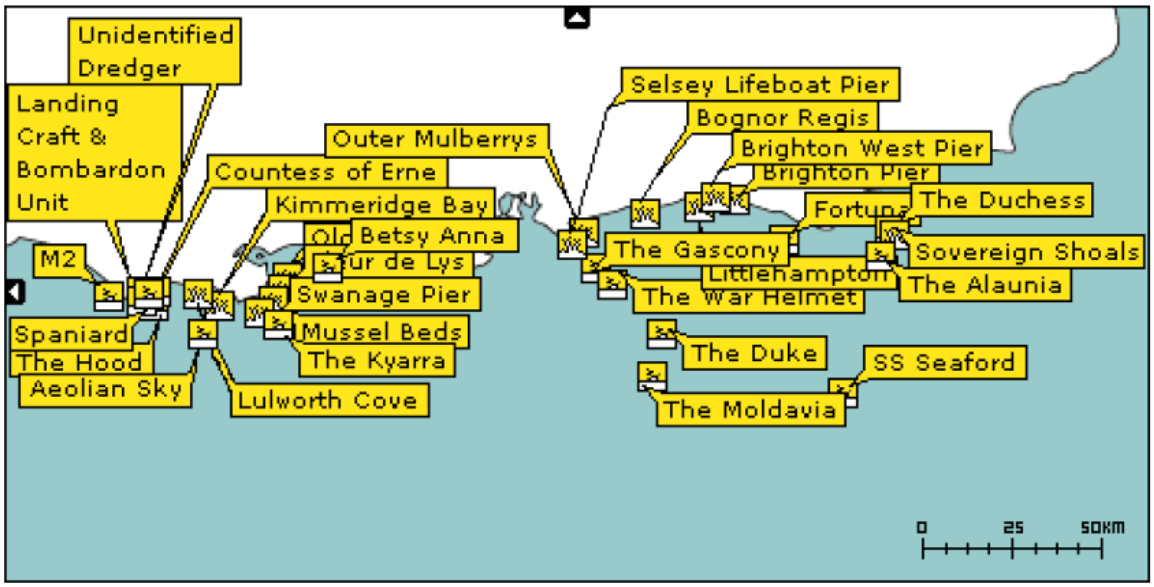
Suba diving

18.6.66 Scuba diving is a popular inshore/offshore activity along the Sussex coast. Key diving sites along the south coast can be divided into reefs and/or wrecks, and include:

- Brighton Pier and Brighton West Pier;
- Littlehampton;
- Bognor Regis;
- The Outer Mulberrys;
- Selsey Lifeboat Pier;
- The Gascony;
- The War Helmet;
- Fortuna Wreck;
- The Duke;
- The Moldavia; and
- SS Seaford.

18.6.67 There are several charter boats available for diving trips from the Brighton coast, with the charter boats being able to visit offshore dive sites, including Rampion 1 and the area for the proposed Rampion 2. **Graphic 18-3** below provides an overview of the key dive sites off the south coast.

Graphic 18-3 Key dive sites off the south coast



Source: Dive Site Directory (2008)

Recreational angling

18.6.68 Recreational angling using a rod and line can be separated into two distinct forms, shore fishing and boat fishing, with levels of activity dependent on the seasonality and availability of target species.

18.6.69 The Sussex coast is an attractive place for sea angling, the climate and excellent fishing grounds draws anglers from within Sussex and outside the area to fish from a boat or from one of Sussex's many angling hotspots, including Kingmere reef which sits inside a Marine Conservation Zone. Offshore the Sussex District contains 'marks' that are nationally recognised as offering a unique angling experience. These include, but are not limited to, an area known as 'Utopia'; 'The Overfalls' (both of these sites are in the eastern Solent). The Sussex coast has many closed bays and estuaries that are also significant areas for recreational sea anglers to fish from (Sussex IFCA, n.d.).

18.6.70 Recreational Sea Angling is enjoyed by a reported 40,000 residents and visitors to Sussex and it contributes £94 million to the local economy. The significant economic activity generated by recreational sea angling in Sussex can be predominantly attributed directly to angling charter vessel businesses (Sussex IFCA, 2017).

Recreational sailing

18.6.71 There are many sailing clubs that operate in the Sussex area deploying from a number of harbours/marinas and settlements throughout the year.

18.6.72 The main marinas in Sussex are Littlehampton marina (with 120 berths), Brighton Marina Village (the biggest marina complex in Europe and home to over 1,200 yachts), Newhaven Marina and Premier Sovereign Harbour Marina in Eastbourne.

18.6.73 The Sussex coast is popular for Regattas. The Sussex Regatta is an event organised by the Sussex Combined Clubs committee, consisting of representatives from yacht clubs around Sussex. Races happen frequently in the area. This includes races around the Rampion offshore wind farm.

18.6.74 Please note that the effects of Rampion 2 on shipping activity in Sussex are assessed in **Chapter 13: Shipping and navigation**.

Canoeing, paddle boarding and kayaking

18.6.75 Along its coast, Sussex has many clubs offering canoe, paddle board and/or kayak hire as well as guided tours. Canoe clubs operating on the Sussex coast include Hastings, Cuckmere Valley, Halisham, Chichester, Arun and Adur canoe clubs.

Tourism perception of wind farms

18.6.76 There is a limited body of evidence relating to the extent to which offshore wind farms (and their onshore infrastructure) impact upon tourism activity. The primary research base can be divided into three broad groups focussing on ex-ante research, ex-post research and wider research.

18.6.77 **Appendix 18.2, Volume 4** presents a detailed review of various research papers and studies that have analysed the impact of offshore wind farms on tourism and visitors to areas from which said wind farms are visible. The evidence suggests that offshore wind farm developments generate very limited or no lasting negative impacts on tourism and recreational users during both construction and operational phases. In fact, construction activity has potential to generate positive benefits in the short terms through the additional demand for accommodation, food and drink services, and wider induced benefits.

18.6.78 A recent study prepared as part of the East Anglia ONE North and East Anglia TWO offshore wind farms inquiry (Scottish Power Renewables, 2020) considered the impact construction activity for the existing Rampion 1 project had on tourism activity along the south coast. This study uses a very narrow definition of the tourism economy (focussing primarily on the accommodation and food services sector) and focusses on specific local authority areas within Sussex (including Lewes, Adur, Horsham and Worthing Districts).

18.6.79 Overall, the analysis presented in this study did not suggest any relationship between the construction of offshore wind farms and any reduction (or increase) in tourism activity, visitor spending or tourism-related employment. Whilst it notes that Lewes District saw a small decline in employment within the accommodation and food services sector during construction of Rampion 1, it fails to mention that this occurred within a wider decline across East Sussex. On the other hand, the study mentions that whilst the number of people employed in accommodation and food services sector in Adur, Horsham and Worthing (i.e. the three districts through which the onshore temporary cable corridor passes) increased, there is no relationship between construction of both offshore and onshore infrastructure for Rampion 1 and the tourism sector.

Future baseline

18.6.80 In the absence of the proposed Rampion 2, the national baseline would not be anticipated to be significantly different. The shortfall in offshore wind investment left by the absence of Rampion 2 would most likely occur elsewhere, and the offshore wind sector would continue on its anticipated growth trajectory (i.e. towards having up to 40GW of generation capacity by 2030) as per the *Industrial Strategy* (HM Government, 2017a) and the *Offshore Wind Sector Deal* (HM Government, 2019a).

18.6.81 At the Sussex level, the future baseline in the absence of Rampion 2 would be anticipated to differ slightly from what would occur should the proposed development be delivered. Overall, the total size and scale of the economy would not be expected to differ significantly from ambitions set out within the various local plans and strategies that cover the study area (including the *WSCC Economic Growth Plan, 2018-2023* (WSCC, 2018a), the *ESCC Growth Strategy* (ESCC, 2014b), and the *Brighton & Hove City Plan* (Brighton & Hove City Council, 2016)).

18.6.82 Whilst the level of project expenditure that is expected to be captured at the Sussex level, both during construction and operation and maintenance is anticipated to be minimal (see **Appendix 18.1, Volume 4**), the absence of Rampion 2 would most certainly mean a much smaller offshore wind sector, and related supply chain within Sussex. This includes both the direct operation and maintenance jobs supported at Newhaven (which can increase by a further 40-50 FTE jobs) as well as the indirect jobs supported within the sector's supply chain.

18.7 Basis for PEIR assessment

Maximum Assessment Assumptions

18.7.1 Assessing using a parameter-based design envelope approach means that the assessment considers a maximum design scenario whilst allowing the flexibility to make improvements in the future in ways that cannot be predicted at the time of submission of the DCO Application. The assessment of the maximum adverse scenario for each receptor establishes the maximum potential adverse impact and as a result impacts of greater adverse significance will not arise should any other development scenario (as described in **Chapter 4: The Proposed Development**) to that assessed within this Chapter be taken forward in the final scheme design.

18.7.2 The maximum assessment assumptions that have been identified to be relevant to socio-economics are outlined in **Table 18-16** below and are in line with the Project Design Envelope (**Chapter 4**).

Table 18-16 Design assessment assumptions for impacts on socio-economics

Project phase and activity/impact	Maximum assessment assumptions	Justification
Construction		

Project phase and activity/impact	Maximum assessment assumptions	Justification
Direct and indirect employment creation	Cost assumptions are based on construction cost benchmarks (£/MW) from The Crown Estate (2019). More detail about potential costs and sourcing from within the Sussex and UK study areas is provided in **Appendix 18.1, Volume 4**. The key assumption is that Rampion 2 will a total generation capacity of 1,200MW.	Construction expenditure incurred by Rampion 2 is key driver of economic impacts. At this stage, detailed cost estimates are not available, and are likely to be highly commercially sensitive. The use of sourcing assumptions (at both Sussex and UK levels) allows for an assessment of the positive impacts that could be supported by the Proposed Development.
Direct and indirect GVA creation		
Impact on tourism economy	It is assumed that Rampion 2 will consist of 75 WTG, each with a rotor diameter of 295m and has a maximum blade tip of 325m above lowest astronomical tide (LAT).	The assessment is based on the largest WTG option being deployed. This is based on the assumption that the larger turbines (of 325m above LAT compared with a maximum tip height of 210m above LAT) are visible from a much wider area. As the assessment of the tourism economy is undertaken at the Sussex level, the use of the larger WTG is assumed to have the largest-possible impact on visitor activity.
Onshore recreation	Landfall at Climping beach via HDD. Connection to the onshore export cable via a transition joint bay (TJB) located behind Climping beach. The construction compound at landfall is anticipated to be 100m x 75m in size. Work is anticipated to last up to six months from start to finish. Detail will be confirmed in time for ES submission.	Six months represents the maximum work period over which landfall activity will be taking place. It should be noted that work will not be continuous throughout this period, however under the worst-case scenario it is assumed that any diversions/reduced access will remain in place continuously.

Project phase and activity/impact	Maximum assessment assumptions	Justification
Inshore recreation (at landfall)	Export cable ducts will be installed underneath Climping beach using HDD. The drilling will start from landfall construction and extend for approximately 1km to exit below the low water mark. A shallow barge will be located at the exit point for a period of approximately 10-14 days while each HDD is completed, and each duct installed.	A period of 10-14 days per duct represents the maximum working period for which access to the HDD exit location (assumed to extend beyond the inshore zone) will be impacted. Under the maximum design scenario, it is assumed that this construction activity takes place over peak season.
Onshore cable corridor	An onshore temporary cable corridor approximately 36km in length and 50m wide (not including end points). Cable installation is anticipated to progress in sections. Up to 45 joint bay and link boxes may be required, with construction lasting between six to eight weeks per location. It should be noted that this does not include the cable pulling. Joint bay and link boxes to be located every 750m to 950m (with actual location dependant on factors such as crossing and bends). Up to four construction compounds (each measuring 50m x 75m) will be required at: West of River Arun; Crossbush; Washington; and	This represents the maximum design scenario for the construction of the Proposed Development. It is assumed that cable installation will take place at peak season, and will therefore have the greatest impact on the volume and value of tourism, and onshore recreation. The construction compounds are expected to fit within the proposed cable corridor however the actual width may vary to allow for small changes to the HDD location. 42-months represents the absolute maximum period when access to the construction compounds is required. Following this period, original conditions will be reinstated.

Project phase and activity/impact	Maximum assessment assumptions	Justification
	Oakendene. Each construction compound will be used for up to 42-months	
PRoW and onshore recreation	The socio-economics assessment takes into consideration all onshore recreation assets (including PRoW) within a 500m safety zone from the PEIR Assessment Boundary. Up to 136 PRoW are anticipated to fall within the PEIR Assessment Boundary. This includes PRoW which are crossed by the onshore temporary cable corridor and/or others which follow the same path.	The PEIR Assessment Boundary is the latest boundary identified, and agreed by RED in discussions with key project partners and stakeholders.
Onshore substation	Two search areas are currently being considered for the location of the onshore substation, including: Bolney Road/Kent Street; and Wineham Lane North. The overall site footprint for the proposed onshore substation is anticipated to be up to 5.9 hectares. Duration of construction programme is assumed to be up to 3 years.	32-months and 5.9-hectares represent the maximum assessment assumptions considered in the assessment. Given the uncertainty about the final location of the onshore substation, both potential locations have been considered as part of the assessment for the PEIR.
Offshore recreation	Offshore construction includes seabed preparation, installation of turbine and offshore substation foundations, followed by cable	The assessment assumptions presented represent the maximum, worst-case scenario in terms of both level of disruption expected and number of trips required.

Project phase and activity/impact	Maximum assessment assumptions	Justification
	laying, and WTG and topside installation. A number of foundations are currently being explored (incl. monopile, jacket with pin piles/ suction buckets). The worst-case scenario is based on the assumption that the Proposed Development will use up to 116 monopile foundations, each requiring up to 4,000kJ of hammer energy drive them into the seabed. Furthermore, the assessment is based on the assumption that up to 500 return trips may be required to transport crew and foundations to their location within the array. Installation of the offshore substation will require up to three installation vessels, with up to 12 return trips. The approach to cable installation is yet to be determined, but may involve either ploughing, jetting, trenching, mass flow excavation or post-lay burial techniques. Cable protection may be required, and it is assumed that up to 20% of array cables will require some form of protection. Installation of the export cable is anticipated to require one cable-laying vessel, with up to six return trips. Installation of the export cable is anticipated to take up to four months and will take place over peak season.	

Project phase and activity/impact	Maximum assessment assumptions	Justification
Operation and maintenance		
Direct and indirect operation and maintenance employment	Annual operation and maintenance costs are assumed to amount to 1.5% of initial investment (or £43 million per annum). It is assumed that the operation and maintenance port will be located in Sussex, and that all direct labour (estimated to range 40-50 FTE per annum) will be based within the area. As outlined in **Appendix 18.1, Volume 4**, it is likely that the existing facilities at Newhaven Port will be used (and expanded where necessary) as the base for operation and maintenance of Rampion 2, as this will yield synergies and enable effective coordination with the existing operations of the existing Rampion 1 project.	Annual operation and maintenance expenditure incurred by Rampion 2 (i.e. expenditure on direct labour, as well as supply chain expenditure) is key driver of economic impacts. At this stage, detailed cost estimates are not available, and are likely to be highly commercially sensitive. The use of sourcing assumptions (at both Sussex and UK levels) allows for an assessment of the positive impacts that could be supported by the Proposed Development.
Direct and indirect GVA creation		
Onshore, inshore and offshore recreation	The operational lifetime of the proposed development is expected to be around 30-years.	30-years approximate lifetime for Rampion 2.
Onshore recreation	Maintenance of the onshore cable is expected to be minimal. Periodic testing will be required every two to five years. Access to the cable will be via link boxes located every 750m to 950m. Unscheduled maintenance or emergency repair visits will	

Project phase and activity/impact	Maximum assessment assumptions	Justification
	typically involve a small number of vehicles and may include the occasional HGV (depending on nature of the repair).	
Decommissioning		
Inshore and offshore infrastructure	At the end of the operational lifetime of Rampion 2, it is anticipated that all structures above the seabed or ground level will be completely removed. Decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and number of vessels and equipment. It is expected that most array and export cables will be left in situ, however for the purposes of the EIA it is assumed that all cables will be removed during decommissioning.	Whilst the decommissioning programme is yet to be finalised, the approach considered (i.e. similar to construction, albeit possibly with a lower magnitude of impact) represents the maximum scenario for the assessment.
Onshore cable	It is anticipated that the onshore electrical cables will be left in-situ with ends cut, sealed and buried to minimise environmental effects associated with removal.	
Onshore substation	The onshore substation may be used as a substation site after decommissioning, or it may be upgraded for use by another offshore wind farm project.	Under the worst-case scenario, it is assumed that the site of the onshore substation remains in use (either as a substation, a related use or another activity), and that the loss of (onshore) recreation associated with its construction (incl. loss of PRoW) is permanent.

