

## Welsh Government- Consultation Document

### Call for Evidence: Review of Technical Advice Note 11 Noise, to incorporate Air Quality and Soundscape

## Response from the Institute of Acoustics

### Introduction

The Institute of Acoustics is the professional body for those working in the field of acoustics and noise management. Our members include consultants, academics and regulators. Our activities include working for the building industry, developers and local authorities in all matters associated with sound and noise management in the built environment. This response has been compiled by members of the Institute, including members of its Welsh branch, and endorsed by its Governing body.

We hope you will find these responses helpful. If, however, you have any queries, please do not hesitate to contact us.

For ease of reference, the consultation questions have been set out below, followed by the Institute's response.

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### Effective strategic action through development plans

1. Please provide examples of good practice in Wales or elsewhere where air quality and/or soundscape have formed a part of developing plan strategies for the location of new development or facilitating a placemaking approach as part of plan making;

*An holistic approach to assessing the effects of air quality and noise has occurred for many years in the UK, and subsequently the devolved administrations, for many years. Extending the deliberations to cover soundscape and the overall quality of the sound environment rather than*

*simply seeking to reduce the adverse noise impacts is an interesting and welcome policy development. Examples in policy guidance of not simply treating the impact on the soundscape in isolation can be found in the English Noise Action Plans for roads and railways promulgated under the Environmental Noise (England) Regulations 2006 (as amended). For example, in the 2019 Roads action plan it states:*

*For all these potential measures, the overall costs and benefits need to be considered, including any associated benefits such improvements in air quality. (Para 6.1)*

*Consideration should also be given to integrating noise management actions at an Important Area with the concurrent implementation of other environmental or related initiatives for example in managing air quality, or protecting any formally identified quiet areas. (Para 8.13)*

*Considering the external Soundscape rather than internal, an example of good practice is illustrated by one of the winning entries of the Association of Noise Consultants awards in 2019:*

**Project name:** Proposed Care Home, St. Asaph Business Park, St. Asaph

**Location:** St Asaph, Wales

**Author:** Bureau Veritas

**Summary:**

*'In December 2018, Welsh Government published Noise and Soundscape Action Plan 2018-2023 and Planning Policy Wales edition 10, under WFG Act 2015. This is the first inclusion of the principle of soundscape in government planning policy in the UK. It emphasizes the contribution of an appropriate soundscape to a positive experience of place and their necessity for public health, amenity and well-being. However, there is currently no guidance for soundscape assessment in a planning application. The holistic soundscape assessment borrowed from research methodology or soundscape ISOs would be too demanding for most planning applications and excessively expensive. Good practice and examples are in a desperate demand. This project is a noise assessment for a new care residential development next to the A55 dual carriageway in Wales. Given the inefficiencies of traditional road noise barriers at this location, the innovative idea was to improve the acoustic environment of the less noisy internal courtyard to offset the noise impact of the traffic and create a restorative environment for the residents. Besides ADS of ProPG, the report states why and how to use the natural sounds within the internal courtyard and provides natural sound assessment with sound propagation modelling. Sound was designed and assessed as a positive element at the early design stage, rather than noise only. The project is pilot under PPW 10, showing an example of low-cost soundscape assessment in a planning application for a common residential development, which may inspire the decision-makers and acousticians'.*

2. Please provide examples of good practice in Wales or elsewhere where wider mitigation solutions have been developed to reduce air and noise pollution and/or avoid exacerbating existing air quality or soundscape problems as part of developing strategies for the location of new development or in facilitating a placemaking approach;

*The Institute supports the approach embedded in Planning Policy Wales, but is concerned that care is needed regarding the language used so that the meaning is properly understood. The question mentions 'soundscape problems'. What precisely does that mean? Is that too much anthropogenic noise either significantly diluting the quality of a public space or place of interest or adversely affecting people in their homes? Or given the term soundscape applies to any environment, it could also mean that there could be a soundscape problem if the entertainment heart of a city was too quiet (as is, arguably, the case now during the COVID-19 lockdown).*

*To make this approach work well, there needs to be clarity regarding terminology. Also there needs to be an understanding that there will be many views regarding the quality of a particular soundscape, whereas whether the air quality is safe enough is not something an individual can form a view about.*

*As noted in the answer to question 1, measures to reduce road traffic noise can have a synergistic effect on air quality, for example reducing speed limits on motorways. Such limits (primarily to benefit air quality) have been imposed on various roads both in England and Wales (see web link)*

<https://www.bbc.co.uk/news/uk-wales-43881650>

*Although noise was not mentioned as a benefit, if the average speed reduced from 70 mph to 50 mph a reduction of just under 3 dB(A) would be expected in a traffic flow containing 10% HGVs.*

3. Please provide views on the nature and scope of air quality and soundscape information and/or evidence required to support effective plan making;

*Whilst PPW embeds the concept of soundscape into planning policy, the precise outcomes being sought do not seem to be clearly set out. Consequently, the nature and scope of the information and evidence required will depend on precisely what aspects of life are being managed by the plan making. Also, it depends on the aims and objectives of the plan making. In England the Noise Policy Statement for England has a vision under which the aims and other policy sit. This enables the nature and scope in any situation to be designed to achieving the overall goal regarding air quality and soundscape.*

