Design once, engineer right

Sustainability Strategy

Tony Gee

Consulting Engineers

Foreword

Chris Young

Managing Director

Sustainability is as important to Tony Gee as it is to the wider society, and we know it is a global imperative that we all live, work and develop in a more sustainable way. We are well aware that the construction industry is one of the biggest contributors to both the emission of carbon and the more general use and destruction of the planets natural resources. The take, make, dispose model is no longer (and never was really) an acceptable process but almost by definition we are in the business of converting natural resources into buildings, roads, infrastructure for the use and benefit of humans. However, this "big emitter" position also gives us the opportunity to play a significant part in the reduction of waste, use of materials, emission of pollutants and to be at the forefront of the developments of more sustainable, reusable solutions.

Tony Gee have always had a reputation for solving complex problems in simple, effective, elegant ways and the natural extension of this culture and reputation is to add sustainability to the list of adjectives associated with our designs.

At a company and culture level sustainability also means being able to grow our business in a controlled, ethically sound manner and the development and culture of our offices and working environments is key to this. Providing opportunities for staff development and helping to engender a culture of personal validation and reward is fundamental to the sustainable future of Tony Gee.

Natalie Cropp

Sustainability Group Director

It is often said, but we really are living through unprecedented times. The issue of climate change alone is one that is fundamentally changing how we live and how we think about our impacts on the world around us. As civil engineers we have a huge part to play in global carbon emissions through our projects and the infrastructure systems we design for society to use. We also have a huge responsibility to address those same emissions. We cannot wait for someone else to tell us to do this, we simply must take action ourselves now.

Sustainability is a broad and complex topic, and whilst critically important, carbon is not the only facet to be considered. We have identified 4 priority themes that link to the aspects where we can have the biggest impact and those that have the biggest need for attention. Carbon is inextricably linked to the issue of resource efficiency and waste with a need for us to move to a more circular economy. This applies to projects, but also our operations. The biodiversity emergency is one that cannot be ignored and is exacerbated by the climate crisis. It isn't every project that has the ability to affect biodiversity. When we do have an impact it can be significant, but can also be an opportunity to deliver a net positive outcome if we consider the issue at the right time. Finally, Social Value is an aspect that we can impact not only through our projects and the societal needs that they meet, but also in how we deliver them and how we operate as a business.

This strategy has been written to set out our desire for shared responsibility to be more sustainable in all that we do, as well as identifying the need for tools and knowledge to achieve this. We want to be held accountable for success and so setting out routes for measuring our impacts is the final piece. Every single member of staff will have the ability to contribute, be it through the design decisions being made, the discussions with Clients that challenge the brief or the choices we make in how and where we work. As a Sustainability Team we are pledging to provide the support, knowledge and tools needed for us all to succeed.

Design once, engineer right

VISION

For sustainability to be a core consideration for everyone in everything that we do.

Our Vision

This vision aligns with the Tony Gee 'design once, engineer right' approach 'balancing the needs of industry, society and environment equally'.

Everyone in the business has a role in making this vision a reality for us and our clients. We want to ensure that all our staff are focussed on how they can make a meaningful difference with regards to sustainability. This includes our design work and office operations.

Our aspiration is to nurture a culture where thinking about sustainability is second nature and just part of what we do.

Context

Sustainability, and specific aspects of this broad field, are critical issues for employees, clients and the public users of civil engineering infrastructure. Climate change, biodiversity and social value are just a few of the aspects that impact all our lives and that are affected by the decisions we take in our projects and as a business.

As these critical issues come to the fore, we are seeing clients requesting demonstrable sustainability features through tender selection process and project requirements. Whilst the requirements in projects may not be consistent for all projects and all clients, as professional engineers we have a duty to drive the sustainability conversation alongside the engineering design, safety and whole life cost.

Addressing sustainability is a global issue and the UN Sustainable Development Goals[1] highlight the breadth of issues and the interconnectedness of them. Climate change is just one issue that impacts many other aspects of sustainability.

COP26 highlighted how nations around the world are taking action in one way or another to work towards net zero. The UK government route to net zero is being translated into hard targets for carbon reduction by many of our clients. In the transport sectors, the Net Zero Highways Plan[2] and Network Rail low carbon agenda within in their Sustainability Strategy[3] are just two examples. Within the power sector, we are working with low carbon energy clients where carbon is naturally a focus for the projects we work on.

We are seeing clients in marine and waterways recognising the issue; the Environment Agency have a Net Zero by 2030 plan[4] and many port authorities are setting their own similar ambitious targets and objectives.

The Social Value Act in the UK requires publicly funded projects to demonstrate social value beyond meeting the core functional needs of their projects. The revision of the National TOMs in 2022[5] has updated the tool with focussed set of measures that can be applied as well as increasing emphasis tackling climate change as a social issue.

Central government and clients across all sectors are also recognising their role in protecting and rebuilding the natural world and are setting biodiversity targets for their asset management and projects[6,7,8]. Impacts and opportunities for biodiversity are not always found within the land boundaries of the projects. Working more closely with local communities can bring solutions that add value for society and the environment.

The more general theme of value-based decision making is also rising up the agenda for central government and our clients. How do we add value through our projects and meet the many different needs for our schemes? The Construction Playbook[9] makes specific reference to the Value Toolkit[10] to ensure value is at the heart of decision making. Both private and public sector clients are showing interest in this approach and through our Sustainability Group we have been at the heart of the Value Toolkit development and will continue to promote the principles and its use.