18.7.3 The maximum assessment assumptions outlined above are based on the full PEIR Assessment Boundary as presented in **Chapter 4: The Proposed Development** and does not differentiate between the various options considered. For onshore recreation receptors (i.e. the ones that are most likely to be affected by this optionality), please note that the preliminary assessment has considered anything that falls within a 500m buffer from the (full) PEIR Assessment Boundary.

18.7.4 At this stage, optionality within the PEIR Assessment Boundary is not anticipated to have material significance on the socio-economics assessment. The maximum assessment assumptions will be kept under review and refined in time for ES submission, where the number of options (and henceforth their potential effects on socio-economic receptors) is likely to be reduced.

Embedded environmental measures

18.7.5 As part of the Rampion 2 design process, a number of embedded environmental measures have been adopted to reduce the potential for impacts on socio-economics. These embedded environmental measures will evolve over the development process as the EIA progresses and in response to consultation.

18.7.6 These measures typically include those that have been identified as good or standard practice and include actions that will be undertaken to meet existing legislation requirements. As there is a commitment to implementing these embedded environmental measures, and also to various standard sectoral practices and procedures, they are considered inherently part of the design of Rampion 2 and are taken into consideration when assessing the impact of construction (**Section 18.9**), operation and maintenance (**Section 18.10**) and decommissioning (**Section 18.11**) phases. **Table 18-17** sets out the relevant embedded environmental measures within the design and how these affect the socio-economics assessment.

Table 18-17 Relevant socio-economic embedded environmental measures

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
C-1	The onshore cable route will be completely buried underground for its entire length where practicable.	Scoping	DCO works plans, description of development and requirements	Reduce disruption to onshore recreation receptors.
C-2	Cables will be installed in ducting.	Scoping	DCO works plans, description of development and requirements	Should repairs be required during the operation and maintenance's phase, these can be effected through link boxes, and therefore reduce the need for excavation/ trenching (and therefore disruption to onshore recreation receptors).
C-3	At sensitive crossing locations the working width will be reduced as far as practicable.	Scoping	DCO works plans, description of development and requirements	This will limit the overall impacts on reduced access to PRoW and onshore amenities.
C-4	Horizontal Directional Drill (HDD) technique will be used at the landfall location.	Scoping	DCO works plans, description of development and requirements	HDD at landfall will bypass Climping beach maintain access to the beach and the inshore zone throughout landfall construction.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
C-7	Post construction, the work area will be reinstated to pre-existing condition as far as reasonably practical in line with the Outline Materials Management Plan (MMP) (C-69) and Defra 2009 Code of Construction Practice for the Sustainable Use of Soils on Construction Sites PB13298.	Scoping – updated at PEIR	Outline COCP and DCO requirement	This will seek to reduce the Proposed Development's overall impact on onshore recreation receptors, in addition to the wider tourism economy.
C-9	Joint bays will be completely buried with the land above reinstated with the exception of link box chambers where access will be required from ground level (via manholes). Once constructed, joint bays and link box chambers will be resilient to flooding.	Scoping – updated at PEIR	DCO works plans, description of development and requirements	This will seek to reduce the Proposed Development's overall impact on onshore recreation receptors, in addition to the wider tourism economy.
C-18	A crossing schedule will be prepared which includes crossing methodology for each crossing of road, rail, public right of way (PRoW) and watercourse.	Scoping	Outline COCP and DCO requirement	This will seek to reduce the Proposed Development's overall impact on onshore recreation receptors, in addition to the wider tourism economy.
C-19	The onshore cable will be constructed in discrete sections. The trenches will be excavated, the cable ducts will be laid, the trenches backfilled and the reinstatement process commenced in	Scoping	Outline COCP and DCO requirement	This will ensure that local disruption to onshore recreation receptors will be limited to when the relevant section is being constructed, thereby reducing

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	as short a timeframe as practicable. At regular intervals (typically 600m – 1,000m) along the route joint bays/pits will be installed to enable the cable installation and connection process.			the Proposed Development's overall impact on onshore recreation.
C-20	The typical construction working area will be 50m along the onshore cable corridor to minimise the construction footprint. At other discrete locations this may be expanded to accommodate working area for example for Horizontal Directional Drilling (HDD).	Scoping	Outline COCP and DCO articles/requirement	This will limit the overall impacts on reduced access to PRoW and onshore amenities.
C-22	Core working hours for construction of the onshore components will be 0700 to 1900 Monday to Friday, and 0800 to 1300 on Saturdays, apart from specific circumstances to be set out and agreed in the Outline COCP.	Scoping	Outline COCP and DCO requirement	This will reduce the overall impact and disruption (especially noise as well as traffic and transport) on people's enjoyment of onshore recreation (the majority of which typically occurs outside of working hours).
C-26	Where noisy activities are planned and may cause disturbance, the use of mufflers, acoustic barriers and other suitable solutions will be applied.	Scoping	Outline COCP and DCO requirement	This will reduce the overall noise impact on people's enjoyment of onshore recreation.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
C-32	Signage and/or temporary public rights of way (PRoW) /footpath diversions will be provided during construction.	Scoping	Outline COCP and DCO requirement	Whilst construction may result in temporary closures and/or diversions, this seeks to limit the overall impact on people's enjoyment of their recreation activity.
C-33	An Outline COCP will be adopted to minimise temporary disturbance to residential properties, recreational users and existing land users. It will provide details of measures to protect environmental receptors.	Scoping	Outline COCP and DCO requirement	Whilst construction may result in temporary closures and/or diversions, this seeks to limit the overall impact on people's enjoyment of their recreation activity.
C-34	RED will identify opportunities for companies based or operating in the region to access supply chain for the Proposed Development.	Scoping	Outline COCP and DCO requirement	This will seek to maximise the benefits of construction, operation and maintenance and decommissioning activity on the local economy.
C-35	RED will work with local partners and seek to maximise the ability of local people to access employment opportunities associated with the construction and operation of the Proposed Development.	Scoping	Outline COCP and DCO requirement	This will seek to maximise the Proposed Development's local employment benefits.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
C-43	The subsea export cable ducts will be drilled underneath the beach using horizontal directional drilling (HDD) techniques.	Scoping	DCO requirements or DML conditions.	HDD at landfall will bypass Climping beach maintain access to the beach and the inshore zone throughout landfall construction.
C-46	Advance warning and accurate location details of construction, maintenance and decommissioning operation and maintenance, associated Safety Zones and advisory passing distances will be given via Notices to Mariners and Kingfisher Bulletins. The undertaker must ensure that a local Notice to Mariners (NtM) is issued at least 14 days prior to the commencement of the authorised project or any part thereof advising of the start date of each activity and the expected vessel routes from the construction ports to the relevant location.	Scoping	DCO requirements or DML conditions.	This approach will seek to reduce the overall impact (and potential health risks) on offshore recreation receptors, especially divers.
C-53	An Outline Marine Pollution Contingency Plan (MPCP) will be developed. This MPCP will outline procedures to protect personnel working and to safeguard the marine	Scoping	DCO requirements or DML conditions.	In addition to reducing and limiting risks on offshore recreation receptors, this measure will ensure that should there be marine pollution, such

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	environment and mitigation measures in the event of an accidental pollution event arising from offshore operation and maintenance relating to Rampion 2. The MPCP will also include relevant key emergency contact details			event will be quickly controlled and its impact on the visitor economy (which depends on other things the quality of the Sussex beaches) is reduced and quickly mitigated.
C-56	RED will apply for safety zones post consent. Safety zones of up to 500m will be sought during construction, maintenance and decommissioning phases. Where appropriate, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances, as defined by risk assessment, to mitigate any impact which poses a risk to surface navigation during construction, maintenance and decommissioning phases. Such impacts may include partially installed structures or cables, extinguished navigation lights or other unmarked hazards.	Scoping	Electricity application procedures (Section 95 of Energy Act 2004)	This approach will seek to reduce the overall impact (and potential health risks) on offshore recreation receptors, especially divers.
C-66	The Proposed Development will aim to minimise effects on the special qualities of the South Downs National Park and High Weald Area of	Scoping	DCO works plans, description of development and requirements	This is especially relevant when considering the Proposed Development's overall impact on onshore receptors, people's

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	Outstanding Natural Beauty (AONB) through careful design consideration in terms of scale, size and location, and taking account of the relevant policy and guidance.			enjoyment and the wider visitor economy.
C-85	RED will ensure that the local notice to mariners (NtM) is updated and reissued at weekly intervals during construction activities and at least five days before any planned operations and maintenance works and supplemented with VHF (very high frequency) radio broadcasts agreed with the Maritime & Coastguard Agency (MCA) in accordance with the construction and monitoring programme approved under DML conditions.	Scoping	DML conditions	This approach will seek to reduce the overall impact (and potential health risks) on offshore recreation receptors, especially divers.
C-100	The soft-start programme will be determined in discussion with the Diving Liaison Officer. Consideration will be given to the potential for divers to be in the water outside of the advisory exclusion zone at the start of pile driving. This consideration will also include diving activities that could	Scoping	DCO requirements or DML conditions.	This approach will seek to reduce the overall impact and potential health risks on scuba divers.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	result in divers drifting into the advisory exclusion zone as part of their dive (i.e. tide and wind conditions will be assessed as part of the programme).			
C-101	To limit potential exposure to hazardous levels of underwater noise, a comprehensive awareness and communications strategy (an Outline Diver Communication Plan) will be developed by RED in agreement with regulatory authorities to notify the diving/spearfishing community of the timing and duration of proposed works. This will include but not be limited to the appointment of a Diving Liaison Officer (who will be the main point of contact) to work with dive centres, diving clubs (including education establishments), boat operators, Coast Guard, and facilities within jetties and marinas etc. The strategy will include widely publicising (e.g. on the internet) details of the nature, location and timing of pile driving works and the extent of any relevant advisory exclusion zones. The 'startle' reaction to underwater noise is anticipated as	Scoping	DCO requirements or DML conditions.	This approach will seek to reduce the overall impact and potential health risks on scuba divers.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	being less likely to occur in divers/spearfishers who have prior knowledge of the possibility of piling noise occurring.			
C-128	Any temporary crossings will be in place for the minimal time possible.	PEIR	Outline COCP and DCO requirement	This measure will seek to reduce the overall level of disruption and loss of onshore recreation amenity.
C-161	The South Downs Way and the Downs Link Public Rights of Way (PRoWs) will be managed in a way that minimises any closures or diversions.	PEIR	Outline Public Rights of Way Management Plan (PRoWMP)	This measure will seek to reduce the overall level of disruption and loss of onshore recreation amenity.
C-162	Public Rights of Ways (PRoWs) that cross the onshore cable corridor will be managed or diverted over the shortest distance possible with potential to provide adjacent crossings.	PEIR	Outline PRoWMP	This measure will seek to reduce the overall level of disruption and loss of onshore recreation amenity.
C-163	Public Rights of Ways (PRoW) condition surveys will be undertaken before, during and after the construction phase. If damage has been identified during the construction phase, the damage will be repaired. Post-construction, all PRoWs will be	PEIR	Outline PRoWMP	This measure will seek to reduce the overall level of disruption and loss of onshore recreation amenity.

ID	Environmental measure proposed	Project phase measure introduced	How the environmental measures will be secured	Relevance to socio-economic assessment
	returned to their pre-construction condition.			
C-164	Public Rights of Ways (PRoW) routing through locations of permanent infrastructure is will be provided with a permanent diversion and the existing route closed.	PEIR	Outline PRoWMP	This measure will ensure that overall there is limited to no loss of amenity accessible to onshore recreation receptors.
C-168	Impacts on open access land will be managed through active management strategy.	PEIR	Outline PRoWMP	This measure will seek to reduce the overall level of disruption and loss of onshore recreation amenity.

18.8 Methodology for PEIR assessment

Introduction

18.8.1 The Proposed Development-wide generic approach to assessment is set out in **Chapter 5: Approach to the EIA**. The assessment methodology for socio-economics for the PEIR is consistent with that provided in in the Scoping Report (RED, 2020) and no changes have been made since the scoping phase.

18.8.2 In its guidance on socio-economics, EN-1 National Policy Statement states that all relevant socio-economic effects (which may include the creation of jobs and training opportunities, additional local services, improvements to local infrastructure, the effects on tourism and impacts on the labour market) should be considered. However, guidance provided is limited, and as such the assessment considers the likely significant effects associated with both onshore and offshore infrastructure. For offshore infrastructure (such as turbines) the assessment considers both onshore and offshore receptors. For instance, in relation to tourism activity, the assessment considers the effect on both onshore and offshore recreation. However, the assessment of effects associated with onshore infrastructure (e.g. cable and substation construction) will be limited to only onshore receptors. The focus of the assessment is on the tourism economy (as a whole), and how the offshore and onshore infrastructure affects this in distinct ways. The socio-economic assessment does not differentiate between offshore and onshore infrastructure, and the manner in which it may lead to socio-economic effects.

Modelling economic activity and employment impacts

18.8.3 For the key quantitative measures of economic (i.e. employment and GVA), the socio-economic assessment uses an economic impact model which estimates the direct (as well as supply chain/indirect) employment and GVA impact supported during both construction and operation and maintenance phases, based on retained expenditure within each of the study areas assessed. More detail about the assumed investment required to deliver Rampion 2, and the sourcing assumptions used (based on potential locations for both construction and operation and maintenance ports) is provided **Appendix 18.1, Volume 4**.

18.8.4 At this stage, there is very little information about the proposed approach, costs, and therefore impacts supported during the decommissioning phase, and as such this is assessed qualitatively.

18.8.5 The socio-economic assessment excludes the induced impacts generated by Rampion 2 across all phases, as these are typically affected by greater uncertainty and are more difficult to measure and defend robustly in terms of their scale and additionality.

18.8.6 The absolute scale of the economic impacts supported during the construction phase is measured using the following approaches:

- Direct construction employment and GVA – This relates to the economic impacts related to capital spend on design and construction of Rampion 2. In

other terms, this relates to the employment and GVA which is associated with the first round of capital expenditure (i.e. Rampion 2's direct expenditure with prime (i.e. Tier-1) contractors within each impact area identified). The assessment is driven by the level of expenditure on goods and services retained in each area. The additional output in each sector is converted to jobs and GVA using sector-based benchmarks (e.g. from the ONS's Annual Business Survey) appropriate to each impact area.

- Indirect construction employment and GVA – These impacts take place in supply chains of companies that supply goods and services as part of the supply chains during the construction phase. The assessment uses UK and regional Input-Output tables supplemented by National Accounts data to estimate the amount of output generated across various sectors as a result of input into (or spend in) a particular sector of the economy. The model generates estimates of how direct spend direct spend with Tier-1 suppliers leads to indirect outputs further down the supply chain. The output from the model is then converted to full-time equivalent (FTE) jobs and GVA using sector benchmarks.

18.8.7 The absolute scale of the economic impact during the operation and maintenance phase is measured using the same indicators as set out above (i.e. employment and GVA) although the methodology differs slightly:

- Direct operation and maintenance employment and GVA – Jobs and wealth creation directly associated with operation and maintenance activity is defined as the FTE employees directly engaged in activities relating to the management, operation, monitoring and maintenance of Rampion 2. The assessment will be driven by the anticipated number of FTEs and their salaries analysed by type of employment. It is estimated that an offshore wind farm the size of Rampion 2 will require between 40-50 direct FTE posts, allowing for some degree of efficiency across the operation of Rampion 1 and 2.
- Indirect operation and maintenance employment and GVA – Jobs and GVA associated with supply chain spend during the operation and maintenance phase include second round supply chain impacts. These are measured using UK and regional Input-Output tables, supplemented by National Accounts data to estimate the amount of output generated across various sectors as a result of input into (or spend in) a particular sector of the economy. The model estimates how direct spend with Tier-1 suppliers leads to indirect output further down the supply chain. The output from the model will be converted to jobs and GVA using sector benchmarks.

18.8.8 The output from this quantitative assessment underpins the assessment of the magnitude of impacts on each receptor, which is in turn determined by the scale and nature of the impact in the context of the baseline position.

18.8.9 The method used to quantify the impacts of Rampion 2 starts by breaking down project expenditure into the following individual phases.

- The DEVEX and CAPEX spending phases is broken down into the following stages:

- Development and consent – this captures all survey work and studies required to obtain consent, from environmental surveys and seabed surveys to human impact studies and design studies;
- Manufacture of components – this includes all infrastructure, namely the WTG (broken down into individual components - including the nacelle, rotor and tower), and balance of plant (which includes the remaining segments of the wind farm excluding turbines, such as foundations, cables and substations); and
- Installation and commissioning.

