Weaverthorpe-1 Exploration Well Emissions Report

Land north of Butt Lane, Foxholes, Driffield, YO25 3HY

esg risk emissions engagement

Reasonable worst-case forecast for Scope 1, 2 and 3 emissions for the Weaverthorpe-1 exploration well

Published By
sustain:able

25th March 2025

Prepared for Egdon Resources U.K. Limited

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Executive Summary

This report is an overview of the emissions calculations undertaken to assess the reasonable worst-case emissions from the planned Weaverthorpe-1 exploration well, to be operated by Egdon Resources U.K. Limited ('Egdon'). The proposed well is to be drilled from a site located within the production and exploration licence PEDL 347, ~0.85 km east of the village of Foxholes in North Yorkshire.

Egdon is seeking temporary planning permission from North Yorkshire Council (NYC) for the construction of a temporary wellsite, operation of a drilling rig for the exploration of subsurface hydrocarbons, testing, and retention of the equipment. The planning permission would be for three years and would allow Egdon to undertake gas exploration and testing within that period; the individual operations are of short duration, but the three-year period would allow for any delays e.g. contractor-availability issues. By the end of the three-year permission, the land would be restored and all plant and machinery removed from the Site. Any planning application for, and consideration of emissions related to, any future development of the Weaverthorpe site for long term production are not considered at this stage. Details of the exploration well and associated activities were provided by Egdon and combined with relevant emissions factors used to produce an overall absolute emissions estimate for the project.

The reasonable worst-case forecast emissions for drilling of the Weaverthorpe-1 exploration well and associated activities are estimated to be **1,675 tCO_2e**. The most significant activities contributing to the emissions are gas flaring during testing, and the emissions associated with operating the drilling rig. This reasonable worst case assumes the well is ultimately unsuccessful, with the well decommissioned and the site restored.

The proposed well site at Butt Lane, Foxholes lies within the unitary authority of North Yorkshire. The Tyndall Centre for Climate Change Research, part of the University of Manchester, has calculated a recommended aggregate Carbon Budget for North Yorkshire of 9.6 Mt CO_2 for 2023 to 2027 (Kuriakose et al., 2025). 1,675 tCO_2e represents 0.0174% of the total budget for North Yorkshire during this period.

In a success case, the site would be suspended and retained as a smaller site area, meaning that a lower scale of activities to redefine the site area and retain it would be undertaken. In this regard, the emissions associated with the exploration well operations reduce to **1,624 tCO_2e.** This report assesses only the emissions associated with drilling of the Weaverthorpe-1 exploration well. Any future development or activity above and beyond this is not considered, but would be captured in subsequent planning applications in the event of any future development proposal.

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1 Glossary of Terms & Conversions

Abbreviation/Term	Definition
BCF	Billion cubic feet of gas
CH_4	Methane
CO_2	Carbon dioxide
EF	Emissions factor
GHG	Greenhouse gas
GWP	Global warming potential
HGV	Heavy goods vehicle
LGV	Light goods vehicle
m^3	Cubic metres
MD	Measured depth along the borehole measured from ground level
MMscf*	Million standard cubic feet of gas
$MtCO_2e$	Million tonnes of carbon dioxide equivalent
N_2O	Nitrous oxide
tCO_2e	Tonnes of carbon dioxide equivalent
TVDbgl	True vertical depth of the borehole below ground level datum

* It is common in the oil and gas industry to represent millions by the notation 'MM' (e.g. MMboe to signify millions of barrels of oil equivalent). This may be different to other industries where millions may be represented by one 'M' only (e.g. $MtCO_2e$).

Unit	Conversion
1 m^3 of gas	35.3147 scf
1 m^3 of gas*	0.000738 tonnes
1 litre diesel (100% mineral)	0.000834 tonnes
1 litre diesel (avg. biofuel blend)	0.000831 tonnes
1 litre petrol (avg. biofuel blend)	0.000750 tonnes

* Based on analogue Marishes-1 gas sample with density 0.738 kg/ m3 at standard conditions.

2 Summary of the Project

Egdon Resources U.K. Limited ('Egdon') is proposing to drill an exploration well from a site within Licence area PEDL 347, awarded by the Oil and Gas Authority, now the North Sea Transition Authority (NSTA), in July 2016. The proposed wellsite, including the access track from Butt Lane, is approximately 1.2 hectare in size, located on agricultural land ~0.85 km east of Foxholes in North Yorkshire, onshore UK. For the purposes of this assessment, it is assumed that the project will be undertaken in 2026.

The exploration well, provisionally designated Weaverthorpe-1, will be targeting the Triassic aged Sherwood sandstones. The objective of the well is to assess the potential for dry natural gas accumulations within this formation in a four-way dip and fault-closed structure, up-dip of the Fordon-2 well, which was drilled in 1974 by BP and is located approximately 5km to the east of the Weaverthorpe site.

