

Environmental Impact Assessment

Sandy Knowe Wind Farm Extension

Chapter 9: Transport and Access

ERG UK Holding Ltd



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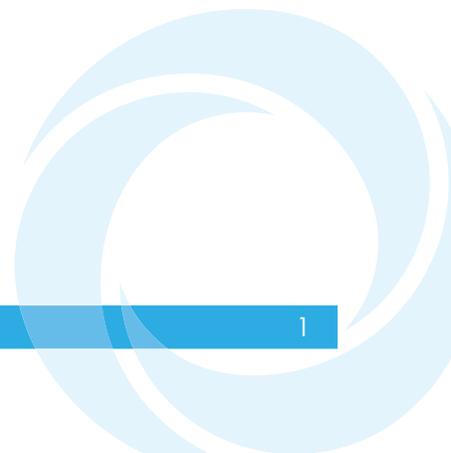
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Glossary of Terms

Term	Definition
The Applicant	ERG UK Holding Limited
The Agent	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development
Environmental Impact Assessment Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations)
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations
The Proposed Development	The Sandy Knowe Wind Farm Extension
The Proposed Development Footprint	The area within which the Proposed Development will be located
The Proposed Development Site	The full application boundary including Sandy Knowe Wind Farm and Sandy Knowe Wind Farm Extension

List of Abbreviations

Abbreviation	Description
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ECU	Energy Consents Unit
IEMA	Institute of Environmental Management and Assessment
IHT	Institute of Highways and Transportation
PoE	Port of Entry
SPP	Scottish Planning Policy



9 Transport and Access

9.1 Introduction

This Chapter assesses the potential effects of the Proposed Development on the existing transport network and on sensitive receptors as a result of the construction, operation and decommissioning phases of the Proposed Development.

The key objectives of this Chapter are to:

- Describe the assessment methodology and significance criteria used in completing the assessment;
- Describe the current access, traffic and transport conditions;
- Identify and assess the likely environmental effects associated with increased traffic;
- Identify and describe the mitigation measures proposed to address potential significant effects; and
- Assess residual effects post mitigation implementation.

9.2 Methodology and Approach

9.2.1 Legislation, Planning Policy and Guidance

This assessment is informed by the following additional policy documents, data sources and guidelines:

- Scottish Planning Policy (SPP);
- Planning Advice Notice (PAN) 75 – ‘Planning for Transport’;
- Institute of Highways and Transportation (IHT) publications - “Guidelines for Traffic Impact Assessment”, 1998;
- Institute of Environmental Management and Assessment (IEMA) publication - “Guidelines for the Environmental Assessment of Road Traffic”, 1993 (“the IEMA Guidelines”); and
- Department for Transport (DfT) publication “Design Manual for Roads and Bridges” (DMRB).

A full list of the overarching policy documents which inform this EIAR can be found in Chapter 4.

9.2.2 Consultation

The assessment process has been informed by consultation with the ECU including the Scoping Opinion (October 2021). A summary of the key consultation responses is described in Table 9-1.

Table 9-1 Consultation Responses

Consultee	Summary of Response	Where addressed within this Report
Transport Scotland	The proposed approach to the Environmental Impact Assessment Report is acceptable. Impact on trunk roads should be assessed including the A76. Baseline traffic count can be sourced from Transport Scotland for The Proposed Development.	The A76 has been included within the Study Area and historical traffic counts have been sourced for the A76.
Dumfries & Galloway Council	The Council's Planning Team Leader has reviewed the submitted scoping report and has no objection with the proposed scope or methodology, although has offered a number of observations which should be considered: <ul style="list-style-type: none"> Proposals for access tracks and site access must be supported by swept path tracks; Any future Construction Traffic Management Plans (CTMP) include a full construction traffic route from quarries etc, include a complete programme of delivery types per month, and include any mitigation required on the public road network or recreational paths affected by the construction works; and Consultation with nearby forest managers and timber hauliers through the office of South of Scotland Timber Transport Officer. 	An Abnormal Loads Assessment with swept path assessments of the full delivery route will be undertaken in advance of deliveries commencing. Full construction programme is included in this chapter of the EIA, and will be included in any future CTMP produced. Consultation with Timber Transport Officer will be fulfilled.
Scottish Rights of Way and Access Society (ScotWays)	Turbines should be set back with the blade tip away from rights of ways areas. An Access Management Plan should accompany the Environmental Impact Assessment Report.	A 165m buffer has been applied from any core paths to any turbines related to The Proposed Development. An Access Management Plan will be prepared before any construction of Proposed Development commences. It is anticipated that a condition will be included to any consent granted for the provision of the Plan.