- OPEX direct employment – the type of jobs which will be expected to be required to operate a wind farm.
- OPEX supply chain spend – this includes costs associated with the maintenance of equipment and spare parts, other operational services (incl. offices, admin and transportation) and other costs (business rates, etc.) related to operating and maintaining the wind farm once it becomes operational; and

18.8.10 Using the sourcing assumptions set out in **Appendix 18.1, Volume 4**, the GVA and employment impacts are quantified using an economic impact model which captures the multiplier effects of local expenditure, and identifies the direct and indirect benefits created at the local (i.e. Sussex) and national levels.

Tourism economy

18.8.11 The assessment of the tourist economy draws primarily on desk-based research about the impact of both onshore and offshore wind farms on visitor numbers and the visitor economy, and the application of this evidence to the characteristics of Rampion 2. The steps undertaken to assesses Rampion 2's impact on the tourism economy include:

- consideration of the findings of published research assessing the impact of both onshore and offshore wind farms on visitors and visitor economies in the UK. This includes both the wind turbines and towers, as well as the transmission and grid infrastructure. Hatch Associates are not aware of any empirical, ex-post evidence for existing wind farms off the Sussex coast. That said, reports quantifying the volume and value of tourism to the Brighton and Hove economy dating from 2014 (i.e. prior to onshore construction for Rampion 1 starting in September 2015) have also been considered. Please note that long-term data about the volume and value of tourism is available only at the Brighton and Hove level;
- examination of the characteristics of the tourism sector within the defined study area, including the main visitor centres, types of visiting activity, and types of visitors (subject to the availability of information); and
- assessment of the scale, location and nature of the proposed offshore and onshore infrastructure and proposed construction methods in relation to the main centres of tourism and types of visitors.

Onshore recreation

18.8.12 IPROW (2020) has recently published its best practice guidance for assessing development impacts upon outdoor access and recreation. The approach in this assessment has been consistent with IPROW's guidance. The assessment of potential impact on receptors has been conducted through:

- consideration of the strategic importance of individual recreation resources, with reference to published plans, policies and strategies;
- examination of the characteristics of the recreation assets and their users, and analysis of the dependency of users on a particular resource;
- consideration of the geographical position of the resource, for example, the local paths network; and
- review of the expected scale, construction methods and timetable for onshore infrastructure in relation to particular resources.

Offshore recreation

18.8.13 The assessment of the Rampion 2 impact on offshore recreation has drawn on a desk-based review of research available, in addition to consultation with key stakeholders and the engagement achieved through the EPP. This has helped to build a picture of the existing environment and the potential magnitude of impacts and significance of effects.

Assigning significance

18.8.14 With the exception of outdoor (i.e. onshore) access, there are no formalised technical guidance and/or criteria when assessing the scale (and therefore significance) of socio-economic effects. The significance of effect upon outdoor access and recreation is assessed in accordance with IPROW's guidance. Otherwise, the likely effects of Rampion 2 on the other receptors identified (i.e. jobs, GVA, the visitor economy, as well as inshore and offshore recreation) is based on professional judgement and considers the sensitivity of each receptor in addition to the magnitude of change to the receptor brough about by Rampion 2. The assessment of socio-economics also draws on industrial best practice and the guidance set out in The Green Book (HM Treasury, 2020).

18.8.15 The socio-economics assessment has assigned significance as per the approach outlined within the Scoping Report (RED, 2020) drawing upon both the sensitivity of the receptor and the magnitude of impact.

Table 18-18 Matrix used to determine scale of effect

		Magnitude of Impact			
		Major	**Moderate**	**Minor**	**Negligible**
Sensitivity of Receptor	**Very High**	Major	Major	Moderate//Major	Negligible
	High	Major	Moderate/Major	Minor/Moderate	Negligible
	Medium	Moderate/Major	Moderate	Minor	Negligible
	Low	Minor/Moderate	Minor	Negligible	Negligible

18.8.16 The sensitivity of each receptor is evaluated as either very high, high, medium or low based on the baseline position and its performance against benchmark areas, together with consideration of the importance of the receptor in policy terms. **Table 18-19** and **Table 18-20** below provide more detail on the approach that is used in defining receptor sensitivity. For recreation, the benchmarks set have drawn upon guidance set out by IPROW (2020).

Table 18-19 Sensitivity of receptor for socio-economics

Sensitivity	Definition
Very High	Receptor is defined as being of very high sensitivity where it is identified as a policy priority and there is evidence of major socio-economic challenges or opportunities for the receptor within the study area.
High	Receptor is defined as being of high sensitivity where it is identified as a policy priority (as a result of economic potential and/or need). There is evidence of socio-economic challenges and/or opportunities for the receptor within the study area.
Medium	Receptor is defined as being of medium sensitivity where it is not identified as a policy priority (as a result of economic potential and/or need). There is however evidence of considerable socio-economic challenges and/or opportunities for the receptor within the study area.

Sensitivity	Definition
Low	Receptor is defined as being of low sensitivity where it is not identified as a policy priority (as a result of economic potential and/or need). There is evidence that the receptor is resilient within the study area.

Table 18-20 Sensitivity of receptor (recreation)

Sensitivity	Definition
Very High	Effects can be felt by users of a type that are very high sensitivity either because they are identified as having a high priority in policy (e.g. mobility-impaired users) and/or are especially dependent on the recreation resources which the area has to offer (especially if there are no alternative resources available regionally).
High	Effects can be felt by users of a type that are of high sensitivity either because they are identified as having a medium priority in policy and/or are largely dependent on the recreation or access resources which the area has to offer and have few alternative resources available locally.
Medium	Effects can be felt by users of a type that are of medium sensitivity either because they are identified as low priority in policy and/or are not particularly dependent on the specific recreational resources which the area has to offer and have some alternative resources available locally.
Low	Low effects can be felt by those given no specific mention in policy, or by casual and/or local users with many alternative recreational resources available to them.

18.8.17 The magnitude of impact to the receptor is determined by considering the estimated deviation from baseline conditions once measures aimed at mitigating any adverse impacts are taken into consideration. The criteria used for the assessment of magnitude has been evaluated as either high, medium, low or negligible, and are set out in more detail below.

Table 18-21 Criteria for assessing magnitude of impact

Phase	Baseline Measure	Negligible	Minor	Moderate	Major
GVA impacts					
Construction	Direct = relevant sectors Indirect = wider economy	<0.1%	0.1% - 0.5%	0.5% - 1%	>1%
operation and maintenance	Direct = electricity generating sector Indirect = wider economy	<0.1%	0.1% - 0.5%	0.5% - 1%	>1%
Decom.	Relevant sectors and wider economy	Qualitative approach. In general, decommissioning activities are of a similar nature to, but no worse than the impacts identified during the construction phase.			
Employment impacts					
Construction	Direct = relevant sectors Indirect = wider economy	<0.5%	0.5% - 1%	1% - 2%	>2%
operation and maintenance	Direct = electricity generating sector Indirect = wider economy	<0.5%	0.5% - 1%	1% - 2%	>2%
Decom.	Relevant sectors and wider economy	Qualitative approach. In general, decommissioning activities are of a similar nature to, but no worse than the impacts identified during the construction phase.			
Tourism Economy					
Construction, operation and maintenance, and decommissioning	Tourism economy	Qualitative approach based on the applied review of research evidence.			

18.8.18 For the assessment of the magnitude of impact on outdoor recreation, the assessment follows the guidance set out by IPROW (2020).

Table 18-22 Criteria for assessing magnitude of impact (recreation)

Magnitude of Impact	Definition
Major	Proposals will cause a substantial change (i.e. greater than 30%) to existing patterns and levels of use of recreational resources, either permanently or for a significant period of time (i.e. several months to permanent) and only poor-quality alternatives are available.
Moderate	Proposals will cause a modest change (i.e. between 10% and 30%) to existing patterns and levels of use, of recreation resources, or a more substantial change for a limited period (of a few weeks).
Minor	Proposals will cause a slight (i.e. of under 10%) or short-term (i.e. less than one month) change to existing patterns and levels of use of recreation resources, with a slight reduction in overall numbers and a low level of displacement.
Negligible	No discernible changes in levels and/or patterns of use.

18.8.19 As identified in **Table 18-18** above, any receptors with a significance level of moderate and/or major has been defined as being significant in EIA terms.

18.9 Preliminary assessment: Construction phase

Impact of construction on employment

Overview

18.9.1 As outlined above and in **Appendix 18.1, Volume 4**, the assessment of the key quantitative measures of economic impact (i.e. employment and GVA output) during the construction phase are driven by the amount of the Proposed Development's supply chain expenditure captured by businesses located within each study area identified.

18.9.2 For Rampion 2, it is estimated that around 40% of the Proposed Development's £2.87 billion (in 2019-pricing) construction cost, or the equivalent of £1.14 billion (in 2019-pricing) will be retained by businesses in the Proposed Development's supply chain nationally. At the Sussex-level, the overall level of supply chain expenditure retained by local businesses is anticipated to be minimal (around 1.0% of total construction costs), adding up to £30.1 million (in 2019-pricing).

18.9.3 Using employment in addition to regional multiplier benchmarks from the Hatch input-output model (Hatch Associates, 2017) derived from UK national accounts data, it is possible to generate estimates for employment as well as economic impact that could be supported by the expenditure by national and Sussex-based businesses.

18.9.4 **Table 18-23** below summarises the potential annual employment benefits supported by Rampion 2 for the UK and Sussex study areas.

Table 18-23 Annual employment impacts supported during the construction of Rampion 2

	UK study area	Sussex study area
Direct + Tier-1 jobs (FTEs)	2,260	70
Indirect (FTEs)	1,780	10
Total (FTEs)	4,040	80

18.9.5 At the UK level, the potential employment supported (i.e. when taking account of the direct, Tier-1 and wider supply chain impact) is estimated to average around 4,040 FTE jobs per annum. The direct employment effects supported by Rampion 2 at the national level can be expected to be concentrated in a relatively small number of employment sectors, namely:

- manufacturing and engineering – particularly in the manufacture of fabricated metal products, electric motors, wiring and general purpose machinery;
- construction – particularly the building of ships, boats and civil engineering projects;
- transport – particularly freight transport by road, sea and coastal freight, as well as support activities for transportation;
- professional services – notably management consultancy activities, architectural and engineering consultancy and other professional, scientific and technical sectors; and
- other sectors – which include accommodation, and food and beverage service activities.

18.9.6 At the Sussex level, the expenditure retained locally is estimated to support around 80 FTE jobs over the construction phase of Rampion 2. Analysis of local supply chain capability undertaken as part of the baseline analysis (see **Section 18.6**) and the development of construction and sourcing assumptions (see **Appendix 18.1, Volume 4**) shows that there are no Tier-1 major plant suppliers (e.g. WTG or foundations), and despite the efforts on the existing Rampion 1 project there is not yet an established supply chain cluster in Sussex.

18.9.7 Based on research about offshore wind supply chain engagement (RenewableUK, n.d.), it is estimated that currently there are in the order of 20 businesses directly engaged in offshore wind supply chain activity, a number of which are local offices of much larger (often national/international) players within the sector. On this basis, it is anticipated that the majority of jobs supported during the construction phase of Rampion 2, will indeed support development and consent activities, including engineering and professional services.

Magnitude of impact

18.9.8 As set out within the baseline section (**Section 18.6**), total employment nationally currently stands in the region of 25.2 million jobs. The 4,040 FTE jobs supported by the construction of Rampion 2 is therefore estimated to represent less than 0.02% of the current baseline. On this basis the magnitude of impact of the Proposed Development's construction phase on employment at the national level is therefore assessed as **negligible**.

18.9.9 At the Sussex level, the 80 FTE jobs supported throughout construction of the Rampion 2 are anticipated to constitute a very small increase over the current baseline. On this basis, the magnitude of impact of construction activity on local employment is therefore assessed as **negligible**.

Sensitivity or value of receptor

18.9.10 Job creation is identified as a major policy priority at various levels of government, including the national (i.e. UK), sub-regional (i.e. C2C LEP and SELEP) and local (i.e. within Sussex).

18.9.11 At the national level, the Industrial Strategy (HM Government, 2017a) sets out the government's ambition to support the creation of high value jobs and skills, whilst at the same time encouraging clean growth through the '*development, manufacture and use of low carbon technologies, systems and services*'. The offshore wind sector is highlighted as one these opportunities, and in 2019 the UK government along with the offshore wind industry committed to a sector deal (HM Government, 2019a) to help the industry raise its productivity and competitiveness of UK businesses. Ultimately, the Sector Deal aims to increase UK content to 60% by 2030, and in the process build a stronger UK supply chain for the offshore wind sector.

18.9.12 On this basis, the sensitivity of the receptor (i.e. employment) is therefore considered to be **very high** at both Sussex and national levels.

Significance of residual effect

18.9.13 The Rampion 2 commitments (shown in **Table 18-17**) highlight RED's commitment to encourage, and where possible increase local and national sourcing by supporting businesses to access supply chain opportunities (C-34), whilst at the same time working with local partners to maximise the ability of local people to access employment opportunities associated with the construction of Rampion 2 (C-35).

18.9.14 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

18.9.15 It is assumed that the effect on employment generated during the construction phase of Rampion 2 is **direct** and **temporary** in nature.

Impact of construction on Gross Value Added

Overview

18.9.16 The employment supported by the construction of Rampion 2 will also contribute to the size and overall productivity of the national and local economies, ultimately supporting their recovery from the current downturn experienced as a result of the COVID-19 pandemic.

18.9.17 It is estimated that construction activity will contribute in the region of £233 million GVA per annum, totalling to £932 million over the Proposed Development's anticipated four-year construction programme. Of this, an estimated £16 million GVA (or around £4.1 million per annum) are anticipated to be generated by Sussex-based businesses engaged with the Rampion 2 supply chain.

Table 18-24 Potential economic impacts supported during construction, (£ million)

	UK study area	Sussex study area
GVA per annum	£233	£4.1
Total GVA	£932	£16.2

Magnitude of impact

18.9.18 With the size of the national economy measured as £1,909 billion GVA it is estimated that the Proposed Development's annual contribution (of £233 million GVA) to the national economy will represent an increase of just under 0.02% over the latest annual baseline (for 2018). On this basis, the magnitude of impact on the national economy is therefore assessed as **negligible**.

18.9.19 At the Sussex level, the magnitude of impact of an annual contribution of £4.1 million GVA (generated by employment supported within the Rampion 2 supply chain) is also anticipated to be **negligible**.

Sensitivity or value of receptor

18.9.20 Economic growth, and in particular clean growth is highlighted as one of the grand challenges in the UK government's Industrial Strategy (HM Government, 2017a). This ambition is further reinforced by the Clean Growth Strategy (HM Government, 2017b) which seeks to ensure that economic growth goes hand in hand with greater protection for the natural environment, and committing to help businesses and entrepreneurs seize opportunities in a low carbon economy, and specifically the offshore wind sector.

18.9.21 On this basis of the reasoning set out above the sensitivity of the receptor (i.e. economy) is therefore assessed to be **very high** at both Sussex and national levels.

Significance of residual effect

18.9.22 The Rampion 2 commitments outlined above i.e. of encouraging and supporting businesses to access supply chain opportunities (C-34), whilst at the same time maximising the ability of local people access employment opportunities (C-35) associated with the Proposed Development, will generate further support to, and potentially increase the level of impact on the national economy.

18.9.23 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

18.9.24 It is assumed that the effect on the Rampion 2 construction phase on the economy is **direct** and **temporary** in nature.

Impact of construction on volume and value of the tourism economy

Overview

18.9.25 The assessment of the receptor considers the extent to which the volume and value of tourism economy within the Sussex study area may be affected by construction activity (both onshore and offshore) of Rampion 2.

18.9.26 An assessment of the Proposed Development's impact on seascape and landscape views is undertaken in **Chapter 16: Seascape, landscape and visual**, which states that '*the offshore elements of Rampion 2 will result in changes to the seascape characteristics*' including the perceived character as observed by people from the onshore edges of the South Downs National Park (SDNP) and the Sussex Heritage Coast. The Proposed Development's effect on the seascape is generally anticipated to range from significant to less significant (and negligible) as one moves further inland.

18.9.27 However, the seascape assessment states that '*Changes to scenic qualities occur as a result of views from the SDNP directly out to sea from the closest parts around Seaford Head and within views along the white cliffs of the coastlines to the seascape beyond and oblique to the coast. In general, there is clear separation between the coast and offshore elements of Rampion 2 in views, such that it is clearly viewed 'offshore' in its open seascape'*.

