14. MATERIAL ASSETS

This chapter reports the findings of an assessment of any likely significant effects on material assets which may have occurred or are occurring as a result of Bord na Móna's (the Applicant) historic peat extraction and ancillary activities from July 1988 to the present day that have been carried out within the Application Site. Chapter 4 (Description of the Development) provides a full description of the elements of the Project; the baseline as of July 1988, the activities from July 1988 to the cessation of peat extraction in June of 2020, the management of the Application Site since June 2020, and the activities relating to historic peat extraction intended to be carried out into the future. The assessments in this chapter will determine the any likely significant effects that occurred on material assets (or are likely to occur) during three differing timeframes termed 'phases' (as described in Chapter 4):

- **Peat Extraction Phase:** The likely significant effects on material assets which may have occurred between July 1988 and June 2020;
- **Current Phase:** The likely significant effects on material assets which may have occurred since the cessation of peat extraction in June 2020 to present day; and,
- **Remedial Phase:** The likely significant effects on material assets that are likely to occur during future plans to restore the Application Site.

As outlined in the EPA Guidelines (2022), material assets can be taken to mean built services and infrastructure, roads and traffic, and waste management. In Directive 2011/92/EU this factor included architectural and archaeological heritage. Directive 2014/52/EU now includes those heritage aspects as components of cultural heritage, which are addressed in Chapter 12 of this rEIAR. Economic assets of natural heritage include non-renewable resources such as minerals or soils, and renewable resources such as wind and water. These assets are addressed in Chapter 7 Land, Soils and Geology, Chapter 8: Hydrology and Hydrogeology, Chapter 9: Air Quality and Chapter: 10 Climate. Tourism and amenity resources, which are also considered material assets, are addressed in Chapter 5 Population and Human Health. The railway infrastructure at the Application Site is considered in Chapter 12: Archaeology and Cultural Heritage.

This chapter of the rEIAR addresses the likely significant effects of the peat extraction activities and all ancillary works on transportation and utilities (electricity and water), telecommunications and aviation assets which are economic assets of human origin.

14.1.1 Statement of Authority

This section of the rEIAR has been prepared by Ellen Costello and reviewed by Sean Creedon, of MKO. Ellen Costello is a Senior Environmental Scientist with MKO with over four years of experience in private consultancy. Ellen holds a BSc (Hons) in Earth Science, and a MSc (Hons) in Climate Change: Integrated Environmental and Social Science Aspects where she focused her studies on renewable energy development in Europe and its implications on environment and society. Ellen has been involved in a range of large-scale commercial projects and renewable energy infrastructure projects. In her role as a project manager, Ellen works with and co-ordinates large multidisciplinary teams including members from MKO's Environmental, Planning, Ecological and Ornithological departments as well as sub-contractors from various fields in the preparation and production of EIARs. Ellen is a Practitioner Member of the Institute of Environmental Management & Assessment.

Sean is an Associate Director in the Environment Team at MKO. He oversees a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery and hydrogen as well as a range of thermal and other energy related developments. He has worked on the planning and environmental impact elements within all stages of wind farm project delivery. He is a member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee

professional development. Sean has over 22 years' experience in program and project development, holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

14.1.2 Assumptions and Limitations

Traffic and Transport

- Transport movements were calculated on the basis that an average of 26 tonnes of peat was carried in each truck per delivery. Annual extraction volumes were divided by 26 to get the average number of deliveries from the Application Site for that given year;
- TII traffic count data which is used to compare the Applicant's generated traffic is only available from certain years (2020-2024) for all count locations. There are certain routes that have historical counts that date back to 1997 available on the TII website;
- The exact routes that the Applicant's trucks would have utilised to reach various destinations over the years e.g. power stations are uncertain. Likewise, the total number of movements per route is uncertain. Therefore, the average daily number of movements is assessed per route which produces a larger traffic impact than what would have occurred in reality. Where possible, the most direct route with associate traffic count data (or representative count data) is used. Where this is not available, the nearest route with count data is reviewed. The lowest, available, annual average daily traffic count data (AADT) as recorded by TII is compared with the average annual daily traffic volumes generated by the Peat Extraction Phase, the Current Phase and Remedial Phase. Estimates are used where necessary; and,
- Details pertaining to ancillary activities that would give rise to vehicular movements such as construction work, general collections and deliveries, fuel deliveries are not available or there is limited data available. It is considered that the level of movements associated with these activities are not significant in comparison to the conservative levels of truck/vehicle movements arising from peat transportation and staff movements.

Other Material Assets

- Planning and construction history details pertaining to the original water supply connection supply, and the original electrical substation which, as discussed in Section 14.3.4.1.2 pre-dates the 10/20kV substation which was granted consent by Westmeath County Council in 2005 (Ref. 05/2348), are not available.

14.2 Traffic and Transport

14.2.1 Introduction

14.2.1.1 Background and Objectives

The purpose of this section is to assess the effects on roads and traffic of the traffic movements that were generated during the Project.

14.2.1.2 Guidance and Legislation

This section of the rEIAR has been completed in accordance with the guidance set out in Chapter 1. The assessment uses standard terminology to describe the likely significant effects associated with peat

extraction activities and all ancillary works at the Application Site. Further information on the classification of effects used in this assessment is presented in Section 1.7.2 of this rEIAR.

14.2.1.3 Scoping and Consultation

The scope for this assessment has been informed by consultation with statutory consultees, bodies with environmental responsibility and other interested parties as outlined in Section 2.6 of Chapter 2 of the rEIAR.

Transport Infrastructure Ireland

A scoping request was sent to Transport Infrastructure Ireland (TII) the 2nd of December 2021. A response was received on the 8th of December 2021 outlining TII's recommendations for developments which may have future impacts on the road network. Please see Appendix 2-1 for scoping correspondences with consultees in relation to this rEIAR.

A second scoping request was sent to TII on the 14th of February 2024. A response was received on March 20th 2024, clarifying that the rEIAR Scoping document circulated is a copy originally distributed in 2021, to which TII responded under reference TII21-116436 in December 2021. The recommendations provided by TII offer only general guidance for the preparation of an EIAR, which may impact the national road and light rail networks.

Department of Transport

A scoping request was sent to the Department of Transport on the 2nd of December 2021. A response was received on the 16th of December stating that the Department has no observations to make at this time. Please see Appendix 2-1 for scoping correspondences with consultees in relation to this application.

A second scoping request was sent to the Department of Transport on the 14th of February 2024. A response was received on the 29th of February stating that the Department has no observations to make at this time.

14.2.2 Methodology

The assessment adopts the guidance for such assessments set out by TII in the document *'Traffic and Transport Assessment Guidelines May 2014*[1].

The Traffic and Transport Section of this rEIAR chapter is set out as follows:

1. A review of the historic and existing transport infrastructure in the vicinity of the Application Site, to establish the 1988 Baseline for this assessment (Section 14.2.3)
2. A description of the traffic movements associated with the Project in each phase; Peat Extraction Phase, Current Phase and the Remedial Phase (Section 14.2.4);
    a. Peat extracted from the Application Site was transported via internal rail to Ballivor Works (the Works) for appropriate processing and was subsequently moved from the Works to its end destination via the road network. The main routes identified for the Project are from the Application Site to end users such as Rhode ESB Power Station, Kilberry Works, Cúil na Móna Works, Croghan Briquette Factory, and from the Works to the horticulture industry overseas via Dublin Port
    b. The volume of traffic generated on the road network from peat extraction activities and all ancillary works through all Project phases is extrapolated from the annual peat

[1] *TII Publications May 2014 Traffic and Transport Assessment Guidelines. Available at:* https://www.TIIpublications.ie/library/PE-PDV-02045-01.pdf

volumes of extracted peat over the Peat Extraction Phase, from annual stockpiled peat delivery over the Current Phase, and from employment figures across all Project phases.

c. Utilising the TII Traffic Data website (www.nratrafficdata.ie), historical traffic counts were reviewed along the main routes from the Application Site to end users. TII traffic data predominantly covers the 2020-2024 period. Historical count data are available for some routes, and where available, have been used.

d. As a conservative measure, traffic volumes generated by the Project across all Project phases have been assessed against the lowest Average Annual Daily Traffic (AADT) data. For the Peat Extraction Phase, a theoretical 1988 AADT value has been quantified using Census population data for the State. The 31% reduction in State population between Census years 1986 and 2021 was also applied to the earliest TII Count data available i.e 2020. The lowest AADT value is compared with the Project's annual average daily traffic volume. By using the lowest AADT as a comparison, the greatest potential impact of traffic volumes generated by the Project is identified. The TII AADT data for the year 2020 is based on counts taken during a period of Covid-19 related government travel restrictions which would have resulted in an even lower level of daily traffic volumes. As this data is being used to infer a theoretical 1988 value for reduced traffic movements, the TII 2020 data has not been adjusted relative to Covid-19. This is to infer a theoretical precautionary scenario as Table 14-4 below presents the Project's traffic movements as a percentage of the lowest recorded daily traffic count. Similarly, the TII 2020 data has been utilised for the Current Phase and Remedial Phase as it is the lowest possible TII AADT recorded, and as such, presents a precautionary scenario.

e. The average daily traffic movements from the Application Site would have travelled in various directions; however, as a conservative measure, the following sections assess the impact of the total daily Project traffic movements on each route, as if all daily movements travelled to the same destination at one time. Therefore, the results generated produce a much greater impact that would have occurred in reality.

14.2.3 Establishment of Baseline (July 1988)

As described in Chapter 4, by July 1988, drainage had been installed for peat extraction at the Application Site. For the year 1988, 66,514 tonnes of peat was extracted. The traffic movements associated with this volume of peat extracted on the Application Site is detailed in Section 14.2.4.1 below.

Railway infrastructure was present at all bogs except Lisclogher West. The main entrance points to the Application Site comprised a northern and southern entrance off the Ballivor-Raharney road (which was officially designated as the R156 in 1993) leading into Carranstown and Ballivor Bogs, respectively. Adjacent to the Application Site, the Ballivor Works comprised a peat loading facility, canteen, storage sheds, maintenance buildings, staff carparks, Heavy Goods Vehicles (HGVs) storage area, refuelling area and railway terminal for the internal Bord na Móna railway and was therefore the main hub of both the Application Site and the Ballivor Bog Group writ large. It was from here that most traffic generated from the Application Site entered the local road network, with the balance of traffic generated at the Application Site joining the local road network via the site access points on various local roads as described below.

The Ballivor-Raharney road (R156) cuts through the Application Site in an east to west direction, separating Ballivor Bog to the south from the remaining four bogs to the north. The Application Site was served by the R156 and several local roads to the north, south, east and west, providing connectivity for the Application Site to the N51 and N52 (which were both designated National roads in 1977) to the north, and to the N4 (which was designated as a Motorway, the M4, in 1994) to the southwest, approximately 8.3km from the Application Site. A local road ran northwest to southeast separating Lisclogher West Bog from Lisclogher Bog. Various local roads provided access to the

Application Site as well as public rights of way which were designated into Lisclogher and Ballivor bogs. The closest settlements to the Application Site were Ballivor (approx. 2.2km east), Delvin, (approx. 2.5km north-northwest), and Raharney (approx. 3.7km west).

Peat extracted at the Application Site during the year 1988 was transported via internal rail to the Works, and from the Works onwards via road to one of a range of end destinations including Rhode ESB Power Station, Kilberry Works, Cúil na Móna Works, Croghan Briquette Factory, and from Ballivor Works to the horticulture industry overseas via Dublin Port.

As detailed in Section 5.3.3.2 in Chapter 5 of this rEIAR, employment figures at the Application Site for the year 1988 are estimated at 80 permanent employees and 20 seasonal employees.

14.2.3.1 Railways

The Bord na Móna railway infrastructure is described in detail in Section 4.2.3.6 and Section 4.5.5.1 of Chapter 4 Description of Development. A general description is included below as it forms part of the baseline environment considered relevant in this chapter. However, as a portion of the railway infrastructure is listed in the Record of Protected Structures ('RPS'; RPS No. 021-008) and is included in the National Inventory of Architectural ('NIAH'; Reg. No. 15402102), it is considered industrial heritage. The NIAH was published in 2004, and the RPS after 2004. Impacts on this asset are further assessed in Chapter 13 Archaeology and Cultural Heritage.

By 1988, peat extraction areas were served by a dynamic network of narrow-gauge rail tracks within the Application Site. As discussed in detail in Chapter 4, the Applicant's Annual Reports indicate they were first laid down in Ballivor and Bracklin bogs in the 1950s. Aerial photographs from 1973 indicate that railway infrastructure connecting Ballivor, Carranstown, Bracklin and Lisclogher bogs was in place at that time.

