Technical Note (Air Quality)

This Technical Note relates to Air Quality elements of the Habitat Regulation Assessment (HRA) of the submitted Wealden Local Plan (Wealden District Council - January 2019).

Executive Summary

1. This technical note has been prepared by Phlorum Ltd on air quality matters with input from Aspect Ecology and RPS in support of Rydon Homes Ltd. The technical note was prepared for the Wealden Local Plan Examination to provide supporting evidence on air quality elements of the updated HRA.

2. The updated HRA ignored Natural England advice in the assessment of air quality impacts and relied on an overly pessimistic scenario (Scenario A) based on no reduction in emissions between 2015 to 2028, ignoring UK and EU policies and programmes to improve emissions. The HRA uses the “precautionary principal” to justify ignoring Natural England advice which states “the competent authority should assess the implications of a plan or project against an improving background trend.”

3. The CJEU ruling on C-293/17 and C-294/17 states that an appropriate assessment must not take account of the expected benefits of measures which are not certain at the time of that assessment. The HRA scenarios ignore ‘autonomous measures’ such as future emission improvements from current UK and EU plans and programmes.

4. The HRA does not detail the uncertainty of regarding the traffic forecasts which underpin the air quality modelling. Traffic assessments undertaken for HRA assessments in neighbouring authorities have identified discrepancies in WDC traffic estimates on routes within and entering the district. Additionally, as the HRA ignores future improvements in fleet emissions, through the introduction of improved Euro standards, hydrid-electric and electric vehicles, the over-estimation of vehicle flows in the HRA ultimately increases emissions from the vehicle fleets in the future year impacts on the SAC.

5. The mitigation strategy is reasonable and attempts to promote good practice, however the measures proposed within the HRA do not provide adequate evidence or quantification to determine whether mitigations will improve/reduce the emissions to improve the condition of the SAC. The mitigation measures are not accounted for in any of the HRA scenarios, therefore their impacts, beneficial or not, are also ignored.

Natural England advice

6. The HRA ignored the Natural England advice which states “the competent authority should assess the implications of a plan or project against an improving background trend.” In not taking Natural England’s direct or standing advice WDC has chosen to rely on the least realistic “worst case” scenario in producing the HRA.

7. The selected Scenario A upon which the HRA is based, selected a “worst case” emissions projection based on current (2015) emissions technology of vehicles and ignored vehicle emissions improvements in future year modelling (2028). The resultant emissions characteristics
of future vehicles i.e. electric, hybrid- electric and improving Euro standards for petrol and diesel vehicles, were ignored and over-estimated the impacts on the Ashdown Forest SAC.

8. The Communication from the European Commission on the precautionary principle clarified “The precautionary principle which is essentially used by decision makers in the management of risk should not be confused with the element of caution that scientists apply in their assessment of scientific data” . WDC has applied the precautionary principle to assessment of scientific data and not to the management of risk.

9. There were a multitude of scenarios presented in the HRA, which were confusing and difficult to interpret results. The most likely scenario is disregarded on the basis of uncertainty, with the unlikely worst-case scenario adopted as the framework for assessment. This is not realistic, robust, appropriate or proportionate, and overly relies on the precautionary principle.

Other European sites

10. The HRA has been assessed using “worst case” emissions scenarios based on transport data that has been challenged by all the other authorities, as such the results of the HRA are questionable. On the basis it is unsafe to assume that “the Plan as submitted (will or) will not adversely affect the integrity of the European sites and its qualifying features, either alone, or in combination”.

HRA methodology and assumptions

11. The methodology and assessment approach of the air quality elements of the HRA are sound and follow standard practice on the assessment of impacts from emission sources in the UK.

12. The evidence and the underlying assumptions on which the HRA has been formulated are however not realistic, robust, nor appropriate, and sufficiently replicable to allow sensitivity testing. Transport data and resultant emissions outputs based upon the transport assessment have been shown to be overly pessimistic and therefore the HRA has resulted in unrealistic outputs.

13. The HRA does not detail the uncertainty of regarding the traffic forecasts which underpin the air quality modelling. Traffic assessments undertaken for HRA assessments in neighbouring authorities have identified discrepancies in WDC traffic estimates on routes within and entering the district. Although WDC contest that all the neighbouring traffic estimates are underpredicting, jointly all the other authorities are in agreement regarding their projections for their Plans’ traffic contribution.

National emissions improvements

14. The baseline air quality assessment appropriately sets out baseline conditions across the qualifying elements of the site, however the future modelling of the SAC did not take into account realistic future changes in local and background (UK wide) emissions.

15. The scenarios presented (A – C) disregard current UK/EU and international emissions reduction policies and projected improvements in vehicle technology which will contribute to improved air quality near source (locally) and in the general background.
The Scenario A assessment disregards the improving road emission component of the background conditions between 2015 to 2028 by using only 2015 background concentration data for both NOx and NH3 for 2028.

16. The HRA did not take into account:
   a. Current DfT /OLEV forecasts in growth in zero emission vehicles currently showing “3-7% new car sales would be ultra low emission (vehicles)(ULEV) by 2020. (Office for Low Emission Vehicles (2013))”.
   b. Fleet turn-over to new vehicles in UK is 14 years, with average car age at 8.1 years (DfT (2018) Road to Zero). Therefore pre-2018 (higher polluting) vehicles are unlikely to be operating in 2028 and therefore as vehicle emissions standards (Euro Standards) improve year on year, emissions will reduce significantly.
   c. Due to the turnover of vehicles 97% of the car fleet will be cleaner Euro 6 vehicles in 2028, whereas only 7% of the cars used in the HRA assessment were Euro 6 in 2015. (DfT BEIS data used in the 2015 UK National Atmospheric Emission Inventory - England).
   d. Current UK policy has set out a target to “end the sale of new conventional petrol and diesel cars and vans by 2040”. Although the (DfT BEIS) data predates this policy change in 2018, it does identify that the ULEVs (electric and hybrid) component of the fleet composition was only at 0.1% in 2015 and grows to 1.4% in 2028.

