

Sustainable acoustics – survive then revive



Sustainability is not just about surviving climate change but also taking a longer term look at how to balance the demands on our planet, and then create a world in which we can live in balance with it, each other and also maintain our biodiversity. This is where acoustics and the care of our aural environment can be a help to our social health and wellbeing, writes Peter Rogers of Cole Jarman, a member of the Institute of Acoustics

It is clear that every discipline has a part to play in the delivery of sustainability through a holistic design approach, including acoustics. The Institute of Acoustics is reviewing how it can best integrate sustainability into acoustics, and is actively seeking collaborations to help work towards a holistic way forward.

A thought-provoking meeting was held earlier this year by the Institute of Acoustics on Sustainable Materials at CIBSE. The meeting brought together Sustainability NGOs, consultants, architects and acousticians to investigate how acoustics can make a difference. The content of that meeting has been the inspiration for the remainder of this article and further

information on what was said can be found at www.ioa.org.uk.

SURVIVE

Facing the question of survival it seems hard to think how acoustics or any individual subject can save the planet, but the reality is it comes down to protecting and creating living environments for people. We can therefore start to unravel why acoustics is actually far more important in achieving this than generally thought.

Our aural environment is an essential part of how we interact with the world and therefore affect our sense of well-being. However, let's not beat around the bush – what will help us survive?

Well, a complete switch to renewable energy may help slow the climatic roller coaster,

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and noise is often an obstacle to permissions for wind turbines of noisy renewable combined heating and power farms for example.

As more micro turbines become more easily available to people through their local DIY store this is a consideration to help remove obstacles for a speedy transition. This may help make palatable solutions that have so far remained undesirable. There are other quieter sources of clean power, such as solar, which currently is too expensive for people to embrace, and so the temptation to switch to wind energy is currently on, hampered by fears of inefficiency and noise pollution.

The next major thing we can do is help reduce the energy requirements in buildings, where design solutions want to use natural ventilation in noisy urban areas. It is possible, providing opening windows are not the only option. Also, the thermal mass of the building and exposed hard reflective surfaces then need good acoustic design to make up for the missing ceilings to create an aural environment that people can comfortably live or work in.

Equally the quantities and types of materials used in buildings can sometimes be driven by acoustics to achieve the minimum requirements of Building Regulations, or indeed the Code for Sustainable Homes. As the structure is a place which seems to have the biggest impact on the carbon point of the building this is the place to start and make sure that light



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weight buildings can still achieve the acoustic separation that they need to.

A number of materials are emerging which have better environmental credentials than traditional materials, and recycled materials are proving very promising to provide equivalent acoustic performance, and it is the job of the acoustician and other designers to chance their palette as they consider specifying products as soon as the information is available.

The Institute will be working hard to provide guidance to help acousticians and other disciplines see how acoustics can help.

REVIVE

This is where acoustics can really make clear contributions in the social wellbeing part of the equation. In short, it is about improving living environments through excellent acoustic design. This is becoming known as Sustainable Acoustics, because it requires a "mine

clearing" and more holistic approach than the acoustician has perhaps been used to.

This extends to not just protecting people from unwanted noise (as is often the case currently), but also enhancing poor aural environments both inside and outside to create positive 'soundscapes'. This could mean creating areas of tranquillity which were noise polluted in busy urban environments to provide external areas for relaxation.

The use of positive sound then becomes another tool for the architect to help to enhance the visual aspects of their design, and provide an enhanced aesthetic. As more robust evidence emerges about the links between health and noise, it is now clear that a good aural environment is an essential step towards wellbeing.

In conclusion there really is a lot that acoustics and other disciplines can do to help this Survive-Revive process. As acousticians wake up to the

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need to take responsibility and start to take urgent action it is sincerely hoped that more will follow to achieve the "heads together" approach that is necessary for us to remain a part of the sustainable solution.

If you are interested in getting more information, please visit our website (www.colejarman.com), where you will find a useful overview article on this subject in the news section.

The author is a member of the Institute of Acoustics Council but the views expressed in this article are not necessarily the views of the Institute of Acoustics or Cole Jarman