By 1988, two level crossings were in place at the Application Site; one at the Ballivor-Raharney road to facilitate train crossing from Ballivor Bog to Carranstown Bog and vice versa, and one to facilitate crossing from Bracklin Bog to Lisclogher Bog across a local road. Standard level crossing lamps with light sensors that switched to light on when daylight faded were fitted across all of the Applicant's crossing gates. Catch points are also fitted into railway tracks on either side of level crossing gates as a standard safety practice to de-rail any runaway trains before reaching the level crossing.

The railway tracks comprise permanent and temporary lines laid to facilitate the transportation of peat off the Application Site and into the Works for processing. Once peat stocks were exhausted from one area, the temporary tracks were taken up and re-laid in new areas of bog which had entered production. Thus, over the decades the railway line layout changed regularly. Furthermore, as areas fell out of production, some permanent railway lines were taken up completely. Records of where and when the temporary railway tracks were moved to and from over the decades have not been retained. The permanent tracks comprised one main railway route from each bog within the Application Site leading into the Works building where peat de-loading, maintenance and refuelling occurred.

The road network and access points described above remained the same throughout the proceeding decades since 1988 and still define the present-day environment.

14.2.4 Traffic Movements

14.2.4.1 Peat Extraction Phase 1988 to June 2020

Traffic movements to and from the Application Site during the Peat Extraction Phase can be found in Table 14-1 below.

Peat Extraction Activities

Average annual peat HGV movements from the Application Site from 1988 to June 2020 (when peat extraction ceased on the Application Site) can be found in Table 14-1.

In order to identify the average number of traffic movements out of the Application Site, the following assumptions have been made:

- Large transport vehicles are assumed as 26 tonne HGVs, all remaining vehicles are assumed as Light Goods Vehicles (LGVs); and,
- A 252-day work year is assumed (5 day working week over 52 weeks of a year); this is a precautionary assumption as the nature of the peat extraction works is that it is seasonal over the course of the year (only occurring from April to September) and would in reality be less than 252 days.

As detailed in Table 14-1, the average number of movements out of the Application Site per year for the period 1988 to June 2020 was 2,815, or 11 per day, based on a 252-day work year. Using the precautionary principle, it is assumed that all transport vehicles returned to the Application Site and as such, all movements in Table 14-1 have been doubled to reflect returning vehicles. Therefore, the average annual HGV movements generated by the Application Site was 5,629 or 22 per day (based on a 252-day work year).

It is estimated that over the 33-year period from 1988 to June 2020 inclusive, 92,880 HGV movements of peat were undertaken resulting in a total of 185,760 HGV traffic movements when vehicle return journey trips are counted. It should be noted that while extraction ceased in June 2020, traffic movements continued throughout the year where operations at the Application Site were focused on transferring stockpiled peat to the Ballivor Works for processing before being transported out of the Application Site.

Personnel Traffic Movements

Employment figures at the Application Site for the year 1988 are estimated at 80 permanent employees and 20 seasonal employees. From 2013 to June 2020, the Applicant employed on average 20 employees full time and on average 5 seasonal employees per annum in peat extraction activities and all ancillary works at the Application Site. It is likely that staff numbers at the Application Site gradually declined in the years prior to 2013, as there is no record of a significant change to site activities between 2012 and 2013 that would account for the significant disparity in the estimated average numbers of staff up to 2013 versus the recorded average staff numbers from 2013 onwards at the Application Site. For the purposes of the assessment a gradual reduction in staff numbers in the years prior to 2013 is not assumed. Therefore, the projected staff movements in the years leading up to 2013 as outlined in Table 14-1 would in reality have been less.

While extracted peat was exported from the Works throughout the year, peat extraction itself was seasonal, only occurring from April to September inclusive (i.e. 6 calendar months, corresponding to 126 workdays). As such, the majority of personnel travelled to and from the Application Site during these months only. The means by which personnel travelled to the Application Site included for walking, cycling, by bus, by rail and by car. Using the precautionary principle, personnel traffic movements have been calculated assuming a car (i.e. a LGV), as the sole transport mode on the road network for all staff personnel.

Using the precautionary principle, personnel traffic movements calculated in Table 14-1 considers the following:

- From the period 1988 – 2012 it is assumed all 100 personnel (80 permanent and 20 seasonal) travelled to and from the Application Site throughout the year (i.e for 252 days a year). As detailed above, seasonal personnel would only travel for 6 months a

year, but for the purposes of this assessment and to present a highly conservative precautionary scenario, it is assumed that the seasonal staff travelled all year round.
- From the period 2013-2020 it is assumed all 25 personnel (20 permanent and 5 seasonal) travelled to and from the Application Site throughout the year (i.e for 252 days a year). As detailed above, seasonal personnel would only travel for 6 months a year, but for the purposes of this assessment and to present a highly conservative precautionary scenario, it is assumed that the seasonal staff travelled all year round.
- Using the precautionary principle, it is assumed that 1 personnel member travelled per LGV to and from local towns, villages and rural settlements to the Application Site.
- Using the precautionary principle, staff personnel movements for the year 1988 have been extrapolated from the full year of employment rather than the period from July 1988 to December 1988.

Therefore, for the period 1988-2021, 100 vehicles per day were considered to have travelled to the Application Site each day for 252 workdays. For the period 2013-2020, 25 vehicles per day were considered to have travelled to the Application Site each day for 252 workdays. For both periods, it is assumed that each vehicle took two trips per day i.e to and from the Application Site. Therefore, for the period 1988-2020, 200 LGV trips per day were considered to have travelled to and from the Application Site for 252 workdays. For the period 2013-2020, 50 LGV trips per day were considered to have travelled to and from the Application Site for 252 workdays.

A total of 1,360,800 LGV traffic movements were generated by staff from 1988 to June 2020 which equates to an annual average of 41,236 LGV movements or a daily average of 164 traffic movements. These figures all reflect 2 journeys- to and from the Application Site for all personnel (permanent and seasonal) each travelling by an LGV for the full working year.

The overall total of HGV and LGV traffic movements combined average 46,674 annual movements or 185 daily movements for the Peat Extraction Phase.

Other Vehicular Movements

Further vehicular movements to and from the Application Site associated with activities such as construction work, fuel deliveries, general collections and general deliveries would have taken place as required. Similarly, approximately 5 no. staff personnel have been continuously employed by the Applicant to undertake environmental monitoring of the Applicant's sites which have been operating under IPC Licence. Accordingly, vehicular movements associated staff undertaking environmental monitoring would also have been generated through the year. These traffic movements are not considered significant when viewed in comparison to the number of movements associated with peat extraction deliveries and staff movements to and from the Application Site. As such, they are not identified in the table below. Furthermore, this is considered within the context that the traffic movements estimated for the Peat Extraction Phase vehicles have been identified on a highly conservative precautionary basis.

Table 14-1 Traffic Movements during the Peat Extraction Phase

Peat Extraction Phase 1988 to June 2020							
Year	Annual Extracted Tonnes of peat	HGV Average HGV Movements Based on a 252 day work year	HGV Average daily HGV Movements Based on a 252 day work year	LGV Estimated Staff Movements Based on a 252 day work year	LGV Average daily LGV Movements Based on a 252 day work year	HGV & LGV Total HGV and LGV Movements Based on a 252 day work year	HGV and LGV Average daily Movements Based on a 252 day work year
1988[2]	66,514	5,116	20	50,400	200	55,516	220
1989	117,755	9,058	36	50,400	200	59,458	236
1990	90,583	6,968	28	50,400	200	57,368	228
1991	86,190	6,630	26	50,400	200	57,030	226
1992	92,744	7,134	28	50,400	200	57,534	228
1993	104,742	8,057	32	50,400	200	58,457	232
1994	110,074	8,467	34	50,400	200	58,867	234
1995	104,384	8,030	32	50,400	200	58,430	232
1996	111,260	8,558	34	50,400	200	58,958	234
1997	97,800	7,523	30	50,400	200	57,923	230

[2] *Whilst the Peat Extraction Phase commenced in July 1988, in order to present a precautionary scenario, the total volume of peat extracted for the full year is used to quantify traffic movements*

Peat Extraction Phase 1988 to June 2020							
Year	Annual Extracted Tonnes of peat	HGV Average HGV Movements Based on a 252 day work year	HGV Average daily HGV Movements Based on a 252 day work year	LGV Estimated Staff Movements Based on a 252 day work year	LGV Average daily LGV Movements Based on a 252 day work year	HGV & LGV Total HGV and LGV Movements Based on a 252 day work year	HGV and LGV Average daily Movements Based on a 252 day work year
1998	102,495	7,884	31	50,400	200	58,284	231
1999	86,749	6,673	26	50,400	200	57,073	226
2000	98,702	7,592	30	50,400	200	57,992	230
2001	98,702	7,592	30	50,400	200	57,992	230
2002	28,640	2,203	9	50,400	200	52,603	209
2003	59,737	4,595	18	50,400	200	54,995	218
2004	48,956	3,766	15	50,400	200	54,166	215
2005	59,251	4,558	18	50,400	200	54,958	218
2006	68,069	5,236	21	50,400	200	55,636	221
2007	47,637	3,664	15	50,400	200	54,064	215
2008	51,829	3,987	16	50,400	200	54,387	216
2009	27,721	2,132	8	50,400	200	52,532	208

Peat Extraction Phase 1988 to June 2020							
Year	Annual Extracted Tonnes of peat	HGV Average HGV Movements Based on a 252 day work year	HGV Average daily HGV Movements Based on a 252 day work year	LGV Estimated Staff Movements Based on a 252 day work year	LGV Average daily LGV Movements Based on a 252 day work year	HGV & LGV Total HGV and LGV Movements Based on a 252 day work year	HGV and LGV Average daily Movements Based on a 252 day work year
2010	81,062	6,236	25	50,400	200	56,636	225
2011	64,951	4,996	20	50,400	200	55,396	220
2012	17,095	1,315	5	50,400	200	51,715	205
2013	108,605	8,354	33	12,600	50	20,954	83
2014	77,968	5,998	24	12,600	50	18,598	74
2015	62,267	4,790	19	12,600	50	17,390	69
2016	39,730	3,056	12	12,600	50	15,656	62
2017	51,844	3,988	16	12,600	50	16,588	66
2018	89,839	6,911	27	12,600	50	19,511	77
2019	42,115	3,240	13	12,600	50	15,840	63

Peat Extraction Phase 1988 to June 2020							
Year	Annual Extracted Tonnes of peat	HGV Average HGV Movements Based on a 252 day work year	HGV Average daily HGV Movements Based on a 252 day work year	LGV Estimated Staff Movements Based on a 252 day work year	LGV Average daily LGV Movements Based on a 252 day work year	HGV & LGV Total HGV and LGV Movements Based on a 252 day work year	HGV and LGV Average daily Movements Based on a 252 day work year
2020 (6 months from Jan 2020 to Jun 2020)	18,891[3]	1,453	6	6,300	25	7,753	31
Peat Extraction Phase 1988- June 2020	2,414,901 Total peat volumes extracted (tonnes)	185,760 Total HGV movements	22 Average daily HGV movements	1,354,500 Total LGV movements	163 Average daily LGV movements	1,540,260 Total HGV and LGV movements	185 Average daily HGV and LGV movements
	Average Annual HGV Movements only		**5,629**	**Average Annual LGV Movements only**			**41,045**

[3] *Whilst peat extraction ceased on the Application Site in June 2020, for the purposes of quantifying transport movements associated with HGV movements delivering the extracted peat during both the Peat Extraction Phase (July 1988 to June 2020) and the Current Phase (June 2020 to present day), the total peat extraction volume for the year 2020 is divided evenly over the course of the year into two 6-month blocks. For the Peat Extraction Phase, a total volume for January 2020 to June 2020 is identified (i.e half of the annual total) and for the Current Phase, a total volume for July 2020 to December 2020 is identified (i.e half of the annual total).*

14.2.4.2 Current Phase June 2020 to present day

Traffic movements to and from the Application Site during the Current Phase can be found in Table 14-2 below.

Peat Extraction

Peat extraction ceased at the Application Site in June 2020. Following cessation, peat which had already been extracted was consolidated into stockpiles, before it was transported from the Application Site to Kilberry Works, Edenderry Power Station and Derrinlough Briquette Factory, albeit at a reduced delivery rate than during the Peat Extraction Phase.

From June 2020 onwards, it is assumed that 18,891 tonnes of stockpiled peat were delivered to Kilberry Works, Edenderry Power Station and Derrinlough Briquette Factory over 726 deliveries (1,453 traffic movements).

At the start of 2021, 22,289 tonnes of stockpiled peat remained on the Application Site. By the end of that year, 15,493 tonnes were delivered to Kilberry Works, Edenderry Power Station and Derrinlough Briquette Factory over 596 deliveries (1,192 traffic movements).

By the end of 2022, 9,514 tonnes of stockpiled peat were delivered to Kilberry Works, Edenderry Power Station and Derrinlough Briquette Factory over 366 deliveries (731 traffic movements).

By the end of 2023, the remaining peat stockpiles totalling 8,528 tonnes, were delivered to Kilberry Works, Edenderry Power Station and Derrinlough Briquette Factory over 328 deliveries (656 traffic movements).