17. The precautionary principle does not require the adoption of unrealistic “worst case” approach, the assessment should be based on the best available scientific evidence, with scientific doubt being resolved in favour of the protection of the environment. The plan cannot be based future scenarios which are not simply pessimistic, but wholly unrealistic.

18. The HRA assessment is overly precautionary in not considering improvements in local and national emissions reduction policies and technologies such as electric vehicles and unrealistically promotes the “worst case” Scenario A as the most appropriate assessment option. As a result of this ultra conservative approach, the HRA cannot quantify whether the Plan will or will not adversely affect the integrity of the site.

CJEU rulings

19. The CJEU ruling on C-293/17 and C-294/17 states that an appropriate assessment must not take account of the expected benefits of measures which are not certain at the time of that assessment. The HRA scenarios ignore ‘autonomous measures’ such as future emission improvements from current plans and programmes for example; UNECE convention and protocols; EU Directives; and UK Air Quality Plans to reduce NO2 (NOx and NH3).

20. The CJEU ruling on C-293/17 and C-294/17 states that an appropriate assessment must not take account of the expected benefits of measures which are not certain at the time of that assessment. These measures include ‘autonomous measures’, that is those unrelated to the plan (or project). In this case this includes the Government’s plans to reduce emissions.

21. A number of procedures are in place to reduce emissions and there is certainty that they will reduce over the time frame of the Local Plan. These include:
a. UNECE convention and protocols, and EU Directives which cap national emissions and require annual reporting of progress. These are important for reducing background air quality and nitrogen deposition.

b. The UK plan for tackling roadside nitrogen dioxide concentrations, which will reduce concentrations in rural as well as urban areas. This is an iterative plan, with reviews and adjustments included.

c. UNECE and EU agreements on vehicle emission limits.

22. Additional measures recently introduced include:

a. Clean Air Strategy (Defra 2019) targeting both reductions in agricultural NH3 emissions (88% of UK source) and vehicle NOx emissions (as also set-out in the “Road to Zero Strategy” (2018))

b. Current UK (Budget 2019) policy has set a target to “end the sale of new conventional petrol and diesel cars and vans by 2040”, thus accelerating the uptake of ultra-low emission vehicles (ULEVs) and slowing up combustion engine vehicle sales going forward.

c. UK emissions of NOx have reduced by 72% from 1970 levels to 2018. Road traffic NOx emissions peaked around 1990 but since then have reduced by 77%. In recent years, despite the poor NOx emissions performance of diesel cars, emissions from road traffic have declined every year. This trend will continue due to the replacement of older vehicles with newer cleaner vehicles.

23. Scenario B or C stated that no electric vehicles would be driving on the Ashdown Forest Roads in 2028, which is also very pessimistic. Current DfT/OLEV forecasts in growth in zero emission vehicles currently showing “3-7% new car sales would be ULEVs by 2020. (DfT/Office for Low Emission Vehicles (2013))”. DfT emissions data provided for the National Atmospheric Emissions Inventory (based on 2016 update) identifies that the ULEV component of the UK fleet was only at 0.1% in 2015 and grows to 1.4% in 2028. Therefore, as this ULEV component of the fleet was completely ignored in Scenario A, B and C, all scenarios are over-predicting vehicle emissions contributions to the local environment.

24. Tail pipe local emissions are only one part of the picture. Rural background and roadside NO2 concentrations are also declining (which means that NOx concentrations will also be declining). Nitrogen deposition is also reducing albeit at a slower rate than the NOx emissions due to the complex chemistry in the atmosphere. Localised transport emissions can and do contribute to background emissions and so assuming a more pessimistic emissions position in the Scenarios and excluding improved emissions from Euro 6 and ULEVs, the background contribution can be over-estimated within the HRA.

25. The evidence available provides certainty, beyond reasonable doubt, that emissions, including from road transport, are falling and will continue to do so. Therefore this ‘autonomous measure’ should have been taken into account.

**Mitigation measures**
26. The mitigation strategy proposed within the HRA does not provide adequate evidence or quantification to determine whether mitigations will improve/reduce the emissions to improve the condition of the SAC. Although proposed mitigations support the encourage reductions i.e. electric vehicle charge points, these do not guarantee reduced emissions. Most of the proposed mitigations only serve to monitor and communicate information rather than implement emissions reductions.

27. No direct quantification of emissions mitigation options were undertaken. A qualitative assessment of measures was undertaken (HRA Appendix 9), however this only provided an options appraisal to assess the “likely” effectiveness and approximated deliverability and costs to implement. The mitigation measures are not accounted for in any of the scenarios, therefore their impacts, beneficial or not, are ignored.

28. Point 2.8 (HRA Appendix 9), identified that “In order to appropriately target any measures to reduce traffic emissions in the area, it would be very helpful to understand the purpose of journeys on these routes”; this statement identifies that the HRA has not evaluated the current origin/destination studies needed to identify where vehicles are travelling.

29. This additionally questions how the HRA can accurately identified the types of vehicles currently “on the road” in Ashdown Forest and thus determine the actual emissions standards (Euro standards or ULEV) of vehicles in this area in the first place.