

CREATING THE SUSTAINABILITY CULTURE 创造可持续发展的文化



Sustainability is no longer a mere buzzword. The days when it was the preserve of PR spin doctors, keen to jump on the environmental bandwagon and tick a box for corporate responsibility are now, thankfully, long gone. Instead, legislation, saleability and a genuine recognition that we need to preserve resources, both now and in the future, mean that sustainability is increasingly built in to development projects, not just their marketing material.

For the electrical installation industry, this means finding ways to future proof installations so that materials are not wasted by large-scale refits every couple of years or so. It has also put a significant emphasis on the use of durable, flexible products that make the best use of raw materials whilst offering longevity.

可持续性在几年前还只是个时髦词汇，被公关经理天天挂在嘴边用来标榜企业的社会责任。但在今天，各种就此颁布的法律法规、标准和规范、以及公众对节约资源的普遍认识，让可持续性出现在各种项目开发的方案中，不再只是企业宣传资料上的纸上空谈了。对电气安装行业来说，这意味着需要想办法找到这么一种安装形式，每隔几年的大整修不会使它造成大量的物料浪费，同时使用的产品能经久耐用、灵活，既能充分的节约原料，又能提供长时间的使用寿命。

The trouble is, sustainability means different things to different people and, as a result, many developments cut corners when it comes to sustainability because they don't apply the principles of using fewer resources and ensuring they last longer across the board.

问题是，可持续性对不同的人来说有不同的含义。因此，很多开发的项目并没有达到真正意义上的可持续，大多时候人们只是图简便，并没有遵照使用更少的资源，确保产品能经久耐用这样的原则来进行。

The Future of Sustainability 可持续性的未来

For CABLOFIL, Sustainability is about making something that is fit for purpose now but is also built to last. An important element of adopting sustainability as a culture rather than a policy is that it needs to take account of the human element. Sustainability is not just about buildings and the materials used to create them; it's about people and communities. You can create a building that's as striking and as durable as you like, but if it doesn't serve its purpose, or it doesn't have the flexibility

to adapt when its use or users need to change, then it cannot claim to be truly sustainable.

对卡博菲来说，可持续发展意味着生产出能符合当前要求的产品，同时它能长期存在供人们长期使用。要把可持续当成一种文化而不是策略，重要的一点就是要考虑到人的因素。可持续的不仅是房子和建造房子的材料，要考虑人和社区。你可以建造起一栋大楼，漂亮时尚，经久耐用，但是如果它不符合要求，或者说当它的用途或用户需要发生改变时不具备灵活性，那么就不能说它是真的可持续的。

Let's take a school as an example. Many local authorities are committed to building sustainability into public buildings and challenge both architects and contractors to demonstrate their sustainable approach when tendering. So far so good. There are countless examples of schools up and down the country that have made excellent use of sustainable materials, have integral recycling and energy conservation features and are shining examples of sustainability for the students and communities that use them. But none of us can predict the future. Who would have guessed 20 years ago that by now there would be computer suites in every primary school and interactive white boards in all our secondary schools?

比如说学校。很多地方官员都承诺要建筑可持续的公共设施，并要求建筑师和承包商在投标中都要展示各自产品和服务在可持续方面的特点。于是全国出现了无数的学校，使用了很棒的可持续的材料，具有整体可回收和节能特色，成为该社区可持续的光辉典范。但没有人可以预见未来。谁能在 20 年前就猜到几乎每个小学都有电脑室，每个中学都有互动的教学设备呢？

That's why building in flexibility is so important. Schools may need to adapt to incorporate new technologies and the ability to adapt needs to be designed in at all levels. From our area of expertise in cable management, specifying a system that can be changed quickly, and easily, without excessive waste or expense has to be the best long term plan to safeguard the school building against being left behind when technology moves on.

所以说建筑中灵活性如此重要。学校需要时不时的采用最新的技术，而这种应变的能力需要在最初设计的时候就全盘考虑进去。就卡博菲的专长，线缆管理这块来说，需要使用一个能快捷简便的进行变动，又不需要造成额外的浪费和花费的系统，才是最佳的长期的解决方案，它能确保校园的建设不会在技术不断发展的过程中落伍。

In a commercial setting, this imperative is even greater. The average building now changes occupier or even changes use every seven years. Ripping out an electrical installation and starting over is simply wasteful and contradicts the basic ethos of sustainability. With steel wire tray, the existing product can be re-used by reconfiguring the layout and adding new paths wherever they are needed, reducing waste and enabling the building to evolve.