9.2.3 Scope of Assessment

Abnormal Loads

The most identifiable transport and access characteristic associated with wind farm developments is the need to transport the wind turbine components to the site. Turbine components will be delivered to an appropriate Port of Entry (PoE) and then transported as abnormal loads, given their size and weight, from the selected PoE via the public road network.

The Department for Transport (DfT) website defines an abnormal load as a vehicle that is;

“a weight of more than 44,000 kilograms; an axle load of more than 10,000 kg for a single non-driving axle and 11,500 kilograms for a single driving axle, a width of more than 2.9m; a length of more than 18.75m” (DfT, October 2012).

A full Abnormal Loads Route Assessment was undertaken for the consented Sandy Knowe Wind Farm, using the same wind turbine specifications as are being utilised for the Proposed Development.

For the purposes of this chapter, it has been assumed that King George V Docks in Glasgow will be the most suitable Port of Entry (PoE) for shipping of all wind turbine components. It is assumed the same abnormal route which was assessed for the consented Sandy Knowe Wind Farm will be utilised for the Proposed Development. The route assessed was as follows:

- M74 / M6 Southbound to M6 Junction 44 (Greymoorhill Roundabout);
- M6 Northbound to the A75(T) via A74 (M) Junction 22; and
- A75(T) to A76(T) / Site Access Road.

General HGVs

There is also a need to bring general construction materials (concrete, aggregates, pipes, cabling, etc.) to the Proposed Development Site in standard heavy goods vehicles (HGVs). During the construction stage there is a temporary intensification of HGV traffic on the road network. This intensification varies depending on the scale of the development, the construction stage and operational requirements.

Staff Vehicles

A small amount of traffic will be generated by construction workers commuting to/from the site during the construction stage in private car or works minibus.

Potential Environmental Effects

The assessment is made with reference to the Proposed Development, as described in Chapter 3: Description of Development of the EIAR.

This assessment is structured around the consideration of potential environmental effects relating to transport and access, as identified by the IEMA Guidelines and including the following:

- Noise;
- Severance;
- Driver delay;
- Pedestrian delay;
- Pedestrian amenity;
- Accidents and safety;
- Hazardous loads; and
- Dust and dirt.

The environmental effects associated with noise are addressed in Chapter 11: Noise of this EIAR. There are no hazardous loads associated with the Proposed Development.

Guidance for the assessment of the environmental effects of traffic is provided in the IEMA Guidelines. The document is the only guidance document currently available that

sets out a methodology for assessing potentially significant environmental effects where a proposed development is likely to give rise to changes in traffic flows.

The guidance suggests that in order to determine the scale and extent of the assessment and the level of effect the Proposed Development will have on the surrounding road network, the following two 'rules' should be followed:

- Rule 1 – Include highway links where flows are predicted to increase by more than 30% (10% if affecting a sensitive area) or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30%; and
- Rule 2 – Include any other specifically sensitive area where traffic flows are predicted to increase by 10% or more.

Paragraph 2.5 of the IEMA Guidelines identifies groups, locations and special interests which may be sensitive to changes in traffic conditions as follows:

- People at home;
- People in work places;
- Sensitive groups including children, elderly and disabled;
- Sensitive locations, e.g. hospitals, churches, schools, historic buildings;
- People walking or cycling;
- Open spaces, recreational sites, shopping areas; and
- Sites of ecological / nature conservation value tourist attractions.

The significance of each effect is considered against the criteria within the IEMA Guidelines, where possible, however the guidelines state that:

“For many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources.”

9.2.4 Potential Effects Scoped Out

On the basis of the modest scale of the Proposed Development, the professional judgement of the team and experience from other relevant projects and policy guidance, the following effects have been scoped out of the assessment.