Weaverthorpe-1 is planned to drill into the crest of the target formation with a 0.4 km step-out from the well pad. The well is expected to be drilled to a total depth of 1,100m TVDbgl (2,988 m MD) with the expectation of finding an accumulation of dry gas within the target reservoir interval near the base of the well.

If evaluation of drilling logs indicate positive gas indications that warrant testing, production casing will be installed in the borehole and the formations will be flow tested for a maximum period of 96 hours (4 days), which is the NSTA short term test limit (NSTA, 2022).

This report summarises the calculation of the "reasonable worst-case" potential Scope 1 and Scope 3 emissions that could result from drilling, testing and decommissioning of the Weaverthorpe-1 well and wellsite. There will be no electricity imported from the grid to power the site during these operations. Therefore, Scope 2 emissions are assumed to be zero.

This emissions assessment was undertaken using activity data provided by Egdon, as well as industry averages where appropriate. Emissions were calculated from the mobilisation and site construction phase all the way through to the site restoration phase. The methodology, assumptions and results of this emissions evaluation are discussed below.

3 Methodology and Assumptions

Egdon's planned operations are split into four phases, each with an approximate timescale over which the activities will occur (see Table 1). It is likely that there will be dormant periods in between phases and these activities will not be immediately sequential. There will be no activity during dormant periods and therefore no associated emissions.

Detailed activity data and the emissions sources considered for each phase was provided by Egdon and is discussed further in Section 3.1. The principles and methodologies of the GHG Protocol (Greenhouse Gas Protocol, 2016) and ISO 14064-1 (ISO, 2018) have been applied for assessing the project emissions in this study.

Table 1. Summary of the four phases comprising Egdon's Weaverthorpe-1 exploration well project

Project Phase	Description	Approximate Timescale
Phase 1	Site Construction - civil works	5 weeks
Phase 2	Drilling of well - conductor installation, drilling, completing well for testing	8 weeks (including two weeks for mobilisation and demobilisation)
Phase 3	Testing	4 weeks (maximum total flaring time 96 hrs)
Phase 4	Well Decommissioning and Site Restoration (or in success case site suspension)	6 weeks (site suspension in success case would take 4 weeks)

3.1 Emission Sources

The following emissions sources, presented in Table 2, were identified for the Weaverthorpe-1 exploration well across the four phases of the project. Activity data was either provided by Egdon, taken from an industry standard, government database, or from a representative vehicle/source specification (detailed in Table 3). Detailed assumptions are documented in Appendix 1.

Table 2. Summary of activities and emissions sources across each phase of the Weaverthorpe-1 exploration well project

Phase		Weeks	Emissions Sources
1	Site Construction	5	• Onsite electricity generation for security facilities via diesel generator • HGV material and equipment deliveries to site • Contractor and employee commuting by LGV and car • Civil/excavation equipment mobilisation, operation and demobilisation
2	Drilling and Completion	8	• Onsite electricity generation for security facilities via diesel generator • HGV material and equipment deliveries to site • Contractor and employee commuting by LGV and car • Drilling rig & conductor rig mobilisation, operation and demobilisation • Drilling mud degassing
3	Testing	4	• Onsite electricity generation for security facilities via diesel generator • HGV material and equipment deliveries to site • Contractor and employee commuting by LGV and car • HGV waste and fuel services • Crane, coil tubing and temporary test facilities mobilisation, operation and demobilisation • Test flaring of Weaverthorpe-1 well
4	Well Decommissioning and Site Restoration	6	• Contractor and employee commuting by LGV and car • Materials delivery • Site restoration equipment and material removal • Waste removal • Workover rig, crane & slickline mobilisation, operation and demobilisation for well P&A • Site restoration construction vehicle operation

Table 3. Summary of the sources of activity data and assumptions for calculation of emissions for the Weaverthorpe-1 exploration well

Activity/Data Type	Activity Data	Fuel Consumption	Emissions Factors (EFs)	References
	Unit volumes of fuels (e.g. MMscf/day), mileage, &/or duration of activity	*Fuel consumption rates for calculation of total fuel consumed over life of project*	*EFs used specific to fuel type*	*Sources of fuel consumption rates and EFs*
On-site power requirements – diesel generator	Egdon	Egdon	sustain:able	[1]
Rig activities (conductor, drilling, coil tubing, slickline)	Egdon	Egdon	sustain:able	[2]
Civil works equipment – site preparation and restoration	Egdon	Egdon	sustain:able	[2]
Other vehicles (e.g. cranes, waste removal)	Egdon	Egdon	sustain:able	[2]
Flaring emissions	Egdon	Egdon	Egdon	[3]
Drilling mud degassing	Egdon	sustain:able	sustain:able	[4]
HGVs & LGVs associated with movements of equipment and materials to/from site	Egdon	sustain:able	sustain:able	[5]
Cars associated with contractor and employee movements	Egdon	sustain:able	sustain:able	[5]

[1] EEMS Atmospheric Emissions Calculations (EEMS, 2008), [2] Conversion factors 2024, full set, UK Government (DESNZ and DEFRA, 2024), [3] Egdon provided gas composition of Marish-1 gas sample, considered a near-by analogue. [4] Onshore well mud degassing 2021 API Compendium (American Petroleum Institute, 2021). [5] Table 4-12, Equations 4-18/4-19 2021 API Compendium (American Petroleum Institute, 2021).

