



AIR QUALITY NEUTRAL STATEMENT: 9.21

DECARBONISATION

Cory Decarbonisation Project

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QUALITY CONTROL

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1. AIR QUALITY NEUTRAL STATEMENT

1.1. INTRODUCTION AND SCOPE

- 1.1.1. A qualitative Air Quality Neutral Assessment (AQNA) was undertaken and presented at **Appendix A** of the **Applicant's Response to Relevant Representations Appendices (AS-044)**. This assessment included the formal assessment of 'Transport Emissions' and a qualitative review of 'Building Emissions' in line with Air Quality Neutral (AQN) Guidance¹. The qualitative review for 'Building Emissions' concluded that the Proposed Scheme was inherently Air Quality Neutral on the basis that emissions of NO_x and PM₁₀ would not change as a result of the Proposed Scheme. Furthermore, there were (and remain) no relevant benchmarks against which the Proposed Scheme could be assessed. The Transport Emissions assessment is repeated below.
- 1.1.2. Within the Greater London Authority's (GLA) **Written Representation (REP1-072)**, it was stated that "*emissions associated with energy used by any new office space or other building space needs to be calculated and compared with the benchmark*". This document provides further details for the assessment of 'Building Emissions' as part of this AQNA for the Proposed Scheme.

1.2. GUIDANCE

- 1.2.1. In February 2023 the GLA published London Plan AQN Guidance¹, which sets new benchmarks for all new developments to ensure that transport and building emissions do not worsen air quality in London. Developments that do not exceed these benchmarks (considered separately) will be considered to be 'air quality neutral', whilst developments that exceed the benchmarks will be required to amend the details of the development in the first instance before seeking agreement with the local planning authority to off-set any excess in emissions with on or offsite mitigation measures.
- 1.2.2. There are two sets of benchmarks that cover the two main sources of air pollution within the AQN Guidance (see paragraph 2.1.1)¹ they are:
- "*Building Emissions Benchmark (BEB) - emissions from equipment used to supply heat and energy to the buildings; and*
 - "*Transport Emissions Benchmark (TEB) - emissions from private vehicles travelling to and from the development.*"

¹ Greater London Authority. (2023). 'London Plan Guidance Air Quality Neutral'. Available at: <https://www.london.gov.uk/sites/default/files/2023-02/Air%20Quality%20Neutral%20LPG.pdf>

- 1.2.3. Section 2.2 of the AQN Guidance¹ sets out some exclusions for developments, specifically (at paragraph 2.2.1):
- 1.2.4. *“Developments, including major developments, that do not include additional emissions sources are assumed to be Air Quality Neutral and to meet the Air Quality Neutral benchmarks. As such, there is no need to do an AQN Assessment.”*
- 1.2.5. In addition to this, the AQN Guidance¹ provides specification for which emissions should be considered (at paragraph 2.2.2):
- 1.2.6. *“Developments that are subject to Environmental Permits... are subject to the Air Quality Neutral benchmarks for all emission sources within the development not controlled by the Environmental Permit.”*

APPLICATION OF THE GUIDANCE TO THE PROPOSED SCHEME

- 1.2.7. The AQN Guidance¹ is of limited applicability to developments such as the Proposed Scheme. For the Proposed Scheme, the primary sources of emissions to air are not building space heating or road transport, but emissions diverted from the energy from waste (EfW) facilities. The majority of the building space within Riverside 1 and Riverside 2 (once operational) will not require heating, and delivery of residual waste to both plant is substantially by river, not road. In addition, as previously stated, the Proposed Scheme will not affect the emissions levels of NO_x or PM₁₀ within the Environmental Permits for each EfW facility.
- 1.2.8. The Proposed Scheme is inherently air quality neutral because it removes CO₂ from the exhaust gases whilst leaving the mass of combustion-related local air quality pollutants unchanged i.e. a neutral impact on local emissions of NO_x and PM₁₀.
- 1.2.9. An AQNA has been specifically requested by the GLA for *“new office space or other building space”* associated with the Proposed Scheme. The Proposed Scheme will not introduce additional combustion emission sources and the operation of the Proposed Scheme is subject to an Environmental Permit. As per paragraph 2.2.1 and 2.2.2 and the ‘Building Emissions’ definition set out above, an AQNA is not required. Specifically:
- For paragraph 2.2.1 of the AQN Guidance¹: an assessment is not required as there are no new emissions sources being introduced; and
 - For paragraph 2.2.2 of the AQN Guidance¹: an assessment is not required as heating of the office space and electrical power required to operate control systems, lighting ,etc comprises part of the energy used by the Proposed Scheme during operation, which is inherently included within the Environmental Permit (within net efficiency of the overall power generation).
- 1.2.10. Despite the AQN Guidance¹ suggesting that no further assessment is required, in order to further satisfy the request made by the GLA, a review of ‘Building Emissions’ arising from energy used *“new office space or other building space”* has been undertaken against relevant benchmarks within this AQNA.

- 1.2.11. The assessment below considers the ‘Building Emissions’ associated with the Proposed Scheme under three different potential operating scenarios against the benchmarks of the AQN Guidance¹. The assessment below also considers ‘Transport Emissions’ associated with staff road vehicle movements to and from the Proposed Scheme as per **Appendix A** of the **Applicant’s Response to Relevant Representations Appendices (AS-044)**.