18.9.28 The baseline analysis (see **Section 18.6** above and **Appendix 18.2, Volume 4**) indicates that there is limited research examining the relationship between the visual impacts of offshore wind farms and their construction upon tourism activity and the associated visitor economy. The evidence suggests that:

- whilst there is potential for some visitors to be discouraged from making future visits to an area affected by the construction of a wind farm development, this is usually balanced (and in some cases exceeded) by visitors reporting that they will visit more frequently;
- the research also points out that visitors and tourism-related businesses recognise the potential for positive impacts associated with the extra expenditure to the local economy arising from construction activity, or in some

cases the additional interest in seeing the Proposed Development and its construction; and

- the research typically focusses on measuring opinions of what the impacts on the visitor economy could be prior to implementation of the scheme. However, ex-post research suggests that even where there have been negative effects, these often occur in the form of displaced tourism with visitors diverting to neighbouring areas instead.

18.9.29 Construction and installation activity of the onshore infrastructure related to Rampion 2 (i.e. installation of the onshore buried cable, as well as construction of the onshore substation and connection to the National Grid) has potential to negatively impact upon assets that are of value to tourism activity in Sussex. The impact of the construction activity on onshore recreational activity is considered elsewhere (see **paragraphs 18.9.43** to **18.9.54**).

18.9.30 Whilst it is acknowledged that construction and installation activity along the onshore temporary cable corridor may have a negative impact on walking and cycling routes, coastal paths, holiday parks and other tourism-related assets, the overall impact is likely to be localised and temporary. RED has committed to several embedded environmental measures aimed at reducing the disruption caused by construction activity (and therefore the impact on the volume and value of the tourism economy). This includes the environmental measures outlined in **Table 18-17** (including C-19, C-22, C-26, C-32 and C-66).

18.9.31 The relationship between visitors' attitudes to wind farm developments, construction activity (both onshore and offshore) and the consequences upon visitors' behaviour is complex. Overall, the research does not suggest that the extent to which tourists are attracted to an area by the quality of the landscape is important in determining their reactions to wind farm development. In addition, the analysis presented in **Appendix 18.2, Volume 4** states that visitors and tourism-related businesses recognise the potential for positive impacts associated with the increase in local expenditure arising from construction activity.

Magnitude of impact

18.9.32 Overall, the research suggests that activity related to the construction of onshore and offshore infrastructure of offshore wind farm developments does not have a significant effect on the overall volume and value of tourism activity. In most instances, the available research suggests that visitors do not expect their behaviour to be influenced (either positively or negatively) by the presence of construction activity related to wind farm developments.

18.9.33 Data on tourism activity along the south coast and the Sussex study area during the construction of the Rampion 1 project appears to align with the analysis outlined above. The baseline analysis (presented in **Section 18.6** and **Appendix 18.2, Volume 4** indicates that employment in tourism-related activity (as defined by UNWTO (UNWTO, 2019)) which stood at 70,500 FTE jobs in 2014 (i.e. prior to onshore construction starting on the Rampion 1 project), increased to around 76,500 FTE jobs in 2018 (i.e. when construction on the existing Rampion 1 project was complete, and all WTGs commissioned).

18.9.34 Whilst data on the volume and value of tourism economy is not available for the whole of Sussex, impact numbers for Brighton and Hove provide a good overview of the impact the construction of the existing Rampion 1 project has had on the local economy. Data on the volume and value of the visitor economy for Brighton and Hove during the construction of Rampion 1 shows that whilst the number of visits fell by around 400,000 (or a decline of 4%) when compared with 2014 figures, overall visitor expenditure declined by £9 million (or the equivalent of 1%). Both visitor numbers and visitor expenditure recovered to pre-construction figures in 2019 (growing by 8% and 11% respectively over and above 2014 estimates).

18.9.35 This assessment is further supported by evidence about the volume and value of tourism in Norfolk before, during and after the construction of the Dudgeon offshore wind farm (built between 2015 and 2017). Employment data for tourism-related activity in Norfolk shows that there was virtually no change in employment between 2014 and 2019, whilst the number of visits and visitor spend both increased (by 18% and 13% respectively).

Table 18-25 Data on volume and value of tourism economy in Norfolk, 2014-18

Year	Employment (000s)	Visits (million)	Visitor Spend (£ million)
2014	29.0	43.0	£2,094
2015	27.5	42.7	£2,164
2016	30.0	44.1	£2,234
2017	30.5	46.7	£2,300
2018	29.0	50.9	£2,370

Source: ONS (2019), Business Register and Employment Survey; Destination Research (2014, 2015, 2016, 2017, 2018), Economic Impact of Tourism in Norfolk.

18.9.36 A recent study by Scottish Power Renewables (2020) echoes the analysis presented above and suggests that based on its analysis of 11 areas with offshore wind farm located within 40km of the shore (including Rampion 1 along the south coast), there is no evidence that suggests any relationship between the construction of offshore wind farms and a reduction in tourism activity, visitor spending or tourism-related employment.

18.9.37 On the basis of the analysis outline above, the magnitude of impact of construction activity on the volume and value of the tourism economy is therefore assessed as **negligible**.

Sensitivity or value of receptor

18.9.38 The baseline analysis (presented in **Section 18.6** and **Appendix 18.2, Volume 4**) shows that tourism currently supports 77,000 FTE jobs across Sussex, representing 13% of all employment within the study area. This is around three percentage points higher than the national average, giving Sussex an overall level of specialisation (often defined as Location Quotient) of 1.4. Visitors to Sussex are drawn to a number of visitor attractions (such as Brighton Pier, and the Royal Pavilion), and the area's AONBs and National Parks (e.g. High Weald AONB and SDNP).

18.9.39 On the basis of the above, the sensitivity of the receptor is therefore assessed as **very high** at the Sussex level.

Significance of residual effect

18.9.40 RED has identified several commitments aimed at reducing the impact of construction activity on the volume and value of tourism (including C-19, C-22, C-26, C-32 and C-66).

18.9.41 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at the Sussex level, the effect of Rampion 2 on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

18.9.42 It is assumed that the effect of the Rampion 2 construction phase on the volume and value of the tourism economy is **direct** and **temporary** in nature.

Impact of construction on access to and enjoyment of onshore recreation activity

Overview

18.9.43 This section of the assessment considers the extent to which access to and the enjoyment of onshore recreation activity may be affected by the construction of Rampion 2. It focusses on landfall, the onshore cable corridor and construction of the onshore substation (for which two options are currently being considered).

18.9.44 An overview of the proposed approach to construction of the onshore infrastructure of Rampion 2 is provided in **Chapter 4: The Proposed Development**, and the maximum design scenario considered is presented in **Section 18.7** above. The key assessment assumptions relevant to the assessment of the impact of construction on onshore recreation activity include:

- landfall will take place between Middleton on Sea and Littlehampton at Climping beach;
- a standard temporary construction corridor 50m in width, consisting of the trenches, excavated material and a haul road. In some cases, the construction corridor may require widening beyond this width (i.e. 50m) to allow enough space for access/equipment at crossings and avoidance of obstacles. In other cases, the width may also be narrowed in areas with particular constraints or to minimise the impact of construction on sensitive areas;

- joint bays will be located every 750 to 950m, however their location will depend on a number of factors such as crossings. It is estimated that up to 45 joint bays will be required;
- the onshore temporary cable corridor will need to cut across a number of roads, railway lines, water courses, footpaths, and other third-party services. In most cases open cut crossing methods will be used, although HDD or other trenchless methods will also be adopted for main watercourses, railways and roads that form part of the Strategic Highway Network. HDD will also be used to cross the Washington Recreation Ground and allotments. That being said, this will be limited to the construction area(s), and access to and use of open and green spaces will be maintained throughout the construction period to people using such areas, maintaining the health and wellbeing benefits associated with such;
- the use of temporary access points and a haul road (up to 10m wide) is required along the onshore cable corridor to allow for the transportation of materials, equipment and personnel. The haul road will consist of crushed aggregates and a geotextile membrane where the existing ground is not considered to be stable enough and will be removed prior to final reinstatement; and
- the onshore cable will connect to the National Grid at the Bolney substation, however the exact location of the onshore substation is yet to be determined. Two options, both located within a 5km radius of the existing National Grid Bolney substation are being considered.

18.9.45 The evidence presented within the baseline analysis (see **Section 18.6** above and **Appendix 18.2, Volume 4**) indicates that there are several onshore receptors that may be affected by onshore construction activity. The receptors considered in the assessment of onshore recreation include:

- it is anticipated that up to 136 PRoW will be impacted, however only a small number (up to eight) of these are heavily used. Other promoted routes (such as the ECP, Monarch's Way, the Downs Link and the South Downs Way National Trail) will also be impacted by construction activity;
- two cycle routes – National Cycle Network route 2 and regional route 223 (running along the Downs Link);
- the rivers Arun and Adur; and
- Access Land and public green spaces.

18.9.46 RED has identified and committed to several embedded environmental measures aimed at reducing the impact of onshore construction activity on onshore recreation receptor users. These have been considered as part of the Preliminary assessment, and outlined in **Table 18-17** (including C-1, C-3, C-4, C-18, C-19,C-20, C-22, C-26, C-32, C-33, C-43, C-128, C-161, C-162, C-164 and C-168).

Magnitude of impact

18.9.47 **Table 18-26** below identifies the magnitude of impact for each of the receptors identified in the assessment, and provides an overview of the duration over which the various impacts could be expected to affect each of the receptors identified.

Table 18-26 Magnitude of impact on onshore recreation receptors

Activity	Impact	Magnitude of Impact
Landfall construction	Severance or diversion of ECP	**Minor**
	Reduced amenity	**Moderate**
Laydown areas and haul road	Obstruction to public access routes	**Moderate**
	Exclusion from areas of Access Land	**Moderate**
	Disturbance and reduced amenity	**Moderate**
Trench excavation and cable laying	Obstruction and/or diversion of PRoW	**Minor**
	Exclusion from areas of Access Land	**Minor**
	Disturbance and reduced amenity	**Minor**
	Interruption to public events	**Minor**
HDD	HDD entry and exit sites will not be located across PRoW or other publicly accessible land, but may be located nearby, potentially reducing amenity.	**Minor**
Construction of substation	Closure and/or diversion of PRoW	**Major**

18.9.48 As outlined above the magnitude of impact the onshore construction (i.e. including landfall, onshore cable corridor and substation) will have on recreation assets is considered to be either **negligible**, **minor** or **moderate**, depending on upon the length of time of activity. The exceptions to this is the possible permanent loss and/or diversion of a PRoW due to construction of (and eventual operations at) the onshore substation, generating a **major** impact.

Sensitivity or value of receptor

18.9.49 The sensitivity of the receptors is considered in **Table 18-27** below. For clarity and brevity, only PRoW receptors of medium, high or very high sensitivity have been included within the table. A full schedule of PRoW assessed is included in **Appendix 18.3, Volume 4**.

Table 18-27 Sensitivity of onshore recreation receptors

Receptor	Policy priority	Context	Alternatives	Sensitivity
PRoW users	High policy priority is given to maintaining or improving PRoW network for users. No particular group is given specific policy priority.	West Sussex and South Downs National Park have a dense network of PRoW and a number of key strategic routes, including the South Downs Way, Downs Link, Monarchs Way and the ECP.	The study area benefits from a network of PRoW which offer good opportunities for convenient temporary diversions at most interactions with the onshore cable corridor	Generally **low**. However, a few routes are of **medium** or **high** sensitivity (as outlined in **Table 18-28**). A full assessment of PRoW sensitivity is provided in **Appendix 18.3, Volume 4**.
Access Land users	No specific policy priority	The onshore cable corridor with cross two parcels of Access Land.	There is a concentration of Access Land along the northern boundary of the SDNP, offering extensive opportunities for alternatives during temporary closures.	**Low**
Washington recreation ground and	No specific policy priority	Washington recreation ground and two abutting parcels of public	No alternatives are available locally.	**Medium**

Receptor	Policy priority	Context	Alternatives	Sensitivity
Allotment users		green space will be crossed by the cable corridor using HDD.		
Event attendees	No specific policy priority	Events are held on specific dates and can attract hundreds of participants.	Alternative events available at other times and/or nearby locations.	**Medium**

18.9.50 The bulk of the 136 PRoW considered have been assessed as having **low** sensitivity based upon their levels of use, the period of time that they will be affect, the presence or otherwise of convenient alternative routes, and relevant embedded environmental measures.

18.9.51 **Table 18-28** below lists the PRoW receptors that are considered to be of medium, high or very high sensitivity together with the reasons for that determination.

Table 18-28 PRoW receptors of medium and high sensitivity

PRoW	Type	Use	Sensitivity	Reason
829	Footpath	Frequent	**Medium**	ECP when launched. Potentially affected for several weeks during landfall construction. Path is subject to application to upgrade to Restricted Byway.
197	Byway open to all traffic (BOAT)	Frequent	**Medium**	Probably haul road or access route.
2191_2	Bridleway	Frequent	**Medium**	Part of bridleway network that joins with 3558_1, 3558, 2214 and 2191 where the corridor crosses. Important north-south route option and important nodal point.
2260	Bridleway	Frequent	**Medium**	Crossed by onshore temporary cable corridor and may require local temporary diversion, or diversion onto alternative bridleway.

PRoW	Type	Use	Sensitivity	Reason
2697	Bridleway	Frequent	**Medium**	May be used as an access route and therefore will be considerably impacted. Could use alternative bridleway/minor road/track access for riders but this will require more use of the A283. Signage will be required, well in advance of diversion to warn users of any closure.
2213	Bridleway	Moderate to frequent	**Medium**	Impact for around 400m. Will need access provision
2256_1	Footpath	Moderate to frequent	**Medium**	Onshore temporary cable corridor runs over the path for a little over 1km. Footpath will require temporary closure or diversion onto Coombe Lane (bridleway 2249) and footpath 3558. Could also route through Access Land.
2298	Footpath	Moderate to frequent	**Medium**	May be used as an access route and so considerably impact. Will need diversion and/or manned crossing point.
2214	Bridleway	Moderate	**Medium**	Crossed by the onshore temporary cable corridor at important junction at Wepham Down. Will need diversion/careful temporary provision for a number of paths.
2191	Bridleway	Moderate	**Medium**	Continuation of Bridleway 2214 (above). Important north-south bridleway link from South Downs Way to Warning Camp. Path crossed at junction with 2214 and further impacted as it turns north.
3558_1	Bridleway	Moderate to Light	**Medium**	Crossed by the onshore temporary cable corridor. Will need access provision.
36Bo	Footpath	Light	**Medium**	Crossed by the onshore corridor. May need long-term

PRoW	Type	Use	Sensitivity	Reason
				diversion/extinguishment for construction of the onshore substation. Connects with 1T (below).
1T	Footpath	Light	**Medium**	Crossed by the onshore temporary cable corridor. May need long-term diversion/extinguishment for construction of the onshore substation. Connects with 36Bo (above).
2092	Restricted byway	Very frequent	**High**	South Downs Way. Critical crossing point near to a major junction of paths. Follows ridgeline, so users will see the works even if not directly impacted.
3514	Bridleway	Very frequent	**High**	Downs Link. Crossed by the onshore temporary cable corridor. Busy route on old railway embankment.
2372_2	Bridleway	Very frequent	**High**	Access route for Downs Link/Sustrans regional route 223. Access will need to be maintained throughout construction.

Significance of residual effect

18.9.52 As outlined above, RED has identified and committed to a number of embedded environmental measures aimed at reducing (and mitigating) the impact of construction activity on onshore recreation receptors (including C-1, C-3, C-4, C-18, C-19, C-20, C-22, C-26, C32, C33. C-43, C-128, C-161, C-162, C-164 and C-168, see **Table 18-17**).

18.9.53 As outlined in **Table 18-18**, the significance of the residual effect has been determined for each receptor by considering its sensitivity alongside the magnitude of impact, giving the results in the **Table 18-29** below.

Table 18-29 Assessment of significance of residual effect

Receptor	Sensitivity of receptor	Magnitude of impact	Significance of residual effect	Nature of Impact
PRoW users – 829, 197, 2697 and 2298	Medium	Moderate (incl. landfall, laydown areas and haul roads)	**Moderate** (significant)	Direct and temporary
PRoW users – 2191_2, 2260, 2213, 2256_1, 2214, 2191, 3558_1, and 2219	Medium	Minor (for trenching and cable laying)	**Minor** (not significant)	Direct and temporary
PRoW users – 36Bo and 1T	Medium	Major (substation construction)	**Moderate/ Major** (significant)	Direct and permanent
Access Land users	Low	Minor	**Negligible** (not significant)	Direct and temporary
Washington public green space users	Medium	Moderate	**Minor** (not significant)	Direct and temporary
Event attendees	Medium	Minor	**Minor** (not significant)	Direct and temporary

18.9.54 Based on the above, the assessment of the construction of Rampion 2 on onshore recreation is anticipated to have a significant residual effect (i.e. post-embedded environmental measures) on the following receptors:

- **moderate** residual effect on wind/kite surfers, PRoW users of 829, 197, 2697 and 2298; and
- **moderate/major** residual effect on PRoW users of 36Bo and 1T.