3.2 Key Activity Assumptions

Assumptions relating to key activities for the Weaverthorpe-1 well, that constitute a reasonable worst-case are included below, with a complete list of assumptions documented in Appendix 1:

- Security is needed onsite for Phases 1 to 3 of the project and there are dormant periods between phases which necessitates equipment and personnel to be mobilised and demobilised for each phase. Nothing would remain onsite during dormant periods, apart from any installed wellhead and site fencing and gates;
- Power generation for security offices and personnel is provided by onsite diesel generators assumed to run 24 hours a day during active periods;
- The drilling rig runs 24 hours a day, 7 days a week during a 6 week drilling period but all other onsite activities such as civil works, installing the conductor prior to commencing drilling, coil tubing operations, crane usage and decommissioning slickline and workover

activity are conducted during a 12-hour day. Drilling mud degassing emissions during the entire drilling period is also included;

- The well is assumed to be flow tested at the maximum flare capacity of 2.5 MMscf/d for the maximum allowable time period of 96 hours (4 days). In reality, a typical flow test will tend to ramp up and down during this flow period to gain maximum information from the test. The supporting facilities for testing are considered fully operational, 24 hours a day, for a full 28 day period. Both of these assumptions are considered a worst-case scenario in terms of emissions;
- A combustion efficiency of 98% is assumed for the test flaring (based on 3rd party contractor flare specification) and gas composition is assumed to analogous with the historical production from the Marishes-1 well (93.5% CH_4, 1.2% N_2, 0.4% CO_2, 4.9% C_2-C_6+) which is located some 16 kilometres to the west and was drilled by KELT in 1989. Egdon predicts that Weaverthorpe-1 gas may have a higher N_2 (nitrogen) content which would result in a lower emissions factor compared to the Marishes-1 well. Therefore the emissions factor used in this study for the flaring of gas at Weaverthorpe-1 is considered to be a worst-case scenario;
- The emissions associated with decommissioning the well and restoring the well site are included in this reasonable worst-case scenario, rather than the emissions associated with a success case where the site is suspended and reduced in size in anticipation of further development;
- Fuel consumption for HGVs assumes that all vehicles are on average 50% laden;
- HGV fuel use was pro-rated based on estimated maximum weights of vehicles going from 3 axle to 6 axle;
- No car sharing or electric vehicle use is assumed for personnel movements to/from site. Mileage and number of vehicle trips are rounded up, not down.

3.3 Emissions Factors and Global Warming Potentials

Table 4 below shows the Global Warming Potential (GWP) factors and Table 5 shows the emissions factors used to estimate emissions from the Weaverthorpe-1 operations.

GWP factors measure the relative heat-trapping ability of GHGs over a specific time horizon, usually 20 years or 100 years, compared to carbon dioxide (CO_2), which has a GWP of 1. According to the IPCC's Fifth Assessment Report (AR5), over a 100-year timeframe, methane (CH_4) has a GWP of 28 when considering only direct effects and 34 when including climate-carbon feedbacks due to its stronger short-term warming effect, though it breaks down faster in the atmosphere. Nitrous oxide

(N_2O) has a GWP of 265 without feedbacks and 298 with feedbacks, due to its long atmospheric lifespan and strong radiative forcing. This means that methane has a warming impact 28 times larger than carbon dioxide, and nitrous oxide has 265 times the warming impact of CO_2. Use of these GWP factors allow all GHGs to be presented as a carbon dioxide equivalent (CO_2e) value.

An emissions factor is a coefficient that quantifies the amount of GHG emissions produced per unit of activity, such as fuel combustion or industrial processes, and is used to estimate emissions based on operational data.

In this study, the 100-year global warming potentials were taken from the IPCC AR5 report excluding carbon feedbacks to ensure alignment and consistency with the 2024 UK Government GHG Conversion Factors for Company Reporting (DESNZ and DEFRA, 2024). Emissions factors for all relevant fuels expected to be utilised during the Weaverthorpe-1 operations have been taken from UK Government GHG Conversion Factors (DESNZ and DEFRA, 2024) and industry sources (American Petroleum Institute, 2021).