Operational Stage

Once the Proposed Development is operational, the amount of traffic associated with a wind farm is minimal, relating to maintenance of the turbines only. It is estimated that on average there will be just single 4x4s accessing the Proposed Development Site from time to time.

Therefore, the effect of vehicle movements during the operational phase will be negligible. In respect of transport, the operational phase of the Proposed Development is therefore not assessed further.

Decommissioning Stage

Planning permission for the Proposed Development is sought for a 40-year period, after which time the Proposed Development will be decommissioned. Traffic associated with

the decommissioning stage is anticipated to be significantly less than that generated during construction.

Given the timescales involved and the likelihood for changes to the baseline situation during this period, the transport and access effects of wind farm decommissioning are not assessed further.

Peak Hour Congestion

The effect of construction related vehicles on the road network is considered unlikely to be significant in terms of peak hour congestion as deliveries will be spread out across the day. Therefore, detailed junction capacity assessments have not been undertaken.

Access Tracks & Beyond the Study Area

The effect of increased traffic associated with the Proposed Development on existing access tracks is not anticipated to have a discernible environmental effect and is, therefore not appraised in this report. The effects of the Proposed Development on the local public road network are included.

It is anticipated that the volume of traffic associated with the construction of the Proposed Development will not have a discernible effect on roads and sensitive receptors outwith the study area (see below for definition of the study area) as the effects of traffic are diluted with increasing distance from the point of origin.

9.2.5 Study Area

The study area for the assessment of transport and access has been identified using the thresholds within the IEMA Guidelines as an aide and is indicated by Figure 1-1.

The study area has been based on the location of the Proposed Development Site access point and the proposed routes which utilise the public road network to reach these access points. A comprehensive desk-based study has been undertaken to understand the surrounding road network.

It is likely that the turbine components will be brought into the Port at King George V Docks in Glasgow. The operational wind farms in the area around the Proposed Development (including the Sandy Knowe Wind Farm which is under construction) have generally used King George V docks in Glasgow and brought abnormal loads in via the M74, M6, A75(T) and A76(T).

A final Abnormal Loads Assessment complete with swept path plans for pinch points along the route will be undertaken for the final selected turbine in advance of deliveries commencing. It is noted that any abnormal loads related to the original Sandy Knowe development have been delivered to the site without issue, so this assessment would look at any changes made to the proposed delivery route between the original Sandy Knowe development and the proposed extension.

General construction HGVs and abnormal loads will access the site via an access track taken directly from the A76(T) approximately 2.75km west from the access at Guildhall Bridge.

Cars and Light Goods Vehicles (LGV) traffic related to the general construction activities will access the site via the A76 (T) / C125N Junction at Guildhall Bridge, where vehicles would use the local road briefly to connect to Heads of the Valley Road (a 6 m

wide tarmac track) in order to access the site. Cars and LGV traffic could access the C125N junction from either the A76(T) East and A76(T) West.

Both access points were consented as part of the Sandy Knowe Wind Farm development and are being used in the construction of the wind farm.

There are two main potential access routes to the site for general construction HGVs. These routes are from the A76(T) (East) and the A76(T) (West) to the site access taken directly from the A76(T).

It is expected that the two construction access routes will be used for the delivery of various materials and machinery to the site during the construction phase. The specific routes will be determined following confirmation of the Principal Contractor for the site and will be based on a number of factors including supply locations and depot locations.

The study area will remain consistent to what was considered for the consented Sandy Knowe Wind Farm development. The study area is therefore as follows:

- A76(T) east of the Proposed Development Site to B797;
- A76(T) west of the Proposed Development Site to A70; and
- C125N for 70m south of the A76(T) junction.

All road links within the study area are subject to Rule 1, whereby a 30% increase in HGV levels or total traffic will trigger the requirement for a detailed assessment of the potential environmental effects.

In reference to the indicators outlined in the IEMA Guidelines, the settlements of Sanquhar, Kirkconnel and New Cumnock will be considered as sensitive receptors and will also be subject to IEMA Rule 2; whereby a 10% increase in total traffic will trigger the requirement for a full assessment of environmental effects associated with increased traffic.