Thus, the total estimated HGV movements for the Current Phase is 4,032 from the end of June 2020 to the end of 2023, or an average of 806 movements per year or 4 HGV movements per day (based on a 252 workday, as transportation and monitoring are not seasonal like extraction).

Personnel Traffic Movements

The Applicant employed 2 No. permanent staff and 4 No. seasonal staff to facilitate the removal of stockpiled peat off the bogs for transportation to Kilberry Works, Edenderry Power Station and Derrinlough Briquette factory, until the last of the stockpiles were removed by the end of 2023.

Using the precautionary principle, personnel traffic movements calculated in Table 14-2 considers the following:

- From the period 2020-2023, it is assumed all 6 personnel (2 permanent and 4 seasonal) travelled to and from the Application Site throughout the year (i.e for 252 days a year). As detailed above, seasonal personnel would only travel for 6 months a year, but for the purposes of this assessment and to present a highly conservative precautionary scenario, it is assumed that the seasonal staff travelled all year round.
- From the period 2024-present, it is assumed all 6 personnel (2 permanent and 4 seasonal) have travelled and will travel to and from the Application Site throughout the year (i.e for 252 days a year). As detailed above, seasonal personnel would only travel for 6 months a year, but for the purposes of this assessment and to present a highly conservative precautionary scenario, it is assumed that the seasonal staff travelled all year round.
- Using the precautionary principle, it is assumed that 1 personnel member travelled per LGV to and from local towns, villages and rural settlements to the Application Site.

Therefore, for the period 2020 to present, 6 vehicles per day were considered to have travelled to the Application Site each day for 252 workdays. It is assumed that each vehicle took two trips per day i.e to and from the Application Site. Therefore, 12 LGV trips per day were considered to have travelled to and from the Application Site for 252 workdays.

Please see Chapter 4 Description for more details on the Current Phase activities. Please see Table 14-2 for the estimated annual traffic movements generated during the Current Phase.

The overall total of HGV and LGV traffic movements combined up to the end of 2023 when the last of the stockpiles were removed is estimated to be 19,404 annual movements or 19 daily movements based on a 252-day work year.

Due to the removal of all remaining stockpiles of peat on the Application Site, there are no HGV traffic movements identified for the year 2024 to present day. Therefore, the overall total of LGV traffic movements for 2024 to present day is estimated to be 3,024 annual movements or 12 daily movements based on a 252-day work year.

Table 14-2 Traffic Movements during the Current Phase

Current Phase: June 2020 to present							
Year	**Stockpiled Peat Delivered**	**HGV** Average HGV Movements Based on a 252 day work year	**HGV** Average daily HGV Movements Based on a 252 day work year	**LGV** Estimated Staff Movements Based on a 252 day work year	**LGV** Average daily LGV Movements Based on a 252 day work year	**HGV & LGV** Total HGV and LGV Movements Based on a 252 day work year	**HGV and LGV** Average Daily Movements Based on a 252 day work year
2020 (6 months from Jul 2020 to Dec 2020)[4]	18,891	1,453	6	6,300	25	7,753	31
2021	15,493	1,192	5	3,024	12	4,216	17
2022	9,514	731	3	3,024	12	3,755	15
2023	8,528	656	3	3,024	12	3,680	15
Total movements during Current Phase 2021-2023	52,246 tonnes removed	4,032 Total HGV movements	4 average daily HGV movements	15,372 Total LGV movements	15 average daily LGV movements	19,404 Total LGV and HGV movements	19 average daily HGV and LGV movements
	Average Annual HGV Movements only		**806**	**Average Annual LGV Movements only**			**3,843**
2024 to present [5]	N/A	N/A	N/A	3,024* estimated	12* estimated	3,024 LGV Only* estimated	12 LGV Only* estimated

[4] *Whilst peat extraction ceased on the Application Site in June 2020, for the purposes of quantifying transport movements associated with HGV movements delivering the extracted peat during both the Peat Extraction Phase (1988 to June 2020) and the Current Phase (June 2020 to present day), the total peat extraction volume for the year 2020 is divided evenly over the course of the year into two 6 month blocks. For the Peat Extraction Phase, a total volume for January 2020 to June 2020 is identified (i.e half of the annual total) and for the Current Phase, a total volume for July 2020 to December 2020 is identified (i.e half of the annual total).*

[5] *Under a precautionary scenario, a full year is assumed for 2024 to present day.*

14.2.4.3 Remedial Measures Phase

Traffic movements to and from the Application Site during the Remedial Phase can be found in Table 14-3 below.

It is a requirement of '*Condition 10 Cutaway Bog Rehabilitation'* of the IPC Licence (Reg. P0501-01) that the Applicant, prepare (to the satisfaction of the EPA) and implements a Cutaway Bog Decommissioning and Rehabilitation Plan for each bog. The plans set out the Applicant's proposal for each bog to facilitate and enhance peatland rehabilitation in order to bring about environmental stabilisation across the Application Site. The Applicant have produced a Cutaway Bog Decommissioning and Rehabilitation and Plan for all 5 no. bogs of the Application Site, and it is the intention of the Applicant to rehabilitate the bogs in a phased approach under IPC Licence. Please see Appendix 4-2 for details.

The Remedial Phase actions are divided into short- and long-term planning actions. As part of the short-term planning actions (0-2 years), the Applicant will undertake site wide ecological surveys, a drainage management assessment, implement drainage blocking and continue with environmental monitoring as outlined in the IPC Licence for the Application Site. These works will require 1-2 excavators and tractors at each bog per day and 1-2 personnel vehicles on site per day for the 2-year period. The tractors and excavators will be stored at the Ballivor Works (adjacent to the Application Site) at the end of the workday; they will not utilise the public road network except when crossing the road (2 movements per day) to access other bogs. The long-term phase (year 3 onwards) will entail 1-2 LGVs on site per month to evaluate the success of the plans and monitor silt ponds. Please see Chapter 4 Description for more details on the Remedial Phase activities.

For the purposes of estimating traffic generation from the above activities, 2 personnel vehicles per workday (2 vehicles on site for 252 days per year) are considered for the first 2 years and then 12 personnel vehicles per year are considered for the long-term phase over a period of 27 years. Thus, there are no HGV traffic movements anticipated for the Remedial Phase.

The overall total of LGV traffic movements for the first 2 years of the Remedial Phase is estimated to be 4,302 movements or 4 daily movements based on a 252-day work year. The overall total of LGV traffic movements for the following 27-years of the Remedial Phase is estimated to be 648 movements or 24 annual traffic movements which equates to approximately 2 per month based on a 252-day work year.

Table 14-3 Traffic Movements for the Remedial Phase

Remedial Phase				
Year	**Total HGV Movements per year**	**Average annual LGV Movements**	**Total LGV Movements over time-period**	**Average daily LGV Movements**
Year 1 and Year 2 (short term action plan)	0	2,016	4,032	4
Year 3 to year 30	0	24	648	Less than 1 per day
Total at the end of the Remedial Phase	0	1,020 Average annual Movements over 30-year period	4,680 Total LGV movements over 30-year period	Less than 1 per day

14.2.4.4 Traffic volumes generated from the Application Site in comparison to Average Annual Daily Traffic Count Data

Table 14-1 to Table 14-3 above sets out the traffic movements to and from the Application Site during the Peat Extraction Phase, Current Phase and Remedial Phase.

Table 14-4 below sets out the impact that the traffic movements generated during all three Project phases had or will have on the surrounding road networks using traffic count data from the TII website.

As detailed in Section 14.2.3, peat extracted on the Application Site was transported to the Works via internal rail, and from Ballivor Works to one of a range of end destinations including Rhode ESB Power Station, Kilberry Works, Cúil na Móna Works, Croghan Briquette Factory, and from Ballivor Works to the horticulture industry overseas via Dublin Port. The exact end destinations and haul routes are uncertain, along with commuting routes for staff personnel. Using the precautionary principle, 4 TII count locations were identified in as close to a North-East-South-West direction surrounding the Application Site. The purpose of identifying 4 proximate TII count locations at the Application Site is to identify Average Annual Daily Traffic (AADT) data for the Application Site's surrounding road network

The representative TII Count Locations selected are identified below and presented in Figure 14-1:

- **North of the Application Site:** TII Count Station TMU N52 080.0 W. Located on the N52 between Delvin and Mullingar, Delvin, Co. Westmeath. Earliest year that count data was collected: 2020
- **East of the Application Site**: TII Count Station TMU N51 040.0 E. Located on the N51 Between Athboy and Navan, Rathmore, Co. Meath. Earliest year that count data was collected: 2020.
- **South of the Application Site**: TII Count Station TMU R148 040.0 W. Located on the R148 east of Kinnegad, Ardnamullen, Co. Meath. Earliest year that count data was collected: 2020.
- **West of the Application Site**: TII Count Station TMU N52 100.0 W. Located on the N52 Between Mullingar and Tyrrellspass, Marlinstown, Co. Westmeath

The earliest count data available at all four locations is for the year 2020. For all four locations the AADT is lowest for the year 2020 when compared to 2021, 2022 and 2024 data. For the earliest year in the Peat Extraction Phase, 1988, it is considered that AADT values would have been lower than the 2020 AADT values, however, AADT count data for 1988 is unavailable. In order to estimate an AADT value that would be more representative of 1988, Census population data presented in Section 5.4 of this rEIAR has been utilised. The population of the State increased by 31% from the year 1986 (Census Year) to 2022 (Census Year), and so, in order to present a precautionary scenario and align AADT data with the population at the time, TII AADT count data for 2020 has been reduced by 31%, and a theoretical 1988 AADT Count has been deduced.

The TII AADT data for the year 2020 is based on counts taken during a period of Covid-19 related government travel restrictions which would have resulted in an even lower level of daily traffic volumes. As this data is being used to infer a theoretical 1988 value for reduced traffic movements, the TII 2020 data has not been adjusted relative to Covid-19. This is to infer a theoretical precautionary scenario as Table 14-4 below presents the Project's traffic movements as a percentage of the lowest recorded daily traffic count. Similarly, the TII 2020 data has been utilised for the Current Phase and Remedial Phase as it is the lowest possible TII AADT recorded, and as such, presents a precautionary scenario.

It should be noted that the average daily Project traffic movements (e.g., 185 daily HGV and LGV movements during the Peat Extraction Phase) leaving the Application Site would have travelled in various directions; however, as a conservative measure, Table 14-4 below calculates the impact of traffic movements associated with the Project as if all traffic movements were towards the same destination, i.e.

185 HGV and LGV movements are compared with the average annual daily traffic count on each available route. Therefore, the results below identify a much greater impact that would have occurred in reality.

The available TII traffic count data also includes a percentage of the daily recorded traffic which corresponds to HGVs. The Project's peat delivery movements are also represented as a percentage of the lowest recorded daily traffic count. As can be seen, the Application Site generated HGVs during the Peat Extraction Phase and the Current Phases are at a much lower percentage than the average daily percent of HGVs that use these roads. Likewise, the average daily HGV and LGV traffic generated by the Application Site in all phases is much lower than the lowest, available, average daily traffic counted on these roads.

Table 14-4 Traffic movements generated by the Project in comparison with TII recorded daily averages along assumed chosen routes.