If gas is discovered in the target reservoir during drilling of Weaverthorpe-1, Egdon may choose to conduct flow testing in order to estimate the total gas resource present. Since the Fordon-2 well (drilled in 1974) which was located some 5 km to the east was not tested, specific gas composition data is not currently available for the Weaverthorpe prospect. Therefore, emission factors for any potential gas flared during testing have been estimated using an analogue gas composition from the nearby historical gas producing well, Marishes-1. Flaring of gas assumes 98% combustion efficiency based on the 3rd party contractor's equipment specifications.

Table 4. Global Warming Potential (GWP) factors used in this study

Global Warming Potential Factors - CO_2 Equivalent (AR5 [1])				
CO_2	**CH_4**	**N_2O**	**Notes**	**Reference**
1	28	265	100-year factors, excluding carbon feedbacks	2024 UK Govt emissions database

[1] IPCC 5th Assessment Report (IPCC, 2014).

Table 5. Emissions factors for fuel combustion used for emissions calculations

Activity	Fuel Type	Unit	tCO_2e of CO_2 per unit	tCO_2e of CH_4 per unit	tCO_2e of N_2O per unit	Density (kg/m^3)
Onsite diesel engines	Diesel (100% mineral) [1]	Tonnes	3.1643	0.00035	0.0392	833.68
Vehicles - Trucks	Diesel (Average biofuel blend) [1]	Tonnes	2.9749	0.00035	0.0389	830.72
Vehicles – Passenger (medium car)	Petrol (Average biofuel blend) [1]	Tonnes	2.7598	0.01084	0.0079	750.18
Flaring (gas)	Marishes-1 gas 98% efficiency [2]	Tonnes	2.7395	0.52360	0.0215	0.738
Venting (gas)	Marishes-1 analogue [2]	Tonnes	0.0117	24.133	0.00	0.738
Drilling mud degassing	Default gas assumed [3]	Per drilling day	0.00	1.2824	0.00	-

[1] Conversion factors 2024, full set, UK Government (DESNZ and DEFRA, 2024), [2] Egdon provided gas composition of Marish-1 gas sample, considered a near-by analogue. [3] Onshore well mud degassing 2021 API Compendium (American Petroleum Institute, 2021). Note: GWP factors have already been applied so all factors are represented in tCO_2e. Note that values are rounded from many decimal places, therefore totals may not sum exactly.

3.4 Exclusions

The following activities were excluded from the emissions estimates for the Weaverthorpe-1 operations:

- As Weaverthorpe-1 would be an exploration well, any future drilling or production at the field is not within the scope of this report and therefore Scope 3 Category 11 emissions are not included.
- Any imported electricity, heat or energy, classified as Scope 2, is not included in these calculations as these planned operations will not utilise any grid electricity.
- Embedded emissions from materials used throughout the project are not included.

4 Results

4.1 Project Emissions

Table 6 below summarises the total emissions for the reasonable worst-case scenario, split according to the phase of operations, and Table 7 summarises these emissions by scope. The results are also presented in Figures 1 and 2 below, which highlight that the majority of emissions are emitted during the drilling (37%) and testing (45%) phases, mainly due to fuel combustion by the drilling rig and

flaring of gas during testing. Table 7 and Figure 3 show the emissions summarised by scope—no electricity will be drawn from the grid during the Weaverthorpe-1 operations. Therefore, Scope 2 emissions are zero. Scope 1 emissions are estimated to account for 45% of total emissions, with Scope 3 emissions contributing 55% in this reasonable worst case.

If the site is suspended rather than decommissioned and restored, the emissions in Phase 4 are lower, reducing the total project emissions to 1,624 tonnes CO_2e. This is due to a lower scale of activities to reduce the site area and retain it, as opposed to well decommissioning and full site restoration.

Table 6. Emission summary by project phase for the Weaverthorpe-1 exploration well reasonable worst-case scenario

Phase		CO_2 tonnes CO_2e	CH_4 tonnes CO_2e	N_2O tonnes CO_2e	TOTAL tonnes CO_2e
1	Site Construction	135	0.03	1.65	136
2	Drilling	555	54.0	6.73	616
3	Testing	640	109	5.32	755
4	Well Decommissioning and Site Restoration	166	0.03	2.04	168
Total		**1,496**	**163**	**15.7**	**1,675**

Note: Values are rounded from many decimal places and therefore totals may not sum exactly.

Table 7. Summary by emissions scope for the Weaverthorpe-1 exploration well reasonable worst-case scenario

Emissions Scope		CO_2 tonnes CO_2e	CH_4 tonnes CO_2e	N_2O tonnes CO_2e	TOTAL tonnes CO_2e
1	Scope 1	635	109	5.26	750
2	Scope 2	0	0	0	0
3	Scope 3	861	54.1	10.5	925
Total		**1,496**	**163**	**15.7**	**1,675**

Note: Values are rounded from many decimal places and therefore totals may not sum exactly.