*Guidance on the information likely to be required for assessing soundscape is being collated in the BS 12913 series which deals with appropriate "Descriptors and Indicators". The context of the development is also important, and BS 12913 considers two very different soundscapes - tranquillity and vibrancy - which could be appropriate depending on the setting.*

*Guidance on the level of neutral masking noise that shows an overall benefit to residents in their gardens is required, covering;*

- i) The level relative to the level of 'noise' it is designed to mask, and*
- ii) The absolute level.*

4. Please provide views on how evidence and/or information relating to air quality and soundscape should be used alongside other evidence necessary to support effective plan making and how this evidence could be used in an integrated way to facilitate better placemaking outcomes; and,

*There has to be a balance. In terms of soundscape, care must be taken that policies promoting a good soundscape which means that ill-health due to noise exposure is minimised does not cause other adverse health effects through poor social and economic outcomes. Soundscape cannot be treated in isolation.*

*Research suggests there is a significant correlation between auditory and visual responses and so effectively managing the landscape will be just as important as managing the acoustic environment. Two places which are visually very different (e.g. a park with grass and trees and a street surrounded by buildings) can feel quite different even when the acoustic environment is the same.*

5. Please provide any further detailed guidance and support in relation to air quality and soundscape which would be beneficial to support effective plan making and which is not covered by 1)-4) above.

*In order to succeed, the assessors and regulators need to have clear guidance to avoid falling back on the safest acoustic solution that may not be the optimum outcome or attractive to future users of the scheme/space. In England, the planning guidance requires local authorities to avoid the use of fixed thresholds and using such an approach in Wales would allow the full benefits of applying soundscaping concepts to be secured. This will mean that the use of soundscapes will create an appropriate noise environment, rather than simply suppressing noise as much as possible.*

*Direct guidance should therefore be included in the document allowing glazing and ventilation solutions to be applied to habitable rooms on residential facades facing industrial areas and/or transport sources, Reference could be made to the IOA/ANC/CIEH Professional Practice Guidance to assist with optimising the design and layout of new dwellings <https://www.ioa.org.uk/publications/propg> and the ANC/IOA Acoustics Ventilation and Overheating Guide which gives advice on reconciling the acoustic and ventilation aspects - <https://www.association-of-noise->*

[consultants.co.uk/wp-content/uploads/2019/12/ANC-AVO-Residential-Design-Guide-January-2020-v-1.1.pdf](https://consultants.co.uk/wp-content/uploads/2019/12/ANC-AVO-Residential-Design-Guide-January-2020-v-1.1.pdf).

*In this way it will not always be necessary to use single aspect development which can be one interpretation of Soundscape guidance. Single aspect development risks creating ghettos, causing security risks for people walking/cycling to/from work along routes that are not overlooked. In the worst case, buildings may be created which do not look over green spaces incorporated as a “noise buffer zone” between industrial sources and residential facades/gardens. This removes an important aspect of the soundscape - the visual one - and can result in other unintended consequences such as potentially creating a security risk for children playing if they cannot be directly observed from dwellings.*

*Direct guidance to assessor and regulators is required confirming that the principles found in standards such as BS4142:2014+A1:2019 are to be used as part of a wider assessment of absolute noise levels and context. This would avoid taking choice away from residents who may wish to open a window facing an industrial source - even if they then complain about hearing the sound from the industrial site. - so long as a suitable alternative means of ventilation have been incorporated into the residential design. There is some evidence of a mis-match between what is understood to be case law by some regulators and the approach set out in that British Standard. The planning guidance could assist in reconciling this difference.*

*It is important to give regulators clear guidance on all these issues, otherwise there is a risk that the optimum soundscape solutions will not be achieved.*

## **Development proposals and development management**

6. Please provide examples of good planning practice guidance in Wales or elsewhere aimed at reducing, avoiding or minimising the impacts of airborne pollution;

*If noise is included as airborne pollution, the advice given in the Planning Practice Guidance on Noise in England provides wide ranging advice on how to consider the various issues affecting the impact and effects of noise. Various British Standards also provide advice regarding how to manage the impact of noise. Effective measures can also be found in the literature dating back to the 1960s. In terms of providing planning guidance, the challenge is to identify the right level of detail to include given that not every conceivable situation will be able to be covered.*

7. Please provide examples of good practice in Wales or elsewhere where design has been effectively used to reduce, avoid or minimise the impacts of airborne pollution;

*This is very difficult to answer as there are so many examples. Almost every proposed development where the effects of noise could be an issue include planning conditions designed to manage noise. Maybe the guidance should include the types of mitigation that could be used - e.g. physical measures, e.g. reducing the noise at source or along the propagation path; operating measures, e.g. limiting the number of occurrences of the source, the duration of the source or the time of day it occurs and so on*

8. Please provide examples of successful mitigation being secured as part of planning applications and being effectively implemented;

*Numerous TAN 11 road/rail noise assessments where screening has been used to reduce noise impact at the residences/in gardens.*