9.2.6 Desk Based Research and Data Sources

Traffic count information along the A76(T) has been obtained to represent the baseline traffic flows for the road links within the study area from 24-hour turning count surveys obtained from DFT survey database for 2019.

Traffic count information on the C125N has been obtained through information provided for the consented Sandy Knowe Wind Farm development. This traffic data covers an average 12-hour weekday period. Given the nature of this road, it would be envisaged that any traffic along this section of road would be negligible outwith the 12-hour period covered.

The traffic flows have been factored up to represent the anticipated year of construction (2024) flows using the National Road Traffic Forecast (NRTF) "low growth" factor to represent the current and opening future year baseline flows respectively.

9.2.7 Assessment Methods

The following section sets out the methodology used to assess the significance of effects at locations along the proposed routes within the study area where total traffic levels or the level of HGV traffic exceed the screening thresholds set out by IEMA.

Sensitivity

The sensitivity to change in traffic levels of any given road segment and the receptors located along that road segment are generally assessed by considering the residual capacity of the network under existing conditions.

Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic and therefore the sensitivity may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity, and the sensitivity to change in traffic levels will be considered to be high.

Consideration has been given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, LGVs have less effect on traffic and the road system than HGVs. Similarly, HGVs can have less effect than abnormal load vehicles, depending on the frequency of the abnormal loads.

The criteria that has been used to make judgements on the sensitivity of the receptor(s) and the magnitude of change are presented in Table 9-2.

Table 9-2: Sensitivity of Receptor

Sensitivity	Description
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character is of international or national importance. Local residents whose daily activities depend upon unrestricted movement within their environment. Receptors such as schools, colleges, hospitals and accident hotspots.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low of local importance. Areas such as trunk road or A class roads constructed to accommodate significant HGV volumes.

Magnitude

The magnitude of traffic effects is a function of the existing traffic volumes, the percentage increase and change due to the Proposed Development, changes in the type of traffic and the temporal distribution of traffic (day of week, time of day).

The determination of magnitude has been undertaken by reviewing the Proposed Development, establishing the parameters of the receptors that may be affected and quantifying these effects utilising IEMA Guidelines and professional judgement.

Consideration is given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, LGVs have less effect on traffic and the road system than HGVs. Similarly, HGVs can have less effect than abnormal load vehicles, depending on the frequency of the abnormal loads.

The criteria that has been used to make judgement on the magnitude of the effect on the receptor(s) is presented in Table 9-3.

Table 9-3: Magnitude of Effects

Magnitude	Description
Major	Total loss of, or major/substantial alteration to, key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed. Generally a rule of >90% (or >70% at sensitive receptors) change in traffic is considered to be a major magnitude.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed. Generally, a rule of 60% - 90% (or 40% - 70% at sensitive receptors) change in traffic is considered to be a moderate magnitude.
Minor	A minor shift away from baseline conditions. Change arising from the loss / alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation. Generally, a rule of 30 – 60% (or 10% - 40% at sensitive receptors) change in traffic is considered to be a minor magnitude.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation. Generally, a rule of <30% (or <10% at sensitive receptors) change in traffic is considered to be a negligible magnitude.

Significance

As a guide to inform the assessment, but not as a substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in Table 9-4. This is based on combining the magnitude of the effect with the receptor sensitivity.

Table 9-4 Significance Criteria Matrix

Sensitivity of Receptor	Magnitude of Effects			
	Major	Moderate	Minor	Negligible
High	Major	Major / Moderate	Moderate	Minor
Medium	Major / Moderate	Moderate	Moderate / Minor	Minor
Low	Moderate	Moderate / Minor	Minor	Negligible
The effects recorded in grey highlighted cells are considered to be 'Significant'				

Significance is categorised as major, moderate, minor or negligible. Effects judged to be of minor or negligible significance are considered Not Significant.

9.3 Baseline Conditions

The following paragraphs detail the baseline conditions of the road links identified as being within the study area.

9.3.1 A76(T)

The A76(T) routes from Kilmarnock in the north-west to Dumfries to the south-east. The route passes through settlements such as Sanquhar, Kirkconnel and New Cumnock in

the vicinity of the Proposed Development. These settlements contain a number of schools and churches along the frontage of the A76(T).