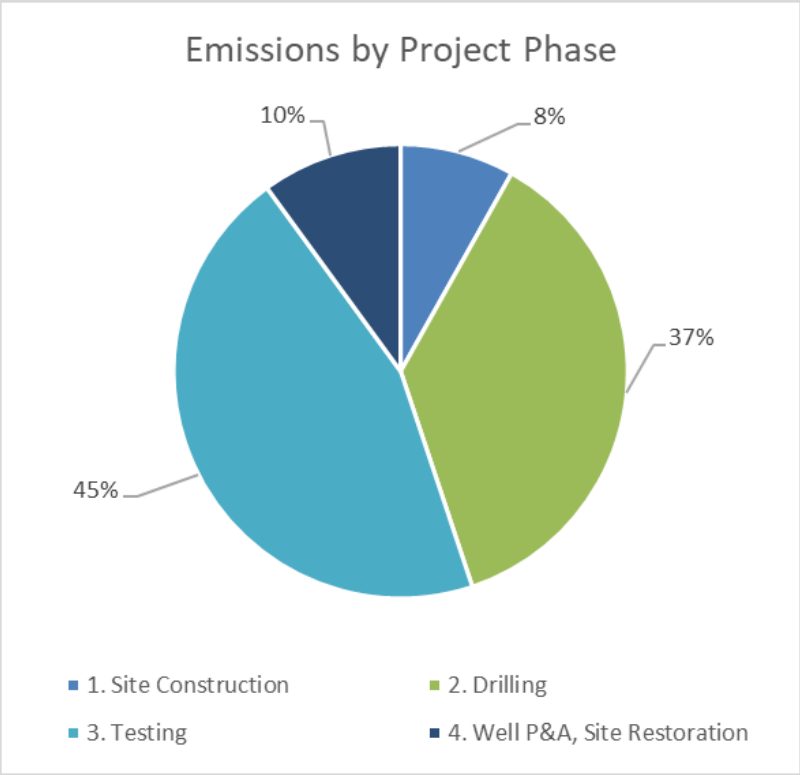

Figure 1. Emissions by project phase for the reasonable worst case emissions scenario

