

The Built Environment and Future Sustainability

The relationship between BREEAM and the Sustainable Development Goals



UN Sustainable Development Goals

The UN Sustainable development Goals (SDGs) make up the heart of the 2030 Agenda for Sustainable Development, which has been adopted by all United Nations' Member States. The 17 SDGs are overarching sustainability goals that are broken down into 169 targets and are measured through 231 unique indicators (247 in total with 12 indicators repeating across different targets). The SDGs address the key global challenges being faced, such as climate change, environmental degradation and socio-economic issues such as human health and wellbeing, inequality and justice, visioning and aiming for a better, more sustainable world for all.

SDGs are country level goals designed for measurement by governments, nationally and locally. However, the goals have been picked up by corporations who are aligning themselves to the initiative in order to show how they facilitate the move towards a sustainable future. The construction and property sector have an essential role in supporting the achievement of the SDGs. The project-based nature of the work carried out in the industry can make this challenging. A shift within the industry towards greater facilitation of the goals is needed, to ensure widespread achievement. Meeting the SDGs successfully requires a collaborative effort across all sectors. The aforementioned issues can be addressed through policies and strategies. These can improve health, education, spur economic growth, while promoting adaptive and mitigative measures surrounding the climate crisis and sustainability.



Sustainability Development Goals and the BREEAM Schemes

BREEAM[®]
delivered by **bre**
New Construction

CEEQUAL[®]
delivered by **bre**

BREEAM[®]
delivered by **bre**
Refurbishment & Fit Out



SUSTAINABLE DEVELOPMENT GOALS

BREEAM[®]
delivered by **bre**
Communities

**HOME
QUALITY
MARK**
delivered by **bre**

BREEAM[®]
delivered by **bre**
In-Use

BREEAM, HQM and CEEQUAL (the BREEAM family of schemes) are dedicated sustainability assessment tools. They have the ability to address the entire lifecycle of a project across the social, economic and environmental aspects of sustainability. By mapping each of the schemes to the SDGs, it is possible to see how the suite of schemes facilitates the achievement of the Goals. The SDGs are not a new framework that requires a shift within the schemes in order to report on them or to assist in their facilitation. A large part of what the BREEAM family of schemes do are already aligned with the SDGs. Due to the broad application of the SDGs, there are areas in the construction industry, and in turn the BREEAM Schemes which demonstrate weaker relationships to the indicators.

Following on from a previous mapping to the SDGs, BREEAM assessment issues within each of the schemes have been further mapped beyond the goal level. By carrying out a deeper analysis of the scheme criteria and their links to SDG targets and key performance indicator levels, the correlations between the two can be shown. Direct indicators are very specific, with only some schemes having the relevant criteria to be considered linked. However, many SDG indicators are indirectly supported by the schemes and indirect facilitation is important to acknowledge. A scheme can add value in a way that may not meet the specific requirements of the indicators, but facilitate the success of the goal on a higher level or through associated processes.



UN Sustainable Development Goals and the BREEAM Family of Standards and Tools

The BREEAM schemes (New construction, In-Use, Refurbishment and Fit-out (RFO), Communities, Home Quality Mark (HQM) and CEEQUAL) have been analysed to showcase BREEAM's alignment with the SDGs across a wide variety of project types and life cycle stages, from civil engineering and infrastructure through to residential developments and commercial operations.

There is a direct correlation between 14 of the 17 SDGs and the BREEAM schemes' criteria. Mapping the schemes to the goals at a criteria level provides an in depth look at the correlations between the two.

Table from a previous alignment showing how areas within BREEAM relate to the SDGs (www.breeam.com/resources/strategy/un-sustainable-development-goals-and-breeam).

SUSTAINABLE DEVELOPMENT GOALS		BREEAM's Overarching Contribution to Sustainable Development Goals	Building Standards BREEAM [®] delivered by bre HOME QUALITY MARK delivered by bre	Communities Standard BREEAM [®] delivered by bre	Infrastructure Standard CEEQUAL [®] delivered by bre	Shelter and Settlement Sustainability Tool* QSAND
	End poverty in all its forms everywhere	Encourages the delivery of assets that are resilient and that use resources efficiently in order to reduce operational costs connected to the built environment (e.g. helping to alleviate fuel poverty; maintenance costs; access to affordable transport)				
	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Encourages the delivery of assets that use land and resources efficiently, thereby maximising opportunities for self-help and relieving pressure on agricultural land and resources				
	Ensure healthy lives and promote wellbeing for all at all ages	Encourages the provision of comfortable, healthy and safe internal and external environments for asset users and others within the vicinity				
	Ensure inclusive and quality education for all and promote lifelong learning	Encourages the provision of education and training opportunities to local communities, plus encourages ongoing learning through training and development courses for trades and professionals				
	Achieve gender equality and empower all women and girls	Encourages responsible sourcing and procurement principles in construction material supply chains				
	Ensure access to water and sanitation for all	Encourages the provision of water efficient solutions, systems and equipment that minimise water consumption, whilst maintaining a clean and reliable supply				
	Ensure access to affordable, reliable, sustainable and modern energy for all	Encourages the provision of energy efficient solutions, systems and equipment that minimise energy consumption and carbon dioxide emissions, whilst maintaining a reliable supply				
	Promote inclusive and sustainable economic growth, employment and decent work for all	Encourages measures that result in a positive economic impact and provision of training and skills to the local community				
	Build resilient infrastructure, promote sustainable industrialisation and foster innovation	Promotes the delivery of sustainable and resilient buildings and infrastructure, and encourages and recognises innovations that improve the sustainability performance of assets and provides learning opportunities for wider dissemination				

