Immingham Green Energy Terminal

9.7 Cumulative Effects Assessment Update – ID 29: EN070008 Viking CCS Pipeline

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Cumulative Effects Assessment Update – ID 29: EN070008 Viking CCS Pipeline

1.1 Introduction

1.1.1 This technical appendix presents an updated cumulative effects assessment relating to TR030008 Immingham Green Energy Terminal (hereafter referred to as "the Project") and EN070008 Viking CCS Pipeline (hereafter referred to as "Cumulative Development ID 29").

1.1.2 **Environmental Statement ("ES") Chapter 25: Cumulative and In-Combination Effects [APP-067]** submitted within the Project's original application provided a Cumulative Effects Assessment ("CEA") which included identifying the potential cumulative effects between Cumulative Development ID 29 and the Project. At the time of writing the Project's CEA (**ES Chapter 25: Cumulative and In-Combination Effects [APP-067]**), only the Environmental Impact Assessment ("EIA") Scoping Report was publicly available for Cumulative Development ID 29. Therefore, the CEA undertaken was informed by the information available within that Scoping Report combined with professional judgment of the technical environmental specialists of the topics identified as having potential to result in significant cumulative effects.

1.1.3 Following the submission of the Project's Development Consent Order ("DCO") application, Cumulative Development ID 29 has subsequently been accepted for examination by the Planning Inspectorate and Cumulative Development ID 29's full ES has become publicly available via the Planning Inspectorate's website.

1.1.4 The purpose of this appendix is therefore to provide an update to the CEA presented within **ES Chapter 25: Cumulative and In-Combination Effects [APP-067]** between the Project and Cumulative Development ID 29 in light of the additional information now available. This has involved reviewing the environmental assessment results presented within Cumulative Development ID 29's technical ES chapters to determine if there are likely to be any new or different cumulative effects compared with the assessment originally presented within the Project's CEA. In some instances, the conclusions that cumulative effects exist or are absent remain valid. Where this is the case, this is clarified in the sections below.

1.1.5 In the interest of brevity, the cumulative effects methodology is not re-stated within this appendix and therefore reference should be made back to the cumulative effects chapter contained within the original application: **ES Chapter 25: Cumulative and In-Combination Effects [APP-067]**. Please also refer to the following supporting figures and appendices which are relevant to the original CEA for the Project:

- **ES Figure 25.1: Cumulative Assessment Long List [APP-165]**
- **ES Figure 25.2: Cumulative Assessment Short List [APP-166]**
- **ES Appendix 25.A: Cumulative Effects Assessment Long List [APP-218]**

- **ES Appendix 25.B: Cumulative Effects Assessment Short List [APP-219]**
- **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]**

1.2 ID 29: EN070008 Viking CCS Pipeline Revised Assessment

1.2.1 As stated within **ES Appendix 25.A: Cumulative Effects Assessment Long List [APP-218]**, Cumulative Development ID 29 was progressed to Stage 2 of the cumulative assessment and then to Stage 3/4. This was because Cumulative Development ID 29 is located approximately 2km from the Project, there is potential for construction programmes to overlap and it is identified as being of sufficient scale to have the potential to result in significant cumulative effects.

1.2.2 As stated within **Table 1** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]**, Cumulative Development ID 29 was considered to have the potential to give rise to cumulative effects for the following environmental topics as it is within their cumulative zone of influence and therefore warranted further cumulative assessment:

- Air Quality
- Nature Conservation (Terrestrial Ecology)
- Nature Conservation (Marine Ecology)
- Landscape and Visual Impact
- Historic Environment (Terrestrial)
- Ornithology
- Major Accidents and Disasters
- Socio-economics

1.2.3 As described in **ES Chapter 25: Cumulative and In-Combination Effects [APP-067]**, the Traffic and Transport assessment (**ES Chapter 11: Traffic & Transport [APP-053]**) assesses the impacts of construction traffic in the year of peak construction for the Project (2026), for road links surrounding the Project. The 2026 baseline traffic against which the effects of construction traffic were assessed included any traffic that would be generated by committed 'other developments' and the assessment of construction traffic effects is therefore inherently cumulative and further assessment was not included within **ES Chapter 25: Cumulative and In-Combination Effects [APP-067]** but rather self-contained within **ES Chapter 11: Traffic & Transport [APP-053]** and **ES Appendix 11.B: Traffic and Transport Cumulative Effects Assessment [APP-190]**. For the completeness of this revised assessment a revised cumulative traffic and transport assessment has been carried out using the updated traffic flows contained within Cumulative Development ID 29, the Immingham Eastern Ro-Ro Terminal ("IERRT") development (Cumulative Development ID 22) and the Project and the results are published separately within **Annex A** of this document. The combination of the additional traffic information from Cumulative Developments ID 29 and ID 22 was used to present a worst case assessment scenario.