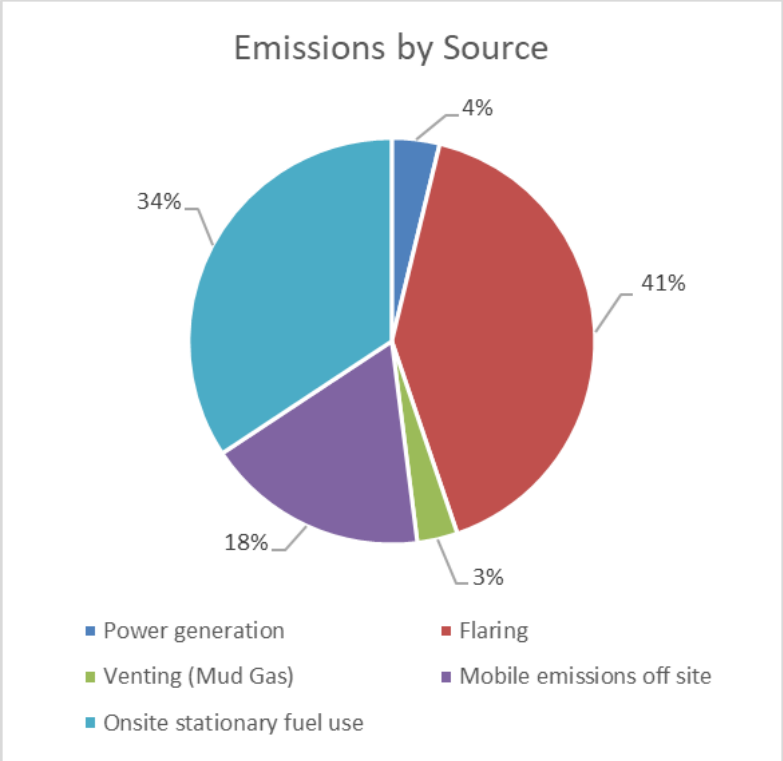

Figure 2. Emissions by source for the reasonable worst-case emissions scenario

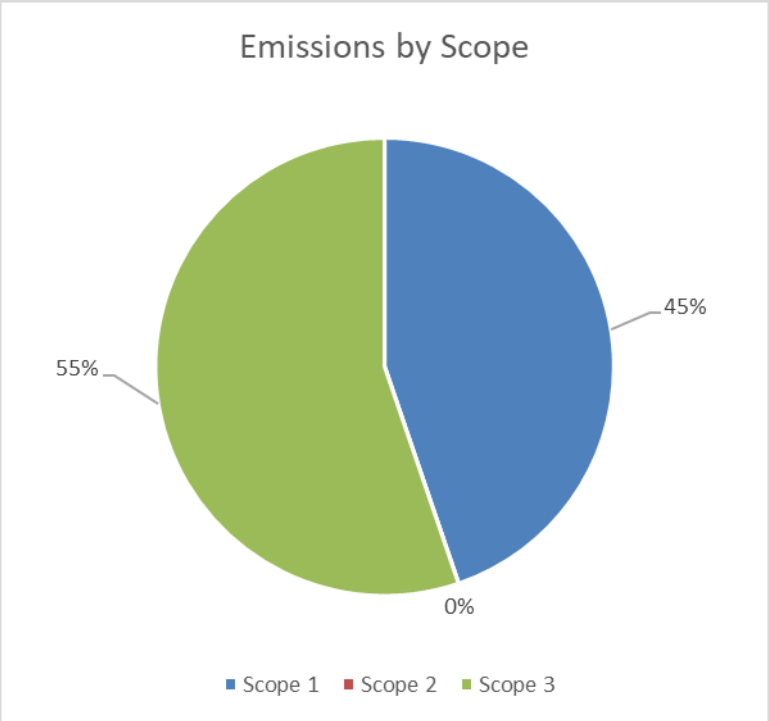

Figure 3. Breakdown of Scope 1 and Scope 3 emissions for the expected-case scenario.

4.2 Uncertainties

Inevitably, some uncertainty remains around the exact emissions associated with drilling the Weaverthorpe-1 well, mainly due to the intrinsic nature of a new gas exploration prospect. The emissions estimated within this report are regarded as a reasonable worst case considering the following:

- Uncertainty on exact geology and pressures below ground, as well as operating conditions and logistics above ground, mean number of days running the drilling rig is not precisely known. Egdon expects drilling should take less than 28 days, so assuming the drilling rig is running for a full 6 weeks (42 days) is considered a worst case;
- The maximum test flow period of 96 hours (4 days) is dictated by regulation and cannot be exceeded. In practice, it is likely to be less than four days because the flow rate will be ramped up and down during the test to help gather flow, pressure and temperature data;
- 2.5 MMscf/d is the maximum flare capacity but as the rates of gas are likely to be rising and falling during testing, this estimate represents a maximum flare volume;
- The composition of any discovered gas is uncertain and could be different to the analogue used. The Marishes-1 analogue composition used for emission calculations has a methane content of 93.5% and a nitrogen content of 1.2%. Egdon believes Weaverthorpe-1 gas may

have a nitrogen content as high as 5% which would reduce the emissions of the flaring due to a lower proportion of methane converted to CO_2;

- Flare combustion efficiency is assumed to be 98% based on the contractor's flare specification, but actual efficiency may be higher depending on conditions at the time of testing;
- If some phases of the project do run sequentially, there may be emissions savings associated with lower HGV activity (e.g. no demobilisation and then remobilisation of security facilities). However, this is not the base expectation where multiple mobilisation and demobilisation activities are assumed in order to represent a reasonable worst case;
- There is some uncertainty in actual vehicle movements and HGV loads but the current detailed estimate has been calculated carefully based on past experience of transport movements at other sites.
- If the site is suspended (discovery success case) rather than decommissioned and restored (failure case) emissions are slightly reduced due to a lower scale of activities to redefine the site area and retain it, as opposed to well decommissioning and site restoration. This number has been reported in the results (Section 4.1) of this report for transparency. In a success case the site would be retained, pending a further planning application. Well decommissioning and site restoration would therefore be included in that developments' project emissions forecast.

5 Summary

An emissions estimate for the planned operations to include a single exploration well, Weaverthorpe-1, has been undertaken. Activity data expected during the operations provided by Egdon was combined with industry guidance and analogue data to create a reasonable worst-case scenario prediction for emissions. Assumptions have been documented and provided in this report.

The reasonable worst-case project emissions for this well are forecast to be **1,675 tCO_2e**. The largest contribution to total emissions is from the drilling (37%) and testing (45%) phases of the project, mainly due to fuel combustion by the drilling rig and flaring of gas during testing.

The Weaverthorpe-1 scope of operations covered by this report is expected to be conducted during 2026, which falls within the 4th UK Carbon Budget which covers the period 2023-2027 and has a total budget of 1,950 $MtCO_2e$ (Stewart, Hinson, & Burnett, 2024). Comparison of the emissions from Weaverthorpe-1 operations to the 4th UK Carbon Budget indicates the contribution of emissions to be 0.00009% in the reasonable worst-case.

The proposed well site at Butt Lane, Foxholes lies within the unitary authority of North Yorkshire. The Tyndall Centre for Climate Change Research, part of the University of Manchester, has calculated a recommended aggregate Carbon Budget for North Yorkshire of 9.6 Mt CO_2 for the period 2023-2027 (Kuriakose et al., 2025). The forecast reasonable worst case emissions of 1,675 tCO_2e for the Weaverthorpe-1 operations represents 0.0174% of the total budget for North Yorkshire for this period.