The road is a single carriageway which is subject to the national speed limit except for sections through villages and settlements where the speed limit reduces to 30mph. The road is generally rural in nature with grass verges either side of the road and a width of approximately 7.3m, except where it passes through settlements.

All construction traffic will use the A76(T) as the two access points to the Proposed Development are taken from the road. The route can be used to access the strategic motorway network to the east of the Proposed Development as well as providing access to potential major origins of materials such as Kilmarnock to the north-west.

9.3.2 C125N

The C125N routes south-east from its junction with the A76(T) and provides access to a number of farmhouses and isolated dwellings. Approximately 70m of the road between the A76(T) junction and the access to the Proposed Development Site is included within the study area, as this is the only section of the road which construction vehicle will utilise.

There is no pedestrian footway along this section of the road other than for approximately 5m across a humpback bridge. Within the study area, the road is generally rural in nature and is approximately 6m wide.

No development related HGV movements will take place along this section of road. This is a similar arrangement as was stated for the consented Sandy Knowe Wind Farm development. The access will just be used for cars and LGVs.

9.3.3 Baseline Traffic Flows

Table 9-5 indicates the two-way Average Annual Daily Traffic Flow (AADF) in the study area and the percentage of traffic which is classified as HGVs. The source of the data is also stated. The table below also indicates the capacity of each road link in a 12-hour period as per the guidance contained within the DMRB.

Table 9-5 Study Area Baseline Traffic Flows

Counter Location	DMRB Category	Source	DMRB Capacity	Base AADF	Base HGV	2024 AADF	2024 HGV	Percentage HGV
1. A76(T) East	Urban – typical single 7.3m	DfT (2019)	57,600	2,868	322	2,961	332	11.2%
2. A76(T) West	Urban – typical single 7.3m	DfT (2019)	57,600	2,701	505	2,788	521	18.7%
3. C125N	Rural – Typical Single 6.0m	Sandy Knowe (2012)	43,200	287	7	314	8	2.4%

9.3.4 Road Safety

The *Crashmap* website has been utilised to determine the number of accidents that have occurred in the last five years of available data (2016 – 2020) along the road links

within the identified study area. The results of this investigation are indicated by Table 9-6 with additional commentary provided on fatal accidents where applicable.

Table 9-6 Accident Statistics

Counter Location	Slight	Serious	Fatal	Comments
1. A76(T) East (Between C125N and B797)	9	0	1	Fatal accident in 2017 involving 2 vehicles and 2 casualties along the A76(T) between Kirkconnel and Sanquhar.
2. A76(T) West (Between C125N and A70)	15	6	1	Fatal accident in 2018 involving 3 vehicles and 2 casualties to the east of the A76(T) / B7083 roundabout, to the west of the study area.
3. C125N (70m south of A76(T) junction)	0	0	0	n/a

Table 9-6 indicates there have been no recorded accidents on the section of the C125N road within the study area, and specifically at its junction with the A76(T). While there are a number of recorded accidents along the A76(T) within the study area, these levels of accidents are typical of roads of this nature carrying such traffic volumes.

There are no specific accident 'hotspots' within the study area that will need special consideration in relation to the Proposed Development.

9.4 Assessment of Effects

The construction traffic associated with the Proposed Development will comprise construction workers, HGVs / LGVs carrying construction materials, battery storage components, and plant and abnormal loads carrying the main wind turbine components.

Construction of the Proposed Development is estimated to take 12 months. General working hours are expected to be between 07:00 and 19:00 on weekdays and 07:00 and 13:00 on Saturdays which means that staff will predominantly arrive and depart outside the peak hours associated with the surrounding road network.

Turbine delivery, erection and commissioning activities may also take place out-with these hours depending on weather conditions.

The potential number of traffic movements that will result from the Proposed Development are set out in Table 9-7 whilst Table 9-8 indicates the distribution of traffic flows across the construction programme. This assumes that 100% of stone will be imported to site for a robust assessment.

In practice, there is potential that a proportion of stone for access tracks and hardstanding areas can be won on site which would have the effect of reducing HGV numbers to and from the Proposed Development Site. In order to provide a robust assessment, it has been assumed that concrete will be imported rather than any form of on-site batching.