Representative Count Station and Location	AADT Data Year: 1988 [6]	TII % of AADT which was HGV	Extraction Phase: 1988 to June 2020				Current Phase: June 2020 to present day					Remedial Phase	
			The Project's average Daily Traffic from 1988 to June 2020 (LGV and HGV combined)	The Project's average daily traffic movement as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	TII AADT Data Year: 2020[7]	The Project's average Daily Traffic (LGV and HGV combined)	The Project's average daily traffic movements as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	The Project's average daily LGV traffic movements	The Project's average Daily traffic movements as % of lowest available ADDT
North of the Application Site: TMU N52 080.0 W N52 Between Delvin and Mullingar, Delvin, Co. Westmeath Data Year: 2020	3,049	10.9%	185	6%	22	0.7%	4,312	19	0.4%	4	<0.1%	0.1	<0.1%

[6] For the Peat Extraction Phase, a theoretical 1988 AADT value has been quantified using Census population data for the State. The 31% reduction in State population between Census years 1986 and 2021 was also applied to the earliest TII Count data available i.e 2020.
7 TII 2020 Count Data

Representative Count Station and Location	AADT Data Year: 1988 [6]	TII % of AADT which was HGV	Extraction Phase: 1988 to June 2020				Current Phase: June 2020 to present day					Remedial Phase	
			The Project's average Daily Traffic from 1988 to June 2020 (LGV and HGV combined)	The Project's average daily traffic movement as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	TII AADT Data Year: 2020[7]	The Project's average Daily Traffic (LGV and HGV combined)	The Project's average daily traffic movements as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	The Project's average daily LGV traffic movements	The Project's average Daily traffic movements as % of lowest available ADDT
East of the Application Site (closest count location is north-east): TMU N51 040.0 E N51 Between Athboy and Navan, Rathmore, Co. Meath Data Year: 2020	2,710	3.7%	185	7%	22	0.8%	3,832	19	0.5%	4	<0.1%	0.1	<0.1%

Representative Count Station and Location	AADT Data Year: 1988 [6]	TII % of AADT which was HGV	Extraction Phase: 1988 to June 2020				Current Phase: June 2020 to present day					Remedial Phase	
			The Project's average Daily Traffic from 1988 to June 2020 (LGV and HGV combined)	The Project's average daily traffic movement as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	TII AADT Data Year: 2020[7]	The Project's average Daily Traffic (LGV and HGV combined)	The Project's average daily traffic movements as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	The Project's average daily LGV traffic movements	The Project's average Daily traffic movements as % of lowest available ADDT
South of the Application Site: TMU R148 040.0 W R148 East of Kinnegad, Ardnamullen, Co. Meath Data Year: 2020	5,093	9.7%	185	4%	22	0.4%	7,202	19	0.3%	4	<0.1%	0.1	<0.1%

Representative Count Station and Location	AADT Data Year: 1988 [6]	TII % of AADT which was HGV	Extraction Phase: 1988 to June 2020				Current Phase: June 2020 to present day					Remedial Phase	
			The Project's average Daily Traffic from 1988 to June 2020 (LGV and HGV combined)	The Project's average daily traffic movement as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	TII AADT Data Year: 2020[7]	The Project's average Daily Traffic (LGV and HGV combined)	The Project's average daily traffic movements as % of lowest available ADDT (LGV and HGV combined)	The Project's average daily HGV movements	The Project's average daily HGV as a % of lowest available ADDT	The Project's average daily LGV traffic movements	The Project's average Daily traffic movements as % of lowest available ADDT
West of the Application Site: TMU N52 100.0 W N52 Between Mullingar and Tyrrellspass, Marlinstown, Co. Westmeath Data Year: 2020	3,956	10.0%	185	5%	22	0.6%	5,595	19	0.3%	4	<0.1%	0.1	<0.1%

14.2.5 Assessment of Significant Effects and Mitigation Measures

14.2.5.1 'Do-Nothing' Option

As outlined in the EPA Guidelines (May 2022), the description of 'Do-Nothing Effects' relates to the environment as it would be in the future should the project not be carried out. As discussed in Section 3.2.1 in Chapter 3, the assessment period of this rEIAR commenced in 1988, a time at which peat extraction was already well-established at the Application Site. In the context of this rEIAR, the Project has been ongoing since the baseline assessment year of 1988. As outlined in Section 3.2.1 in Chapter 3, peat extraction activities and all ancillary works commenced at the Application Site in 1948 with the installation of drainage.

The 'Do-Nothing' option is defined as the Project (as described in Section 4.2 of Chapter 4) having ceased at the Application Site in 1988.

In the event of the cessation of the Project at the Application Site in 1988, it is assumed that those lands which by that point had not been subject to the installation of drainage and peat extraction would have remained as a relatively intact raised bog with varying raised bog habitats (such as bog woodland, fen, sphagnum mosses).

Subsequently, other land-use practices may also have taken place on the Application Site such as agricultural or commercial forestry, or other commercial or non-commercial uses. Alternative land uses are discussed in Chapter 3 – Alternatives. Under this 'Do-Nothing' option, the IPC licence and associated ongoing decommissioning and planned rehabilitation would not have occurred.

For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not peat extraction itself, it is assumed in the 'Do-Nothing' scenario that drainage would have remained in situ. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the 'Do-Nothing' scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. Minor third party turbary activities likely would have occurred along the intact bog edges as was common practise at sites such as the Application Site.

Peat extraction was underway at the Application Site prior to the required date for the transposition of the EIA Directive in 1988. If peat extraction and related activities ceased from 1988 onwards, then the various residual effects, described throughout this rEIAR, would not have occurred.

However, consideration must be given to the following:

- The legislative mandate given to the Applicant in the form of the Turf Development Act 1946, as amended) to acquire and develop peatlands; and
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this 'Do-Nothing' option was not the chosen option. Peat extraction and all ancillary works have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2020 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland. These are described in the individual chapters of the rEIAR.

In the event that Substitute Consent is not granted in effect, the 'Do-Nothing' option represents the current situation as at the date of the application for Substitute Consent. As part of the Applicant's

statutory obligations under IPC licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of the plans is included in the impact assessment below.

The role of cutaway/cutover peatlands such as the Application Site as a significant potential resource for amenity, tourism, biodiversity enhancement and conservation, improvement in air quality, climate mitigation, renewable energy development and education are part of the Applicant's vision for the Application Site. The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

14.2.5.2 Peat Extraction Phase: July 1988 to June 2020

Identification of Impact

Peat extraction activities and all ancillary works at the Application Site resulted in the concentration of daily personnel LGVs traffic movements to the Application Site in the mornings and from the Application Site in the evenings, particularly during the peat extraction season of April to September. It is estimated that an average of 163 staff personnel LGV movements were made to and from the Application Site each day.

The daily deliveries of peat out of the Application Site and subsequent return of empty vehicles resulted in a concentration of HGV movements to and from the Application Site during off peak times. An average of 26 tonnes of peat were transported per delivery and it is estimated that an average of 22 HGV movements were made to and from the Application Site each day.

The daily average of HGV and LGV traffic movements combined generated by the Application Site is 185 movements.

In comparison to the average annual daily traffic count and average annual daily HGV count for the theoretical Year 1988 along the Application Site surrounding road network, the traffic numbers generated by the Application Site are considerably lower than the daily average. The average annual LGV and HGV traffic movements generated by the Project contributed to a range of 3 - 7% of the AADT (Year 1988) for the four representative TII count locations.

The average annual HGV traffic generated by the Project contributed to a range of 0.3 - 0.5% of daily traffic volumes on representative roads and makes up approximately 3% to 16% of the HGV share of traffic volumes on representative roads (Year 1988).

Peat extraction ceased in Lisclogher Bog in 2003 and therefore the railway crossing between this bog and Bracklin went out of use. Locomotives would have crossed the R156 an average of two times per day during the Peat Extraction Phase. Given the low frequency of crossings and the presence of gates and sensory notification lighting, the impact on road users is not considered significant.

Further vehicular movements to and from the Application Site associated with activities such as construction work, fuel deliveries, general collections and general deliveries would have taken place as required. Similarly, approximately 5 no. staff personnel have been continuously employed by the Applicant to undertake environmental monitoring of Bord na Móna sites which have been operating under IPC Licence. Accordingly, vehicular movements associated staff undertaking environmental monitoring would also have been generated through the year. These traffic movements are not considered significant when viewed in comparison to the number of movements associated with peat extraction deliveries and staff movements to and from the Application Site. As such, they are not identified in the data results above. Furthermore, this is considered within the context that the traffic

movements estimated for the peat extraction phase vehicles have been identified on a highly conservative precautionary basis.

Control Measures

- Peat deliveries from the Application Site out to various destinations were carried out during off-peak times only.
- All transport HGVs underwent regular inspection and maintenance checks.
- All transport HGVs underwent wheel washing prior to leaving the Application Site to minimise the soiling of local roads.
- Only HGV licence holders operated the peat delivery vehicles and underwent regular re-training on HGV safety operations and vehicle maintenance.
- Refuelling of all HGV vehicles was undertaken at the Ballivor Works or by using bunded mobile refuelling units on site where required.
- Dust suppression measures were used when transporting peat loads to end users. Peat loads were secured with polythene film gauge sheets to prevent dust emissions to the atmosphere during transportation. (By c. 2008, fully enclosed bed trailers were used so dust generation from peat loads in transport was no longer an issue)
- Machinery crossing points on local roads between bogs were cleaned down at the end of each working day
- Two railway level crossing points at local roads were established by the Applicant at the Application Site. The railway locomotives underwent continuous inspection and maintenance to prevent fires, accidents, fuel leaks and de-railments within the bogs and at the level crossings locations. Catch points were also fitted into railway tracks on either side of level crossing gates as a standard safety practice to de-rail any runaway trans before reaching the level crossing.
- The locomotives were fitted with beam lighting, electric windscreen wipers and driving mirrors for both directions of travel. Wagons were also designate as fire safety wagons and were stocked with various fire safety paraphernalia including hoses, buckets, breathing apparatus, first aid kit, drums of foam and foam making machine, extinguishers.

Residual Effect

The traffic generated to and from the Application Site during the Peat Extraction Phase from 1988 to June 2020 is considered to have had a negative imperceptible effect on traffic volumes, roads and road users.

Impacts on road users due to the presence of level crossings to facilitate Bord na Móna locomotive movements to and from bogs within the Application Site is considered to have had a negative slight effect on traffic volumes, roads and road users.

Significance of Effects

The effects of the Peat Extraction Phase activities on traffic and transport from 1988 to June 2020 are considered not significant.

14.2.5.3 Current Phase: June 2020 to Present Day

Identification of Impact

Peat extraction ceased at the Application Site in June 2020. Traffic generated during the Current Phase comprised the removal of stockpiled peat at the Application Site to Kilberry Works, Edenderry Power

Station and Derrinlough Briquette Factory, and staff personnel vehicles travelling to and from the Application Site. Stockpile removal was completed in 2023.

The daily movements of peat out of the Application Site and subsequent return of empty vehicles resulted in a concentration of HGV movements to and from the Application Site during off peak times. An average of 26 tonnes of peat were transported per delivery and it is estimated that an average of 4 HGV movements were made to and from the Application Site each day. It is estimated that an average of 15 LGV staff movements were made, during the removal of stockpiled material, to and from the Application Site each day.

The daily average of HGV and LGV traffic movements combined generated by the Application Site is 19 movements. This is considered to be conservative as vehicle movements to and from the Application Site reduced once the final volumes of stockpiled material were removed.

In comparison to the average annual daily traffic count and average annual daily HGV count reported by TII for the year 2020 along the Application Site surrounding road network, the traffic numbers generated by the Application Site are considerably lower than the daily average. The average annual LGV and HGV traffic movements generated by the Project contributed to 0.3 – 0.4% of the AADT (Year 2020) for the representative TII count locations.

The average annual HGV traffic generated by the Project contributed to less than 0.1% of daily traffic volumes on representative roads.

Control Measures

Control measures undertaken during the Current Phase are the same as those undertaken in the Peat Extraction Phase, as detailed in Section 14.2.5.2 above. In addition, as part of the Applicant's vision for a climate neutral Ireland by 2050, the Applicant encourages and promotes car sharing and cycle to work schemes where possible for its staff personnel. Therefore, there giving rise to the potential to reduce the daily LGV numbers travelling to and from at the Application Site.

Residual Effect

The traffic generated to and from the Application Site during the Current Phase is considered to have had a negative, short term, imperceptible effect on traffic volumes, roads and road users.

Significance of Effects

The effects of the Current Phase activities on traffic and transport are considered not significant.

14.2.5.4 Remedial Phase

Identification of Impact

During the Remedial Measures Phase, ecologists, engineers and site operatives will oversee and undertake the process of rehabilitation including drain blocking which requires 1-2 HGVs per bog for the first 2 years of the Remedial Phase. These HGVs will not utilise the public road network; they will cross the road once in the morning and once in the evening to track back to the Works where they will be stored but will not contribute to traffic flow numbers. It is estimated that 1-2 LGV s will travel to and from the Application Site each day for the first two years. After that, just 1-2 LGV vehicles will be required to visit the Application Site each month to inspect the progress of the remedial measures.

In comparison to the average annual daily traffic count data reported by TII along representative roads the LGV numbers generated by the Application Site for this phase are considerably lower than the

daily average annual traffic count numbers. It is estimated that the LGV traffic generated by the Application Site for this phase will contribute to less than 0.1% of daily traffic volumes on representative roads.

Infrequent rail movements associated with maintenance works of the rail line will take place during this phase.

Mitigation Measures

- All HGVs used on site will undergo regular inspection and maintenance checks.
- All HGVs used on site will undergo wheel washing prior to crossing the local road network to access other bogs or return to the Ballivor Works for storage.
- Only HGV licence holders operated the HGVs and will undergo regular re-training on HGV safety operations and vehicle maintenance.
- Refuelling of all HGV vehicles was undertaken at the Ballivor Works only.
- Machinery crossing points on local roads between bogs were cleaned down at the end of each working day.
- Car sharing by personnel and bike to work schemes will be encouraged. As part of the Applicant's vision for a climate neutral Ireland by 2050, the applicant encourages and promotes car sharing and cycle to work schemes where possible for its personnel.

Residual Effect

The estimated traffic levels generated to and from the Application Site during the Remedial Measures Phase is considered to have had a negative, short term, imperceptible effect on traffic volumes, roads and road users.

Significance of Effects

The effects of the Remedial Measures Phase activities on traffic and transport are considered not significant.