6 References

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Appendix 1 – Detailed Assumptions Table

Phase		GHG Source	Sub category	Scope	Activity data assumptions	Fuel Type	Total Mileage (miles)	Total Fuel (litres)
Phase 1								
1	Site Construction	Stationary combustion	Site construction -Security facilities, generate electricity using diesel generator	1	Diesel generator running 24hrs a day, 7 days a week using 200 litres/day diesel fuel for 5 weeks	Mineral Diesel	-	7,000
1	Site Construction	Mobile combustion	Site construction - Construction vehicles (2 x 20t excavators, 2 x 9t dumpers, 1 x vibrating roller, 1 x D4 dozer)	3	Site civils, construction vehicles running 12hrs/day, 6 days a week using 1212 litres/12hr day diesel fuel	Mineral Diesel	-	36,360
1	Site Construction	Mobile combustion	Site construction -Material deliveries, security mob/demob, 4 axle articulated HGVs	3	0.33 litres/km diesel use	Bio Blend Diesel	6,558	3,483
1	Site Construction	Mobile combustion	Site Construction - Material deliveries, 4 axle rigid HGVs	3	0.35 litres/km diesel use	Bio Blend Diesel	4,910	2,766
1	Site Construction	Mobile combustion	Site Construction - Material deliveries, 6 axle rigid HGVs	3	0.49 litres/km diesel use	Bio Blend Diesel	420	331
1	Site Construction	Mobile combustion	Site Construction - Contractor commute, LGVs	3	0.15 litres/km diesel use	Bio Blend Diesel	1,440	348
1	Site Construction	Mobile combustion	Site Construction - Contractor commute, Cars	3	0.08 litres/km petrol use.	Petrol	11,592	1,492

Phase		GHG Source	Sub category	Scope	Activity data assumptions	Fuel Type	Total Mileage (miles)	Total Fuel (litres)
Phase 2								
2	Drilling WV1	Stationary combustion	Drilling WV1 -Security facilities, generate electricity using diesel generator	1	Diesel generator running 24hrs a day, 7 days a week using 200 litres/day diesel fuel for 8 weeks	Mineral Diesel	-	11,200
2	Drilling WV1	Stationary combustion	Drilling WV1 -Conductor rig	3	Conductor rig for installing conductor for WV1 running 12hrs a day, for 10 days using 1000 litres/12 hr day diesel fuel	Mineral Diesel	-	10,000
2	Drilling WV1	Stationary combustion	Drilling WV1 -Drilling rig	3	Drilling rig for drilling WV1 running 24hrs a day, 7 days a week at 4000 litres/day diesel fuel for 6 weeks	Mineral Diesel	-	168,000
2	Drilling WV1	Venting	Drilling WV1 - Mud degassing	3	0.0458 tonnes CH4/drilling day, assume drilling time is 6 weeks (42 days)	Mud gas	-	-
2	Drilling WV1	Mobile combustion	Drilling WV1 -Security mob/demob, fuel & waste services 4 axle articulated HGVs	3	0.33 litres/km diesel use	Bio Blend Diesel	6,174	3,279
2	Drilling WV1	Mobile combustion	Drilling WV1 -rigs mob/demob, tubular delivery, WBM handling, 6 axle articulated HGVs	3	0.38 litres/km diesel use	Bio Blend Diesel	18,826	11,513
2	Drilling WV1	Mobile combustion	Drilling WV1 -Crane, 6 axle rigid HGVs	3	0.49 litres/km diesel use	Bio Blend Diesel	560	442
2	Drilling WV1	Mobile combustion	Drilling WV1 -Contractor commute, Cars	3	0.08 litres/km car use.	Petrol	67,740	8,721

Phase		GHG Source	Sub category	Scope	Activity data assumptions	Fuel Type	Total Mileage (miles)	Total Fuel (litres)
Phase 3								
3	Testing	Stationary combustion	Testing -Security facilities, generate electricity using diesel generator	1	Diesel generator running 24hrs a day, 7 days a week using 200 litres/day diesel fuel for 4 weeks	Mineral Diesel	-	5,600
3	Testing	Stationary combustion	Testing -Crane operations	3	69.72 litres/hr (84 kg/hr) -assume 4 days of 12 hr operation	Mineral Diesel	-	3,347
3	Testing	Stationary combustion	Testing -Coil Tubing Unit for N2 lift if needed	3	400 litres/day -assume 3 days of 12 hr operation	Mineral Diesel	-	1,200
3	Testing	Stationary combustion	Test Spread & facilities	3	Test facilities running 24hrs a day, 7 days a week using 400 litres/day diesel fuel.	Mineral Diesel	-	11,200
3	Testing	Flaring	Testing -WV1 flaring	3	2.5 MMscf/d for 4 days (96 hrs is NSTA short term test limit). 98% combustion efficiency	Analogue gas	-	-
3	Testing	Mobile combustion	Testing -security mob/demob, fuel & waste servicing 4 axle articulated HGVs	3	0.33 litres/km diesel use	Bio Blend Diesel	2,854	1,516
3	Testing	Mobile combustion	Testing -test spread mob/demob, supplies, 6 axle articulated HGVs	3	0.38 litres/km diesel use	Bio Blend Diesel	2,200	1,345
3	Testing	Mobile combustion	Testing -Coil tubing and N2 mobilisation, 3 axle rigid HGVs	3	0.29 litres/km diesel use	Bio Blend Diesel	2,290	1,069
3	Testing	Mobile combustion	Testing -crane mob/demob, 6 axle rigid HGVs	3	0.49 litres/km diesel use	Bio Blend Diesel	280	221
3	Testing	Mobile combustion	Testing -Contractor commute, Cars	3	0.08 litres/km petrol use.	Petrol	5,400	695