1.2.4 Following identification of the topics that were within the cumulative development zone of influence as discussed above in **Paragraph 1.2.2**, further assessment of the potential for the cumulative developments to give rise to cumulative effects was considered. **Table 2** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]** listed each of the short-listed developments that were progressed to Stage 3 of the CEA and identified whether these were to be scoped-in or scoped-out of the CEA for each technical topic. Where a development was scoped-in, further assessment was provided. Where a development had been scoped-out, it had been identified as having no potential for cumulative effects with the Project for that particular topic and was therefore discounted and not discussed further. Following this process, it was determined that the following topics had the potential to result in cumulative effects between the Project and Cumulative Development ID 29:

- Air Quality
- Ornithology
- Socio-economics
- Human Health and Well-being

1.2.5 The process detailed above as carried out within the Project's original CEA remains applicable; however, the Project's original CEA determined that only the four topics listed in **Table 2** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]** had the potential to result in cumulative effects with Cumulative Development ID 29. Following the provision of additional project information and environmental assessment contained within the full suite of planning documents submitted with Cumulative Development ID 29's DCO application, the topics identified within **Table 1** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]** have been reassessed and those originally discounted in **Table 2** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]** have been re-considered and further justification for their exclusion from the assessment is provided below.

1.2.6 The subsections below detail the full revised cumulative assessment for the following environmental topics:

- Air Quality
- Nature Conservation (Terrestrial Ecology)
- Nature Conservation (Marine Ecology)
- Ornithology
- Landscape and Visual Impact
- Historic Environment (Terrestrial)
- Major Accidents and Disasters
- Socio-economics

1.3 Air Quality Cumulative Effects

1.3.1 **Section 1.3** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]** describes the approach to the assessment of air quality cumulative effects; this text is not repeated in this updated cumulative effects assessment.

1.3.2 **Table 3** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]**, identified that impacts associated with Cumulative Development ID 29 relate to its construction phase traffic emissions, and it stated that the assessment of the Project construction phase traffic impacts is inherently cumulative and includes flows associated with major committed developments in the area.

1.3.3 In this updated assessment, an updated cumulative air quality assessment of Cumulative Development ID 29 is provided, with reference to the updated information provided in **Annex A** of this document (Traffic and Transport Cumulative Assessment). Within **Annex A**, daily construction traffic flows associated with Cumulative Development ID 29 are provided alongside traffic flows for the Project, for various road links.

1.3.4 In this updated assessment, the likely impact of Cumulative Development ID 29 upon air quality is considered with reference to the modelled air quality impacts of the Project, during the construction phase. These impacts were presented in **Table 6-16** of **ES Chapter 6: Air Quality [APP-048]** and were described as follows, "*…the modelled sources account for less than 1% of the air quality objectives for annual mean NO_2, PM_{10} and $PM_{2.5}$. At locations where total concentrations with the Project under construction are less than 75% of the air quality objectives, the impact is deemed to be negligible, in line with industry standard guidance (Ref 6-32).*"

1.3.5 **ES Chapter 6** goes on to state that, "*Annual mean concentrations of NO_2 and PM_{10} are low to the extent that there is considered no risk of the hourly mean air quality objective for NO_2, nor the daily mean objective for PM_{10} being exceeded due to the Project*", and, "*In line with the industry standard IAQM/EPUK guidance and following review of baseline air quality on Queens Road and the wider study area, it is considered that the construction phase traffic impact will not contribute to a significant effect on local air quality. Before mitigation, the effect of the construction phase road traffic emissions impact is **not significant**.*"

1.3.6 Despite the construction traffic flows associated with Cumulative Development ID 29 being of a similar (or even greater) magnitude to the Project on certain road links they would not alter the main conclusion stated in the paragraph above, namely that:

- There is considered no risk of the hourly mean air quality objective for NO_2, nor the daily mean objective for PM_{10} being exceeded due to the Project and Cumulative Development ID 29 being constructed at the same time.
- The effect of the cumulative construction phase road traffic emissions impact is not significant.