对商业楼宇来说，这一点就更加重要了。现在的商业大楼平均每 7 年就更换用户甚至用途。完



全拆除旧有的电气系统而全部重建是非常浪费的，也违背了可持续的核心意义。假如使用网格式桥架，那么旧有的产品就能够沿用，只需对整体布置进行重新配置，在需要的地方添加新的桥架线路即可，减少浪费，真正实现楼宇的可持续发展。

Being More Resourceful

If safeguarding the future of a building is an important building block of sustainability, then we must see safeguarding the planet as its very foundations. And that means taking as little from the world's resources as you can, cutting down on the raw materials used and creating products from recycled materials or materials that can be re-used or recycled.

如果说保护一幢大楼的未来是可持续性的一个重要方面，那么可持续性的基础就是保护我们的地球上的资源。我们要尽可能的减少原材料的使用，利用再生的材料来进行生产，或者使用可重复利用或可被回收的原料。

Here many of the industries that serve the construction sector have been working hard to reduce their environmental impact and ensure that the resources they use are renewable or offset. But while the use of timber and natural stone have come under scrutiny from clients, developers and the public at large, in the electrical industry, there seems to be more of a *laissez faire* attitude. It would seem that there's an assumption that there are no alternatives to using large amounts of steel and, therefore, the amount of raw materials used by this aspect of the build is not always challenged as part of a sustainable specification.

现在很多为建筑行业服务的公司一直在努力减少他们对环境的印象，确保使用的资源可以再生或回收。在电气行业，虽然木材和石料的使用受到了用户、开发商和公众一致的严密监督，还是有一些方面在放任自流，无人重视。比如大家似乎都认为没有办法减少对钢铁的消耗，因此，这个行业中钢铁的使用是否符合可持续性的原则很少被人质疑。

Again, it comes down to culture. Only by ensuring that all contractors and all their suppliers consider where they reduce the amount of raw materials used can we truly begin the journey towards sustainability. Minimising the use of raw materials has to be a key objective but it will only become an imperative if developers challenge contractors, contractors challenge sub contractors and subcontractors challenge suppliers.

这还是个文化的问题。只有保证所有的承包商和他们的供应商都开始考虑如何减少原材料的消耗，我们才能真正开始走向可持续发展的道路。减少原材料的使用必须要成为行业内一个核心的目标，而要达成这个目标，则要依靠开发商对承包商提要求，承包商对分包商提要求，分包商对厂商提要求。

Shift 转变

Already we are starting to see a shift. Leading M&E contractor, NG Bailey, for example, has set out a 'Corporate Sustainability Pledge', outlining the six key areas

in which it plans to put a sustainability culture at the heart of its business. Amongst these six areas are 'Working with Suppliers' and 'Lowering the Carbon Footprint', which includes using fewer natural resources. Their commitment shows a step in the right direction amongst the most forward looking, responsible companies, but how does that translate into hard evidence of a sustainability culture in the electrical sector?

现在我们已经开始看见改变。法国领先的承包商 NG Bailey 已经向公众表示，要遵照可持续发展的原则，尽量使用更经济的产品。作为 NG BAILEY 的供应商之一，我们积极响应这种理念。而且卡博菲的网格式桥架本身就是符合这种的产品。

Facts and figures

While true sustainability is about culture rather than box ticking it can be useful to weigh up the facts and figures. So if we consider cable management, for example, a 300mm wide wire tray weighs just 2.16 kg/m in contrast to the 4.72 kg/m of conventional steel perforated tray, making a steel wire tray system is 55% lighter than traditional systems. It's so much lighter because the wire mesh structure of the tray means that it is 90% free air and that means it uses much less steel than conventional tray. And yet, thanks to the tray's innovative design, it's also much stronger than conventional tray. In fact, the 140kg/m of 300m width steel wire tray typically has a load capacity 27% greater than conventional steel tray.

In sustainability terms the sum of these figures ticks lots of boxes. It uses fewer natural resources and the quality and durability of the installation means that it also lasts longer. What's more, greater load capacity often means that fewer rows of tray are required because more cabling can be contained in a single run and with fewer accessories required.