Impact of construction activity on access to, and enjoyment of inshore and offshore recreation activity

Overview

18.9.55 This section of the assessment considers the extent to which access to and the enjoyment of inshore and offshore recreation activity may be affected by the

construction of Rampion 2. This assessment draws on the proposed approach to construction of the following offshore infrastructure:

- WTGs – under the worst-case scenario it is assumed that the offshore array will consist of 75 WTG, each with a rotor diameter of 295m, and with a maximum blade tip of 325m LAT;
- WTG foundations and any scour protection required;
- offshore substations and associated foundations and any scour protection needed;
- the laying of inter-array cables and any cable protection required; and
- the laying of export cables (and any cable protection needed) to interconnect the offshore substations to each other and to the landfall.

18.9.56 More detail about the proposed approach to construction of the offshore infrastructure of Rampion 2 is provided in **Chapter 4, The Proposed Development**.

18.9.57 The evidence presented within the baseline analysis (see **Section 18.6** above and **Appendix 18.2, Volume 4**) indicates that there are several inshore and offshore receptors that may be affected by offshore construction of Rampion 2. The receptors considered in the assessment of inshore and offshore recreation include:

- bathing;
- kite/wind surfing;
- scuba diving;
- recreational angling; and
- recreational sailing, canoeing, kayaking and paddle boarders.

18.9.58 RED has identified and committed to several embedded environmental measures aimed at reducing the impact of offshore construction activity on inshore and offshore recreation receptors. These have been considered as part of the Preliminary assessment, and are outlined in **Table 18-17** (including C-4, C-46, C-56, C-85, C-100 and C-101).

Magnitude of impact

18.9.59 The assessment of the magnitude of impact on inshore and offshore recreation draws on the various construction activities taking place within each respective zone and considers how these will interact with (and affect) inshore and offshore recreation activities.

- Landfall construction (inshore) – To reduce the impact of the landfall, HDD will be used to install ducts that will house the cables under Climping beach. Whilst details plans are still being developed, it is anticipated that drilling will start from the landfall construction compound (directly behind Climping beach) and extend for approximately 1km to exit below the low water mark. The location of the HDD exit point, and therefore the length of the HDD itself is yet to be

determined, however it is anticipated that this extends beyond the inshore zone, as defined for the purposes of this assessment (i.e. 250m out to sea). This will ensure continued, and uninterrupted access to bathing waters along the south coast, thereby ensuring associated mental health and wellbeing benefits for users are retained. On this basis, the magnitude of the impact of landfall construction on recreation activity located within the inshore zone is assessed as **negligible**.

- Excavation of HDD exit pits – Excavation of the offshore HDD exit pits will be performed using a shallow draught vessel/barge. It is anticipated that work on each HDD (i.e. duct installation and capping) takes approximately 10-14 days. On this basis, the magnitude of impact on offshore recreation activity is assessed as **minor**.
- WTG foundation, seabed preparation – The type of WTG foundation to be installed is yet to be determined, however it is anticipated that more than one type of foundation (incl. monopiles, jacket foundations with pin piles/suction buckets) may be used across the Proposed Development. Each foundation type may require some form of seabed preparation which may include seabed levelling and removing of surface and sub-surface debris. It is anticipated that seabed preparation takes place just ahead of foundation installation. Overall, it is not anticipated that this has a major impact on offshore recreation activities, and as such the magnitude of impact is therefore assessed as **minor**.
- Installation of WTG and offshore substation foundations – Installation activity will depend on the WTG foundations selected and may require a combination of driving (through means of a pile-driving hammer) and/or drilling techniques. Whilst the energy needed to install the foundations will vary, under the worst-case scenario it is assumed that the installation of monopile foundations (requiring up to 4,000kJ of energy) may be the most disruptive for offshore recreation activity, in particular scuba diving and recreational angling. This includes the displacement of scuba diving activities from the site of the array, in addition to the high levels of unsafe noise generated by the driving/drilling activities, potentially driving fish stocks to other locations. The effects of noise and disturbance to water quality and commercial fishing are considered in **Chapter 10: Commercial fisheries**, and **Chapter 27: Water environment** respectively, however it is anticipated that disturbance caused by construction activity may see a drop in recreational angling and the displacement of scuba divers to other locations along the south coast. Overall, foundation installation is anticipated to take up to two years. The magnitude of impact on offshore recreation activity is anticipated to be **moderate** for all receptors identified. The implementation of mitigation measures aimed at reducing health risks on scuba divers (such as C-100) and preparation of a Driver Communication Plan) will ensure that the overall magnitude of impact on divers is moderate, and does not increase to major.
- Installation of export cable – Whenever possible, offshore cables will be buried below the seabed. The installation method and target burial depth will vary, and will be defined post-consent based on cable burial risk assessment taking account of ground conditions, and the potential impacts upon cables from trawling and vessel anchors. It is anticipated that the offshore cables will be installed via one of several methods (including ploughing, jetting, trenching,

mass flow excavation) at a target depth of up to 1.5m. Work is anticipated to take up to four months. On this basis, the magnitude of impact on offshore recreation activity is therefore assessed as **minor**.

- Installation of array cables – Array cables will connect the WTG to each other in strings which will, in turn be connected to the offshore substations. Array cables will typically be buried at a target depth of 1m below the seabed surface, and it is anticipated that 20% of all array cables will require cable protection measures (such as artificial fronds or seaweed, concrete 'mattresses', rock placement, geotextile bags filled with stone, rock or gravel, polyethylene or steel pipe half shells/sheathes and/or bags of grout, concrete or another substance that cures hard over time). It is anticipated that the installation of the array cables will take place over two spring/summer seasons of up to six-months each, and that a safety zone (of up to 500m) will be implemented to ensure the safety of both Proposed Development-related and other offshore activity. Given that work will progress in stages and move within the offshore part of the PEIR Assessment Boundary, any access restrictions (including associated safety zones) are anticipated to be temporary, and will displace offshore recreation activity. On this basis, the magnitude of impact on offshore recreation activity is therefore assessed as **moderate**.
- Installation of WTG and offshore substation(s) – All WTG components (i.e. towers, nacelles and blades) will be transported to the array area on the installation vessel or a separate transport vessel, which is likely to be a jack-up. Each WTG will be assembled on-site, with the total duration expected to be around 12-months. Up to three installation vessels may be required, making up to 60 return trips (depending on number of WTG making up Rampion 2). It is anticipated that there will be up to three offshore substations associated with Rampion 2. All electrical equipment and associated components will be installed into the substation topsides onshore. The assembled topsides will be transported to the array area and lifted onto the pre-installed foundations using a floating vessel. Installation of the offshore substations is anticipated to take place within the 12-month period WTG will be installed. On this basis, the magnitude of impact on offshore recreation activity is therefore assessed as **moderate**.

18.9.60 **Table 18-30** below provides an overview of the assessment of the magnitude of impact on inshore and offshore recreation receptors.

Table 18-30 Magnitude of impact on inshore and offshore recreation receptors

Zone	Activity	Impact(s)	Magnitude of Impact
Inshore	Landfall construction	Reduced access to beach and inshore area	**Negligible**
		Reduced amenity	**Minor**

Zone	Activity	Impact(s)	Magnitude of Impact
Offshore	Excavation of HDD exit pits	Reduced access to offshore area	**Minor**
Offshore	Turbine foundation, seabed preparation	Reduced access to offshore area	**Minor**
Offshore	Installation of foundations	Reduced access to offshore area	Generally **moderate**, but **major** for angling and scuba diving.
		Noise and disturbance to water quality	
Offshore	Installation of export cable	Reduced access to offshore area	**Minor**
Offshore	Installation of array cables	Reduced access to offshore area	**Moderate**
Offshore	Installation of WTG and offshore substation(s)	Reduced access to offshore area	**Moderate**

Sensitivity or value of receptor

18.9.61 The sensitivity of the offshore recreation is considered in **Table 18-31** below.

Table 18-31 Sensitivity of inshore and offshore recreation receptors

Receptor	Context	Alternatives	Sensitivity
Bathing	Access to Climping beach will remain unaffected throughout construction, as will access to the inshore zone.	There are relatively few alternative beaches that will be unaffected by the visual impacts associated with construction activity.	**Low**
	That being said, the presence of the onshore	Only Climping beach has potential to be directly	

Receptor	Context	Alternatives	Sensitivity
	construction compound directly behind Climping beach in addition to the presence of construction vessels offshore may temporarily reduce the appeal of Climping beach with local bathers.	impacted by construction activity, albeit highly unlikely. There are however, several alternatives where any bathing activity displaced from Climping beach can relocate to. This includes beaches along the Sussex coast from Bognor Regis to Shoreham-by-Sea.	
Kite/wind surfing	The Sussex coast is popular for kite and wind surfing activity, however only Climping beach is likely to be affected by construction activity of Rampion 2. Climping beach is used by kite surf school.	The impact on kite surfing at Climping beach is likely to be tied to parking availability. There are limited alternatives, but other sites are available.	**Low**
Scuba diving	Scuba diving is a popular recreation activity along the Sussex coast, and divers often visit the array area of the proposed Rampion 2. Under the worst-case scenario, the underwater environment is assumed to be affected by dangerous levels of sound as well as overall water quality.	As outlined in the baseline section (see **Section 18.6** above), there are several alternative sites along the Sussex coast, divers can relocate to during construction. That being said, consultations with local divers and businesses running diving schools/ trips in the area suggested that throughout the	**High**

Receptor	Context	Alternatives	Sensitivity
	This will require divers to move to other locations where the impact of underwater sound and water are less significant. Underwater noise is assessed in **Chapter 11 Marine mammals**.	construction of Rampion 1, both interest as well as demand for diving along the Sussex coast was considerably low (but has since recovered).	
Recreational angling	Recreational angling occurs all along the Sussex coast. This includes angling within the array area of the proposed Rampion 2.	Although there are certain businesses offering fishing trips to the array area of Rampion 2, there are alternatives where recreational angling can take place offshore	**Medium**
Recreational sailing, canoeing , kayaking and paddle boarding	There are several marinas located within Sussex, and several sailing clubs operating along the cost. Some of these use the array areas of Rampion 2 for their recreation activities. Along its coast, Sussex has many clubs offering canoe and/or kayak hires, as well as guided tours. Canoe and paddle board clubs operating along the Sussex coast include clubs in Hastings, Cuckmere Valley, Hailsham, Chichester, Arun and Adur.	Whilst there are several sailing clubs that use the array area of the proposed development for their activities, there are plenty of alternatives (along the Sussex coast) which can be used during construction. Canoeing and kayaking activity tend to take place close to shore (generally within the inshore area). As such, recreational canoeing and kayaking activity is unlikely to be affected by construction activity.	**Low**

Receptor	Context	Alternatives	Sensitivity
		In addition, there are several alternative areas where this activity can be undertaken along the Sussex coast.	

Significance of residual effect

18.9.62 As outlined above, RED has identified and committed to a number of embedded environmental measures aimed at reducing (and mitigating) the impact of construction activity on inshore and offshore recreation receptors (including C-4, C-46, C-56, C-85 C-100 and C-101).

18.9.63 **Table 18-32** below presents an overview of the significant of residual effect on each of the inshore and offshore receptors considered, based on the interaction between the assessment of the magnitude of impact and sensitivity of receptor.

Table 18-32 Assessment of significance of residual effect

Receptor	Sensitivity of receptor	Magnitude of impact	Significance of residual effect	Nature of Impact
Bathing (mostly inshore)	Low	Negligible	**Negligible** (not significant)	Direct and temporary
Kite/wind surfing (mostly inshore)	Low	Negligible	**Negligible** (not significant)	Direct and temporary
Scuba diving	High	Moderate	**Moderate/ Major** (significant)	Direct and temporary
Recreational angling	Medium	Moderate	**Moderate** (significant)	Direct and temporary
Recreational sailing, canoeing, paddle boarding and kayaking	Low	Moderate	**Minor** (not significant)	Direct and temporary

18.9.64 Based on the above, the assessment of the construction of Rampion 2 on inshore and offshore recreation is anticipated to have a significant residual effect (i.e. post-embedded mitigation) on the following receptors:

- **Moderate** residual effect on recreational angling; and
- **Moderate/major** residual effect on scuba diving.

18.9.65 It is assumed that the effect of construction activity of Rampion 2 is **direct** and **temporary** in nature.

18.10 Preliminary assessment: Operation and maintenance phase

Impact of operation and maintenance on employment

Overview

18.10.1 Once completed, Rampion 2 is anticipated to support employment in operation and maintenance activity, both directly and indirectly through supply chain expenditure on the purchase of goods and services. It is assumed that the operation and maintenance port for Rampion 2 will be located in Sussex, and that all direct labour will be based within the area.

18.10.2 It is likely that the existing facilities at Newhaven Port will be used (and expanded where necessary) as the operation and maintenance base for Rampion 2, as this will yield synergies and enable effective coordination with the existing operations team on the existing Rampion 1 project. That being said, there is also a possibility that a supplementary facility (i.e. in addition to Newhaven) further west in Sussex is also delivered.

18.10.3 At this stage it is not possible to quantify the number of direct jobs that will be supported by the Proposed Development's day-to-day operations. That said, it is estimated that an offshore wind farm the size of Rampion 2 will require between 40 to 50 FTE posts (allowing for some degree of efficiency across operations for the existing Rampion 1 project and Rampion 2). Additional employment will also be supported through supply chain expenditure with businesses located in Sussex and elsewhere in the UK.

18.10.4 **Table 18-33** below summarises the potential employment benefits supported during the operation and maintenance phase of Rampion 2. It shows that between 540-550 (FTE) direct, indirect and supply chain jobs will be supported nationally, of which between 100-110 jobs will be based in Sussex.

18.10.5 The majority of jobs supported during the operation and maintenance phase will be through the Proposed Development's supply chain expenditure, providing essential goods and services to the Proposed Development's day-to-day operations. This reflects the current levels of UK-based sourcing, estimated to be in the region of 77% of annual operational expenditure (OPEX) (The Crown Estate, 2019).

Table 18-33 Potential annual employment impacts supported during the operation and maintenance phase

	UK study area	Sussex study area
Direct (FTEs)	40-50 (all within Sussex)	40-50
Indirect/supply chain (FTEs)	500	60
Total (FTEs)	540-550	100-110

Magnitude of impact

18.10.6 At 540-550 FTE jobs, the employment supported as a result of operation and maintenance activity by Rampion 2 is estimated to represent significantly less than 0.01% of the current employment base nationally. On this basis the magnitude of impact of the Proposed Development's operation and maintenance phase on employment at the national level is therefore assessed as **negligible**.

18.10.7 At the Sussex level, the 100-110 FTE jobs supported during the Proposed Development's operation and maintenance phase are anticipated to represent a little under 0.02% of the current baseline. Whilst the number of jobs created as a result of operation and maintenance activity is **negligible** in magnitude, it represents an important addition to the local and Sussex-wide economy, especially in the diversification of jobs, and growing the presence of offshore wind-related employment.

Sensitivity or value of receptor

18.10.8 The evidence underpinning the sensitivity of the receptor is as outlined for the Rampion 2 construction phase (see **paragraphs 18.9.10** to **18.9.12**). On this basis, the sensitivity of the receptor (i.e. employment) is therefore considered to be **very high** at both Sussex and national levels.

Significance of residual effect

18.10.9 The Rampion 2 commitments (shown in **Table 18-17**) highlight RED's commitment to encourage, and where possible increase local and national sourcing by supporting businesses to access supply chain opportunities (C-34), whilst at the same time working with local partners to maximise the ability of local people to access employment opportunities associated with the construction of Rampion 2 (C-35).

18.10.10 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

18.10.11 It is assumed that the effect on employment generated during the construction phase of Rampion 2 is **direct** and **permanent** in nature.

Impact of operation and maintenance on Gross Value Added

Overview

18.10.12 The employment supported during the Proposed Development's operation and maintenance phase will also contribute to the size and overall productivity of the national economy. This is especially pertinent in the current context, where long-term, sustainable and low carbon growth is being promoted.