1.3. ASSESSMENT

- 1.3.1. The Proposed Scheme includes plans for two structures that will be occupied and require space heating. The control room and welfare facilities will be housed in a single structure with approximately 880m² floor space, and the gatehouse will be housed in a structure with approximately 630m² floor space.
- 1.3.2. The energy required for heating this space could be assessed using the AQN Guidance¹ in three ways. These scenarios are presented below:
- Scenario A: Where ‘waste heat’ (combustion heat extracted from the plume not used during the Carbon Capture process) is used from Riverside 1 and Riverside 2 to provide space heating for the new office space, and other energy is provided from the power generated by at Riverside 1 and Riverside 2 (Preferred Option);
 - Scenario B: All energy (heating and other) is provided directly by the combustion processes at Riverside 1 and Riverside 2; and
 - Scenario C: All energy (heating and other) is provided by the grid.
- 1.3.3. For heating within Scenario A, the Proposed Scheme will not require any space heating beyond that provided by the waste heat generated by the existing process as part of Riverside 1 and Riverside 2 (once operational). Therefore, there is no requirement for any new combustion source for heating purposes. As per paragraph 3.4.1 in the AQN Guidance¹, “*where the heat is genuinely from an existing source that would otherwise be wasted, the emission rate is zero*”. As such, the assumed emission rate for heating within Scenario A would be zero and therefore meets any benchmark set out in the AQN Guidance¹.
- 1.3.4. For the other energy requirements from buildings within Scenario A, and all energy requirements for Scenario B, the Proposed Scheme will use heat and energy generated by Riverside 1 and Riverside 2 and will not require any additional combustion for energy purposes. The Proposed Scheme will not affect the parameters of the Environmental Permit as granted by the Environment Agency for Riverside 1 and Riverside 2. As per paragraph 2.2.2 in the AQN Guidance¹, “*Developments that are subject to Environmental Permits... are subject to the Air Quality Neutral benchmarks for all emission sources within the development not controlled by the Environmental Permit*”. Furthermore, **Table 3.1** of the AQN Guidance¹, which sets out the relevant building emission benchmark NO_x emission rates for various land use types by energy source, does not contain energy from

waste as a source for any land use type. As such, "Building Emissions" associated with the Proposed Scheme would not be subject to the Air Quality Neutral assessment nor are there any relevant benchmarks against which it could be assessed.

- 1.3.5. For Scenario C, the Proposed Scheme will use energy supplied by the grid to meet its energy demand. As per paragraph 3.2.3 of the AQN Guidance¹, *"The NOx emission rate for grid electricity use reported in Table 3.3 should be assumed to be zero"*. As such, the assumed emission rate for the energy used by the office space associated with the Proposed Scheme in Scenario C would be zero, and therefore would meet any benchmark set out in the AQN Guidance¹.
- 1.3.6. In all of the scenarios considered above, the energy required for office space associated with the Proposed Scheme would either meet any Air Quality Neutral benchmark, or relevant benchmarks are not available. It is reiterated that the preferred option is Scenario A, where, for the heating of office space associated with Proposed Scheme, the use of waste heat that cannot be used elsewhere and generated by the Carbon Capture process (i.e. from the cooling of the plume before Carbon Capture) is used.
- 1.3.7. Backup power generators have been provided for in the Proposed Scheme. The generators will only operate for backup purposes and during routine testing, and therefore will not operate more than c.50 hours per year. As per Section 3.3.1 of the AQN Guidance¹, backup plants installed for emergency and life safety power supply may be excluded from the calculation of predicted building emissions.
- 1.3.8. Therefore, the Proposed Scheme is air quality neutral in terms of building emissions and is not considered further in the assessment.
- 1.3.9. It is expected that 27 full-time equivalent staff will be involved with the operation of the Proposed Scheme. As outlined in **Appendix 18-1: Transport Assessment of the Environmental Statement (Volume 3) (APP-114)**, there will be a total of 26 single trips per day by private vehicles associated with staff movements based on a worst case of all trips notwithstanding travel plan initiative, set out in the **Mitigation Schedule (REP1-010)**. The site will be operational seven days per week; therefore, as a worst case, the Proposed Scheme will result in a total of 9,490 trips per year.
- 1.3.10. In line with AQN Guidance¹ (at paragraph 4.1.4), trips associated with servicing, deliveries and heavy vehicle movements have been excluded from the air quality neutral calculations.
- 1.3.11. To calculate the benchmark trip rate, the land use class 'industrial' has been used. This is the land use class that best describes the Proposed Scheme, but also the use class with the lowest benchmark trip rates and is consequently the most conservative benchmark to assess against.

1.3.12. As outlined in **Table 1-1**, the Transport Emissions Benchmark (TEB) for the Proposed Scheme is 37,401 trips/year. Therefore, the total number of trips expected to be generated by the Proposed Scheme is well below the TEB, and the Proposed Scheme is air quality neutral in terms of transport emissions.

Table 1-1: Transport Benchmark Trips

Air Quality Neutral Land Use Class	Gross Internal Area (m ²)	Number of Trips (trips/year)	Benchmark Trip Rate (trips/m ² /year)	Total Benchmark Trip Rate (trips/year)
Industrial	5,754	9,490	6.5	37,401
Benchmark				37,401
Total Development Trips				9,490

1.4. CONCLUSION

1.4.1. This Air Quality Neutral Assessment has been undertaken for the Proposed Scheme in line with current AQN Guidance¹. Accounting for both building and transport emissions the Proposed Scheme is better than 'air quality neutral'.



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