Phase		GHG Source	Sub category	Scope	Activity data assumptions	Fuel Type	Total Mileage (miles)	Total Fuel (litres)
Phase 4b								
4b	Decommission & restore site	Mobile combustion	Restore site, civil works - Construction vehicles (2 x 20t excavators, 2 x 9t dumpers, 1 x vibrating roller, 1 x D4 dozer)	3	Site civils, construction vehicles running 12hrs/day, 6 days a week using 1212 litres/12hr day diesel fuel	Mineral Diesel	-	29,088
4b	Decommission & restore site	Stationary combustion	Crane operations	3	69.72 litres/hr (84 kg/hr) -assume 4 days of 12 hr operation	Mineral Diesel	-	3,347
4b	Decommission & restore site	Stationary combustion	Decommission -slickline unit	3	A slickline campaign of 4 days running 12hrs a day, at 83.33 litres/hr	Mineral Diesel	-	4,000
4b	Decommission & restore site	Stationary combustion	Well P&A -workover rig	3	Workover rig running 12hrs a day for 2 weeks, 6 days a week at 83.33 litres/hr	Mineral Diesel	-	12,000
4b	Decommission & restore site	Mobile combustion	Site restoration civil work equipment & material removal, fuel/waste services, 4 axle articulated HGVs	3	0.33 litres/km diesel use	Bio Blend Diesel	9,250	4,913
4b	Decommission & restore site	Mobile combustion	Decommissioning -Crane mob/demob, WO rig mob/demob, 6 axle articulated HGVs	3	0.38 litres/km diesel use	Bio Blend Diesel	8,910	5,449
4b	Decommission & restore site	Mobile combustion	Decommissioning - Equipment delivery, slickline mob & demob, 3 axle rigid HGVs	3	0.29 litres/km diesel use	Bio Blend Diesel	1,800	840
4b	Decommission & restore site	Mobile combustion	Site restoration -material removal, 4 axle rigid HGVs	3	0.35 litres/km diesel use	Bio Blend Diesel	578	326
4b	Decommission & restore site	Mobile combustion	Decommissioning & site restoration-Contractor commute & equipment removal, LGVs	3	0.15 litres/km diesel use	Bio Blend Diesel	700	169

Phase		GHG Source	Sub category	Scope	Activity data assumptions	Fuel Type	Total Mileage (miles)	Total Fuel (litres)
4b	Decommission & restore site	Mobile combustion	Decommissioning& site restoration -Contractor commute, Cars	3	0.08 litres/km petrol use.	Petrol	14,764	1,901
Phase 4a (not included in "reasonable worst case" base case)								
4a	*Suspend site*	*Stationary combustion*	*Suspend site -Security facilities -Generate electricity using diesel generator*	*3*	*Diesel generator running 24hrs a day, 7 days a week using 200 litres/day diesel fuel for 4 weeks*	*Mineral Diesel*	*-*	*5,600*
4a	*Suspend site*	*Mobile combustion*	*Suspend site, civil works - Construction vehicles (2 x 20t excavators, 2 x 9t dumpers, 1 x vibrating roller, 1 x D4 dozer)*	*3*	*Site civils, construction vehicles running 12hrs/day, 6 days a week using 1212 litres/12hr day diesel fuel*	*Mineral Diesel*	*-*	*29,088*
4a	*Suspend site*	*Mobile combustion*	*Suspend site -security mob/demob, civil equipment mob/demob & fuel/waste services, 4 axle articulated HGVs*	*3*	*0.33 litres/km diesel use*	*Bio Blend Diesel*	*9,384*	*4,984*
4a	*Suspend site*	*Mobile combustion*	*Suspend site -Material delivery/removal, 4 axle rigid HGVs*	*3*	*0.35 litres/km diesel use*	*Bio Blend Diesel*	*5,950*	*3,351*
4a	*Suspend site*	*Mobile combustion*	*Suspend site -Contractor commute, Cars*	*3*	*0.08 litres/km petrol use*	*Petrol*	*13,292*	*1,711*