14.2.6 Cumulative and In-Combination Effects

Given that during the Peat Extraction Phase, peat extraction activities and all ancillary works was underway across all bogs at the Application Site except Lisclogher West, it is considered that traffic movements that took place between 1953 and 1988 (i.e. between the commencement of peat extraction and before the EIA Directive was required to be transposed into Irish law), would have been less than during the Peat Extraction Phase as extraction was underway at Ballivor, Bracklin (southern section), Carranstown (eastern section) and Lisclogher (eastern section) only. The potential cumulative effect of the peat extraction activities and all ancillary works that took place prior to 1988 with the Project are considered to have had a negative, short term, imperceptible effect on traffic volumes, roads and road users.

It is intended to utilise the Application Site for both peatland remediation (rehabilitation) and wind energy infrastructure, to facilitate environmental stabilisation of the Application Site and the optimisation of climate action benefits.

As such, Cutaway Bog Decommissioning and Rehabilitation Plans are assessed as part of the planning application for this Project. As detailed in Section 14.2.5.4, the potential effect of the Remedial Phase of the Project on traffic and transport is considered a short-term, imperceptible negative effect. There is a potential for increased traffic movements associated with the implementation of the Peatland Climate Action Scheme (PCAS) on certain parts of the Application Site, however, however, there is no potential

for cumulative effects on traffic and transport as the PCAS will be completed in place of with the rehabilitation works identified in the Remedial Phase. The environmental impact assessment for the proposed Ballivor Wind Farm application includes an assessment of the implementation of the rehabilitation plans in conjunction with the construction, operation and decommissioning of the wind farm. The overall footprint of the proposed Ballivor wind farm will be less than 3% of the total area of the Application Site, and therefore will not impact or change the overall goals and outcomes of the proposed rehabilitation plans. As such, it is the intention of the Applicant to integrate the peatland remedial measures with the proposed future wind farm. The effect of the construction, operational and decommissioning phases of the proposed Ballivor Wind Farm in combination with the Remedial Phase of the Project is not considered to be significant, given the nature of the Remedial Phase works. As such the potential cumulative effect of the Project with the proposed Ballivor Wind Farm is considered to be a potential slight, negative, short term, effect on traffic volumes, roads and road users.

Furthermore, cumulative effects when considering the consented Bracklyn Wind Farm (Planning Ref: 311565) and the proposed Knockanarragh Wind Farm located approx. 6km to the north) and any other proposed, permitted or operational plans or projects listed in Chapter 2 of this rEIAR are considered not significant given the nature of the Remedial Phase works.

14.3 Other Material Assets

14.3.1 Introduction

14.3.1.1 Background and Objectives

The purpose of this section is to assess the effects of the Project on material assets such as telecoms, aviation, utilities and waste management.

14.3.1.2 Guidance and Legislation

This section of the rEIAR has been completed in accordance with the guidance set out in Chapter 1. The assessment uses standard terminology to describe the likely significant effects associated with peat extraction activities and all ancillary works at the Application Site. Further information on the classification of effects used in this assessment is presented in Section 1.7.2 of this rEIAR.

14.3.1.3 Scoping and Consultation

The scope for this assessment has been informed by consultation with statutory consultees, bodies with environmental responsibility and other interested parties as outlined in Section 2.6 of Chapter 2 of the rEIAR.

Uisce Eireann

A scoping request was issued to Uisce Eireann (formerly known as Irish Water) on the 2nd of December 2021 and again on the 27th of June 2022. An acknowledgement of the request was issued on the same date. A recent scoping request was sent to Uisce Eireann 14th February 2024, and a response was received on the 20th of March 2024. A summary of the response is provided in Chapter 2 Section 2.6 of this rEIAR, and a copy of the response is provided in Appendix 2-1.

Uisce Éireann highlight key considerations for Water Services in Environmental Impact Assessments (EIAs). These include measures to protect Drinking Water Sources, waste sampling for backfilling materials, mitigations for negative impacts on water sources, assessments of impacts on nearby reservoirs and water services capacity, and considerations for connecting to Uisce Éireann networks.

Waterways Ireland

A scoping request was sent to Waterways Ireland on the 2nd of December 2021. and on the 27th of June 2022. No response was received.

A scoping request was sent to Waterways Ireland on the 14th February 2024. A response was received on the 15th February 2024 confirming that the Application Site is not within any Zone of Influence of their waterways and therefore they will not be commenting.

Department of the Environment, Climate and Communications

A scoping request was sent to the Department of the Environment, Climate and Communications (DECC) the 2nd of December 2021. A response was received from the DECC via the EPA on the 17th of December 2021 and again on the 14th of February 2024. The response comprised a list of relevant data sources and websites relating to geological mapping, geohazards, groundwater and thermal data for the country. Please see Appendix 2-1 for scoping correspondences with consultees in relation to this application.

ESB

A scoping request was sent to the ESB on the 27th of June 2022. A scoping request was sent to the ESB on the 14th of February 2024. No response was received.

Eirgrid

A scoping request was sent to Eirgrid on the 27th of June 2022 and the 14th February 2024. No response was received.

14.3.2 Methodology

The EPA Guidelines on the information to be contained in EIARs (2022) states that material assets are taken to mean built services and infrastructure, roads and traffic and waste management. This section of the assessment focuses on those material assets other than traffic, which has been assessed in Section 14.2. This section assesses built services and infrastructure which have not already been addressed elsewhere in this rEIAR. The potential impacts on built services and infrastructure, if any, are assessed in terms of the following:

- Electricity;
- Gas Supply;
- Water Supply;
- Surface Water Infrastructure;
- Wastewater;
- Waste Management; and,
- Telecommunications and Aviation.

This section of the assessment provides a review of the material assets located within the Application Site and immediate surrounds which may have been impacted by the activities undertaken at the Application Site during the Peat Extraction Phase, Current Phase and Remedial Phase.

Scoping was carried out in line with the recommendations set out in May 2022 *Guidelines on the information to be contained in Environmental Impact Assessment Report*. A full description of the scoping and consultation exercise is provided in Section 2.6 of Chapter 2 of this EIAR. The assessment of likely significant effects on material assets uses the standard methodology and classification of impacts as presented in Section 1.7.2 of Chapter 1 of this rEIAR.

14.3.2.1 Annual Environmental Reports

Annual Environmental Reports (AERs) have been produced by the Applicant and submitted to the EPA annually since 2000 when Application Site began to operate under IPC Licence (Reg. P0501-01). AERs are submitted to the EPA by March 1st each year and include at minimum the information included in *Schedule 4 Recording and Reporting* to the Agency. The AERs include the amount of energy utilised, waste produced (type, reuse and disposal methods), and emissions for the whole Derrygreenagh Bog Group, which include, but are not specific to, the Application Site. Waste from the Allen Group is also included in these AER figures as Derrygreenagh was used as a waste collection point for all bog sites within the Derrygreenagh and Allen Bog Groups. Therefore, waste figures reported are higher than what was actually produced at the Application Site. AERs relating to IPC Licence P0501-01 are included in Appendix 4-3.

14.3.3 Establishment of Baseline (July 1988)

14.3.3.1 Electricity

It is unknown when a power supply was first established at the Application Site, but it is likely to have occurred simultaneously with the electrification of Ballivor Village in 1953-54, if not before.[8] Peat extraction equipment used on the Application Site that was electrically powered would have been energised via an internal electrical network which would have been actively in use on the Application Site. A reference to an existing power supply is included in a 1983 application for a bulk loading facility at the Works (Planning reference 83/382, located adjacent to the Application Site). Please see Chapter 4 Description of Development for details.

14.3.3.2 Gas Supply

A data request was sent to Gas Networks Ireland in April 2022. The data return concluded there are no gas pipelines within the Application Site, nor has there been a record of one.

14.3.3.3 Water Supply

There are no underground water networks within the Application Site, nor has there been a record of any. At the Works, which is located outside of the Application Site boundary, surface water drainage systems implemented as part of building and hardstand construction over the decades discharged into the adjacent Application Site peatlands surface water drainage network. Machine washings generated due to the cleaning of various plant machinery at both at the Application Site and at wash bays at the Works also drained into the adjacent Application Site peatlands drainage system.

Planning permission for a tea centre at the Works (adjacent to the Application Site) was granted in 1988. The building was connected to a pre-existing bored well water supply; however, there are no construction details available on this well. Please see Chapter 4 Description of Development for further details on the tea centre design.

14.3.3.4 Wastewater

There are no underground sewerage networks within the Application Site, nor has there been a record of any.

[8] *Rural electrification of Ballivor, Co Meath in 1954.* https://esbarchives.ie/2016/03/17/rural-electrification-of-ballivor-co-meath-in-1954/

Welfare facilities were provided for employees involved in peat extraction; however, site-specific details pertaining to the construction and design of welfare facilities when they were constructed pre-1988 for the Application Site are not available. Typical the Applicant's onsite welfare facilities included toilet facilities which served work and tea centres and were discharged into a septic tank. Final effluent from these treatment units typically discharged to ground.

14.3.3.5 Waste Management

Waste records do not exist for the Application Site for 1988. However, waste records do exist for the Peat Extraction Phase from 2000 onwards. Given that the activities ongoing at the Application Site during 1988 were the same as those which were ongoing during the Peat Extraction Phase, it is considered that the records of waste types which were generated for the Peat Extraction Phase (as per the AERs) are representative of the waste types generated at the 1988 baseline. Waste that would have been generated in July 1988 comprised the items listed below. The majority of these items were stored in a waste deposition area on the Application Site.

- Heavy and light fuels;
- Waste oils (lubricating oil, hydraulic oil) and brake fluids;
- Antifreeze;
- Scrap metal;
- Wet and dry batteries;
- General waste;
- Solvents;
- Oil filters;
- Paper and cardboard;
- Glass;
- Wood;
- Biodegradable kitchen and canteen waste;
- Workshop waste;
- Packaging waste;
- Waste plastic (primarily in the form of polythene sheeting); and,
- Boiler ash.

14.3.3.6 Telecommunications and Aviation

Radio Telefís Éireann established a TV transposer station (Planning Reference 702532) at Cairn Hill in Longford in 1970, and resultingly, a television link passes over the Application Site to a corresponding mast in the Dublin Mountains, a link which was present in July 1988. Peat extraction and related activities did not interact with TV and telecoms links which pass over the Application Site.

14.3.4 Peat Extraction Phase: July 1988 to June 2020

14.3.4.1 Electricity

14.3.4.1.1 *Grid Infrastructure*

The 110kV Mullingar to Corduff overhead 110kV transmission line traverses the Application Site in an east to west orientation at Carranstown Bog. Peat extraction was underway at Application Site prior to the installation of this line and extraction operations continued in this bog until June 2020 with no interference or impact on electricity services. Safety measures were and continue to be in place to ensure no physical interaction with peat extraction machinery and the line occurred.

14.3.4.1.2 *Rural Supply*

A planning application was granted permission by Westmeath Co. Council to construct a new 10/20kV substation at the Ballivor Works in 2005 (planning reference 05/2348, adjacent to the Application Site). The substation is located adjacent to an older substation. The floor area of the substation is 23.15m^2 and requires no water supply. The method of drainage for run off is via an open drain. The floor plan measures 3.5m by 6.615m and is 2.6m high. The building walls comprise a plaster finish. A condition of its grant of permission was that it was to be constructed as per ESB requirements. The substation is still currently operating.

14.3.4.2 Gas

A data request was sent to Gas Networks Ireland in April 2022. The data return concluded there are no gas pipelines within the Application Site.

14.3.4.3 Water Supply

There are no underground water networks within the Application Site.

As outlined above, planning permission for a Tea Centre at the Works (adjacent to the Application Site) was granted in 1988. The building was connected to a pre-existing bored well water supply; however, there are no construction details available on this well. Please see Chapter 4 Description of Development for further details on the tea centre design.

At the Works, which is located outside of the Application Site boundary, surface water drainage systems implemented as part of building and hardstand construction there over the decades discharged into the adjacent Application Site peatlands surface water drainage network at the Application Site. Machine washings generated due to the cleaning of various plant machinery at both at the Application Site and at wash bays at the Works also drained into the adjacent Application Site peatlands drainage system.

The nearest public water supply (PWS) is the Ballivor PWS within 3 km of the Application Site at its closest point. The Application Site is located more than 2km away at its closest point from the Source Protection Area (SPA) for the Ballivor PWS. The potential for the peat extraction activities and all ancillary works to impact the hydrogeology of the Ballivor PWS has been reduced as the bog drainage regime was already largely in place at the time the source boreholes were drilled (1994). The natural hydrological and hydrogeological regime of peat bogs, with little groundwater recharge and high runoff rates, also limit the potential effects that peat extraction activities and all ancillary works that may have had on local groundwater abstractions including the Ballivor PWS. The Application Site is not located within the mapped SPA area to the Ballivor PWS. Please see Chapter 8 Hydrology and Hydrogeology for further details.

14.3.4.4 Wastewater

There are no underground sewerage networks within the Application Site, nor has there been a record of any.

