

“Construction – Building a more Sustainable Future”

A reflection by Dr Saul Humphrey MSc PhD FRICS FCIQB FICE MCIArb CEnv

Having spent 35 years at what one might call the ‘sharp end’ of construction management, focusing on the delivery of projects in East Anglia, it is only more recently that I have been able to broaden my influence to include the land assembly, planning, and design plus the funding and viability challenges that precede the construction itself.

If I were to reflect on the delivery highlights that I have witnessed over the years, it is often the buildings that allowed strong teams to work together, that enabled greater sustainable accolades, more social inclusion or the creation of better opportunity that really stand out.

And it is the people that lead and deliver these projects that I remember most. Indeed, it is the people that can now embed and accelerate the changes in sustainability that I believe are now absolutely essential.

My more recent focus in leading Saul D Humphrey LLP in project managing construction projects today starts from an earlier and broader perspective, facilitates far greater influence on

the design, specification, and the impact that the buildings that follow will showcase. However, this extended leadership status comes with added responsibility.

The structures we build today and the homes we create, will be here for many generations. Future society will appreciate our endeavour, but only if we get it right.

We know that our society is faced with numerous challenges. Following the enormous impact of the coronavirus pandemic, we are all challenged by huge economic challenges¹, a housing crisis², an ageing society time-bomb³, a skills crisis⁴, and enormous global challenges around climate change⁵ and habitat loss⁶.

The VUCA acronym that defines the volatility, uncertainty, complexity and ambiguity that society faces creates doubt and indecision. The challenge is difficult but as construction professionals we know that the Built Environment contributes around 40% of the UK’s total carbon footprint⁷.

Jubilee 3 at Easton College - BREEAM Excellent, 2011 Best Sustainable Building



1. Financial Times – UK economy set to be one of the last to recover from pandemic – 3/1/2021
2. The Guardian – How do we fix the UK Housing Crisis – 1/4/2021
3. UK Parliament 2021 – Challenges of an Ageing Population – observing Vastly improved life expectancy, one of the great triumphs of the last century, looks set to be one of great challenges of this one. Between 2015 and 2020, over a period when the general population is expected to rise 3%, the numbers aged over 65 are expected to increase by 12% (1.1 million); the numbers aged over 85 by 18% (300,000); and the number of centenarians by 40% (7,000).
4. Institution of Civil Engineers - Construction skills crisis threatens UK’s net-zero goals -The UK’s construction workforce is ageing. The proportion of workers aged over 50 now stands at a staggering 35% of the total workforce, compared to just 20% who are aged under 30. – 25/3/2021
5. The Royal Society and the US National Academy of Sciences – update 2020 - noting climate change is one of the defining issues of our time. It is now more certain than ever, based on many lines of evidence, that humans are changing Earth’s climate. The atmosphere and oceans have warmed, which has been accompanied by sea level rise, a strong decline in Arctic sea ice, and other climate-related changes. The impacts of climate change on people and nature are increasingly apparent. Unprecedented flooding, heat waves, and wildfires have cost billions in damages. Habitats are undergoing rapid shifts in response to changing temperatures and precipitation patterns.
6. World Wildlife Federation (WWF), see: https://wwf.panda.org/discover/our_focus/wildlife_practice/problems/habitat_loss_degradation/ Noting: Habitat loss poses the greatest threat to species. The world’s forests, swamps, plains, lakes, and other habitats continue to disappear as they are harvested for human consumption and cleared to make way for agriculture, housing, roads, pipelines and the other hallmarks of industrial development. Without a strong plan to create terrestrial and marine protected areas important ecological habitats will continue to be lost.
7. UK Green Building Council - <https://www.ukgbc.org/climate-change/>

Construction has been part of the problem, but we now have the opportunity to be part of the solution. With moves toward lower carbon emissions, on-site energy generation, with lower embodied carbon we can shift the dial on the emission of greenhouse gases that our sector is responsible for.

With the right approach to sustainability, including ecological impacts and bio-diversity net-gain, we can help to solve the problem. With imaginative and inclusive design and development we can shape greater resilience to climate change, over-heating and flooding.

Of the 17 Sustainable Development Goals⁸, no less than nine can be addressed by the construction sector⁹.



With enhanced construction training to address the structural vulnerability to skills shortages, with greater inclusion and more diversity plus the adoption of Modern Methods of Construction (with DfMA and PMV), and the greater adoption of digital solutions we can start to improve the consistency and performance of the offer¹⁰.

Having said all of this, at the current rate of house building, we only replace 1% of new homes each year¹¹. By 2050 when we should have achieved our net zero-carbon commitment¹², 80% of the UK's buildings will have already been built¹³, so a major priority is decarbonising our existing stock.

Advancing the agenda to focus on improving the efficiency of existing buildings is paramount if we are to lead the transition to a net zero carbon Built Environment.

To tackle both existing buildings and infrastructure and the future pipeline of new construction requires a triple strand approach:

1. Retrofitting and addressing the emissions from existing buildings;

2. Adaptation and installation of alternative energy generation systems and supply such as for electric vehicle (EV) mass roll out, localised energy generation hubs, the future switch from gas to electric and potential hydrogen adoption in industrial and existing large-scale developments; and;



Opening new Civil Engineering and Construction Centre at East Coast College

8. Brundtland Report - Our Common Future - published by the United Nations through the Oxford University Press (developed guiding principles for sustainable development as it is generally understood today - October 1987)

9. World Green Building Council - Green building & the Sustainable Development Goals, 2021

10. Farmer, Mark - Farmer Review of the UK Construction Labour Model - Modernise or Die - Time to decide the industry's future, 2016

11. House of Commons Briefing Paper Number: 07671, dated 14 January 2021 noting target of 300,00 new homes per year although typical annual house building completions probably averages nearer 200,000 per year. Total number of households in UK is 27.8million.