Dawlish Beach

Notes

[1]https://www.un.org/sustainabledevelopment/sustainable-development-goals/
[2]https://nationalhighways.co.uk/media/eispcjem/net-zero-highways-our-2030-2040-2050-plan.pdf
[3]https://www.networkrail.co.uk/wp-content/uploads/2020/09/NR-Environmental-Strategy-FINAL-web.pdf
[4]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/989667/EA-net-zero-2030.pdf
[5]https://socialvalueportal.com/resources/guide/measurement-implementation/download-the-national-toms-2022-guidance
[6]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/899042/EA2025-creating-a-better-place.pdf
[7]https://www.networkrail.co.uk/wp-content/uploads/2020/12/Network-Rail-Biodiversity-Action-Plan.pdf
[8]https://nationalhighways.co.uk/media/yp1cj1kf/biodiversity-plan.pdf
[9]https://www.gov.uk/government/publications/the-construction-playbook
[10]https://constructioninnovationhub.org.uk/value-toolkit/

Priority Themes

Bringing sustainability into our decision making is not new, and something we have been working on for a number of years. In fact, much of what we would do to deliver a more sustainable design is just part of what we do as engineers. The Tony Gee is to deliver efficient designs within a range of challenges and constraints, this approach to design brings many sustainability benefits.

We have identified priority themes where we have the greatest opportunity for positive impact, primarily through our projects but also our operations. These priority themes are aligned with the critical issues we are facing, and with our client's objectives.

Our Priority Themes

- CARBON
- RESOURCE USE AND WASTE
- BIODIVERSITY
- SOCIAL VALUE

Our aim now is to bring greater focus to these aspects and improve our ability to effectively demonstrate and communicate the sustainability benefits we can bring. There are two complementary aspects where we can consistently have the greatest impact through our designs, and operations.

1. Carbon

2. Resource use and waste

We have two further secondary aspects of importance that are critical for our clients, but our ability to influence the outcomes can be limited in our projects and is more context driven. We will continue to work on improving our performance in these aspects where we can on schemes, but also bringing attention to how we can impact them in our operations.

3. Biodiversity

4. Social value

These priority themes do not take away from our need for minimum legal compliance and client specific requirements across the full breadth of issues that may arise in a project or our operational activities. The Environmental Management System (EMS) accredited to ISO 14001 we have in place has well established processes to support this.

Taking Action (2022-2023 Plan)

To work towards our Vision, we have three threads of activity:

Systems – enhancing the processes and tools available to enable consistent sustainable project delivery, recognising that to integrate sustainability into our decision-making in a cost-effective way we need to take advantage of automation opportunities. For our operations this means looking at how we monitor and manage our impacts across the entire business.

Knowledge – providing knowledge sharing, awareness and training opportunities for all staff to empower each individual to recognise how sustainability fits into their role and can be improved in their decision-making.

Measured success – demonstrating successes in individual projects and showing progress against our Pledge Net Zero target for 30% reduction in our operational carbon footprint by end of 2023.

1	**SYSTEMS**	Process Tools Automation
2	**KNOWLEDGE**	Raising awareness Provide guidance Training plans
3	**MEASURED & DEMONSTRABLE SUCCESS**	Project performance Social impact Pledge net zero targets

SYSTEMS
PAS2080 VERIFICATION

PAS 2080:2016
Carbon Management in Infrastructure

Aligning our internal processes with the PAS2080 standard to achieve external verification for our system.

KNOWLEDGE
SUPPLY CHAIN SCHOOL PATHWAYS

SUPPLY CHAIN SUSTAINABILITY SCHOOL

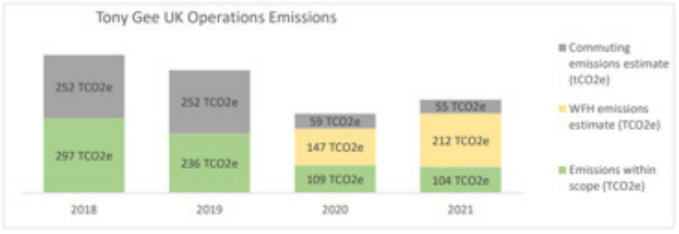
Using the Supply Chain Sustainability School training modules to create self guided learning pathways for individuals to follow.

- CARBON ASSESSMENT
- RESOURCE EFFICIENCY
- BIODIVERSITY
- SOCIAL VALUE

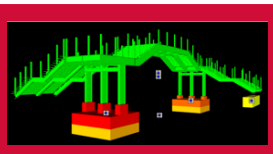
MEASURING
CARBON FOOTPRINT

PLEDGE TO NET ZERO

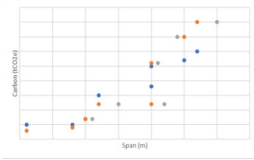
Reporting our carbon footprint annually to show progress against our Pledge Net Zero target of 30% reduction by 2023.

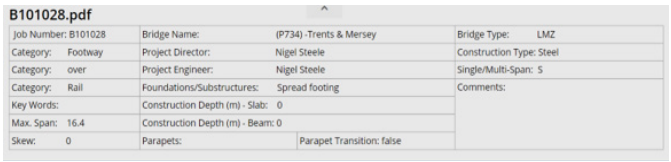


CARBON DATABASE TOOL
TDP PROJECT



Developing on the concept of the Darwin Database for bridge designs, the carbon database tool will present embodied carbon data for a range of designs (bridges initially) to be used as a reference for future projects.





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