Welfare facilities were provided for employees involved in peat extraction; however, site-specific details pertaining to the construction and design of welfare facilities when they were constructed pre-1988 for the Application Site are not available. Typical the Applicant's onsite welfare facilities included toilet facilities which served work and tea centres and were discharged into a septic tank. Final effluent from these treatment units typically discharged to ground.

14.3.4.5 Waste Management

Waste that would have been generated in during the Peat Extraction Phase comprised the items listed below.

- Heavy and light fuels;
- Waste oils (lubricating oil, hydraulic oil) and brake fluids;
- Antifreeze;
- Scrap metal;
- Wet and dry batteries;
- General waste;
- Solvents;
- Oil filters;
- Paper and cardboard;
- Glass;
- Wood;
- Biodegradable kitchen and canteen waste;
- Workshop waste;
- Packaging waste;
- Waste plastic (primarily in the form of polythene sheeting); and,
- Boiler ash.

14.3.4.6 Telecommunications and Aviation

A telecoms scoping exercise was undertaken in February 2021 as part of the proposed Ballivor Wind Farm planning application (ABP Ref. PA25M.316212). Whilst this scoping exercise took place after the Peat Extraction Phase, the locations and status of telecommunications links, and the presence or lack of, fixed position masts at the Application Site provides an insight into what was present at the Application Site during the Peat Extraction Phase.

The scoping exercise concluded that there are no fixed position telecommunication masts within the Application Site. There are seven telecom operators with 11 no. links which traverse the Application Site as well as 1 no. Tetra Mast within 250m of the Application Site boundary.

The 11. no telecommunications links pass over and above the Application Site sending and receiving messages from one tower mast to another. These links could not be impacted by peat extraction activities and all ancillary works as these activities take place at ground level. The RTÉ 2rn link was established in 1970 and the remaining links were established from 1990 onwards with continuous retention permissions and upgrades over the years, thus demonstrating the viability of the telecommunications alongside the peat extraction industry. Peat extraction activities and all ancillary works have been in operation at the Application Site for decades prior the implementation of these telecommunication links and the Applicant's activities have and continue, to operate harmoniously with these communication assets for decades.

A scoping exercise for the proposed Ballivor Wind Farm was also undertaken with the Department of Defence and the Irish Aviation Authority (IAA). Neither statutory body indicated any potential assets in the area which may be impacted by past or proposed activities at the Application Site.

Please see scoping responses with telecommunication operators, the Department of Defence and the IAA pertaining to the proposed Ballivor Wind Farm in Appendix 14-1.

14.3.5 Current Phase: June 2020 to present day

14.3.5.1 Electricity, Gas, Water Supply, Wastewater, Telecommunications and Aviation

The material assets described in the Peat Extraction Phase under these headings are considered the same for the Current Phase. There have been no onsite changes or new applications for nearby links or

aviation assets in the surrounding landscape that could be impacted by the Current Phase at the Application Site.

14.3.5.2 Waste Management

Waste that is typically been generated in during the Current Phase comprises the items listed below.

- Heavy and light fuels;
- Waste oils (lubricating oil, hydraulic oil) and brake fluids;
- Antifreeze;
- Scrap metal;
- Wet and dry batteries;
- General waste;
- Solvents;
- Oil filters;
- Paper and cardboard;
- Glass;
- Wood;
- Biodegradable kitchen and canteen waste;
- Workshop waste;
- Packaging waste;
- Waste plastic (primarily in the form of polythene sheeting); and,
- Boiler ash.

All waste awaiting deposition is collected in a skip or appropriate waste receptacle at the Works prior to collection and transportation by a licensed waste collection contractor to a suitably licenced/permitted facility for offsite reuse/recycling/recovery/disposal as appropriate.

14.3.6 Remedial Phase

14.3.6.1 Electricity, Gas, Water Supply, Wastewater, Telecommunications and Aviation

These material assets described in the Peat Extraction Phase and Current Phase are considered the same for the Remedial Phase at the time of writing. The Remedial Measures Phase will comprise drainage blocking as part of the Cutaway Decommissioning and Rehabilitation Plans associated with Condition 10 of the IPC Licence (see Section 4.9.1 of Chapter 4 Description of Development for further detail) and routine environmental monitoring associated with the IPC Licence.

14.3.6.2 Waste Management

The Applicant has committed to continuing compliance with conditions outlined in the IPC Licence during the Remedial Phase, where applicable. Waste generated during the Remedial Measures Phase will be limited to general waste generated by the limited on-site staff, which will be transported off site by a licensed waste collection contractor and transported to a suitably licenced/permitted facility for offsite reuse/recycling/recovery/disposal as appropriate.

14.3.7 Assessment of Significant Effects and Mitigation Measures

14.3.7.1 'Do-Nothing' Option

As outlined in the EPA Guidelines (May 2022), the description of 'Do-Nothing Effects' relates to the environment as it would be in the future should the project not be carried out. As discussed in Section 3.2.1, the assessment period of this rEIAR commenced in 1988, a time at which peat extraction was already well-established at the site. In the context of this rEIAR, the Project has been ongoing since the baseline assessment year of 1988. As outlined in section 3.2.1, peat extraction activities and all ancillary works commenced at the Application Site in 1948 with the installation of drainage.

The 'Do-Nothing' option is defined as the Project (as described in Section 4.2 of Chapter 4) having ceased at the Application Site in 1988.

In the event of the cessation of the Project at the Application Site in 1988, it is assumed that those lands which by that point had not been subject to the installation of drainage and peat extraction would have remained as a relatively intact raised bog with varying raised bog habitats (such as bog woodland, fen, sphagnum mosses.

For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not peat extraction itself, it is assumed in the 'do-nothing' scenario that drainage would have remained insitu. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the 'do-nothing' scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. Minor third party turbary activities likely would have occurred along the intact bog edges as was common practise at sites such as the Application Site.

Peat extraction was underway at the Application Site prior to the required date for the transposition of the EIA Directive in 1988. If peat extraction and related activities ceased from 1988 onwards, then the various residual effects, described throughout this rEIAR, would not have occurred.

However, consideration must be given to the following:

- The legislative mandate given to the Applicant in the form of the Turf Development Act 1946, as amended) to acquire and develop peatlands; and
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this 'Do-Nothing' option was not the chosen option. Peat extraction and all ancillary works have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2020 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland and this will be a permanent positive effect across a number of environmental receptors such as ecology and hydrology. These are described in the individual chapters of the rEIAR.

In the event that Substitute Consent is not granted in effect, the "do nothing" option represents the current situation as at the date of the application for Substitute Consent. As part of the Applicant's statutory obligations under IPC Licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of the plans is included in the impact assessment below.

The role of cutaway/cutover peatlands such as the Application Site as a significant potential resource for amenity, tourism, biodiversity enhancement and conservation, improvement in air quality, climate mitigation, renewable energy development and education are part of the Applicant's vision for the Application Site. The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

14.3.7.2 Peat Extraction Phase: July 1988 to June 2020

14.3.7.2.1 *Electricity*

Identification of Impact

The 110kV Mullingar to Corduff overhead 110kV transmission line traverses the Application Site in an east to west orientation at Carranstown Bog. Peat extraction was underway at this location prior to the installation of this line and extraction operations continued in this bog until June 2020 with no interference, impact or injury reported.

As described in Chapter 4, some peat extraction machinery used during the Project was powered by electricity from overhead lines associated with an internal electricity network. However, the transition to mostly diesel-powered machinery began in the 1980s, mitigating the reliance on the electrical network to power machinery. Nonetheless, for the purposes of this assessment, it is considered that peat extraction machinery was in part powered by the internal electrical network during the Peat Extraction Phase. Additionally, electricity was required to power the welfare facilities, offices, and railway crossing infrastructure. Drainage pumps which were located on the bogs (refer to Chapter 4 Description of Development) were powered by electricity.

AERs prepared on an annual basis in compliance with the conditions of IPC Licence P0501-01 provide total energy consumption figures for the Derrygreenagh Bog Group (of which the Ballivor Bog Group is a subset and within which the Application Site is located). There are no specific energy usage figures for the Application Site.

Control Measures

- When working near power lines, all of the Applicant's sites follow the measures detailed below:
  - *All staff are trained on the routes and operating voltages of overhead electricity lines running across or near Bord na Móna landholdings.*
  - *All staff must be trained to be aware of the risks associated with overhead lines.*
  - *All contractors that may visit the sites are made aware of the location of lines before they come on to site.*
  - *Information on safe clearances is provided to all staff and bog visitors.*
  - *The suitability of machinery and equipment for use near power lines is risk assessed.*
  - *Signage is erected in canteens and on site.*
  - *Goalposts, when used, should not exceed a height of 4.2 metres, unless specifically agreed with ESB Networks*
  - *Barriers should run parallel to the overhead line at a minimum horizontal distance of 6 metres on plan from the nearest overhead line conductor wire.*
  - *On occasions when work must be carried out beneath overhead lines, a site-specific risk assessment is undertaken prior to any works. The risk assessment must take into account the maximum potential height that can be reached by the plant or equipment that will be used is undertaken prior to*

any works. Overhead line proximity detection equipment is fitted to machinery when such works are required.

- Since 2005, all of the Applicant's operations are in full accordance with The Safety, Health and Welfare Act 2005.

Residual Effect

Peat extraction activities and all ancillary works on the ground have no impact or interactions on the quality or supply of electricity from overhead power lines. Safety at work measures were in place at the Application Site to ensure no physical interaction between machinery and the line occurred. Electricity demand for the Peat Extraction Phase is considered to have been relatively minor. Therefore, the residual effect on electricity supply during the Peat Extraction Phase is considered to be long term, not significant, and neutral.

Significance of Effects

Based on the assessment above there was no significant effect on electricity supply during the Peat Extraction Phase.

14.3.7.2.2 *Water Supply*

Identification of Impact

There are no underground water networks within the Application Site. Planning permission for a Tea Centre at the Works (adjacent to the Application Site) was granted in 1988. The building was connected to a pre-existing bored well water supply; however, there are no construction details available on this well. Please see Chapter 4 Description of Development for further details on the tea centre design.

The nearest public water supply (PWS) is the Ballivor PWS within 3 km of the Application Site at its closest point. The Application Site is located more than 2km away at its closest point from the Source Protection Area (SPA) for the Ballivor PWS. The potential for the peat extraction activities and all ancillary works to impact the hydrogeology of the Ballivor PWS has been reduced as the bog drainage regime was already largely in place at the time the source boreholes were drilled (1994). The natural hydrological and hydrogeological regime of peat bogs, with little groundwater recharge and high runoff rates, also limit the potential effects that peat extraction activities and all ancillary works that may have had on local groundwater abstractions including the Ballivor PWS. The Application Site is not located within the mapped SPA area to the Ballivor PWS. Please see Chapter 8 Hydrology and Hydrogeology for further details.

Water was not directly required for peat extraction. Water supply was used for machine washing, and for welfare and canteen facilities.

Control Measures

Pre-IPC Licence

In the period between 1988 and 2000 (i.e. before the IPC Licence took effect at the Application Site), control measures had been adopted by the Applicant to protect water supply. These measures related to machinery maintenance and storage, refuelling facilities, surface water management, a maintenance programme for internal drains, maintenance of onsite water pumps, and silt management; these measures have been outlined in Sections 4.3.5.1 to 4.3.5.9 of Chapter 4.

Post-IPC Licence

In addition to the pre-IPC Licence measures described above, since 2000 when the IPC Licence took effect, the Application Site complies with Condition 6 and Condition 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively.

Condition 6 Emissions to Water

6.1 No specified emission to water shall exceed the emission limit values set out in Schedule 1(i) Emissions to Water subject to Condition 3 of this licence. There shall be no other emissions to water of environmental significance.

6.2 The licensee shall within three months of date of grant of this licence submit to the Agency or approval, a proposal for a surface water discharge monitoring location programme. This programme shall, inter alia, have regard to the current status of each bogland (virgin, under development, operational or worked out), sensitivity of the receiving water, status of silt pond upgrade programme. This programme shall be reviewed and revised as necessary each year as part of the AER.

6.3 Monitoring and analyses of each agreed emission monitoring location shall be carried out as specified in Schedule 1(ii) Monitoring of Emissions to Water of this licence. A report on the results of this monitoring shall be submitted to the Agency quarterly.

6.4 The licensee shall, within six months of date of grant of licence, present a proposal for the installation (on a long term basis) of a composite sampler to one representative discharge point within the licensed area. The proposal shall set out the rationale for selection of the nominated discharge point as well as the sampling programme. The results of this monitoring are to be reported each year as part of the AER. Any proposal to relocate the composite sampler is to be dealt with under Condition 6.3.

6.5 A summary report of emissions to water shall be submitted to the Agency as part of the AER. The information contained in this report shall be prepared in accordance with any relevant guidelines issued by the Agency.