1.3.7 It is also important to consider that **Annex A** of this document makes the assumption that the Project and Cumulative Development ID 29 are constructed simultaneously in 2026 and that the peak year in terms of vehicle movements coincide. As such this represents a very robust and conservative level of assessment as it is considered to be an unlikely occurrence.

1.3.8 **Table 1** summarises how Cumulative Development ID 29 has been considered with regard to potential cumulative air quality effects during construction and operation.

Table 1: Air Quality Cumulative Effects Assessment

ID	Assessment of cumulative effect with the Project	Proposed mitigation applicable to the Project	Residual cumulative effect
29 – EN070008	**Construction:** Impacts associated with Cumulative Development ID 29 relate to its construction phase traffic emissions. Cumulative air quality effects associated with Cumulative Development ID 29 would be of the same level of significance as the effects from the Project alone, therefore there will be no residual cumulative effects as a result of the Project and Cumulative Development ID 29. The Project does not contribute road traffic emissions to any road link with a nationally or internationally designated site within 200m. **Operation:** Impacts associated with Cumulative Development ID 29 relate to its operational phase traffic emissions. The assessment of the Project operational phase traffic impacts is inherently cumulative and includes flows associated with major committed developments in the area including Cumulative Development ID 29. The Project does not contribute road traffic emissions to any road link with a nationally or internationally designated site within 200m.	No additional mitigation required beyond the embedded and standard measures set out in **Section 6.7** of **ES Chapter 6: Air Quality [APP-048]**	Neutral/Negligible adverse

Conclusion

1.3.9 In conclusion, cumulative air quality effects associated with Cumulative Development ID 29 would be of the same level of significance as the effects from the Project alone both during construction and operation, therefore there will be neutral/negligible residual cumulative effect as a result of the Project and Cumulative Development ID 29. This conclusion is consistent with that drawn in the original cumulative effects assessment.

1.4 Nature Conservation (Terrestrial Ecology) Cumulative Effects

1.4.1 The ecological impact assessment (**ES Chapter 8: Nature Conservation (Terrestrial Ecology) [APP-050]**) did not identify any impacts on terrestrial ecology receptors that could occur beyond the Project Site Boundary. There is therefore no potential for construction or operation of the Project to give rise to any cumulative effects on terrestrial ecology receptors with any of the other developments identified within the short list (**Table 1** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]**).

1.4.2 This conclusion was drawn in the Project's original CEA and remains valid following the review of additional project information and environmental assessment provided within Cumulative Development ID 29's DCO application. It is therefore concluded that there are no cumulative effects anticipated between the Project and Cumulative Development ID 29.

1.5 Nature Conservation (Marine Ecology) Cumulative Effects

1.5.1 Originally, Cumulative Development ID 29 was scoped out of the Project's **ES Chapter 9: Nature Conservation (Marine Ecology) [APP-051]** cumulative assessment at the time as it was determined that no marine works were proposed as part of Cumulative Development ID 29, and therefore no cumulative effects were anticipated as there was not considered to be any source-pathway-receptor linkages in relation to benthic habitats/species, fish and marine mammals between the two projects.

1.5.2 The potential for cumulative effects on marine ecology receptors as a result of the Project and Cumulative Development ID 29 has been reassessed in light of additional information including an Environmental Impact Assessment being available for Cumulative Development ID 29. Following a review of the additional information, there is potential for cumulative effects on river lamprey (which migrate through the estuary and are a qualifying feature of the Humber Estuary Special Area of Conservation ("SAC")/Ramsar).

1.5.3 **Table 2** summarises how Cumulative Development ID 29 has been considered with regard to potential cumulative marine ecology effects with the Project during construction and operation.

