

Wilson & Partners' Sustainability Series

Sustainability: A Macro View

Author: Emily Bentley-Leek, September 2018

Welcome! Thank you first of all for your attention. This is the first in Wilson & Partners' six-part series, on the subject of Sustainability.

In this first article we introduce our sustainability team and give an overview of world sustainability and UK statistics and a snapshot of the kind of sustainable projects we have already been working on.

Sustainability is a core element of W&P as a business, as well as many of our affiliates and clients. As such we endeavour to deliver sustainable solutions on each given project and share the benefits with our clients and the wider community and actively engage with sustainability in a wider sense; regularly receiving work experience students, developing our own technical knowledge and making an effort to keep our offices green!

We have appointed a Sustainability Team with nominated Champions for each of our "Three Pillars of Sustainability":

- ❖ Sustainability in Design
- ❖ Sustainability in People
- ❖ Sustainability in the Community



Nat Godden



Luke O'Brien

Sustainability in Design Champions



Steph Wicken
Sustainability in People Champion



Emily Bentley-Leek
Sustainability in the Community Champion

The three pillars are a focal point of our work in sustainability, allowing us to target our efforts and promote sustainable choices throughout our supply chain.

This series will focus on a number of different aspects of sustainability including:

- ❖ **Sustainability in Design:** A deeper look at sustainability in Construction Engineering
- ❖ **Case Study:** A project snapshot on how our design has improved the sustainability of the facility
- ❖ **Sustainability in People & The Community:** Observing sustainability in in the context of individuals and the community
- ❖ **What's out there:** A broad look at the different sustainability tools and schemes being implemented in different places
- ❖ **Round-up:** A round-up of the topics discussed, Wilson & Partners' vision going forward and ideas for your own business.

What is Sustainability and why is it important?

David Pullen (Managing Partner):

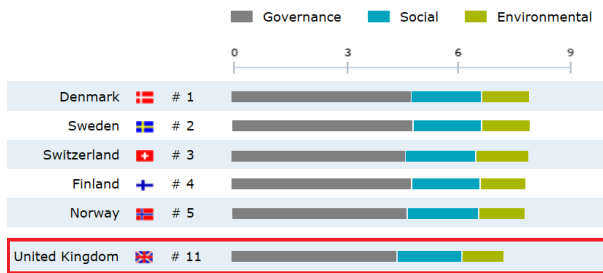
"Investment in the built environment spans many generations, it is not just for now. It would therefore be irrational to do anything other than consider the use of finite resources and the legacy we leave for future generations to live and work with."

Any business is about the people in it. We have the ability to enhance each other's experiences, and to include and give back through our enterprises."

While it is all well and good to talk about "sustainable initiatives", one difficulty we've encountered among construction professionals, is agreeing the definition of what sustainability actually is. Here are a few areas that are important to us:

- ❖ **The Environment:** Considered space planning including the protection of ecology, views, green spaces and clean air.
- ❖ **Social Engagement:** Creating buildings that are relevant to the community they are situated in, so they are accessible to all.
- ❖ **Economic Viability:** Ensuring a continuous affordability of the building through its life through energy-efficient solutions.
- ❖ **Engineering:** Using innovative designs that consider the end use of the building bringing durability, efficiency and comfort.

Sustainability: UK Performance at a Glance



[Figure 1] Modified from data compiled by **RobecoSam** (April 2018)

In 2018, the UK ranked 11th in the world for overall sustainability; covering governance, social and environmental categories. Although we are making progress in the rankings, it is well known that the UK has a major problem with the environmental impact of fossil & non-sustainable fuels, with almost 70% of UK households using gas as their principal source of energy.

But instead of dwelling on the negatives, let's look to the positive measures the UK is putting in place.

Wind Power



London Array, 20 miles off the Kent Coast

For the first time ever, wind power overtook nuclear power in the first quarter of 2018 as the second largest producer of electricity after gas.

UK windfarms:

- Produced eight times as much electricity as our nuclear power stations
- Accounted for 18.8% of total electricity production.

The UK has over 8,900 turbines producing 13,603 megawatts of wind power per year putting us as 6th in the world rankings for wind power. Unfortunately for smaller scale developments, wind power isn't always the most feasible source of energy, so we must look for alternatives.

Sources: *The Guardian* (16 May 18); *renewableUK*; *Wind Energy & Electric Vehicle Review*

Renewable Energy in General

Renewable energy is long established as an industry in Britain (around 40 years). Alongside wind power, wave and solar are established renewables within the UK, with solar energy in particular growing at a significant rate:

- 1.5 million homes now utilise solar power
- This is expected to reach 10 million in just two years' time.

While things are looking positive in terms of investment and utilisation of the renewable resources available to us, there is a lack of reliability when harvesting renewable energy. Until we are able to store energy for long periods of time, the UK will struggle to completely eradicate the use of natural gas and therefore we must minimise our needs for energy through building design.

Built-In Sustainability

With rising fuel prices and increased awareness of the impact we are having on our planet, low-energy buildings are becoming a more and more common request from clients within the construction industry.

Recently Wilson & Partners have been involved in the development of fifteen new Eco-homes designed and built on the Passivhaus principle, located on the Isle of Sheppey. These homes feature innovative insulation with in situ concrete filter and triple glazing to minimise heat transfer to the environment, while maintaining natural ventilation and a good air quality within the building. The site also includes a small lake to facilitate natural attenuation for the sustainable drainage system (SuDS) that reduces the discharge rate to that of a green field.

The show home opened in September and W&P are looking forward to tracking the energy performance of these Eco homes to see just how much saving can be achieved through design.



Scocles Court, Isle of Sheppey