18.10.13 It is estimated that operation and maintenance phase of Rampion 2 will generate an annual GVA impact of around £54 million to the national economy, totalling to £1.6 billion over the course of its 30-year operational lifetime. At the Sussex level, the direct and wider supply chain employment supported will generate an annual impact of £14 million, adding up to £429 million over the Proposed Development's operational lifetime.

Table 18-34 Potential economic impacts supported during the operation and maintenance phase, (£ million)

	UK study area	Sussex study area
GVA per annum	£54	£14
Total lifetime GVA	£1,604	£429

Magnitude of impact

18.10.14 With the size of the national economy measured as £1,909 billion GVA it is estimated that the annual contribution of operation and maintenance activity (of £54 million) to the national economy will represent an increase of under 0.01% over the current baseline. On this basis, the magnitude of impact on the national economy is therefore assessed as **negligible**.

18.10.15 At the Sussex level, an annual contribution of £14 million GVA per annum is also assessed to be **negligible**.

Sensitivity or value of receptor

18.10.16 The evidence underpinning the sensitivity of the receptor is as outlined for the construction phase of Rampion 2 (see **paragraph 18.9.20** to **18.9.21**). On this basis, the sensitivity of the receptor (i.e. employment) is therefore considered to be **very high** at both Sussex and national levels.

Significance of residual effect

18.10.17 The Rampion 2 commitments outlined above (i.e. of encouraging and supporting businesses to access supply chain opportunities (C-34), whilst at the same time

maximising the ability of local people access employment opportunities (C-35) associated with the Proposed Development) will generate further support to, and potentially increase the level of impact on the national economy.

18.10.18 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 on the receptor (i.e. the economy) is of **negligible** significance, which is **Not Significant** in EIA terms.

18.10.19 It is assumed that the effect on the Rampion 2 operation and maintenance phase on the economy is **direct** and **permanent** in nature.

Impact of operation and maintenance on volume and value of the tourism economy

Overview

18.10.20 Under the worst-case scenario, it is assumed that Rampion 2 will consist of 75 WTGs of up to 325m in height (or up to 116 WTGs of up to 210m in height if smaller capacity WTGs are used).

18.10.21 **Chapter 16 Seascape, landscape and visual** has considered the operational impact of Rampion 2 on the seascape. It identified a significant, indirect, long-term and reversible impact on the perceived character along most of the Sussex coastline, which generally becomes less significant (ultimately negligible) as one moves inland. The seascape assessment found that in general, '*there is clear separation between the coast and the offshore elements of Rampion 2 in views, such that it is clearly viewed 'offshore' in its open seascape'*.

18.10.22 As outlined above (see paragraphs **18.9.25** to **18.9.42**) and the baseline analysis (see **Section 18.6** and **Appendix 18.2, Volume 4**), research indicates that the offshore infrastructure associated with wind farm developments will not have a significant effect on the overall volume and value of tourism activity in most circumstances, and that visitors do not expect their behaviour to be influenced (either positively or negatively) by the presence of infrastructure related to operational wind farm developments.

18.10.23 Once construction on Rampion 2 is finished, all cable-related infrastructure onshore will be buried, and original conditions reinstated. Once operational, the only infrastructure visible for Rampion 2 will be the offshore WTGs and onshore substation. When maintenance and/or repairs are required, any disturbance will be constrained to the local area and alternative measures put in place to ensure than any disruption to the visitor activity (and therefore the visitor economy) kept to a minimum. RED has identified and committed to a number of mitigation measures that will seek to reduce the overall impact of Rampion 2's day-to-day operation and maintenance activity. These are outlined in **Table 18-17** and include C-1, C-7, C-9, C-26, C-53 and C-163).

Magnitude of impact

18.10.24 Evidence on tourism employment in Sussex following the construction of the Rampion 1 offshore wind farm suggests that employment in tourism-related

activity increased from 70,500 FTE jobs in 2014, to 76,500 FTE jobs in 2018 and 77,000 FTE jobs in 2019 (i.e. once Rampion 1 was fully commissioned and operational). Data on the volume and value of the tourism economy in Brighton and Hove shows that both number of visits and visitor expenditure recovered to above pre-construction levels, increasing by 8% and 11% respectively between 2014 and 2019.

18.10.25 In Norfolk, data on the volume and value of the tourism economy shows that both the number of visits and visitor spend increased (by 18% and 13% respectively) relative to pre-construction level (i.e. 2014) once the Dudgeon offshore wind farm started operations (i.e. in 2018).

18.10.26 On the basis of the above, the magnitude of operation and maintenance activity by Rampion 2 on the volume and value of tourism economy in Sussex is therefore assessed as **negligible**.

Sensitivity or value of receptor

18.10.27 The sensitivity of the tourism economy once Rampion 2 is operational is the same as that identified during the construction phase. The sensitivity of the receptor is therefore assessed as **very high** at the Sussex level.

Significance of residual effect

18.10.28 As outlined above, RED has identified and committed to several measures aimed at reducing the overall impact of an operational Rampion 2 on the volume and value of the tourism economy in Sussex (including C-1, C-7, C-9, C-26, C-53 and C-163).

18.10.29 With the sensitivity of the receptor assessed as **very high**, and the magnitude of impact assessed as **negligible** at the Sussex level, the effect of Rampion 2 operation and maintenance activity on the receptor is of **negligible significance**, which is not significant in EIA terms.

18.10.30 It is assumed that the effect of operation and maintenance activity of Rampion 2 is **direct** and **permanent** in nature.

Impact of operation and maintenance on access to and enjoyment of onshore recreation activity

Overview

18.10.31 Once constructed and fully commissioned, the only onshore infrastructure visible during the operation and maintenance phase of Rampion 2 will be up to 45 manhole covers giving access to the joint bay and link boxes (located every 750 and 950 metres), and the onshore substation (location yet to be determined, but within a 5km radius of the existing National Grid Bolney substation).

18.10.32 RED has already committed to burying the full length of the onshore cable corridor (C-1), in addition to other commitments outlined in **Table 18-17** (including C-7, C-9, C-66, C-163 and C-164).

18.10.33 At this stage no activities are planned during the operation and maintenance phase that are likely to have any significant impact on onshore recreation receptors. No access is required to the cables during normal operations. Access for routine checking and maintenance will be via manhole covers to the buried joint bays, which wherever possible will not be sited under PRoW or within Access Land. In the unlikely event that cable repairs and/or replacement is required, this will be implemented via the existing joint bays and will not require new excavation.

18.10.34 Routine maintenance and any repair of the onshore substation will take place within the fenced perimeter and will therefore not be expected to impact upon recreational activity locally.

Magnitude of impact

18.10.35 On the basis of the above, the magnitude of impact on all onshore recreation receptors is therefore assessed as **negligible**.

18.10.36 The only exception to this assessment are PRoW users of 36Bo and 1T which, depending on the chosen location for the onshore substation may require permanent closure and/or long-term diversion. On this basis, the magnitude of impact of the operation and maintenance phase of Rampion 2 on these two PRoW (i.e. 36Bo and 1T) is therefore assessed as **major**.

Sensitivity or value of receptor

18.10.37 The sensitivity of onshore recreation receptors during the operation and maintenance phase of Rampion 2 remains unchanged from that assessed during the construction phase, and range from **low** (such as the majority of PRoW), to **medium** (for Washington green space users, and a few PRoW), and **high** (for PRoW 2092, 3514 and 2372_2).

18.10.38 For the two PRoW that may require permanent closure and/or long-term diversion (i.e. 36Bo and 1T), the sensitivity of receptor is assessed as **medium.**

18.10.39 More detail about the sensitivity of all receptors considered as part of the assessment is presented in **Table 18-27** and **Table 18-28** above.

Significance of residual effect

18.10.40 RED has already committed to a number of measures aimed at reducing the residual effect of the operations of Rampion 2 on onshore recreation receptors (including C-1, C-7, C-9, C-66, C-163 and C-164).

18.10.41 On the basis of the above, the residual effect for all onshore recreation receptors (with the exception of PRoW 36Bo and 1T), is therefore assessed as **negligible,** which is **Not Significant** in EIA terms.

18.10.42 With a magnitude of impact defined as major, and sensitivity assessed as medium, the operation and maintenance phase of Rampion 2 is therefore anticipated to have a residual effect of **moderate/major significance** on PRoW 36Bo and 1T, which is considered to be **Significant** in EIA terms.

18.10.43 It is assumed that the effect of operation and maintenance activity of Rampion 2 is **direct** and **permanent** in nature.

Impact of operation and maintenance on inshore and offshore recreation activity

Overview

18.10.44 The operational lifetime of Rampion 2 is expected to be a minimum of 30-years. The overall operation and maintenance strategy will be finalised once an operations base for Rampion 2 is selected, and the Proposed Development's technical specifications confirmed.

18.10.45 Overall, it is anticipated that there will be annual scheduled services on each turbine and offshore substations, with scheduled maintenance taking place between April and September. In addition to the maintenance of the WTGs, remediation work may be required to other wind farm components (e.g. survey and repair work to cables and foundations).

18.10.46 Cable surveys and foundation inspections will initially be undertaken every two years, with the interval between these increasing as cables and foundations are proven to be stable. Although expected to be very infrequent, it may be necessary to replace some of the larger components of the turbines in the event of failure or breakdown.

18.10.47 Key embedded mitigation measures aimed at reducing the impact of operation and maintenance activity on inshore and offshore recreation activity are outlined in **Table 18-17**, and include C-4, C-43, C-46, C-56 and C-85.

Magnitude of impact

18.10.48 When replacement of larger components is required, jack up barges with mobile cranes or larger special ships will be needed, requiring the implementation of a safety zone of up to 500m. In the majority of cases, most of the maintenance work will be conducted from the normal service vessel, and will not add significantly to the number of vessel movements.

18.10.49 On this basis of the above, the magnitude of impact of operation and maintenance activity on offshore recreation activity is therefore assessed as **minor** for the majority of receptors (due to a potential reduction in the area in which these activities can take place, especially when major repair works may be needed).

18.10.50 Given that the exit to the HDD will extend beyond the inshore zone (as defined in **Figure 18.2, Volume 3**), the magnitude of impact of operation and maintenance activity on inshore recreation activity (in particular kite/wind surfing, and bathing) is therefore assessed as **negligible**.

Sensitivity or value of receptor

18.10.51 The sensitivity of inshore and offshore recreation receptors during the operation and maintenance phase or the proposed development remains unchanged from that assessed during the construction phase, and range from low (for bathing, recreational angling and recreational sailing, canoeing and kayaking), to medium (for kite/wind surfing) and high (for scuba diving).

Significance of residual effect

18.10.52 **Table 18-35** below provides an overview of the assessment of significance of residual effect of operation and maintenance activity on inshore and offshore recreation.

Table 18-35 Assessment of significance of residual effect

Receptor	Sensitivity of receptor	Magnitude of impact	Significance of residual effect	Nature of Impact
Bathing (mostly inshore)	Low	Negligible	**Negligible** (not significant)	Direct and permanent
Kite/wind surfing (mostly inshore)	Low	Negligible	**Negligible** (not significant)	Direct and permanent
Scuba diving	High	Minor	**Minor/ moderate** (not significant)	Direct and permanent
Recreational angling	Medium	Minor	**Minor** (not significant)	Direct and permanent
Recreational sailing, canoeing, paddle boarding and kayaking	Low	Minor	**Negligible** (not significant)	Direct and permanent

18.10.53 Based on the above, the assessment of operation and maintenance activity of Rampion 2 on inshore and offshore recreation is anticipated to have a minor/moderate (albeit not significant) effect post-mitigation on scuba diving activity.

18.10.54 It is assumed that the effect of operation and maintenance activity of the proposed development on inshore and onshore recreation is **direct** and **permanent** in nature.

18.11 Preliminary assessment: Decommissioning phase

18.11.1 The impacts of the decommissioning phase of Rampion 2 is assessed in line with the methodology outlined above. At this stage, there is considerable uncertainty associated with the potential effects of the decommissioning process. This

includes uncertainty about the approach to decommissioning, the technology to be used, associated costs and likely sourcing from within the Sussex study area.

18.11.2 At this stage, it is anticipated that at the end of the operational lifetime of Rampion 2, all structures above the seabed (i.e. WTGs and their foundations, inter array and export cables and offshore substation) or ground level will be completely removed. **Chapter 4** indicates that the decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and number of vessels and equipment.

18.11.3 Under the worst-case scenario, it is assumed that all offshore cables will be removed during decommissioning, though any cable protection installed will be left in situ. On the other hand, it is anticipated that the onshore electrical cables will be left in-site with ends cut, sealed and buried to minimise the environmental effects associated with cable removal.

18.11.4 The onshore substation may be used as a substation site after decommissioning of Rampion 2, or it may be upgraded for use by another offshore wind project. Should the onshore substation be fully decommissioning, works are likely to be undertaken in reverse of the sequence of construction works, and all relevant sites restored to their original states or made suitable for an alternative use.

18.11.5 In principle, it is assumed that the magnitude of impact for all effects considered will mirror (but is likely to be lower than) the magnitude relating to the Proposed Development's construction phase. Similarly, the sensitivity of the receptor is based on the local and national policy context as well as current socio-economic conditions (as per the assessment of both construction and operation and maintenance phases). On this basis, the effect of the Rampion 2 decommissioning phase is assessed as set out in **Table 18-36** below.

18.11.6 The only exception, and key variance in the decommissioning of Rampion 2 will be the impact on onshore recreation receptors, which is assessed separately.

Table 18-36 Impacts of decommissioning phase of Rampion 2

Receptor	Study Area	Magnitude	Sensitivity	Significance of Effect	Nature of Impact
Employment	UK	Negligible	Very high	**Negligible** (not significant)	Direct and temporary
Employment	Sussex	Negligible	Very high	**Negligible** (not significant)	Direct and temporary
Economy	UK	Negligible	Very high	**Negligible** (not significant)	Direct and temporary
Economy	Sussex	Negligible	Very high	**Negligible** (not significant)	Direct and temporary

Receptor	Study Area	Magnitude	Sensitivity	Significance of Effect	Nature of Impact
Tourism economy	Sussex	Negligible	Very high	**Negligible** (not significant)	Direct and temporary
Inshore and offshore recreation	PEIR boundary	Negligible (for activities within the inshore zone), to moderate (for activities related the removal of WTG foundations, offshore substations decommissioning and cable removal).	Low to high	**Negligible** (not significant) on bathing, and kite/wind surfing. **Minor** (not significant) on recreational sailing, canoeing, paddle boarding and kayaking. **Moderate** (significant) on recreational angling. **Moderate/ Major** (significant) on scuba diving.	Direct and temporary

Impact of decommissioning on onshore recreation activity

Magnitude of impact

18.11.7 With the onshore cables being left in-situ, the magnitude of impact on onshore recreation receptors is anticipated to be closer to the impact of the operation and maintenance phase, rather than the construction phase. On this basis, the magnitude of impact on all onshore recreation receptors during decommissioning is therefore assessed as **negligible**.

18.11.8 Depending on the future of the onshore substation site following decommissioning of Rampion 2, the onshore substation may be fully decommissioned, and the site returned to its original state. This will mean that any PRoW lost/permanently diverted due to construction of the onshore substation (i.e. 36Bo and 1T) could be reinstated. However, under the worst-case scenario it is assumed that the site of the onshore substation is not reinstated to its original conditions, with the magnitude of impact on 36Ro and 1T remaining **major**.

Sensitivity or value of receptor

18.11.9 The sensitivity of onshore recreation receptors during the decommissioning phase will be unchanged from that identified for both construction and operation and maintenance phases. This applies to the two PRoW (i.e. 36Bo and 1T) that may require permanent closure and/or long-term diversion due to construction of construction of the onshore substation. For these, the sensitivity of receptor is remains as **medium**.

Significance of residual effect

18.11.10 With the exception of PRoW 36Bo and 1T, the significance of the residual effect on all other onshore recreation receptors is assessed as **negligible**, which is **Not Significant** in EIA terms.

18.11.11 For PRoW 36Bo and 1T, the decommissioning phase of Rampion 2 is assessed as having a residual effect of **moderate/major significance**. This is considered to be **Significant** in EIA terms.

18.12 Preliminary assessment: Cumulative effects

Approach

18.12.1 A preliminary cumulative effects assessment (CEA) will be carried out for Rampion 2 which examines the result from the combined impacts of Rampion 2 with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. The overall method followed in identifying and assessing potential cumulative effects in relation to the socio-economic environment is set out in **Chapter 5: Approach to the EIA**.

18.12.2 The onshore screening approach will follow PINS Advice Note Seventeen PINS, 2019) which is an accepted process for nationally significant infrastructure projects and will follow the four-stage approach set out in the guidance.