Estimated movements are two-way and include HGV and abnormal loads. The movements are noted in line with an approximate 12 month construction programme and general assumptions around the composition and dimensions of associated infrastructure.

Table 9-7 Construction HGV Movements

Construction Task	Vehicle Type	Approximate No. of Loads
Site Establishment	Low Loader and Dump Truck	120
General site deliveries	Low Loader and Dump Truck	120
Imported stone (access roads, crane hardstanding areas, other hardstanding areas)	Dump Truck	3,123
Reinforcement	Low Loader	14
Foundations (off-site batched concrete)	Concrete Wagon	614
Cabling deliveries and sand	Low Loader	204
Geotextile separators	Low Loader	76
Delivery of HV electrical items	Dump Truck	25
Battery Storage Components	Low Loader	20
Cranes and related lifting equipment	Crane Vehicle	9
Erection of turbines	Abnormal Loads	66
Site reinstatement and restoration	Various	55
Total (one-way trips)		4,446
Total (two-way trips)		8,892

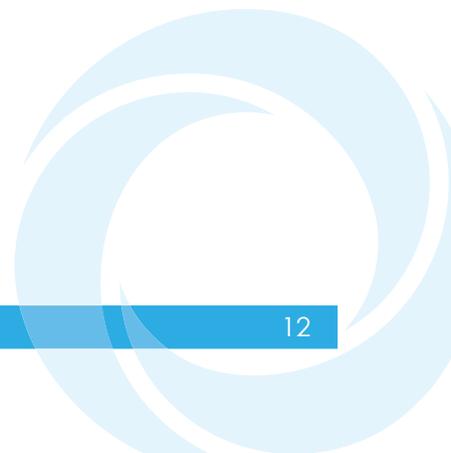


Table 9-8 Construction HGV Movements per Month

Task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
Site Establishment	60	60											120
General site deliveries	10	10	10	10	10	10	10	10	10	10	10	10	120
Imported stone (access roads, crane hardstanding areas, other hardstanding areas)	625	625	625	625	625								3123
Reinforcement					3	3	3	3	3				14
Foundations (off-site batched concrete)					123	123	123	123	123				614
Cabling deliveries and sand							51	51	51	51			204
Geotextile separators					25	25	25						76
Delivery of HV electrical items									8	8	8		25
Battery Storage Components								10	10				20
Cranes and related lifting equipment								3	3	3			9
Erection of Turbines									22	22	22		66
Site reinstatement and restoration												55	55
Total (one-way trips)	695	695	635	635	786	161	212	200	230	94	40	65	4,446
Total (two-way trips)	1,389	1,389	1,269	1,269	1,571	322	424	399	460	189	81	130	8,892

*Assuming 100% of stone imported

As Table 9-8 indicates, the predicted peak of HGV movements to and from the Proposed Development Site would be during month five of the delivery programme, with a total of 1,571 two-way HGV movements.

If an average four-week month is considered, this would equate to 393 two-way weekly HGV movements. If a 5.5 working day week is considered, this would equate to a total of 71 two-way daily HGV movements during month five of the delivery programme.

With regards to staff movements, it is estimated that there would be approximately 30 staff members on site on an average day. This will result in an average daily movement of 60 cars/LGVs (30 trips in, and 30 trips out daily) in addition to the daily average HGV movements derived from Table 9-6.

Table 9-9 indicates the daily percentage increases on the road links within the study area for the busiest month of the construction period (month five) in the assumed year of construction (2024).

A worst-case scenario of 100% construction traffic (HGV and staff movements) has been applied to each link of the A76(T) within the study area to allow the potential effects to be assessed. In addition, 100% of staff movements has also been considered on the C125N given that HGVs and abnormal loads would not be permitted to use this access point.

