

Emissions Mitigation Statement

Land West of Imberhorne Lane, East
Grinstead – Vistry Phase 2

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Vistry South East

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1. Introduction

Client and Proposed Development

- 1.1 Phlorum Limited has been commissioned by Vistry South East to produce an Emissions Mitigation Statement (EMS) for the second phase of their residential development on land west of Imberhorne Lane, in East Grinstead. The site is located within the administrative boundary of Mid Sussex District Council (MSDC), who are responsible for managing local air quality.
- 1.2 Phase 2 comprises the construction of 190 residential units (i.e. Plots 230 to 420), with the first occupation currently scheduled for 2030.
- 1.3 Phlorum prepared an Air Quality Environmental Statement (ES) Chapter¹ in 2023 for a wider hybrid planning application (Reference: DM/23/2699), seeking “*outline planning permission for a mixed use development comprising up to 550 dwellings (Use Class C3), a care village of up to 150 dwellings (Use Class 2), land for a 2 form entry primary school (including early years provision and special needs education provision), mixed use neighbourhood centre, allotments, landscaping and sustainable urban drainage; and full planning permission for playing fields, new sports pavilion, and running track associated with Imberhorne Secondary School, a Suitable Alternative Natural Greenspace (SANG) with associated car park, access from Imberhorne Lane, internal road to the SANG, pedestrian/cycle link from Imberhorne Lane and associated landscaping and infrastructure.*” The Air Quality ES Chapter concluded that the proposed development would not cause significant air quality effects during its construction or operation.
- 1.4 Planning permission for the proposed development was granted by MSDC on 23rd December 2025, pursuant to a number of planning conditions. One such condition, Condition 25, relates to an Emissions Mitigation Statement, requesting the following:

“Prior to the commencement of any residential phase of the development hereby permitted, the details of a scheme of mitigation measures to improve air quality relating to the development, within that phase, shall be submitted and approved in writing by the Local Planning Authority. The scheme shall be in accordance with, and to a value derived in accordance with, the Air Quality and Emissions Mitigation Guidance for Sussex which is current at the time of the reserved matters application. All works which form part of the approved scheme, for any phase, shall be completed before any part of the development, in that particular phase, is occupied and shall thereafter be maintained in accordance with the approved details.”

¹ Stantec (2023). Environmental Statement Volume 1 – Air Quality. Ref: 33580/A5/ES2022.

Scope

- 1.5 The ES Chapter prepared by Phlorum in 2023 included an outline Emissions Mitigation Assessment (EMA), but this considered the wider development as a whole. Condition 25 requests that mitigation strategies be prepared for each residential development phase.
- 1.6 This EMS has been undertaken in accordance with the *Air Quality and Emissions Mitigation Guidance for Sussex*, to determine the air quality 'damage' cost associated with Vistry's Phase 2 residential development and outline the mitigation package being implemented to offset the calculated cost, thereby providing the information necessary to support the discharge of Planning Condition 25. A separate EMS is provided for Vistry's Phase 1 residential development, which accounts for residential plots 1 to 229.

2. Methodology

- 2.1 'Emissions Mitigation' or 'Damage Cost' Assessments provide an alternative way to assess the impact of a development on air quality and ensure that all developments, even those developments which are not expected to have a significant impact on air quality, include mitigation measures to offset any potential incremental impacts.