12. UK becomes first major economy to pass net zero emissions law - Department for Business, Energy & Industrial Strategy - 27 June 2019 - The target will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels

13. UK Green Building Council - Climate Change - UKGBC's vision for a sustainable built environment is one that mitigates and adapts to climate change, noting Newly constructed buildings are more energy efficient, but 80% of buildings in 2050 have already been built, so a major priority is decarbonising our existing stock. Yet Government policies aimed at improving the efficiency of existing buildings have scaled back dramatically, and insulation installation rates have stalled.

3. Designing and building the future buildings and infrastructure, to mitigate or neutralise the emissions from new buildings and infrastructure at a sufficient rate. The emissions from buildings typically refers to the operational carbon, but the challenge embodied carbon cannot be ignore¹⁴.

Delivering the net zero-carbon agenda is key, but equally important is the quest for protection of nature, recognition of the need for a more circular economy and the development of more inclusive and resilient societies.

I believe that many construction professionals have a duty to influence more sustainable outcomes. Now is not the time to be excessively obsequious in deferring to regulatory norms.



Upper circle - Congham Hall Hotel including 21 modular cabins built to passive principles with SIPs.

Middle circle - Colney Care Village – 24.99 hectares of sustainable later living accommodation with UEA study centre.

Bottom circle - Dial Corner - off-grid earth-dwelling promoting exceptional energy efficiency and carbon emission standards, recording a 166A Design SAP Rating planned under Paragraph 131 of the NPPF

Instead, we have to think and act differently. I am optimistic that we can make the changes in design, delivery and behaviour that is required but I am not so Panglossian that I think change will just occur without real commitment.

There are numerous initiatives^{15 16 17} aimed at improving the construction sector’s net-zero carbon commitment, but with COP26¹⁸ on the immediate horizon, now really is the time to shift from rhetoric to reality.



Norwich Energy Innovation Park for Goff Group to BREEAM Outstanding



UEA Enterprise Centre – Passivhaus and BREEAM Outstanding – Most sustainable commercial building in Europe

14. London Energy Transformation Initiative - Defining and Aligning: Embodied carbon targets and net zero definitions <https://www.leti.london/> - 27/05/202

15. Construction Industry Council - Carbon Zero: the professional institutions’ climate action plan <https://cic.org.uk/admin/resources/cic-carbon-zero-climate-action-plan-for-professional-institutions.pdf>

16. UK Green Building Council (UKGBC) - Net Zero Carbon Buildings: A Framework Definition <https://www.ukgbc.org/wp-content/uploads/2019/04/Net-Zero-Carbon-Buildings-A-framework-definition.pdf>

17. UK Project Managers Declare Climate and Biodiversity Emergency - <https://uk.projectmanagersdeclare.com/>

18. UN Climate Change Conference UK 2021 - COP 26, Glasgow - <https://ukcop26.org/>

The construction industry needs a paradigm shift that refocuses away from the obsession with the cost of construction in favour of a real recognition of the value¹⁹ of the sustainable and social inclusion impacts of the buildings that we create. The continuing promotion of Environmental, Social and Governance (ESG) issues in public and corporate agendas²⁰ now makes these issues a key driver in investment decisions. Consequently, sustainability should now be at the heart of investment decision making.

It is said that every £1 spent on construction creates £2.84 of economic benefit²¹. If we could shape this expenditure towards more sustainable, more inclusive, solutions then the benefit for future generations would be so much more than any simple economic metric could ever hope to value.

Halesworth Care Village for Castlemeadow to BREEAM Outstanding



Hethel Garden Village promoted for 6,000 exponentially sustainable and affordable homes in Hethel, Norfolk targeted to be Europe's first carbon positive new settlement.



Top left: Goldsmith Street, secured the Stirling Prize winning Passivhaus development in Norwich

Top right: The Meadows, Housing with Care Village at Bowthorpe – 92 housing with Care and 80- Dementia Care units

Bottom left: Rayne Park, Three Score, Bowthorpe including 112 Passivhaus homes

Bottom right: Anglia Ruskin University, Cambridge Campus

19. Carney, Mark – Value(s) – Building a Better World for All – published by William Collins, 2020

20. Governance and Accountability Institute found more than 90% of the companies in the Standard & Poor's 500 now publicly report their performance on ESG standards – Governance & Accountability Institute - 16th July 2020

21. Local Government Association – Delivery of council housing: a stimulus package post-pandemic - <https://www.local.gov.uk/delivery-council-housing-stimulus-package-post-pandemic>



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Dr Saul Humphrey MSc PhD FRICS FCIQB FICE MCI Arb CEnv is the Managing Partner of Saul D Humphrey LLP leading numerous sustainable construction projects across many sectors and working closely with Human Nature in their quest to deliver exponential sustainable neighbourhoods. Saul previously led R G Carter Construction in the East of England until 2016 and was also the Managing Director of Morgan Sindall PLC in the East until 2018. Saul has been ultimately responsible for securing, delivering over £3Bn of construction projects, predominantly in the East of England. Today, he is helping to lead a similar value of work but with a much more sustainable and inclusive focus.

In addition to his professional accreditations, Saul is a member of the UK Green Building Council and a signatory to 'Project Manager's Declare'. He is a Fellow of the Royal Society of the Arts. Saul is a Governor of East Coast College and Chair of its Curriculum Development group. He and is a Non-Executive Director of Great Yarmouth Borough Council's Equinox Developments, a member of Sounding Board, an Ambassador of Norfolk Construction Excellence Club, Ambassador of Cambridge Norwich Tech Corridor. Since 2015, Saul has also been Chair of New Anglia LEP's "Building Growth."