Table 2: Marine Ecology Cumulative Effects Assessment

ID	Assessment of cumulative effect with the Project	Proposed mitigation applicable to the Project	Residual cumulative effect
29 – EN070008	The onshore transportation system only is being considered as part of the Viking CCS Pipeline DCO application. No marine works are proposed as part of the terrestrial development. However, there is considered the potential for effects on river lamprey (which migrate through the estuary and are a qualifying feature of the Humber Estuary SAC/Ramsar). **Construction:** Watercourses which will be crossed by the proposed Viking CCS Pipeline have the potential to support river lamprey. Smaller watercourses will be crossed using open cut techniques. There is a low risk of direct mortality and/or injury to river lamprey as a result of open-cut crossing methodologies. There is also a risk of noise and vibration impacts on lamprey from drilling techniques particularly if carried out during spawning or migration periods. There is potential risk of indirect impacts from surface runoff from constructions areas (i.e. fine sediments) and impacts on water quality from potential pollution incidents (i.e. chemical spills) thereby having potential effects on aquatic species where there are requirements for works taking place above or in proximity to aquatic habitats. There is also a potential indirect impact from light pollution if lighting used during the construction phase is shining directly on water bodies. However, with the application of a wide range of mitigation measures outlined in the Construction Environmental Management Plan, residual effects on these features as a result of Cumulative Development ID 29 are considered to be minor. On this basis, with the application of the mitigation proposed for the Viking CCS Pipeline and the mitigation measures proposed for the Project for lamprey species (to minimise underwater noise effects during piling such as soft starts and seasonal restrictions), residual cumulative effects on lamprey species are considered to be minor adverse. **Operation:** No potentially significant cumulative effects during operation are anticipated.	No additional mitigation required beyond the embedded and standard measures set out in **Section 6.7** of **ES Chapter 6: Air Quality [APP-048]** and **Section 9.7** of **ES Chapter 9: Nature Conservation (Marine Ecology) [APP-051]**	Minor adverse (not significant) cumulative effect on river lamprey

Conclusion

1.5.4 In conclusion, during construction there is considered to be potential for effects on river lamprey. However, with the application of the mitigation proposed for the Viking CCS Pipeline and the mitigation measures proposed for the Project for lamprey species (to minimise underwater noise effects during piling such as soft starts and seasonal restrictions), residual cumulative effects on lamprey species are considered to be minor adverse (not significant).

1.5.5 No potentially significant cumulative effects are anticipated during operation.

1.6 Ornithology Cumulative Effects

1.6.1 The potential for cumulative effects on Ornithology receptors as a result of the Project and Cumulative Development ID 29 has been reassessed in light of additional information and the ES being available for Cumulative Development ID 29. Following a review of the additional information, there is potential for cumulative effects on coastal waterbirds using functionally linked land within the footprint of the pipeline corridor due to disturbance during construction. There is no potential for significant cumulative effects during operation.

1.6.2 **Table 3** summarises how Cumulative Development ID 29 has been considered with regard to potential cumulative ornithology effects during construction.

Table 3: Ornithology Cumulative Effects Assessment

ID	Assessment of cumulative effect with the Project	Proposed mitigation applicable to the Project	Residual cumulative effect
29 – EN070008	The onshore transportation system only is being considered as part of the Viking CCS Pipeline DCO application. No marine works are proposed as part of the terrestrial development. **Construction:** Coastal waterbirds using functionally linked land within the footprint of the pipeline corridor could be potentially impacted due to disturbance during construction which could lead to cumulative effects with the Project. However, with the application of noise fencing for works in proximity to functionally linked land for non-breeding waterbird species, residual effects on these features are not considered to result in significant effects (Viking CCS, 2023). Therefore, assuming the proposed mitigation measures are followed for the Project, the predicted residual cumulative effects are considered to be at worst minor adverse. **Operation**: No potentially significant cumulative effects during operation are anticipated.	No additional mitigation aside from the measures committed to in **ES Chapter 10: Ornithology [APP-052]**	Minor adverse (not significant) Coastal waterbirds

Conclusion

1.6.3 In conclusion, cumulative effects on ornithology receptors as a result of the Project and Cumulative Development ID 29 assessed in **Table 3** would be at worse minor adverse and not significant.

1.6.4 This conclusion was determined in the Project's original CEA and remains valid following the provision of additional project information and environmental assessment provided within Cumulative Development ID 29's DCO application.