Scope of the cumulative effects assessment

18.12.3 For socio-economics, a Zone of Influence (ZOI) has been applied for the CEA to ensure direct and indirect cumulative effects can be appropriately identified and assessed.

18.12.4 A short list of 'other developments' that may interact with the Rampion 2 ZOIs during their construction, operation or decommissioning is presented in **Appendix 5.4: Cumulative effects assessment shortlisted developments, Volume 4** and on **Figure 5.4.2, Volume 4**. This short list has been generated applying criteria set out in **Chapter 5** and **Appendix 5.3: Cumulative effects assessment detailed onshore search criteria, Volume 4** and has been collated up to the finalisation of the PEIR through desk study, consultation and engagement.

18.12.5 Only those developments in the short list that fall within the socio-economics ZOI have the potential to result in cumulative effects with the Proposed Development. The socio-economics ZOI is equivalent to that outlined in **Table 18-6** and shown in

Figure 18.1 and **Figure 18.2, Volume 3.** All developments falling outside the socio-economics ZOI are excluded from this assessment.

18.12.6 On the basis of the above, the following specific other developments contained within the short list in **Appendix 5.4: Cumulative effects assessment shortlisted developments, Volume 4** are scoped into this cumulative impact assessment.

Table 18-37 Developments to be considered as part of the CEA

ID (Figure 5.4.2)	Development type	Project	Status	Confidence in assessment	Tier	Level of detail of CEA to be adopted
2	Energy	AQUIND connector (EN020022)	Application submitted, awaiting decision	Medium	1	Qualitative assessment
3	Energy	Southampton to London Pipeline Project (EN070005)	DCO granted 07/10/2020	High	1	Qualitative assessment
19	Energy	Ford Circular Technology Park, Energy from waste project (WSCC/036/20)	Application submitted, awaiting decision	Medium	1	Qualitative assessment
28	Energy	British Solar Renewables (DM/15/0644)	Application approved 17/02/2017	High	1	Qualitative assessment

18.12.7 **Table 18-38** below provides an overview of the other developments spatial overlap with Rampion 2. It considers the different ZOIs used in this preliminary assessment for the different receptors considered. The cells highlighted in green (in **Table 18-38**) identify the receptors (and their relevant geographies) that are likely to have a spatial overlap (albeit not necessarily a temporal overlap) with Rampion 2.

Table 18-38 Other developments spatial overlap with Rampion 2

Other development	Jobs & GVA	Volume & Value of Tourism	Onshore Recreation Receptors	Offshore/Inshore Recreation Receptors
AQUIND connector	Assessment identifies South East (SE) region as study area. Sussex study area for Rampion 2 overlaps with SE region, but is small proportion of UK study area.	Assessment uses 500m buffer from development boundary along the onshore corridor, with the safety zone extended to 8km around the onshore substation (located at Lovedean). Given that the development's onshore works will be located primarily in Hampshire, it is not anticipated that the onshore works for the AQUIND connector will overlap with any of the study areas identified for Rampion 2.		Landfall is anticipated to be at Eastney Beach. On this basis, the development's inshore zone does not overlap with that of Rampion 2. The AQUIND connector will connect the UK's power grid with that of France. The offshore (i.e. sub-sea) cable will go in a South Easterly direction from landfall (i.e. at Eastney), and is likely to interact with the offshore study area for Rampion 2.
Southampton to London Pipeline Project	Socio-economics is not considered in the assessment of the Southampton to London pipeline replacement development.			
	Whilst socio-economics is not considered in the assessment, the construction and	The Southampton to London pipeline development will connect the Esso West London Terminal Storage Facility with the Esso Fawley Refinery to the west of Southampton Water.		The Southampton to London pipeline development is entirely located onshore and is

Other development	Jobs & GVA	Volume & Value of Tourism	Onshore Recreation Receptors	Offshore/Inshore Recreation Receptors
	operation and maintenance of the replacement pipeline will support GVA and employment impacts nationally (as well as within the Sussex study area).	The Southampton to London pipeline development is located entirely within Hampshire and Surrey, and therefore by-passes the various study areas identified for the preliminary assessment of Rampion 2.		therefore not anticipated to interact with any inshore/offshore receptors identified for Rampion 2.
Ford Circular Technology Park, Energy from waste project	The development is located at the Ford Circular Technology Park, (the former Tarmac blocworks site, which forms part of the former Ford Airfield) to the west of the village of Ford. This is north of the proposed landfall for Rampion 2. This means that the development will interact with the various onshore ZOIs identified in the Preliminary assessment of Rampion 2.			The development is entirely located onshore and is therefore not anticipated to interact with any inshore/offshore receptors identified for Rampion 2.
British Solar Renewables	The development is located in Twineham, West Sussex and forms part of the Hookers Farm estate. The development is located within close proximity of where the onshore substation for Rampion 2 could be located. Given the project's scale, it is not anticipated to interact with all the onshore receptors identified for Rampion 2, but the two developments are likely to overlap spatially.			The development is entirely located onshore and is therefore not anticipated to interact with any inshore/offshore receptors identified for Rampion 2.

18.12.8 **Table 18-39** below identifies which of the construction, operation and maintenance and decommissioning phases of each other development identified for the CEA overlap with the respective phases of Rampion 2. Please note that the cells highlighted in green (in **Table 18-39**) identify the phases that are likely to overlap with the same phases of Rampion 2.

Table 18-39 Other developments temporal overlap with Rampion 2

Other development	Construction	operation and maintenance	Decommissioning
AQUIND connector	Marine installation is anticipated to take place in 2022 and is anticipated to be completed by the time construction on Rampion 2 commences. On this basis, it is assumed that the two developments' 'construction phases will not overlap.	AQUIND connector is anticipated to have a 40-year operational lifetime. Likely temporal overlap with operation and maintenance of Rampion 2.	Very little is known about proposed approach to decommissioning (which may include removal of offshore cables or leaving these in-site). Also given the longer operational lifetime (of 40-years *vs* 30-years for Rampion 2). On this basis, it is not anticipated that the development's decommissioning phase will overlap with that of Rampion 2.
Southampton to London Pipeline Project	Construction of the Southampton to London Pipeline development is anticipated to take two-years starting in late 2020, with commissioning planned to take place in winter 2022. On this basis, it is assumed that the two developments' construction phases will not overlap.	The development's operational lifetime will overlap with that of Rampion 2. However, given that this is a replacement of an operational pipeline between London and Southampton, none of its operational impacts are anticipated to be net additional, and is therefore excluded from the cumulative assessment for Rampion 2.	Decommissioning of the Southampton to London pipeline development is not considered in the assessment. The assessment states that '*when the operator […] determines that it will permanently cease pipeline operations, it will consider and implement an appropriate decommissioning strategy*'. On this basis, it is assumed that the two developments' decommissioning phases will not overlap.

Other development	Construction	operation and maintenance	Decommissioning
Ford Circular Technology Park, Energy from waste project	Construction is likely to take approximately 61 months and is likely to overlap with the construction phase of Rampion 2.	The lifetime of the energy from waste project is anticipated to be around 25-years. On this basis, it is assumed that the two developments' will overlap during operation and maintenance.	The development's decommissioning phase is not considered in the assessment. However, given that the development's anticipated lifetime is 25-years (i.e. five-years shorter than that of Rampion 2) it is assumed that the developments' decommissioning phases will not overlap.
British Solar Renewables	The planning application and associated documents for the development does not indicate timelines for construction, operation and maintenance and decommissioning. On this basis, it is assumed that the two developments will overlap temporarily across their respective construction, operation and maintenance and decommissioning phases.		

18.12.9 Based on the analyses presented in **Table 18-38** and **Table 18-39** this section provides an assessment of the level of impact that may arise as result of Rampion 2 and the other developments identified. The CEA is based on a review of evidence and documentation for each other development listed, with the level of magnitude based on professional judgement.

Cumulative effect of construction on employment

Overview

18.12.10 **Table 18-39** shows that of the four CEA other developments identified, only two are likely to overlap with the construction of Rampion 2. These are the Energy from waste development at the Ford Circular technology park and British Solar Renewables development located close to the Rampion 2 onshore substation.

- The assessment of the Energy from waste development indicates that at peak construction, the development will support over 450 jobs, although the number of FTE jobs throughout the construction period is anticipated to be much lower.

- The assessment of the British Solar Renewables development does not identify the number of jobs that could be supported as a result of construction activity. However, based on the development's scale (i.e. 44.5 hectares), the level of employment supported during construction is anticipated to be low.

18.12.11 As outlined above and **Appendix 18.1, Volume 4**, the assessment of the key quantitative measures of economic impact (i.e. employment and GVA output) during the construction phase are driven by the amount of the Proposed Development's supply chain expenditure captured by businesses located within each study area identified.

Magnitude of impact

18.12.12 Based on the above, it is assumed that the magnitude of impact on employment at both Sussex and national levels as a result of Rampion 2 in addition with the CEA other developments identified is assessed as **negligible**.

Sensitivity or value of receptor

18.12.13 The preliminary assessment of Rampion 2 has identified employment as a major policy priority at various levels of government including the national, sub-regional and local, putting the sensitivity of the receptor as **very high** at both Sussex and national levels.

Significance of CEA residual effect

18.12.14 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 in addition with the CEA other developments identified on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of construction on Gross Value Added

Magnitude of impact

18.12.15 The analysis of the cumulative impact of construction on employment at the Sussex and national levels have identified an overall impact of negligible magnitude. As employment contributes to the overall output (i.e. GVA) created, it can therefore be assumed that the magnitude of impact on GVA at both Sussex and national levels as a result of Rampion 2 in addition with the CEA other developments identified is **negligible** as well**.**

Sensitivity or value of receptor

18.12.16 The assessment of Rampion 2 on the receptor has indicated that economic growth, and in particular clean growth is highlighted as one of the grand challenges in the UK government's Industrial Strategy (HM Government, 2017a), giving the receptor a **very high** level of sensitivity at both Sussex and national levels.

Significance of CEA residual effect

18.12.17 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 in addition with the CEA other developments identified on the receptor is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of construction on volume and value of the tourism economy

Overview

18.12.18 Of the two other developments considered alongside Rampion 2 as part of the CEA assessment, only the assessment of the Energy from waste development has assessed the development's impact on tourism. Overall, the assessment found that '*while the proposed development will be visible from the [South Downs National Park], Arundel Castle and the coast, it will be seen in context with other large scale built features. As these features do no appear to affect visitors to these areas, it is considered that the proposed development will not significantly alter the overall visitor experience. No significant effects are therefore predicted on tourism as a result of the proposed development*'.

18.12.19 The assessment of the British Solar Renewables development does not consider its overall impact on the volume and value of tourism activity. However, given the development's relative scale, any impacts are most likely to be felt locally.

18.12.20 The preliminary assessment of construction activity of Rampion 2 on the volume and value of the tourism economy in Sussex (as per **Section 18.9**) has indicated that Rampion 2 is anticipated to have an overall negligible impact.

Magnitude of impact

18.12.21 On the basis of the above, it is assumed that the magnitude of impact on the volume and value of the tourism economy as a result of Rampion 2 in addition with the CEA other developments identified is therefore assessed as **negligible**.

Sensitivity or value of receptor

18.12.22 The assessment of Rampion 2 has indicated that tourism supports around 77,000 FTE jobs across Sussex, representing 13% of all employment within the study area, and a level of specialisation higher than the national average.

18.12.23 On this basis, the sensitivity of the receptor at the Sussex level is identified as **very high**.

Significance of CEA residual effect

18.12.24 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible**, the effect of Rampion 2 in addition with the CEA other developments identified on the volume and value of the tourism economy is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of construction on access to and enjoyment of onshore recreation activity

Overview

18.12.25 A review of the assessments submitted as part of the consenting process for both the Energy from waste and British Solar Renewables developments has not identified any major concerns with regards to each other development's impact on access to, and enjoyment of onshore recreation activity.

18.12.26 In both cases, the developments are relatively small scale and somewhat contained (in terms of the geographical context in which they are located). Given that the British Solar Renewables is located close to the Rampion 2 onshore substation, there is potential for cumulative impacts to occur.

Magnitude of impact

18.12.27 Based on the above, it is assumed that the magnitude of impact on access to and enjoyment of onshore recreation activity for all CEA other developments considered is not bigger than that identified in the assessment of Rampion 2 on the receptor, with for the area affected by construction of the substation (and therefore also the British Solar Renewables development) is identified as **major**.

Sensitivity or value of receptor

18.12.28 An overview of the sensitivity of the various PRoW located along the onshore temporary cable corridor and within proximity of the onshore substation for Rampion 2 is provided in **Table 18-28** and **Appendix 18.3, Volume 4**. Pertinent to the CEA, **Table 18-28** identifies footpaths 36Bo and 1T as both having **medium** sensitivity.

Significance of CEA residual effect

18.12.29 With the sensitivity of the receptor assessed as **medium** and magnitude of impact assessed as **major**, the effect of Rampion 2 in addition with the CEA other developments identified on access to and enjoyment of onshore recreation is of **moderate/major** significance, which is **Significant** in EIA terms. This is in line with the assessment of Rampion 2 on PRoW users of 36Bo and 1T.

Cumulative effect of operation and maintenance on employment

Overview

18.12.30 The analysis presented in **Table 18-39** has identified that the operation and maintenance of Rampion 2 is likely to overlap with that of all other developments considered. However, as the Southampton to London pipeline development will replace an existing pipeline, the Proposed Development's net additional impact on employment levels is estimated to be negligible.

18.12.31 The assessment of the AQUIND connector does not consider its impacts on operational employment. It is therefore assumed that the development's overall impact on the receptor is negligible. Similarly, the documentation submitted as part

of the British Solar Renewables development indicates that the development is not anticipated to support any direct employment.

18.12.32 On the other hand, the assessment of the Energy from waste development determined that the development has potential to support 56 new jobs (in addition to the 24 full-time jobs provided by the existing plant).

Magnitude of impact

18.12.33 Taken together, the jobs supported by the Energy from wate development, in addition with the operational jobs supported by Rampion 2 are likely to add to no more than 100 FTE jobs. On this basis, it is assumed that the magnitude of impact on employment at both Sussex and national levels as a result of Rampion 2 in addition with the CEA other developments identified is assessed as **negligible.**

Sensitivity or value of receptor

18.12.34 As outlined in the preliminary assessment of Rampion 2 (both on its own and cumulatively) the sensitivity of employment at both Sussex and national level, is identified as **very high**.

Significance of CEA residual effect

18.12.35 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 in addition with the CEA other developments identified on employment is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of operation and maintenance on Gross Value Added

Magnitude of impact

18.12.36 In line with the analysis of the other developments' impact on employment, it is assumed that the magnitude of impact of operation and maintenance on GVA at both Sussex and national levels as a result of Rampion 2 in addition with the CEA other developments identified is assessed as **negligible.**

Sensitivity or value of receptor

18.12.37 As outlined in the preliminary assessment of Rampion 2 (both on its own and cumulatively) the sensitivity of economic growth at both Sussex and national level, is identified as being **very high**.

Significance of CEA residual effect

18.12.38 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible** at both UK and Sussex levels, the effect of Rampion 2 in addition with the CEA other developments identified on the economy (and therefore GVA) is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of operation and maintenance on volume and value of the tourism economy

Magnitude of impact

18.12.39 The analysis of CEA other developments outlined in paragraphs **18.12.18** to **18.12.21** indicates that the overall magnitude of impact on the overall volume and value of tourism economy in Sussex is anticipated to be **negligible**. This is also expected to be the case during the other developments' operational phase, especially as for Rampion 2, all onshore infrastructure (with the exception of the onshore substation) is to be buried underground.

Sensitivity or value of receptor

18.12.40 As outlined above, the sensitivity of the volume and value of the tourism economy at the Sussex level is identified as **very high**.

Significance of CEA residual effect

18.12.41 With the sensitivity of the receptor assessed as **very high** and magnitude of impact assessed as **negligible**, the effect of operation and maintenance of Rampion 2 in addition with the CEA other developments identified on the volume and value of the tourism economy is of **negligible** significance, which is **Not Significant** in EIA terms.

Cumulative effect of operation and maintenance on access to and enjoyment of onshore recreation activity

Magnitude of impact

18.12.42 As outlined above, it is assumed that the magnitude of impact on access to and enjoyment of onshore recreation activity for all CEA other developments considered (including Rampion 2) will not be bigger than that identified in the assessment of Rampion 2. This remains the case during the other developments' operational phase.