Table 9-9 Construction Traffic Effect on Routes within Study Area

Scenario	1. A76(T) East	2. A76(T) West	3. C125N
2024 AADF	2,961	2,788	314
2024 HGV Count	332	521	8
2024 HGV%	11%	9%	7%
Month 5 worst-case daily total traffic (HGVs + staff vehicle movements)	131	131	60
Month 5 worst-case daily HGV traffic	71	71	0
Percentage increase in total traffic levels due to the Proposed Development	4%	5%	19%
Percentage increase in HGVs due to the Proposed Development	22%	14%	0%

Table 9-9 indicates that the temporary increase in total traffic levels associated with the Proposed Development can be considered to be negligible in accordance with the IEMA Guidelines, with 'Rule 1' for all links within the study area (< 30% increase) and 'Rule 2' for the links identified as involving sensitive receptors (A76(T) East and West) within the study area (< 10% increase).

The percentage increases in HGVs are negligible for all links within the study area as the percentage impact is below 30%.

As such, it is considered that there is no requirement for a detailed assessment of environmental effects associated with the temporary increase in HGVs and staff movements.

9.5 Assessment of Cumulative Effects

Cumulative effects have been assessed for other developments which may utilise sections of the road network required for the Proposed Development. Operational wind farms have been discounted as they have negligible operational traffic and therefore have no cumulative traffic effect.

The consented Sandy Knowe Wind Farm development has also been discounted from the assessment as construction is underway, and would be completed before the proposed extension development would begin construction.

The potential for cumulative effects has been assessed by reviewing traffic flow data available from the Traffic and Transport Chapters within the respective EIARs for the relevant developments. Where applicable, the effect of the combined increase in construction traffic generated by other wind farm development(s) and the Proposed Development added to the baseline flows is considered.

Whilst the wind farm developments identified may share a similar route for abnormal load vehicles, these deliveries would not be permitted to occur at the same time and as such there is no scope for a cumulative effect of abnormal load movements.

Consented Lethans Wind Farm

Lethans Wind Farm received planning permission in June 2020 comprising 22 wind turbines at a site near New Cumnock. The Traffic and Transport EIA chapter states that the worst case traffic generating month would occur during month 19 of the construction programme, with 146 two-way HGV and 55 two-way staff movements per day.

The EIA for the consented development indicates that a distribution of 70% of HGVs and staff along the A76(T) north-west and 30% along the A76(T) south-east of the site.

It is currently unknown when construction for the consented development will commence, as it is understood that the planning application has been resubmitted to propose an increase to the turbine tip height.

Proposed Extension at Lethans Wind Farm

An application for an extension of up to 10 wind turbines onto the consented Lethans Wind Farm has been submitted and information made publicly available on the East Ayrshire planning portal.

The Traffic and Transport EIA chapter states that the worst-case traffic generating month would occur during month one of the construction programme, with 166 two-way HGV and 100 two-way staff movements per day.

The EIA Chapter for the proposed extension at Lethans Wind Farm development indicates that a robust distribution of 70% of HGVs and staff along the A76(T) north-west and 70% along the A76(T) south-east of the site had been adopted through the assessment.

As with the adjacent consented development, it is currently unknown when construction for the proposed development will commence, and when planning determination will take place.

Glenmuckloch Wind Farm

This wind farm received consent in May 2017 for eight turbines, located to the north of Kirkconnel. Within the Traffic and Transport chapter of the Environmental Statement associated with Glenmuckloch, it is proposed that access is taken from the A76 immediately to the west of Kirkconnel.

The worst-case traffic generating month for Glenmuckloch will occur during month six of a nine month construction programme. This would equate to approximately 29 two-way HGV trips per day. The EIA for the consented development indicates that a robust distribution of 100% of HGVs along the A76(T) north-west and 100% along the A76(T) south-east of the site had been adopted through the assessment.

It is currently unknown when construction for the consented Glenmuckloch Wind Farm will commence.

Summary

In summary, it is unlikely that the peak construction period associated with another wind farm development in the area would overlap with the peak construction period of the Proposed Development as the applications are at different stages in the planning process and each development has varying lengths of construction period.

The high traffic generating activities, such as the importation of stone and concrete, only occur over a few months of the whole construction period for each development. It is unlikely that the local capacity for concrete and stone production could supply several developments at once, therefore, high traffic generating activities would naturally be staggered.