1.7 Landscape and Visual Impact Cumulative Effects

1.7.1 In the Project's original cumulative effects assessment **[APP-067]**, the Landscape and Visual assessment scoped out Cumulative Development ID 29 as it was determined that there was no potential for cumulative effects to occur. This is shown in **Table 2** of **ES Appendix 25.C: Assessment of Cumulative Effects [APP-220]**. The justification for this was due to the height of Cumulative Development ID 29, lacking inter-visibility with the representative viewpoints, and distance from the Project.

1.7.2 This statement remains valid following the provision of additional project information and the ES provided within Cumulative Development ID 29's DCO application and therefore there are no cumulative effects anticipated between the Project and Cumulative Development ID 29.

1.8 Historic Environment (Terrestrial) Cumulative Effects

1.8.1 In the Project's original cumulative effects assessment **[APP-067]**, the Historic Environment (Terrestrial) assessment scoped out Cumulative Development ID 29 as it was determined that Cumulative Development ID 29 was a sufficient distance from the Project that cumulative effects were unlikely to occur.

1.8.2 Following a reassessment of Cumulative Development ID 29 given the additional information now available, the conclusion of the original cumulative effects assessment remains valid. This is due to there being no overlap between the footprint of the Project and Cumulative Development ID 29, the Project is sufficiently distant and well screened by existing industrial development surrounding the port and north of Immingham, and Cumulative Development ID 29 is not included within the settings of any of the assets considered in the heritage assessment, nor does it make any contribution to the significance of those assets.

1.9 Major Accidents and Disasters Cumulative Effects

1.9.1 Cumulative Development ID 29 states the following within their Major Accidents and Disasters ES chapter:

"*The assessment has concluded that the identified risk is tolerable and the design and additional mitigation measures ensure that the level of risk remains as ALARP.*

Based on the embedded design measures and additional mitigation outlined above and in the supporting technical chapters of this ES, It is therefore considered that the impact of identified potential major accident and disaster events identified during the construction and operation of the Proposed Development will all be managed to be ALARP and will be classed as being not significant. Key to this is the vast array of preventative measure which are built into the design of the Proposed Development's to help try and prevent any incidents occurring in the first place. Additional emergency response planning has also been identified which is of direct relevance to the Proposed Development. Consequently, ***no significant residual effects*** *have been identified.*"

1.9.2 With the implementation of measures described in **ES Chapter 22: Major Accidents and Disasters [APP-064]** in respect of the Project, it has been concluded that there would be no residual effects as a result of the Project. As there would be no residual effects, either during construction or normal operation of the Project, there is low risk of any significant cumulative effects as a result of the Cumulative Development ID 29 and the Project due to Major Accidents and Disasters. The risk of a cumulative impact is therefore negligible and not significant.

1.9.3 This conclusion was determined in the Project's original CEA and remains valid following the provision of additional project information and environmental assessment provided within Cumulative Development ID 29's DCO application.

1.10 Socio-economics Cumulative Effects

1.10.1 The potential for cumulative effects on Socio-economic receptors as a result of the Project and Cumulative Development ID 29 has been reassessed in light of additional information and an Environmental Impact Assessment being available for Cumulative Development ID 29.

1.10.2 The original Socio-economics cumulative effects assessment stated that as Cumulative Development ID 29 was at scoping stage there was limited information available. However, if construction phases were to overlap, there could be the following cumulative effects during construction:

- Employment – Large Beneficial (Significant)
- Changing influx of workers (accommodation) – Minor Adverse (Not Significant)
- Changing influx of workers (primary healthcare) – Minor Adverse (Not Significant)

1.10.3 In light of the additional information now available, it has been identified that there is the potential for cumulative impacts as a result of employment generation and influx of temporary workers on local services and accommodation. The magnitude of cumulative effects has also changed since the original CEA as shown in **Table 4** below.

1.10.4 There is no potential for significant cumulative effects during operation, as was the conclusion for the original CEA undertaken for the Project.

1.10.5 **Table 4** summarises how Cumulative Development ID 29 has been considered with regard to potential cumulative socio-economic effects during construction and details the residual cumulative effect.