		BREEM's Overarching Contribution to Sustainable Development Goals	Building Standards 	Communities Standard 	Infrastructure Standard 	Shelter and Settlement Sustainability Tool* 
	Reduce inequality within and among countries	Encourages measures that result in a positive social impact and inclusivity, as well as encouraging responsible sourcing and procurement principles in construction material supply chains				
	Make cities inclusive, safe, resilient and sustainable	Promotes the development of sustainable communities and encourages access to sustainable transport, delivery of affordable and safe homes, implementation of flood resilience measures, minimisation of air pollution, and access to public and green space				
	Ensure sustainable consumption and production patterns	Encourages the sustainable procurement and use of construction materials by recognising materials that are reused or recycled, are used in an efficient manner, have a low environmental impact, are sourced in a responsible way, and are durable and resilient				
	Take urgent action to combat climate change and its impacts	Encourages the sustainable use of energy, minimisation of greenhouse gas emissions, and implementation of climate change adaptation and flood resilience measures in one of the biggest contributing sectors globally				
	Conserve and sustainably use the oceans, seas and marine resources	Encourages the prevention and control of pollution and surface water runoff associated with the location and use of assets				
	Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss	Encourages sustainable land use, protection and creation of ecological features, and improvement of long term biodiversity for asset sites and surrounding land				
	Promote just, peaceful and inclusive societies	Encourages responsible sourcing and procurement principles in construction material supply chains				
	Revitalise the global partnership for sustainable development	Encourages the creation of strong international partnerships and relationships across policy, property, infrastructure and the supply chain to deliver and manage sustainable assets and communities				
Key		Significant contribution to meeting the UN goals and targets		Some contribution to meeting the UN goals and targets		Limited or indirect contribution to meeting the UN goals and targets

The path to achieving the SDGs

The facilitation of these goals comes about through direct and indirect solutions and contributions from industry members. Understanding the layered approach to tackling the SDGs is key to understanding the role each individual business can carry out in order to play their part. As the SDGs are country level goals, the specific targets and indicators are not always relevant. Therefore understanding the indirect relationship a business has is just as, if not more, important. For BREEAM and the

wider construction industry, these linkages happen on a project level, and there are two core perspectives at this level – during project delivery and post-delivery¹. Each level, from 1 to 3 (figure 1), has different reporting requirements, from global/national targets, down to the project level targets¹. These targets are based on environmental, social, political and economic factors.