Guidance

- 2.2 This Emissions Mitigation Assessment has been produced in-line with the Sussex Air Quality Partnership's latest (2021) *Air quality and emissions mitigation guidance for Sussex*² (AQEMGFS).
- 2.3 The AQEMGFS, which has been developed by the Sussex Local Authorities, provides guidance on how Air Quality Assessments are carried out for new developments in Sussex. The AQEMGFS follows best-practice UK guidance and is aligned to the National Planning Policy Framework³ and National Planning Practice Guidance⁴.
- 2.4 The calculation used in determining the proposed development's air quality 'damage' cost has been undertaken following the AQEMGFS and Defra's latest (2026) Damage Cost Guidance⁵. Defra's latest Emissions Factor Toolkit (EFT) (version 14.1)⁶ has been used to calculate vehicle emissions for use in the 'damage' cost calculation and Defra's latest (2025) *Damage Cost Toolkit*⁷ was used to determine the monetary value of additional emissions generated by the proposed development.
- 2.5 In-line with best-practice guidance from the Sussex-Air Partnership and Defra, the damage cost calculation has calculated the proposed development's air quality damage costs from traffic-related emissions of nitrogen oxides (NO_x) and fine particulate matter (PM_{2.5}).

2 Sussex Air Quality Partnership (2021). *Air quality and emissions mitigation guidance for Sussex* (2021).

3 Ministry of Housing, Communities and Local Government (2026). *National Planning Policy Framework*.

4 Planning Practice Guidance (PPG) 32. (Updated November 2019). Air Quality.

5 Defra (2026). *Air quality appraisal: damage cost guidance*. Available from:

<https://www.gov.uk/government/publications/assess-the-impact-of-air-quality/air-quality-appraisal-damage-cost-guidance>

6 Defra (2026). *Emissions Factor Toolkit* (v14.1).

7 Defra (2025). *Air Quality Damage Costs Appraisal Toolkit*.

Emission Mitigation Assessment

- 2.6 The Sussex-Air Partnership's AQEMGFS advocates that a pollutant damage cost calculation should be undertaken to quantify damage costs associated with a proposed development. The calculated pollutant damage cost can then be used as a guide to determine the appropriate scale and kind of mitigation required to ensure a proposed development can offset its potential air quality impacts.

Pollutant Damage Cost Calculation

- 2.7 The pollutant damage cost calculation included within Chapter 3 of this report utilised Defra's latest available EFT (v14.1)⁶ to determine additional transport related emissions (NO_x & PM_{2.5}) expected to be generated by the proposed development in its first five years of operation.
- 2.8 The Project Transport Consultant, Ardent Consulting Engineers, has confirmed that Vistry's Phase 2 residential development is anticipated to generate 624 vehicle trips per day (AADT).
- 2.9 The transport related emissions were then combined with Defra's latest 'damage costs', which are a set of impact values, defined per tonne of pollutant for use in damage cost calculations. Transport related emissions were combined with Defra's damage cost values in the following equation to calculate an approximate valuation of the cost to society caused by the proposed development:

$$EFT\ output \times Damage\ costs \times 5\ years = 5\ year\ exposure\ cost\ value\ (in\ £)$$

- 2.10 As some inputs are based on assumptions, it is emphasised that the resulting figure(s) should be treated with caution, but that it can be used to give an idea of the scale of a development in terms of total generated transport emissions and therefore a gauge of what level of mitigation might be appropriate.

3. Pollutant Damage Cost

Damage Cost Calculation

- 3.1 The damage cost calculation undertaken below was carried out to estimate the monetary value of the impact of NO_x and PM_{2.5} emitted as a result of traffic expected to be generated by the Vistry Phase 2 development, in-line with guidance from Defra and the AQEMGFS.
- 3.2 To evaluate the scale of the development's increase in emissions, the damage cost calculation set out within Section 2.9 of this report has been utilised. Defra's latest EFT (v14.1)⁶ was used for determining total transport related emissions expected to be generated by the proposed development. The inputs used in this calculation are provided in Table 3.1, below.