6.6 The licensee shall, within six months of the date of grant of licence, develop and implement a programme to ensure that all drainage water from all boglands in the licensed area is discharged via an appropriately designed silt pond treatment arrangement. The programme, to be implemented within a period to be agreed with the Agency, shall ensure that all discharges associated with operational boglands should be prioritised within this programme.

6.7 Within three months of the date of grant of licence, the licensee shall prepare an operational procedure for de-silting of the silt ponds. The procedure shall as a minimum provide for visual inspection of all ponds on a fortnightly basis. The de-silting roster shall be based on recommendations of such visual inspection. A log of visual inspection and de-silting shall be maintained and a summary report on thede-silting programme shall be included in the AER. The licensee shall, within twelve months of the date of grant of this licence, demonstrate to the satisfaction of the Agency that the programme of inspection is adequate.

6.8 Silt ponds serving operational bogs shall be cleaned as a minimum twice a year, once before ditching and once before harvesting, and more frequently as inspections may dictate (refer Condition 6.7).

6.9 Within six months of the date of grant of licence, the licensee shall prepare a programme, for agreement with the Agency, to upgrade all the sedimentation pond treatment systems. The programme shall, inter alia, address provision of additional ponds, weir or pipe installation

(inlet and outlet), pond configuration, use of baffles, performance efficiency and frequency of de-silting. The upgrade shall have regard to the minimum silt pond specifications detailed in Condition 6.10.

6.10 Within three years of date of grant of this licence all existing silt ponds serving operational bogs shall achieve the following minimum performance criteria (flood periods excepted):

- *Maximum flow velocity < 10 cms-1*
- *Silt design capacity of lagoons, minimum 50 m3per nett ha of bog serviced*
- *All new ponds installed shall be designed to achieve these stated minimum design criteria.*

6.11 All silt ponds prone to flooding shall be de-silted by 1stNovember of each year. Excavated sludge shall be removed for disposal to a location outside the flood plain.

6.12 In respect of silt control the licensee shall, within nine months of date ofgrant of this licence, prepare and implement procedures to ensure that:

- *drainage manholes are protected and maintained free of excessive peat,*
- *headlands are kept clean and free of excessive loose peat,*
- *all new manholes and outfalls are set well back from turning grounds, drivers of bog plant do not turn short (over drains) at headlands,*
- *harrows, millers, ridgers do not drag loose peat onto manholes or into drains, outside harrow spoons are directed away from drains,*
- *silt run-off, while piping or ditching, is minimised,*
- *outfalls are controlled to minimise silt discharge during cleaning operations,*
- *drains are ditched in dry weather,*
- *while ditching, outfalls are blocked and ditch towards outfall,*
- *outlets from stockpile field drains are blocked during stockpile loading,*
- *field drains adjacent to stockpiles are cleaned as soon as practicable after stockpile loading,*
- *adequate room is allowed for rail bed beside Peco stockpiles,*
- *all fields that have been milled are ridged at the end of the production season,*
- *all fields liable to winter flooding have been cleared of milled peat or re-compacted at the end of the production season.*

Reason: To provide for the protection of the environment by way of control, limitation treatment and monitoring of emissions.

Condition 9 Water Protection

9.1 Surface & Groundwater Protection - Workshop areas and Depots

9.1.1 No potentially polluting substance or matter shall be permitted to discharge to off- site surface waters, off site storm drains or groundwaters.

9.1.2. Monitoring and analyses of surface water discharges shall be carried out as specified in Schedule 3 Monitoring of Workshop/Depot Surface Water Run-off of this licence. A report on the results of this monitoring shall be submitted to the Agency quarterly.

9.1.3 In the event that any analyses or observations made on the quality or appearance of surface water runoff should indicate that contamination has taken place, the licensee shall carry out an immediate investigation to identify and isolate the source of the contamination,

(i) *put in place measures to prevent further contamination and to minimise the effects of any contamination on the*

environment,

(ii) *and notify the Agency as soon as is practicable.*

9.1.4. Within twelve months of the date of grant of licence, all tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, tank and drum storage areas shall, as a minimum be bunded, either locally or remotely, to a volume not less than the greater of the following;

(i) *110% of the capacity of the largest tank or drum within the bunded area*

(ii) *25% of the total volume of substance which could be stored within the bunded area.*

9.1.5 Drainage from bunded areas shall be diverted for collection and safe disposal.

9.1.6 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee to the satisfaction of the Agency and shall be reported to the Agency within eighteen months from the date of grant of this licence and every two years thereafter. A report on such tests shall be included in the AER.

9.1.7 Within twelve months of the date of grant of licence, the loading and unloading of fuel oils shall be carried out in designated areas protected against spillage and leachate run-off. While awaiting disposal, all materials shall be collected and stored in designated areas protected against spillage and leachate run-off.

9.1.8 With the exception of roof water, all surface water discharges from workshop areas shall, within twenty-four months of date of grant of this licence, be fitted with oil interceptors.

9.1.9 A maintenance/cleaning log for all oil interceptors and septic tanks shall be maintained. This log shall also record the observations made during weekly inspections of all oil interceptors and bi-annual inspections of septic tanks.

9.1.10 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly.9.1.5 Drainage from bunded areas shall be diverted for collection and safe disposal.

9.1.11 The provision of a catchment system to collect any leaks from flanges and valves of all over ground pipes used to transport material other than water shall be examined.

9.1.12 The licensee shall undertake a programme of testing and inspection of underground fuel pipelines to ensure that all underground fuel lines are tested at least every three years. A report on the first testing shall be submitted to the Agency within twelve months of the date of grant of licence and as part of the AER thereafter.

9.1.13 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage.

9.1.14 The licensee shall within twelve months of the date of grant of licence, arrange for the removal and safe disposal of waste oil and oil contaminated soil from the scrap storage area at Derrygreenagh Works.

9.1.15 The licensee shall maintain a log of bi-annual inspections of all rail and tractor transported fuelling units. These inspections as a minimum should record any damage or leaks or flaws in rolling stock that could result in accidental spillage.

Reason: To provide for the protection of surface waters and groundwater.

Residual Effect

The residual effect of peat extraction activities and all ancillary works on water services is considered to have had a long term imperceptible neutral effect.

Significance of Effects

Based on the assessment above there were no significant effects on water supply during the Peat Extraction Phase.

14.3.7.2.3 *Wastewater*

Identification of Impact

There are no underground sewerage networks within the Application Site. Welfare facilities are present at the Works area (adjacent to the Application Site boundary) from which effluent discharges into a septic tank and then to ground. Treated wastewater is released into the Deel(Raharney), Stonyford and Boyne Rivers. The nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site.

Control Measures

The Application Site complies with Condition 6 and Condition 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively.

Residual Effect

The residual effect of peat extraction activities and all ancillary works on wastewater is considered to have had a long term imperceptible neutral effect.

Significance of Effects

Based on the assessment above there were no significant effects on wastewater during the Peat Extraction Phase.

14.3.7.2.4 *Waste Management*

Identification of Impact

Waste generated from the peat extraction activities and all ancillary works comprised heavy and light fuels, batteries, welfare and workshop waste, machine fluids, boiler ash and plastics. Where possible, relevant materials were taken by licenced contractors and the rest was disposed of on the Application Site. Following cessation of this practice in 1998/1999, all waste awaiting deposition was collected in a skip at the Works prior to collection by a licensed waste collection contractor and transported to a suitably licenced/permitted facility for offsite reuse/recycling/recovery/disposal as appropriate. Since 2000 onwards, a waste management procedure in line with Condition 7 of the IPC Licence compliance

has been in operation at the Application Site. All waste materials are documented, weighed, recycled or reused where possible, and removed from site by licenced contractors.

Control Measures

Pre-IPC Licence

In the period between 1988 and 2000 (i.e. before the IPC Licence took effect at the Application Site), control measures had been adopted by the Applicant to mitigate any impacts associated with waste management. These measures related to have been outlined in Section 4.3.5.10 of Chapter 4.

Post-IPC Licence

In addition to the pre-IPC Licence measures described above, since 2000 when the IPC Licence took effect, the Application Site complies with Condition 6 and Condition 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively.

The measures listed above in Section 14.3.4.4 and the requirements of Condition 7 of the IPC Licence provide for the reduction, reuse and recycling of waste materials where possible. Non reusable or recyclable materials were disposed of through licenced operators. The measures undertaken in July 1988 continued until 2000 when the site fell under IPC control. Condition 7 of the licence compels the Applicant to correctly dispose of waste to licenced facilities. The Derrygreenagh Works site Co. Offaly was considered a waste disposal hub i.e. bogs within the Derrygreenagh and Allen Bog Groups transported waste to Derrygreenagh Works from where licenced contractors disposed of it accordingly.

Condition 7 Waste Management

> *7.1 Disposal or recovery of waste shall take place only as specified in Schedule 2(i) HazardousWastes for Disposal/Recovery and Schedule 2(ii) Other Wastes for Disposal/ Recovery of this licence and in accordance with the appropriate National and European legislation and protocols. No other waste shall be disposed of/recovered either on-site or off-site without prior notice to, and prior written agreement of, the Agency.*
>
> *7.2 Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor, as agreed by the Agency, and only transported from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment.*
>
> *7.3 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:*
>
> > *7.3.1 The names of the agent and transporter of the waste.*
> >
> > *7.3.2 The name of the persons responsible for the ultimate disposal/recovery of the waste.*
> >
> > *7.3.3 The ultimate destination of the waste.*
> >
> > *7.3.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.*
> >
> > *7.3.5 The tonnages and EWC Code for the waste materials listed in Schedule 2(i)Hazardous Wastes for Disposal/Recovery and Schedule 2(ii) Other Wastes for Disposal/Recovery sent off-site for disposal/recovery.*
> >
> > *7.3.6 Details of any rejected consignments.*

A copy of this Waste Management record shall be submitted to the Agency as part of the AER for the site.

7.4 Within nine months of the date of grant of licence, the licensee shall submit to the Agency for agreement, a proposal for identification and management of all ash and screening disposal areas. Once agreed, the proposal shall be implemented within a time-scale stipulated by the Agency.

Reason: to provide for the disposal of waste and the protection of the environment

Residual Effect

The residual effect of peat extraction activities and all ancillary works on waste management is considered to have had a long term slight negative effect.

Significance of Effects

It is considered that the Peat Extraction Phase had a long-term slight negative effect on waste management.

14.3.7.2.5 *Telecoms and Aviation*

Identification of Impact

The RTE 2rn link was established in 1970 and the remaining 11 no. links were established from 1990 onwards with continuous retention permissions and upgrades over the years, thus demonstrating the viability of the telecommunications alongside the peat extraction activities and all ancillary works. Peat extraction activities and all ancillary works had been in operation at the Application Site for decades prior to the implementation of these telecommunication links and the Applicant's activities have operated harmoniously with these communication assets for decades.

As indicated in Section 14.3.1.3 and 14.3.4.6, there are no aviation assets in the area which had or have the potential to be impacted by past or proposed activities at the Application Site.

Control Measures

No control measures for telecoms or aviation interference were undertaken.

Residual Effect

The Peat Extraction Phase has no residual effect on telecommunications and aviation.

Significance of Effects

Based on the assessment above there was no significant effects on telecommunications and aviation during the Peat Extraction Phase.

14.3.7.3 Current Phase June 2020 to Present Day

14.3.7.3.1 *Electricity*

Identification of Impact

The grid infrastructure present during the Peat Extraction Phase is the same as the Current Phase. As the onsite activity is limited to the transportation of peat from the bogs (completed by the end of 2023) and environmental monitoring, the potential for impacting any grid infrastructure is considered less than the Peat Extraction Phase.

Control Measures

The Applicant implements all the measures listed in Section 14.3.7.2.1 across all sites at all times.

Residual Effect

There is no residual effect on electricity during the Current Phase.

Significance of Effects

Based on the assessment above there is no significant effect on electricity during the Current Phase.

14.3.7.3.2 *Water Supply*

Identification of Impact

There are no underground water or sewerage networks within the Application Site. A bored well water supply and welfare facilities are present at the Works area (adjacent to the Application Site boundary) from which effluent discharges into a septic tank and then to ground. The nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site.

Control Measures

The Application Site complies with Conditions 6 and 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively

Residual Effect

The residual effect of Current Phase activities on water supply is considered to be a short term imperceptible negative effect.

Significance of Effects

Based on the assessment above there is no significant effects on water during the Current Phase.

14.3.7.3.3 *Wastewater*

Identification of Impact

There are no underground water or sewerage networks within the Application Site. A bored well water supply and welfare facilities are present at the Works area (adjacent to the Application Site boundary) from which effluent discharges into a septic tank and then to ground. The nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site.

Control Measures

The Application Site complies with Conditions 6 and 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively

Residual Effect

The residual effect of Current Phase activities on wastewater is considered to be a short term imperceptible negative effect.

Significance of Effects

Based on the assessment above there are no significant effects on wastewater during the Current Phase.