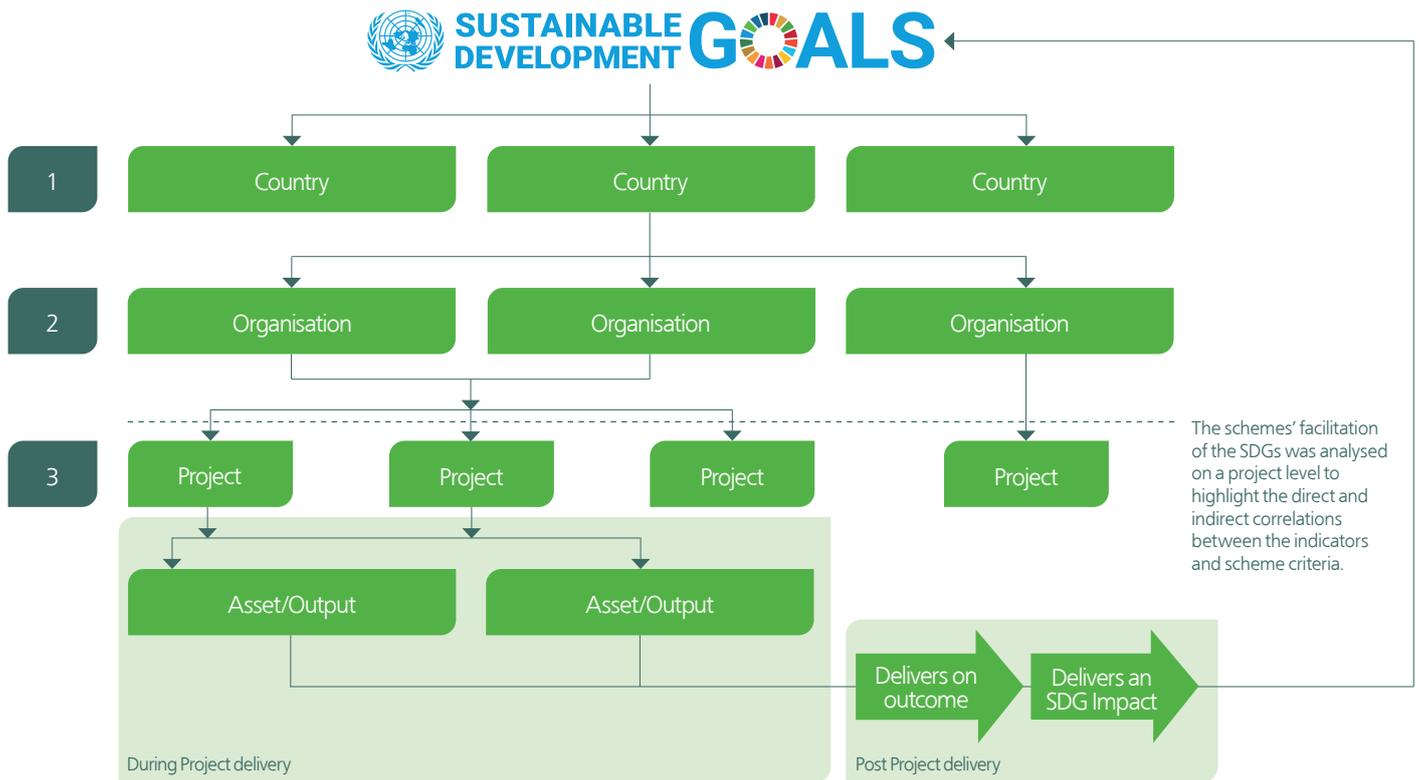


Fig. 1 SDG hierarchy and reporting levels for the Goals, highlighting the project level (adapted and redrawn from Mansell *et. al.* 2019).

References:

1. Mansell P, Philbin SP, Broyd T and Nicholson I (2020) Assessing the impact of infrastructure projects on global sustainable development goals. *Proceedings of the Institution of Civil Engineers – Engineering Sustainability* 173(4): 196–212, <https://doi.org/10.1680/jensu.19.00044>

The built environment is a key player in sustainability, with Environmental, Social and Governance (ESG) becoming an ever growing factor in how industry members carry out their business. As SDGs are government level sustainability goals and ESG reporting relates to sustainability on a corporate level, there needs to be some crossover to show the relevance. Around 40% of the UK's emissions come from the built environment, which includes both buildings in-use and infrastructure.

Understanding how the sourcing of materials or how the energy we use is generated is crucial for moving towards the more sustainable future. The future that is needed to combat the many rising challenges related to climate change.

Understanding the level of complexity and depth of these challenges is also key to reaching the point where the industry can facilitate the achievement of the SDGs. What may feel unrelated at first, may have a knock-on effect that is crucial to combating one of the key issues in the SDG indicators.



The complexity of emission levels and the carbon footprint of the built environment becomes ever more complex when taking into account construction practices and embodied carbon. Embodied carbon is the sum of all energy required to produce any good or service, for example, the manufacturing of materials like bricks or concrete produced for construction. This can be through direct production-related emissions and indirect emissions.



Construction practices, if carried out irresponsibly, have the potential to be very damaging to the surrounding environment through a range of polluting and degradation factors. The promotion of good, sustainable construction practices and enhancement of biodiversity can help to protect surrounding ecosystems and in turn promote the improvement and maintenance of land health, allowing for less impact from urban areas on previously unoccupied land or surrounding agricultural land.

These examples, amongst many others, show how aspects of the built environment that may seem unrelated are in fact intertwined with these problem areas that the SDGs focus on. Indirect links of this kind are what make the SDGs such a challenge. They are also an insight into how any business in the industry can have an effect on the achievement of these goals and how all of us have a part to play.



Direct pollution of watercourses and contamination practices is a major concern, however, with ocean acidification increasing, processes that may seem unrelated to marine life, are having detrimental effects. As CO₂ emissions are the driving factor of ocean acidification, and the built environment is responsible for such a large portion of these, reducing emissions from operational energy, construction, manufacturing, transport, amongst other areas is crucial.

Useful links:

- Sustainable Development Goals, United Nations Sustainable Development Goals Knowledge Platform.
<https://sustainabledevelopment.un.org/?menu=1300>
- Sustainable development goals, Indicators.
<https://unstats.un.org/sdgs/indicators/indicators-list/>
- Social Value in New Development: An introductory guide for local authorities and development teams. 2018., United Kingdom Green Building Council.
<https://www.ukgbc.org/wp-content/uploads/2018/03/Social-Value.pdf>

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