Table 3.1: Damage Cost Calculation Inputs

Input	Value	Unit	Source / Guidance
Trip Length	10	km	AQEMGFS ²
Total Traffic Generation	624 LDVs	AADT	Confirmed by Project Transport Consultant
EFT Road Type	Urban (not London)	-	EFT (v14.1) ⁶
EFT Year	2030 – 2034	-	Opening year + 4 years (In line with EFT estimates)
Average Speed	50	km.hr ⁻¹	AQEMGFS
Appraisal period	5	years	AQEMGFS

- 3.3 The total emission damage costs for NO_x and PM_{2.5} were calculated using Defra's latest air quality appraisal toolkit⁷, and are presented in Tables 3.2 and 3.3 below. The calculation accounts for an 'uplift factor' of 2% cumulatively per annum and a 'discount rate', in line with the latest damage cost guidance. Central estimate damage costs for *Road Transport Urban Medium* were calculated based on Defra 2026 prices.

Table 3.2: Damage Cost Calculation for NO_x

	2027	2028	2029	2030	2031
NO _x increase (tonnes)	0.2000	0.1662	0.1374	0.1132	0.0934
Central Damage cost (NO _x)	£11,824	£11,824	£11,824	£11,824	£11,824
Adjusted Damage cost (NO _x)	£2,365	£1,937	£1,577	£1,280	£1,040
Total	£8,199				

Table 3.3: Damage Cost Calculation for PM_{2.5}

	2027	2028	2029	2030	2031
PM _{2.5} increase (tonnes)	0.0381	0.0374	0.0367	0.0362	0.0357
Central Damage cost (PM _{2.5})	£101,304	£101,304	£101,304	£101,304	£101,304
Adjusted Damage cost (PM _{2.5})	£3,861	£3,730	£3,611	£3,503	£3,405
Total	£18,110				

Note: Any discrepancies in Tables 3.2 and 3.3 due to rounding.

3.4 The total air quality damage costs are summarised as follows:

NO_x emission 'damage' (cost, £) = £8,199

PM_{2.5} emission 'damage' (cost, £) = £18,110

Total (cost, £) = £26,309

3.5 The total air quality 'damage' cost for the Vistry Phase 2 residential development is, therefore, calculated as **£26,309**, following the latest guidance and using the latest tools provided by Defra.

4. Mitigation Package

- 4.1 The resultant 'damage' cost, as presented in Chapter 3 of this Emissions Mitigation Assessment, is indicative of the value of an appropriate package of mitigation to offset any potential air quality impacts arising from the development's operation.
- 4.2 For all residential development considered as *major* under the AQEMGFS, the following mitigation measures should be included as a minimum:
-  All gas-fired boilers are expected to meet a minimum standard of <40mgNO_x/kWh, with consideration given to renewable sources of energy such as air source heat pumps (ASHPs); and
 -  Meet any applicable electric vehicle charging point (EVCP) standards set out within West Sussex County Council's (WSCC) *Guidance on Parking at New Development*⁸.
- 4.3 The development is set to utilise a non-emitting heating and hot-water strategy, comprising Air Source Heat Pumps (ASHPs), to meet heating and hot water demands. There will be no use of gas-fired boilers and ASHPs do not directly emit air pollutants, thereby aligning with the requirements of the AQEMGFS. It is understood that the purchase and installation of ASHPs will cost approximately £6,000 per plot, which totals approximately £1,140,000 for the inclusion of ASHPs across the whole of Phase 2.
- 4.4 In order to minimise emissions from private car usage, each of the proposed 190 residential dwellings will be provided with an EVCP of minimum nominal rated output of 7kW, thereby aligning with the requirements on Building Regulations Part S⁹ and the WSCC parking guidance. The costs associated with the purchase and installation of EVCP infrastructure has been estimated to total £152,000 across the whole of Phase 2.
- 4.5 Each of the above measures substantially exceeds the calculated 'damage cost' value of £26,309, whilst enabling Phase 2 of the development to become a zero or near-zero emission scheme.
- 4.6 Additional mitigation measures focus on the encouragement of a modal shift away from private car usage and towards more sustainable modes of transport, in-line with recommendations from the AQEMGFS.

⁸ West Sussex County Council (2020). *Guidance for Parking at New Developments*.

⁹ The Building Regulations 2010. Part S of Schedule 1. *Infrastructure for the charging of electric vehicles*.