Furthermore, implementation of a Construction Traffic Management Plan (CTMP) for each development would ensure that there are open lines of communication with Dumfries and Galloway Council, other local authorities where committed developments are located, Police Scotland, Transport Scotland, other stakeholders and wind farm developers to monitor the progress of the construction stages.

This process would flag whether construction HGV traffic is reaching unacceptable levels and would ensure that action is taken accordingly to minimise effects.

It should be noted that the A76(T) (where the greatest overlap of traffic increase could occur) is a good standard trunk road with a high level of residual capacity. The A76(T) is currently well used by HGVs and it is considered that the road can suitably accommodate short term and temporary spikes in traffic flow.

9.6 Mitigation Measures

While not strictly necessary to address the environmental effects associated with the increase in traffic within the study area, a CTMP is proposed as a “good practice” measure to support the Proposed Development.

The CTMP would identify measures to reduce the number of construction vehicles as well as considering ways to reduce or avoid the impact of vehicles through

construction programming / routing and identification of an individual with responsibilities for managing transport and access effects.

The CTMP would also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. The CTMP would be developed pre delivery/construction phase of the Proposed Development. Potential measures could include (but are not limited to):

- Immediately upon commencement, all deliveries, operatives and visitors to the Proposed Development Site would report to the security gate. This would be communicated to all early works contractors at their pre-start meeting;
- The main contractor would develop a logistics plan highlighting the access point for the project, loading bay, pedestrian / vehicular segregation, welfare, storage, security and material handling that would be enforced following full site establishment;
- Approved haul routes would be identified to the Proposed Development Site and protocols put in place to ensure that HGVs adhere to these routes;
- All contractors would be provided with a site induction pack containing information on delivery routes and any restrictions on routes;
- Temporary construction site signage would be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles;
- A construction traffic speed limit (for example, 20 mph) would be imposed through sensitive areas (along the C125N for example);
- The construction material 'lay down' areas would allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 6 am and after 10 pm);
- An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors would be required to give details of proposed timing of material deliveries to the Site. At this stage, they would be given a specific area for delivery;
- The CTMP and the control measures therein would be included within all trade contractor tender enquiries to ensure early understanding and acceptance / compliance with the rules that would be enforced on this project;
- Under no circumstances would HGVs be allowed to lay-up in surrounding roads. All personnel in the team would be in contact with each other and with Site management, who in turn would have mobile and telephone contact with the subcontractors;
- Roads would be maintained in a clean and safe condition;
- A wheel washing facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network; and
- Notify local stakeholders supplying advanced notice of turbine component delivery schedules.

9.7 Residual Effects

Considering that the temporary traffic and associated environmental effects are deemed to be not significant before implementation of any mitigating measures, all residual effects will also be negligible and not significant.

9.8 Summary and Statement of Significance

This Chapter considers the potential traffic and transport effects associated with the construction of the Proposed Development on the surrounding public road network and sensitive receptors.

The construction programme associated with the Proposed Development is anticipated to cover a 12 month period. During this time, 4,446 HGVs would access the Proposed Development Site, which equates to 71 daily two-way HGV trips during the peak construction month (Month 5). A robust assessment has been undertaken using the worst case scenario for two-way traffic movements, including the assumption that 100% of stone would be imported to the Proposed Development Site. The impact of total construction traffic could increase traffic flows along the road links within the study area by the following percentages:

- A76(T) West of the Proposed Development – 4%;
- A76(T) East of the Proposed Development – 5%; and
- C125N – 19%.

The percentage increase in HGVs associated with the worst case month of the construction programme for the Proposed Development could increase HGV traffic flows by the following percentages;

- A76(T) West of the Proposed Development – 22%;
- A76(T) East of the Proposed Development – 14%; and
- C125N – No additional HGV traffic.

It is important to note that these increased traffic levels are temporary in nature and represent the expected traffic generation during the busiest month of construction. Generated traffic by the Proposed Development during other months of the construction programme would be considerably lower than those assessed in this Chapter.

This Chapter concludes that environmental effects of increased traffic as a result of the Proposed Development are Not Significant prior to any mitigation measures. This Chapter also concludes that the traffic levels anticipated during the busiest month of construction can be accommodated by the existing road network within the study area, and further managed / minimised by the implementation of a CTMP.

9.9 References

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