Table 4: Socio-economics Cumulative Effects Assessment

ID	Assessment of cumulative effect with the Project	Proposed mitigation applicable to the Project	Residual cumulative effect
29 – EN070008 Viking	**Construction**: There would be a positive significant cumulative effect on employment during construction, generating more employment in the local economy. No other significant cumulative effects during construction are anticipated. **Operation**: No significant cumulative effects during operation are anticipated.	None	**Construction**: Employment – Large Beneficial (Significant) Changing influx of workers (accommodation) – Negligible (Not Significant) Changing influx of workers (primary healthcare) – Minor Adverse (Not Significant) **Operation**: N/A

Conclusion

1.10.6 In conclusion, with regard to socio-economic cumulative impacts, it is likely that Cumulative Development ID 29 would generate additional employment opportunities and associated socio-economic benefits to add to the benefits of the Project during construction. Whilst there might be a risk of temporary labour shortage or local accommodation shortage should multiple projects progress simultaneously, the cumulative socio-economic effects of Cumulative Development ID 29 together with the Project are considered to be **significantly beneficial** overall.

1.11 Summary of Significant Cumulative Effects

1.11.1 **Table 5** presents the potential significant cumulative effects that are assessed to occur between the Project and Cumulative Development ID 29.

Table 5: Summary of Significant Cumulative Effects

Development stage	Environmental effect	Mitigation/Enhancement (if identified)	Classification of residual effect after mitigation	Nature of effect
Construction phase	Employment	N/A	Large Beneficial (Significant)	Temporary

Annex A: Traffic and Transport Cumulative Assessment

Introduction

This note has been prepared to provide an assessment of the cumulative impacts should the Viking CCS and IERRT development be constructed at the same time as IGET now that further information is available following the submission of the Viking CCS project, with the magnitude and significance of effects being consistent with those in **Section 11.4** of **ES Chapter 11: Traffic & Transport [APP-053]**.

For ease of reference **Tables 11-4** and **11-5** from **ES Chapter 11: Traffic & Transport [APP-053]** have been included within **Appendix A1** of this Annex, and give the criteria for identifying the magnitude of impact and significance of effect, respectively.

Assessment Approach

The assessment approach in this note has adopted the following methodology:

- Total construction traffic includes the peak construction numbers for IGET, IERRT and Viking CCS.
- This total construction traffic has then been assessed against the 2026 baseline traffic to provide an overall percentage increase, from which the magnitude of impact and significance of effect has been derived.
- Only IERRT and Viking CCS have been included as cumulative sites, with any other projects assumed to be covered by the application of TEMPRO growth factors in the derivation of the 2026 baseline traffic.

This differs from that included within the **ES** and provides a robust level of assessment.

The approach adopted in the **ES** was as follows:

- Identify the total cumulative traffic flows from the short list of development
- Add the total cumulative traffic flows to the 2026 baseline to give a ‘2026 plus cumulative traffic flow’
- Assess the percentage increase in traffic from IGET against the 2026 Baseline plus cumulative traffic, to identify the magnitude of impact and significance of effect

Traffic Flows

The traffic flows used within the assessment are given as follows in **Table A.1** with the percentage increase compared to the baseline given in **Table A.2**.

Table A.1: Cumulative Traffic Data (IGET, IERRT and Viking CCS)

LINK	NAME	VIKING CCS		IGET		IERRT		TOTAL CONSTRUCTION TRAFFIC	
		Daily Total veh.	Daily Total HGV	Daily Total veh.	Daily Total HGV	Daily Total veh.	Daily Total HGV	Daily Total veh.	Daily Total HGV
1	A180 E - Between East of A180/A1173 Junction	471	91	487	90	48	0	1005	181
2	A1173 - Between A1173/Kiln Lane and A1173/Kings Road	97	0	973	198	400	214	1470	412
3	Queens Road (WEST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	0	0	1603	198	446	214	2049	412
4	Queens Road (EAST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	0	0	742	59	0	0	742	59
5	Kings Road - between A1173/Kings Road and Kings Road/Pelham Road	0	0	424	0	67	38	491	38
6	Manby Road - between A160/Manby Road and Kings Road/Pelham Road	97	0	126	0	67	38	289	38
7	A160 - Between Manby Road/A160 and A160/A1077 Roundabout	237	127	126	0	0	0	363	127
8	A160 - Between A160/A1077 Roundabout and A160/A180	245	127	0	0	406	242	651	369
9	A180 W - Between A180/A1173 and A180/A160	1073	549	251	108	0	0	1324	657
10	Laporte Road	0	0	319	0	0	0	319	0

Based upon the data presented in **Table A.1** above, the percentage increase at the peak year of IGET construction, 2026, can be given as demonstrated below in **Table A.2**.