9. Please provide information and/or views on the nature and scope of air quality and soundscape information and/or evidence required to support effective decision making on planning applications;

*This response risks being accused of stating the obvious. There needs to be enough information that is of an appropriate standard to enable the decision maker to reach the best outcome and for third parties to understand what might occur. This requirement should be in the guidance. The IEMA guidelines <https://www.iema.net/event-reports/2016/01/07/Launch-Webinar-IEMA-Guidelines-for-Environmental-Noise-Impact-Assesment-2014/> provide advice on issues concerning noise assessments.*

*A significant amount of Research has and is being done in this area which needs to be brought together such as:*

*Project DeStress:*

*<https://destress.hw.ac.uk/> by Heriot Watt University*

*“The Urban Soundscapes of the World” project:*

*<http://urban-soundscapes.org/> designed to set the scope for a standard on immersive recording and reproducing urban acoustic environments with soundscape in mind. The project is by ASAsense and Ghent University, and is funded by the HEAD Genuit Foundation.” Dick Bottledooren*

*Positive Soundscapes Project:*

*<https://www.salford.ac.uk/research/sirc/research-groups/acoustics/psychoacoustics/positive-soundscapes-project>*

*<https://tranquilcity.co.uk/> - a project exploring our relationship with tranquillity in the urban environment to promote health, wellbeing and balance*

*The issue is also explored by Jian Kang in his book ‘Urban sound environment’ (which is available as a free download)*

10. Please provide any information and thoughts on barriers, perceived or practical, to achieving better design outcomes and effective mitigation; and,

*The skill and expertise of those providing the technical assessment and the regulators reviewing it. If neither reaches the right standard, then the outcomes will not be as good as they could be. For noise and soundscape, the impacts of which are primarily subjective, it is very easy for poor decisions to be made.*

*Consequently, a significant barrier to this novel approach is that people do not understand it. Regulators in particular may worry that this is a backdoor method for allowing development in inappropriate locations. All advice and guidance must therefore be supported by good solid research. Furthermore, training will be needed on how to interpret the data; the Institute of Acoustics offers many courses which may help in this regard. In addition, visits to examples of the successful use of soundscapes, such as the award winning scheme referred to in Q1 above, could also be highly beneficial.*

*One of the main issues with the current TAN 11 is that it indicates 'Planning permission should be refused' for NEC C sites, which is impractical for urban locations and sites near the main strategic transportation network. This has led to this advice largely being ignored in favour of conditions utilising screening, sound insulation at the façade and mechanical ventilation giving residents the option to keep windows closed while maintaining fresh air levels. It has also become a rather blunt tool in that it has tended to be used to define absolute levels, where some flexibility based on the context of the local area could be useful.*

*The advice in TAN 11 relating to 'mixed source' sites tends to be met with resistance by regulators as they are concerned that despite the outcome of an assessment complaints may still arise, regardless of the otherwise prevailing average traffic noise level. BS4142 2014+A1:2019 is clear that not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact.*

*This is an area where Government could highlight the change in approach set out in BS4142 2014+A1:2019 standard, which indicates sound insulation at the façade can be taken into consideration when assessing complaints. As indicated in the response to Question 5, there is some evidence of a mismatch between what is understood to be case law by some regulators and the approach set out in that British Standard. The planning guidance could assist in reconciling this difference, otherwise there is a risk that the optimum outcome will not be achieved.*

11. Please provide any further detailed guidance and support in relation to air quality and soundscape which would be beneficial to support better

placemaking outcomes through development management which is not covered by 6)-10) above.

*Guidance needs to be included regarding how regulators should negotiate with existing industrial/commercial operators where there is the potential for the residential developer to pay for attenuation measures at the source. Where the noise generator takes a positive attitude, this can be a useful tool, however they often see it as an opportunity to get money out of the developer. Currently, there are situations when Regulators are reminded to explain to the noise generator that, in spite of them already operating in the location, if in the view of the Regulator they are being unreasonable in negotiations allowing levels to be treated at source, that could count against them if the Regulator has to investigate a complaint in the future.*

*One option in relation to night clubs and bars could be to limit source music levels in their clubs to specific limits (both in terms of dBA and at the 31.5, 63 & 125Hz octave frequency bands). This would have the dual effect of reducing young people's exposure to high noise levels, with the consequential risk of hearing damage, and reducing noise break-out adversely affecting the night time soundscape on neighbouring sites. At the moment clubs/bars say if they turn the music down, "people will go down the road" but if this is enforced for every club/bar on an order from central government, then they will all be on the same footing, and know they are all on the same footing.*

**Question 12:** We would like to know your views on the effects that any information provided would have on the Welsh language, specifically on opportunities for people to use Welsh and on treating the Welsh language no less favourably than English.

What effects do you think there would be? How could positive effects be increased, or negative effects be mitigated?

*As mentioned earlier, there are challenges over the precise meaning of words in this context and how the guidance would be applied. It is likely that similar issues might exist when set out in Welsh.*

**Question 13:** We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

Please enter here: *No further comment*

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The Institute of Acoustics is content for its response to be made public

Institute of Acoustics

11<sup>th</sup> May 2020