18.12.43 The assessment of Rampion 2 found that PRoW users of 36Bo and 1T which, depending on the choice of location for the onshore substation may require permanent closure and/or long-term diversion, may experience an overall **major** impact during the Proposed Development's operation and maintenance phase.

Sensitivity or value of receptor

18.12.44 As outlined above (and in **Table 18-28** and **Appendix 18.3, Volume 4**), both 36Bo and 1T are of **medium** sensitivity.

Significance of CEA residual effect

18.12.45 With the sensitivity of the receptor assessed as **medium** and magnitude of impact assessed as **major**, the effect of Rampion 2 in addition with the CEA other developments identified on access to and enjoyment of onshore recreation is of

moderate/major significance, which is **Significant** in EIA terms. This is in line with the assessment of Rampion 2 on PRoW users of 36Bo and 1T.

Cumulative effect of decommissioning

18.12.46 The analysis presented in **Table 18-39** suggests that only the British Solar Renewables development has potential to overlap with Rampion 2's decommissioning phase. If that is indeed the case, the overall impact and significance of effect of the two developments will be similar to, albeit smaller than the impacts identified during the two developments' construction phase. The following is an overview of the maximum effect that could be anticipated:

- cumulative effect of decommissioning activity on employment – **negligible** effect (**Not Significant**);
- cumulative effect of decommissioning activity on GVA – **negligible** effect (**Not Significant**);
- cumulative effect of decommissioning on volume and value of tourism activity – **negligible** effect (**Not Significant**); and
- cumulative effect of decommissioning on access to and enjoyment of onshore recreation activity – mostly **negligible** effect (**Not Significant**), but **moderate/major** significance (**Significant**) on PRoW users of 36Bo and 1T footpaths.

Next steps

18.12.47 Baseline data and further information on other developments will continue to be collected prior to the finalisation of the ES and iteratively fed into the assessment. An updated cumulative effects assessment will be reported in the ES.

18.13 Transboundary effects

18.13.1 Transboundary effects arise when impacts from a development within one European Economic Area (EEA) states affects the environment of another EEA state(s). A screening of transboundary effects has been carried out and is presented in Appendix B of the Scoping Report (RED, 2020).

18.13.2 For socio-economics, the potential for transboundary effects has been identified in relation to the potential impact upon the economies of other states within the EEA. This may arise through the purchase of Proposed Development components, equipment and the sourcing of labour from companies based outside the UK. Under Regulation 32 part 6(a) of the 2017 regulations, the Secretary of State must consult with any EEA state concerned regarding the potential significant effects of the development on the environment of that EEA state, and the measures envisaged to reduce or eliminate such effects. However, the sourcing of materials and labour from other EEA states is assumed to provide beneficial effects in the economies of such states, and as such the consideration of '*measures envisaged to reduce or eliminate such effects*' is not relevant within the context of transboundary impacts.

18.13.3 The location of the offshore infrastructure means that it will not be visible from other EEA countries. The onshore elements of Rampion 2 are entirely to be located within the UK, and as such there is no potential for significant transboundary effects (either beneficial or adverse) on other EEA states.

18.13.4 Given the above, transboundary impacts associated with socio-economics are therefore not considered further.

18.14 Inter-related effects

18.14.1 The inter-related effects assessment considers likely significant effects from multiple impacts and activities from the construction, operation and decommissioning of Rampion 2 on the same receptor, or group of receptors.

18.14.2 The assessment of effects on economic receptors (including both jobs and GVA), as presented in **Sections 18.9**, **18.10** and **18.11** has already taken into account the potential for multiple impacts from Rampion 2 affecting these particular receptors. This includes the impact on productivity and employment within agriculture as a result of the temporary loss of agricultural land during the construction phase.

18.14.3 The assessment of the impact of Rampion 2 during construction, operation and maintenance and decommissioning on the tourism economy is presented in **Sections 18.9**, **18.10** and **18.11** respectively. This assessment has already taken into consideration the impact of receptors considered in other chapters (including **Chapter 7 Other marine users**, **Chapter 16 Seascape, landscape and visual**, **Chapter 19 Landscape and visual impact**, **Chapter 22 Noise and vibration**, and **Chapter 24 Transport**) on the overall volume and value of the tourism economy in Sussex.

18.14.4 The assessment of the impact of construction activity of Rampion 2 on onshore recreation is considered in **Section 18.9** above. The assessment of onshore recreation receptors presented within this chapter has already taken into consideration the impact of receptors considered in other chapter (in particular **Chapter 24 Transport** and **Chapter 19 Landscape and visual impact**).

18.14.5 The assessment of the proposed development on both inshore and offshore recreation is considered in **Sections 18.9**, **18.10** and **18.11** respectively. This assessment has taken into account the impact on inshore and offshore recreation receptors as presented in other chapters in this PEIR (including receptors considered in **Chapter 7 Other marine users**, **Chapter 10 Commercial fisheries**, and **Chapter 13 Shipping and navigation**.

18.15 Summary of residual effects

18.15.1 **Table 18-40** presents a summary of the preliminary assessment of significant impacts, any relevant embedded environmental measures and residual effects on socio-economic receptors.

Table 18-40 Summary of preliminary assessment of residual effects on socio-economic receptors

Activity and impact	Study Area	Magnitude of Impact	Sensitivity of Receptor	Embedded measures	Preliminary assessment of residual effect (significance)
Construction					
Impact on employment	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on employment	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on GVA	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on GVA	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on volume and value of tourism economy	Sussex	Negligible	Very high	C-19, C-22, C-26, C-32, C-46, and C-66	**Negligible** (not significant).
Impact on access to and enjoyment of onshore recreation activity	PEIR boundary (onshore)	Minor to moderate and major (for interruption to public events and closure/diversion of PRoW).	Low to high	C-1, C-3, C-4. C-18, C-19, C-20, C-22, C-26, C-32, C-33, C-43, C-128, C-161, C-162, C-164 and C-168	**Minor** (not significant) on PRoW users of 2191_2, 2260, 2213, 2256_1, 2214, 2191, 3558_1, and 2219; users of the Washington public green space and event attendees. **Moderate** (significant) on PRoW users of 829, 197, 2697 and 2298.

Activity and impact	Study Area	Magnitude of Impact	Sensitivity of Receptor	Embedded measures	Preliminary assessment of residual effect (significance)
					Moderate/ major (significant) on PRoW users of 36Bo and 1T.
Impact on access to and enjoyment of inshore and offshore recreation activity	PIER boundary (offshore)	Negligible (for inshore recreation). Minor (for excavation of HDD exit pits, seabed preparation, and installation of export cable). Moderate (for installation of foundations, array cables, WTG and offshore substations) .	Low to high	C-4, C-46, C-56, C-85, C-100 and C-101.	**Negligible** (not significant) on bathing, and kite/wind surfing. **Minor** (not significant) on recreational sailing, canoeing, paddle boarding and kayaking. **Moderate** (significant) on recreational angling. **Moderate/ Major** (significant) on scuba diving.
Operations					
Impact on employment	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on employment	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on GVA	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).

Activity and impact	Study Area	Magnitude of Impact	Sensitivity of Receptor	Embedded measures	Preliminary assessment of residual effect (significance)
Impact on GVA	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on volume and value of tourism economy	Sussex	Negligible	Very high	C-1, C-7, C-9, C-26, C-46, C-53 and C-163	**Negligible** (not significant).
Impact on access to and enjoyment of onshore recreation activity	PIER boundary (onshore)	Mostly negligible Major (for PRoW 36Bo and 1T).	Low to high	C-1, C-7, C-9, C-66, C-163 and C-164	Mostly **negligible** (not significant) but **moderate/ major** (significant) on PRoW users of 36Bo and 1T.
Impact on access to and enjoyment of inshore and offshore recreation activity	PIER boundary (offshore)	Negligible for bathing and kite/ wind surfing (inshore) Minor for scuba diving, recreational angling, and recreational sailing, canoeing and kayaking	Low to high	C-4, C-43, C-46, C-53, C-56 and C-85	**Negligible** (not significant) for bathing, kite/wind surfing, and recreational sailing, canoeing and kayaking. **Minor** (not significant) for recreational angling. **Minor/ moderate** (not significant) for scuba diving
Decommissioning					
Impact on employment	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).

Activity and impact	Study Area	Magnitude of Impact	Sensitivity of Receptor	Embedded measures	Preliminary assessment of residual effect (significance)
Impact on employment	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on GVA	UK	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on GVA	Sussex	Negligible	Very high	C-34 and C-35	**Negligible** (not significant).
Impact on volume and value of tourism economy	Sussex	Negligible	Very high	C-19, C-22, C-26, C-32, C-46, and C-66	**Negligible** (not significant).
Impact on access to and enjoyment of onshore recreation activity	PIER boundary (onshore)	Mostly negligible Major (for PRoW 36Bo and 1T).	Low to high	C-22, C-26, C-33, and C-46	Mostly **negligible** (not significant) but **moderate/ major** (significant) on PRoW users of 36Bo and 1T
Impact on access to and enjoyment of inshore and offshore recreation activity	PIER boundary (offshore)	Negligible (for activities within the inshore zone), to moderate (for activities related the removal of WTG foundations, offshore substations decommissioning and	Low to high	C-4, C-46, C-56, C-85, C-100 and C-101.	**Negligible** (not significant) on bathing, and kite/wind surfing. **Minor** (not significant) on recreational sailing, canoeing, paddle boarding and kayaking. **Moderate** (significant) on

Activity and impact	Study Area	Magnitude of Impact	Sensitivity of Receptor	Embedded measures	Preliminary assessment of residual effect (significance)
		cable removal).			recreational angling. **Moderate/ Major** (significant) on scuba diving.

18.16 Further work to be undertaken for ES

Introduction

18.16.1 Further work that will be undertaken to support the socio-economic assessment and presented within the ES is set out below.

Baseline

18.16.2 The baseline analysis undertaken for the PEIR will be updated prior to ES submission. As per the current version presented in this assessment, the updated baseline will draw on the latest socio-economic data, in addition to any new research published (and/or shared with the team) in the interim period. At this stage, it is not anticipated that any further survey will be required.

18.16.3 The updated baseline analysis will also take into consideration both formal and informal comments received in the interim period, following the publication of this PEIR.

Assessment

18.16.4 It is not anticipated that the methodology used to inform the socio-economics ES will need to be updated. That being said, should any guidance and/or additional best-practice be issued in the interim, the method to the assessment require updating.

18.16.5 Once more, the socio-economics ES will also take into consideration both formal and informal comments received following PEIR submission.

Consultation and engagement

18.16.6 Further consultation and engagement in line with that undertaken to date is anticipated for ES stage. This includes the statutory consultation (i.e. Section 42 consultation) about the socio-economics PEIR assessment.

Environmental measures

18.16.7 At this stage, no further environmental measures are envisaged to be required in time for ES submission. This will, however depend on the comments received and/or any concerns raised through both formal and informal consultation following PEIR submission.

18.17 Glossary of terms and abbreviations

Table 18-41 Glossary of terms and abbreviations

Term (acronym)	Definition
Baseline	Refers to existing conditions as represented by latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of development.
Baseline conditions	The environment as it appears (or will appear) immediately prior to the implementation of the Proposed Development together with any known or foreseeable future changes that will take place before completion of the Proposed Development.
Code of Construction Practice (COCP)	The code sets out the standards and procedures to which developers and contractors must adhere to when undertaking construction of major projects. This will assist with managing the environmental impacts and will identify the main responsibilities and requirements of developers and contractors in constructing their projects.
Construction effects	Used to describe both temporary effects that arise during the construction phases as well as permanent existence effects that arise from the physical existence of development (for example new buildings).
Cumulative effects	Additional changes caused by a Proposed Development in conjunction with other similar developments or as a combined effect of a set of developments.
Cumulative Effects Assessment (CEA)	Assessment of impacts as a result of the incremental changes caused by other past, present and reasonably foreseeable human activities and natural processes together with the Proposed Development.
DCO Application	An application for consent to undertake a Nationally Significant Infrastructure Project made to the Planning Inspectorate who will consider the application and make a recommendation to the Secretary of State, who will decide on whether development consent should be granted for the Proposed Development.

Term (acronym)	Definition
Decommissioning	The period during which a development and its associated processes are removed from active operation.
Development Consent Order (DCO)	This is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects, under the Planning Act 2008.
Direct employment and gross value added	Employment and gross value added which is associated with the first round of capital expenditure, i.e. Rampion 2's spend with prime contractors within each impact area of the study.
Embedded environmental measures	Equate to 'primary environmental measures' as defined by Institute of Environmental Management and Assessment (2016). They are measures to avoid or reduce environmental effects that are directly incorporated into the preferred masterplan for the Proposed Development.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').
Environmental measures	Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible, remedy identified effects.
Environmental Statement (ES)	The written output presenting the full findings of the Environmental Impact Assessment.
Evidence Plan Process	A voluntary consultation process with specialist stakeholders to agree the approach and the information required to support the EIA and HRA for certain aspects.
Full-time equivalent (FTE) jobs	Full time equivalent (FTE) is a unit that indicates the workload of an employed person. An FTE of 1.0 is equivalent to one full-time employee, whilst a part-time employee working half the hours a full-time employee does would be recorded as 0.5 FTE.
Future baseline	Refers to the situation in future years without the Proposed Development.
Gross value added (GVA)	The measure of the value of goods and services produced in an area, industry or sector of an economy. At the level of a firm, it is broadly equivalent to employment costs plus a measure of profit.

Term (acronym)	Definition
Horizontal Directional Drill (HDD)	An engineering technique avoiding open trenches.
Impact	The changes resulting from an action.
Indirect effects	Effects that result indirectly from the Proposed Development as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects. Often used to describe effects on landscape character that are not directly impacted by the Proposed Development such as effects on perceptual characteristics and qualities of the landscape.
Indirect employment and gross value added	Employment and gross value added which is associated with the suppliers of companies that supply goods and services as part of the supply chain of the proposed Rampion 2.
Informal consultation	Informal consultation refers to the voluntary consultation that RED undertake in addition to the formal consultation requirements.
Likely Significant Effects	It is a requirement of Environmental Impact Assessment Regulations to determine the likely significant effects of the Proposed Development on the environment which should relate to the level of an effect and the type of effect.
Local Enterprise Partnership (LEP)	Voluntary partnerships between local authorities and businesses set up in 2011, by the Department for Business, Innovation and skills to help determine local economic priorities and lead economic growth and job creation within the local area.
Location quotient (LQ)	Location quotient (LQ) is a measure of a region's industrial specialisation relative to a larger region (eg. England). A LQ of 1.0 indicates that both regions have the same level of specialisation, whereas a LQ > 1.0 means that the smaller region has a higher concentration of a particular sector than is seen in the larger region.
Magnitude (of change)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether

Term (acronym)	Definition
	it is short term or long term in duration'. Also known as the 'degree' or 'nature' of change.
Nationally Significant Infrastructure Project (NSIP)	Nationally Significant Infrastructure Projects are major infrastructure developments in England and Wales which are consented by DCO. These include proposals for renewable energy projects with an installed capacity greater than 100MW.
PEIR Assessment Boundary	The PEIR Assessment Boundary combines the search areas for the offshore and onshore infrastructure associated with the Proposed Development. It is defined as the area within which the Proposed Development and associated infrastructure will be located, including the temporary and permanent construction and operational work areas.
Planning Inspectorate (PINS)	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England and Wales.
Preliminary Environmental Information Report (PEIR)	The written output of the Environmental Impact Assessment undertaken to date for the Proposed Development. It is developed to support formal consultation and presents the preliminary findings of the assessment to allow an informed view to be developed of the Proposed Development, the assessment approach that has been undertaken, and the preliminary conclusions on the likely significant effects of the Proposed Development and environmental measures proposed.
Proposed Development	The development that is subject to the application for development consent, as described in Chapter 4.
Receptor	These are as defined in Regulation 5(2) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to pollutants which could potentially arise as a result of the Proposed Development.
Scoping Opinion	A Scoping Opinion is adopted by the Secretary of State for a Proposed Development.

Term (acronym)	Definition
Scoping Report	A report that presents the findings of an initial stage in the Environmental Impact Assessment process.
Secretary of State (SoS)	The body who makes the decision to grant development consent.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.
Significant effects	It is a requirement of the EIA Regulations to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. Where possible significant effects should be mitigated.
Temporal scope	The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.
Temporary or permanent effects	Effects may be considered as temporary or permanent. In the case of wind energy development the application is for a 30 year period after which the assessment assumes that decommissioning will occur and that the site will be restored. For these reasons the development is referred to as long term and reversible.
The Applicant	Rampion Extension Development Limited (RED)
Zone of Influence (ZOI)	The area surrounding the Proposed Development which could result in likely significant effects.

18.18 References

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