Table A.2: Cumulative Traffic – Percentage Increase

Link	Name	TOTAL CONSTRUCTION TRAFFIC (IGET, IERRT AND VIKING CCS)		2026 BASELINE		PERCENTAGE INCREASE	
		Daily Total veh.	Daily Total HGV	Daily Total veh.	Daily Total HGV	Daily Total veh.	Daily Total HGV
1	A180 E - Between East of A180/A1173 Junction	1005	181	36,653	3,482	3%	5%
2	A1173 - Between A1173/Kiln Lane and A1173/Kings Road	1470	412	7,903	851	19%	48%
3	Queens Road (WEST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	2049	412	4,156	606	49%	68%
4	Queens Road (EAST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	742	59	4,156	606	18%	10%
5	Kings Road - between A1173/Kings Road and Kings Road/Pelham Road	491	38	8,265	608	6%	6%
6	Manby Road - between A160/Manby Road and Kings Road/Pelham Road	289	38	7,936	1,219	4%	3%
7	A160 - Between Manby Road/A160 and A160/A1077 Roundabout	363	127	11,277	5,403	3%	2%
8	A160 - Between A160/A1077 Roundabout and A160/A180	651	369	12,953	5,702	5%	6%
9	A180 W - Between A180/A1173 and A180/A160	1324	657	27,342	4,107	5%	16%
10	Laporte Road	319	0	3,783	624	8%	0%

The data in **Table A.2** can then be used to determine the magnitude of impact at the peak year of construction, 2026.

Magnitude of Impact

Based upon the above percentage increase from **Table A.2** and **Table 11-4** of **ES Chapter 11: Traffic & Transport [APP-053]**, the magnitude of impact can be given as follows, based upon an assumption that any cumulative impact will occur for between three and six months, as it considered unlikely that the peak impacts of all three developments would last longer than six months.

Table A.3: Magnitude of Impact at 2026 (IGET, IERRT and Viking CCS)

Link		Sensitivity	Percentage Increase		Traffic and Transport	Severance	Pedestrian Amenity	Fear and Intimidation	Highway Safety
			Total Vehs	Total HGV					
1	A180 E - Between East of A180/A1173 Junction	Low	3%	5%	Very low	Very low	Very low	Very low	Very low
2	A1173 - Between A1173/Kiln Lane and A1173/Kings Road	Low	19%	48%	Medium	Medium	Very low	Medium	Medium
3	Queens Road (WEST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	Low	49%	68%	Medium	Medium	Low	Medium	Medium
4	Queens Road (EAST SITE) - between A1173/Kings Road and Queens Road/Laporte Road	Medium	18%	10%	Low	Low	Very low	Low	Very low
5	Kings Road - between A1173/Kings Road and Kings Road/Pelham Road	Low	6%	6%	Very low	Very low	Very low	Very low	Very low
6	Manby Road - between A160/Manby Road and Kings Road/Pelham Road	Low	4%	3%	Very low	Very low	Very low	Very low	Very low
7	A160 - Between Manby Road/A160 and A160/A1077 Roundabout	Low	3%	2%	Very low	Very low	Very low	Very low	Very low
8	A160 - Between A160/A1077 Roundabout and A160/A180	Low	5%	6%	Very low	Very low	Very low	Very low	Very low
9	A180 W - Between A180/A1173 and A180/A160	Low	5%	16%	Low	Low	Very low	Low	Very low
10	Laporte Road	Low	8%	0%	Very low	Very low	Very low	Very low	Very low

From the above magnitude of impact, the significance of effect is then set out as follows.

Significance of Effect

Based upon the above percentage increase from **Table A.2** and **Table 11-5** of **ES Chapter 11: Traffic & Transport [APP-053]**, the significance of effect can be given as follows.