14.3.7.3.4 *Waste Management*

Identification of Impact

Since 2000, a waste management procedure in line with Condition 7 of the IPC Licence has been in operation at the Application Site. All waste materials are documented, weighed, recycled or reused where possible, and removed from site by licenced contractors. As per AERs, the volume of waste produced during the 2001 year when extraction was underway across the Derrygreenagh Bog Group was 12,892.8 tonnes (Appendix 4-3). In stark contrast, the volume of waste produced across the Derrygreenagh Bog Group in 2022 was just 760.23 tonnes (a reduction of 94% from 2001) during a non-extraction year with over 98% of this recycled or reused (Appendix 4-3). Therefore, there has been a considerable reduction in waste material produced at the Application Site since peat extraction ceased.

Control Measures

The requirements of Condition 7 of the IPC Licence provide for the reduction, reuse and recycling of waste materials where possible. Non-reusable or recyclable materials are disposed of through licenced waste operators.

Residual Effect

The residual effect of the Current Phase activities on waste management is considered to be a short term slight negative effect.

Significance of Effects

It is considered that the Current Phase has a slight effect on waste management.

14.3.7.3.5 *Telecoms and Aviation*

Identification of Impact

The potential impacts on telecoms and aviation assets remains the same as those listed for the Peat Extraction Phase in Section 14.3.2.7.4 above

Control Measures

No control measures for telecoms or aviation are identified.

Residual Effect

The Current Phase has no residual effect on telecommunications and aviation assets.

Significance of Effects

Based on the assessment above there was no significant effects on telecommunications and aviation during the Current Phase.

14.3.7.4 Remedial Phase

14.3.7.4.1 *Electricity*

Identification of Impact

The potential impacts listed in the Peat Extraction Phase and Current Phase above remain the same. As the Remedial phase involves the blocking of drains and environmental monitoring there are no impacts on electricity.

Mitigation Measures

No mitigation measures are proposed.

Residual Effect

There will be no residual effect from the Remedial Phase on electricity.

Significance of Effects

There will be no significant effect on electricity during the Remedial Phase.

14.3.7.4.2 *Water Supply*

Identification of Impact

There are no underground water or sewerage networks within the Application Site where peatland remedial works (drain blocking in year 1 and 2 only) will be undertaken. The Application Site is not located within the mapped SPA area to the Ballivor PWS.

Mitigation Measures

The Applicant will comply with IPC Licence requirements as detailed in Section 14.3.7.2.2 during the Remedial Phase, were applicable.

Residual Effect

There will be no residual effect from the Remedial Phase on water supply.

Significance of Effects

Based on the assessment above there will be no significant effects on water during the Remedial Phase.

14.3.7.4.3 Wastewater

Identification of Impact

There are no underground water or sewerage networks within the Application Site. The nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site. Control Measures

The Application Site complies with Conditions 6 and 9 of the IPC Licence which pertain to Emissions to Water and Water Protection respectively

Mitigation Measures

No mitigation measures are proposed.

Residual Effect

There will be no residual effect from the Remedial Phase on wastewater.

Significance of Effects

Based on the assessment above there will be no significant effects on wastewater during the Remedial Phase.

14.3.7.4.4 Waste Management

Identification of Impact

Since peat extraction has ceased at the Application Site, the volume of waste produced across the Derrygreenagh Bog Group has reduced by 94% since 2001 waste generation volumes, with over 98% of the remaining being reused or recycled. Waste generated from the Remedial Phase will be limited to general waste created by the limited on-site staff (3 to 4 people for the first two years then 1 to 2 people visiting per month) which will be taken off site and recycled where possible.

Mitigation Measures

The requirements of Condition 7 of the IPC Licence provide for the reduction, reuse and recycling of waste materials where possible. Non-reusable or recyclable materials are disposed of through licenced operators. The Applicant has committed to continuing the compliance with conditions outlined in the IPC Licence during the Remedial Phase, where applicable.

Residual Effect

The residual effect of the Remedial Phase activities on waste management is considered to be a long term imperceptible negative effect.

Significance of Effects

It is considered that the Remedial Phase will have no significant effect on waste management.

14.3.7.4.5 Telecoms and Aviation

Identification of Impact

The potential impacts on telecoms and aviation remains the same as those listed for the Peat Extraction Phase and Current Phase described above. The Remedial Phase activities of drain blocking, and environmental monitoring will have no impacts or interactions with telecom links and aviation assets in the area.

Mitigation Measures

No mitigation measures for telecoms or aviation are proposed.

Residual Effect

There will be no residual effect from the Remedial Phase on telecoms and aviation assets.

Significance of Effects

There will be no significant effect on telecoms and aviation assets during the Remedial Phase.

14.3.8 Cumulative and In-Combination Effects

14.3.8.1 Peat Extraction Phase

The potential cumulative and in combination effects of the Peat Extraction Phase of the Project with other relevant activities/projects at the Application Site are considered below, including that of peat extraction activities and all ancillary works at the Application Site that took place prior to 1988. Further information on activities or developments as part of the cumulative assessment are given in Chapter 2: Background.

Electricity, Telecommunications, Aviation

Peat extraction activities and all ancillary works at the Application Site had no impact or interactions on the quality or supply of electricity, telecommunications or aviation assets. Therefore, there are no cumulative or in combination effects on these assets.

Water Supply

The residual effect of peat extraction activities and all ancillary works on water services is considered to have had a long term slight negative effect. As the nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site, the cumulative or in combination effects on water supply are assessed as the same.

Wastewater

The residual effect of peat extraction activities and all ancillary works on wastewater is considered to have had a long term slight negative effect. As the nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site, the cumulative or in combination effects on water supply are assessed as the same.

Waste Management

The residual effect of peat extraction activities and all ancillary works on waste management is considered to have had a long term slight negative effect. As there were no large-scale industrial developments within the vicinity of the Application Site, the cumulative or in combination effects on waste management are assessed as the same.

14.3.8.2 Current Phase

The potential cumulative and in combination effects of the extraction industry with other relevant activities/ projects at the Application Site during this phase are considered below. Further information on activities or developments as part of the cumulative assessment are given in Chapter 2: Background.

Electricity, Telecommunications, Aviation

The Current Phase activities at the Application Site have no impacts or interactions on the quality or supply of electricity, telecommunications or aviation assets. Therefore, there are no cumulative or in combination effects on these assets.

Water Supply

The residual effect of Current Phase on water services is considered to have a short term imperceptible negative effect. As the nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site, the cumulative or in combination effects on water supply are assessed as the same.

Waste Management

The residual effect of the Current Phase activities on waste management is considered to have had a short term slight negative effect. As there are no large-scale industrial developments within the vicinity nearest the cumulative or in combination effects on water supply are assessed as the same.

14.3.8.3 Remedial Phase

Electricity, Telecommunications, Aviation

The Remedial Phase activities at the Application Site have no impacts on the quality or supply of electricity, telecommunications or aviation assets. Therefore, there are no cumulative or in combination effects on these assets.

Water Supply, Waste Management.

The Remedial Phase activities at the Application Site will have a long-term imperceptible effect on water supply and waste management. As there are nearest public water supply is located 3km away from the Application Site and the source protection area for the scheme is 2km away from the Application Site, and there are no industrial scale developments in the vicinity of the Application Site, the cumulative or in combination effects on water supply and waste management are assessed as the same.

Potential Future Land Use

There is a potential for impacts on electricity, telecommunication services, water supply and waste management associated with the implementation of the PCAS on certain parts of the Application Site,

however, there is no potential for cumulative effects on these material assets as the PCAS will be completed in place of with the rehabilitation works identified in the Remedial Phase.

It is intended to utilise the Application Site for both peatland remediation and wind energy infrastructure, to facilitate environmental stabilisation of the Application Site and the optimisation of climate action benefits. The environmental impact assessment for the proposed Ballivor Wind Farm application (Planning Ref: 316212) will include an assessment of the implementation of the rehabilitation plans in conjunction with the construction, operation and decommissioning of the wind farm. The overall footprint of the proposed wind farm will be less than 1.4% of the total area Bog Group or 1.8% of the proposed Ballivor Wind Farm Application Site, and therefore will not impact or change the overall goals and outcomes of the proposed rehabilitation plans. As such, it is the intention of the Applicant to integrate the peatland remedial measures with the proposed future wind farm. The key objectives of environmental stabilisation and re-wetting of the cutaway areas will occur between and surrounding the proposed wind farm infrastructure. The EIAR for the proposed Ballivor Wind Farm development details issues related to potential impacts during wind farm construction.

The proposed Ballivor Wind Farm is assessed in a separate EIAR in terms of direct and indirect effects on the Material Assets and dedicated mitigation measures are included within its EIAR so as to avoid any negative effects on material assets within and surrounding the site. Overall cumulative effects when considering the life cycle of the site and the proposed Ballivor Wind Farm will not occur. Furthermore, cumulative effects when considering the consented Bracklyn Wind Farm (Planning Ref: 311565) and the proposed Knockanarragh Wind Farm located approx. 6km to the north) and any other proposed, permitted or operational plans or projects listed in Chapter 2 of this rEIAR will not occur.

14.4 Conclusion

Traffic and Transport

This section looks at the potential impact that traffic generated from the Peat Extraction Phase, Current Phase and Remedial Phases that the Project had, have or will have on traffic and transport.

This chapter assess the potential effects on roads and local traffic from the additional traffic movements that were generated during the peat extraction process and any traffic generated through ancillary activities pertaining to the extraction industry during the Peat Extraction Phase, including that of staff personnel commute. It also looks at the potential effect that the traffic movements associated with the Current and Remedial Phases at the Application Site may have on roads and traffic, namely remaining stockpiled peat deliveries, staff personnel commute and rehabilitation works.

The peat extracted and stockpiled peat during the Peat Extraction Phase and Current Phase was transported via trucks to various end users around the country. Based on the average annual volume of peat extracted or stockpiled per year at the Application Site and the average volume of peat transported per truck, an estimation of the annual number of Heavy Goods Vehicles (HGV) movements was determined for the Peat Extraction Phase and Current Phase. Employment figures at the Application Site for all Project Phases were also utilised to determine the traffic movements associated with staff personnel travelling to and from the Application Site. When comparing the average annual traffic movements to and from the Application Site to the average national traffic volumes counted at four identified Transport Infrastructure Ireland (TII) count locations surrounding the Application Site. As the earliest available data from the TII count locations is for 2020, for the Peat Extraction Phase, the average annual traffic volumes were factored to provide a more representative value for the baseline year of 1988. It is demonstrated that the additional volume of traffic generated by the Project would have been imperceptible to road users and road conditions, i.e., for the Peat Extraction Phase this equated to 3 - 7% of daily traffic volumes attributed to the Project, and for the Current Phase and Remedial Phase this equated to less than 1% of daily traffic volumes attributed to the Project.

By 1988, two level crossings were in place at Application Site; one at the Ballivor-Raharney road (now the R156) to facilitate train crossing from Ballivor bog to Carranstown bog and vice versa, and one to facilitate crossing from Bracklin bog to Lisclogher bog across a local road. Standard level crossing lamps with light sensors that switched to light on when daylight faded were fitted across all of the Applicant crossing gates. Catch points are also fitted into railway tracks on either side of level crossing gates as a standard safety practice to de-rail any runaway trans before reaching the level crossing. Extraction ceased in Lisclogher Bog in 2003 and therefore the railway crossing between this bog and Bracklin went out of use. Locomotives would have crossed the R156 an average of two times per day during the Peat Extraction Phase. Given the low frequency of crossings and the presence of gates and sensory notification lighting, the impact on road users is not considered significant.

Other Material Assets

This chapter also reviews other material assets located within the Application Site and immediate surrounds which may have been impacted by the Project such as utilities (water, wastewater, electricity, gas), telecommunications, aviation and waste management. There is no public water supply or gas infrastructure within the Application Site. The 110kV overhead line traverses Carranstown Bog and several telecommunication links pass over the Application Site. These assets were established long after peat extraction activities and all ancillary works commenced at the Application Site and have been able to operate successfully and uninhibited alongside Peat Extraction Phase and Current Phase activities and will continue to do so during the Remedial Phase of the Project. A scoping exercise with the Irish Aviation Authority indicates that no aviation assets are impacted by activities past, present or future at the Application Site

Since 2000, the Application Site has been operating under IPC Licence control which requires all hazardous and non-hazardous materials to be disposed of appropriately by licenced waste management operators. Likewise, details pertaining to waste (types, volume, name and address of licenced waste removal contractor, volumes recycled and reused), are recorded in AERs and submitted to the EPA annually and included in Appendix 4-3 of the rEIAR. Over the past few decades, peat extraction decreased at the Derrygreenagh Bog Group (of which the Ballivor Bog Group is a subset and in which the Application Site is located) and consequently the volume of waste produced has also decreased. This fall in waste production has and will continue to fall during the Current Phase and Remedial Phases due to limited activities occurring at the Application Site.