- 4.7 To this end, Transport Planning Associates (TPA) has prepared a Travel Plan¹⁰ to accompany the Reserved Matters application (Ref: *DM/26/0131*) seeking planning approval for all residential units within the wider development. The Travel Plan includes measures and mechanisms to encourage the use of public transport, walking and cycling as alternatives to private car use, thereby helping to encourage a model shift towards more active and sustainable means of transport. A summary of some of the key initiatives included with the Travel Plan is provided below:
- 🌱 A Travel Information Pack (TIP) will be provided to all residents to highlight the available options for more sustainable modes of travel (i.e. walking, cycling, public transport and car sharing);
 - 🌱 Provision of footpaths and cycleways to connect the site to the existing network, with walking and cycling routes and infrastructure advertised in the TIP;
 - 🌱 Cycle parking will be provided in line with WSCC parking standards;
 - 🌱 TPA, the Travel Plan Coordinator, will contact local cycle shops to arrange discounts for future residents and/ or advertisement of shops within the TIP;
 - 🌱 Improvements will be made to existing bus stops, in accordance with the obligations set out within the S106 agreement associated with the approved outline application; and
 - 🌱 The need to travel will be reduced by ensuring all homes are provided with the best available broadband, to facilitate homeworking.
- 4.8 Whilst full details of the costs associated with these measures are not yet known, it is understood that the TIP will cost at least £5,000, with a further £5,445 ringfenced as a Monitoring Contribution to WSCC, as per the S106 agreement associated with the approved outline application. From experience of working on similar schemes, cycle storage facilities often cost at least a few hundred pounds (£) each, meaning the total cost associated with the purchase and installation of cycle storage for Phase 2 is likely to cost tens of thousands of pounds.
- 4.9 The combined cost of the mitigation measures outlined above will go well beyond offsetting the **£26,309** 'emissions' cost calculated for the proposed development.
- 4.10 The majority of the measures outlined within the mitigation package focus on reducing emissions from road transport and would therefore help to minimise any potential air quality impacts associated with the development's operational traffic.

10 Transport Planning Associated (2026). *Travel Plan in respect of Imberhorne Lane, East Grinstead, RH19 1TX*. Ref: 2605-024/TP/01A.

5. Summary

- 5.1 Vistry South East commissioned Phlorum Limited to produce an Emissions Mitigation Statement for the second phase of their residential development on land west of Imberhorne Lane, as granted by Mid Sussex District Council on 23rd December 2025 under planning permission *DM/23/2699*.
- 5.2 Utilising the most recent available guidance from the Sussex-Air Partnership, and tools from Defra, an air quality 'damage' cost of **£26,309** was calculated for the development. The value of this damage cost is indicative of the value of an appropriate mitigation package to be provided for the development.
- 5.3 The proposed mitigation package focuses on reducing emissions from road transport, which is expected to be responsible for the majority of emissions from the development, noting that a zero emission heating and hot-water strategy is being utilised.
- 5.4 The mitigation package comprises electric vehicle charging points for each of the proposed residential dwellings, along with a non-emitting heating and hot water strategy comprising Air Source Heat Pumps. In addition to these, a number of measures will be incorporated to encourage a modal shift towards sustainable modes of transport and away from private car use, including a Travel Plan and welcome packs, provision of cycle storage spaces and connections to the local cycle network, and cable-to-property broadband to encourage home-working.
- 5.5 The combined value of the proposed mitigation package will go well beyond offsetting the calculated damage cost.
- 5.6 This Emissions Mitigation Statement provides details of the proposed development's mitigation package, how this aligns with the Sussex Air Quality Partnership's guidance, and how this offsets the proposed development's damage cost, calculated using the latest available best-practice methods and tools. Therefore, it is considered that this report presents the information necessary to enable the discharge of Planning Condition 25 for Phase 2 of Vistry's residential development (Plots 230 to 420).



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