Table A.4: Significance of Effects at 2026 (IGET, IERRT and Viking CCS)

link		Sensitivity	Traffic and Transport	Severance	Pedestrian Amenity	Fear and Intimidation	Highway Safety
1	A180 E – Between East of A180/A1173 Junction	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
2	A1173 – Between A1173/Kiln Lane and A1173/Kings Road	Low	Minor, Not Significant	Minor, Not Significant	Negligible, Not Significant	Minor, Not Significant	Minor, Not Significant
3	Queens Road (WEST SITE) – between A1173/Kings Road and Queens Road/Laporte Road	Low	Minor, Not Significant	Minor, Not Significant	Negligible, Not Significant	Minor, Not Significant	Minor, Not Significant
4	Queens Road (EAST SITE) – between A1173/Kings Road and Queens Road/Laporte Road	Medium	Minor, Not Significant	Minor, Not Significant	Negligible, Not Significant	Minor, Not Significant	Negligible, Not Significant
5	Kings Road – between A1173/Kings Road and Kings Road/Pelham Road	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
6	Manby Road – between A160/Manby Road and Kings Road/Pelham Road	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
7	A160 – Between Manby Road/A160 and A160/A1077 Roundabout	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
8	A160 – Between A160/A1077 Roundabout and A160/A180	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
9	A180 W – Between A180/A1173 and A180/A160	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant
10	Laporte Road	Low	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant	Negligible, Not Significant

Summary and Conclusion

This note has assessed the potential environmental effects should IGET, IERRT and Viking CCS be constructed simultaneously at the peak year of the IGET construction in 2026.

The assessment has taken the peak construction traffic from each project and, as such, provides a robust level of assessment.

The overall conclusion is that the combined traffic from all three projects in 2026 results in either a negligible or minor, not significant effect.

Appendix A1: ES Traffic and Transport Assessment Criteria

Tables 11-4 and **11-5** from the **ES Chapter 11 [APP-053]** are reproduced below for ease of reference.

Table 11-4: Magnitude of Impact Criteria

Type of Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
Traffic and transport	Occasional construction vehicles using roads over a short period of time.	Small number of construction vehicles using roads over a short period of time.	Moderate number of construction vehicles using roads over a protracted time period.	High number of construction vehicles using roads over a protracted period of time.

Type of Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
	Less than 5% increase for more than six months; Between 6-15% increase for 3- 6 months; or Between 31-40% for less than three months.	6-15% increase for more than six months; 16-39% for 3-6 months; or More than 40% increase for less than three months.	16-39% increase for more than si months; or More than 40% increase for 3-6 months.	More than a 40% increase for more than 6 months.
Severance	Increase in total traffic flows of 29% or under (or increase in HGV flows under 10%).	Increase in total traffic flows of 30-59% (or increase in HGV flows of between 10% and 39%.	Increase in total traffic flows of 60-89% (or increase in HGV flows between 40% and 89%.	Increase in total traffic flows or HGV flows of 90% and above.
Pedestrian amenity	Increase in total traffic flows of 49% or under.	Increase in total traffic flows of 50-69%.	Increase in total traffic flows of 70-99%.	Increase in total traffic flows of 100% or above.
Fear and intimidation	Increase in total traffic flows or HGV flows of 29% or under (or increase in HGV flows under 10%).	Increase in total traffic flows of 30-59% (or increase in HGV flows of between 10% and 39%).	Increase in total traffic flows of 60%-89% (or increase in HGV flows between 40% and 89%).	Increase in total traffic flows or HGV flows of 90% and above.
Highway safety	Increase in total traffic flows of 30% or under (or increase in HGV flows under 10%).	All links estimated to experience increases in total traffic flows above 30% or increases in HGV flows above 10% are analysed further on a case-by-case basis.		
Hazardous loads	Risk assessed on a case-by-case basis depending on the material being transported, the number of loads and the proposed routing.			

Table 11-5: Significance of Effects Matrix

Magnitude of Impact	Sensitivity of receptor			
	High	Medium	Low	Very Low
High	Major – Significant	Major – Significant	Moderate – Significant	Minor – Not Significant
Medium	Major – Significant	Moderate – Significant	Minor – Not Significant	Negligible – Not Significant
Low	Moderate – Significant	Minor – Not Significant	Negligible – Not Significant	Negligible – Not Significant
Very Low	Minor – Not Significant	Negligible – Not Significant	Negligible – Not Significant	Negligible – Not Significant