事实和数据

为什么这么说呢？我们来看线缆管理这个领域。例如，一个 300mm 宽的网格式桥架重量是 2.16 公斤/米，而传统钢铁质地的穿孔桥架是 4.72 公斤/米，一套网格式桥架的系统比传统系统要轻 55%，而且所有线缆能够 90% 的外露在空气中，促进通风散热。生产过程中使用的钢铁也大大减少。由于卡博菲桥架的创新设计，它甚至比传统桥架的承重性能还好。事实上，300mm 宽的网格式桥架承重为 140kg/米，比传统穿孔式桥架的承载要大 27%。

网格式桥架的生产使用更少的自然资源，提供更高的质量，更经久耐用。而优秀的承载性能意味着单个桥架可以放更多的线缆，最终能减少桥架和配件使用的数量。从物流方面说，更轻的重量和更少的货物能减少运输费用，让运输更为方便，减轻城市中物流的压力。

Designing in Sustainability

Ease of use can also have a role to play in minimising waste. Steel wire tray, for example is supplied in straight lengths and can be cut easily to any length with bolt cutters, which means the team on site doesn't have to use electrical power to cut or weld the tray. Once they have cut the required length, they can bend the steel tray to fit tight angles and join pieces of tray together quickly and easily, minimising wastage and removing the need to order pre-manufactured components in advance for each bend. Following installation, the tray's open structure means that maintenance is much easier, helping to prolong the useful life of the installation.

卡博菲桥架使用的方便性也能帮助节约资源。网格式桥架只提供直段，在工地现场工人可用剪钳减成任何需要的长度，不需要电力工具。另外，各种连接部分和转弯、三通、四通等部件都可根据现场情况直接制作，不需要提前去工厂定制。安装完成之后，网格式桥架的开放结构也意味着维护更简单，帮助延长安装的有效使用时间。

Steel wire tray is just one illustration, but the principles are clear and can be carried through to all aspects of the industry. Ingenuity and simplicity of design can be the key to delivering sustainability benefits in a product and every supplier that takes that on board can help us take a step forward towards a more sustainability-focused industry. If we want to really create that sustainability culture, however, we have to return to the theme of putting people at the heart of sustainability. It's building principles like reducing waste and increasing flexibility into the use of a product that really transforms it from an environmentally conscious product into a stepping stone to sustainability.

网格式桥架只是一个例子，但这个规则可以被使用到行业的各个方面。如果我们想真正的创造出一种可持续的文化，那么，我们必须让人人意识到可持续的真正含义，节约资源，具有高度的灵活性和适应性。

Human Interest

So if a sustainability culture involves the ways in which we use products as well development of the products themselves, how do we create buy-in for the principles of sustainability at all levels?

In many ways it's by demonstrating a top-down commitment to delivering a sustainable approach all the way through the delivery chain. Certainly, setting out that commitment as a clear and public policy as N G Bailey has done doesn't hurt in this regard. But product suppliers and main contractors don't always have full control over what actually happens on site, and reaching subcontractors and casual workers can be a challenge. Add to this the fact that the industry now relies heavily on migrant workers who may never even have heard of sustainability, much less understand their role in delivering it, and it's clear that communication has a vital role to play.

For the contractor, that responsibility to communicate is in the way that they brief on-site personnel and police the use of products. But the supplier can



often help support key messages about minimising waste and equip workers to use materials responsibly by carrying out training. For example, at Cablofil we show installers how to cut and form the tray using bolt cutters and how to join lengths of tray.

It sounds simple - and it is! - but the results an hour-long training session can generate at the beginning of an installation contract are considerable. At Heathrow's T5, for example, where steel wire cable tray was used throughout the new terminal, on-site training helped ensure that the considerable installation teams could use the product quickly and efficiently without wastage. In all, we trained over 200 installers many of whom do not speak English as their first language but the training incorporated visual demonstrations of the product so that all those trained could be competent installers within less than an hour.

Investing that time in showing workers how to use the product effectively helped ensure dramatic savings in the number of components needed for the cable management installation at T5. A staggering 2.25 million fewer components were required as compared to the number of components that would have been needed for a conventional tray system for the same project, and this was achieved by engaging with the workforce to help them maximise the environmental advantages designed in to the product.

Training personnel on site is a quick win, and, as such should perhaps top the to do list on the people development side of sustainability. But if we are really going to create a sustainability culture within the electrical industry, then people development will take a lot longer and will require total commitment right across an organisation. It's a commitment that must come from board level, but it also needs buy-in from HR and from finance because it will involve training, recruitment of appropriately qualified personnel and ongoing communication.

A Team Effort

On site, the M&E contractor has its job to do, while the construction contractor gets on with its job and the architect comes along to inspect that everything is on track. This division of responsibilities works and allowing silos of expertise to operate independently gets the job done. But sustainability is an integrated concept which must work across different elements of a building from planning, through design, construction fit out and commissioning, so, away from site at least, these silos of expertise need to come together and co-operate. Yes, we need to create a culture of sustainability in the electrical industry and the genesis of that culture is already apparent. But for us to take it to the next level there must be greater integration across all construction-related sectors to share best practice and allow an integrated approach to moving sustainability from a nice-to-have to a must-have.