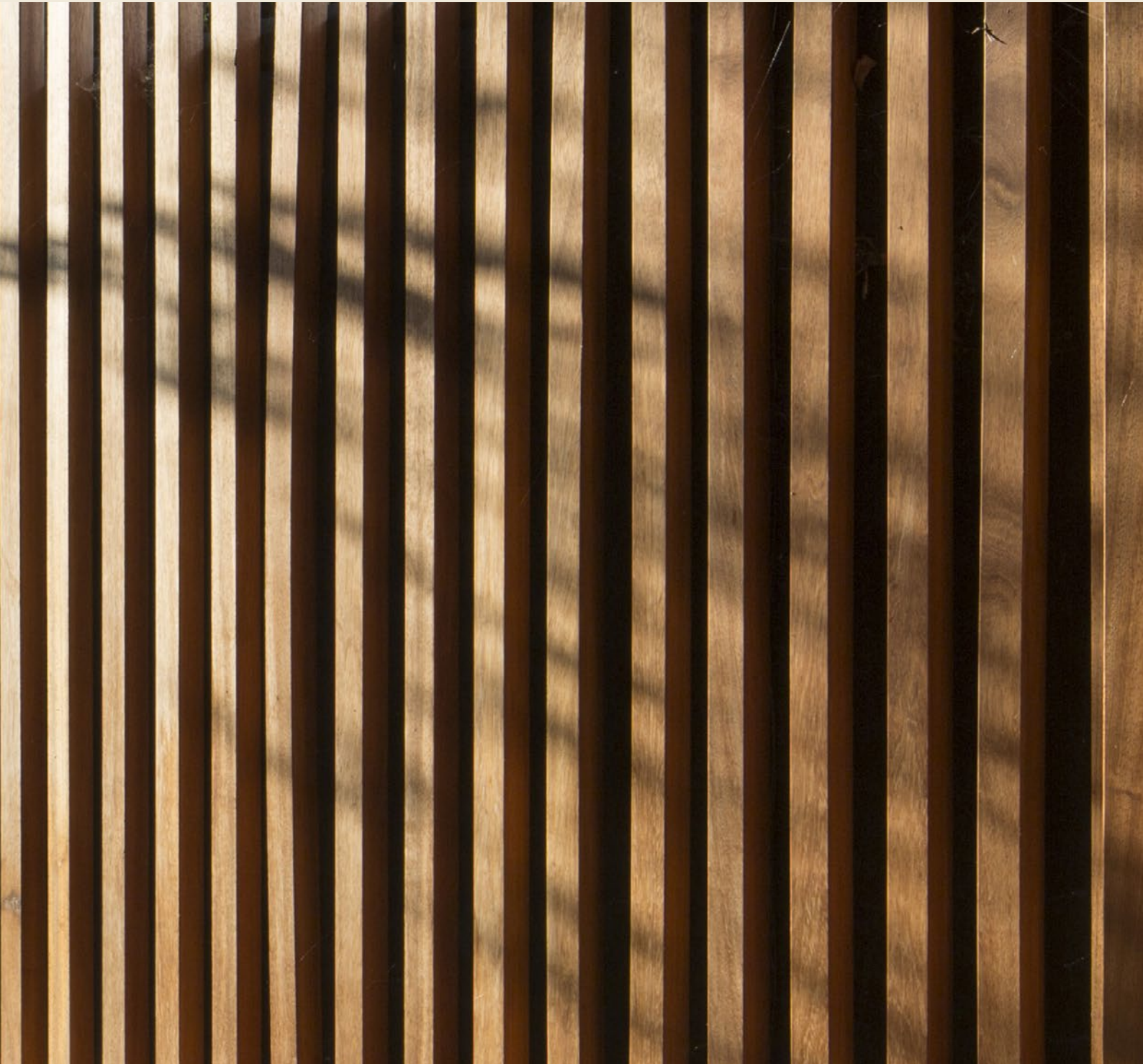


Sustainable Buildings_Primer

update 04_2023

RIBA 
Royal Institute of
British Architects

studioort
ARCHITECTURE. DESIGN.



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'The world will be building the equivalent of another New York City every month for the next 40 years.' - 'How to avoid a climate disaster', B.Gates

Definition

There are many expressions being used related to sustainability, such as 'green', 'eco', 'netzero', 'carbon neutral', 'passivhaus', 'sustainable' and many others. Their exact meaning is often not clearly defined and make it hard to compare. In order to be more specific we have to use quantifiable assessments criteria. Certification schemes, such as LEED or BREEAM can be useful, but are not necessary to make a building highly 'sustainable'.



17 UN Development Goals

Sustainable building

A sustainable building is broadly speaking a building that supports the UN's Sustainable Developments Goals (SDGs).

The World GBC describes the following features that can make a building more sustainable:

- Efficient use of energy, water and other resources
- Use of renewable energy, such as solar energy
- Pollution and waste reduction measures, and the enabling of re-use and recycling
- Good indoor environmental air quality
- Use of materials that are non-toxic and produced in an environmentally and socially sustainable way
- Consideration of the environment in design, construction and operation
- Consideration of the quality of life of occupants in design, construction and operation
- A design that enables adaptation to a changing climate

Any building can be a sustainable building, but not all sustainable buildings are the same.

Different countries and regions have distinctive climatic conditions, unique cultures and traditions, diverse building types and ages, or wide-ranging environmental, economic and social priorities. This diversity shapes the variety of approaches to sustainable building.

Institutions and Organizations

Many organizations work with the topic of sustainable built environment and give guidance, share knowledge and promote best practice. A selection of the most important non-profit bodies below.



WORLD GREEN BUILDING COUNCIL

The World Green Building Council (World GBC) is the largest and most influential local-regional-global action network, leading the transformation to sustainable and decarbonised built environments for everyone, everywhere.

<https://worldgbc.org/about-us/our-mission/>



UK GREEN BUILDING COUNCIL

Mission: To radically improve the sustainability of the built environment, by transforming the way it is planned, designed, constructed, maintained, repurposed and operated.

<https://www.ukgbc.org>



LONDON ENERGY TRANSFORMATION INITIATIVE

LETI is a network of over 1,000 built environment professionals, working together to put the UK on the path to a zero carbon future. The voluntary group is made up of developers, engineers, housing associations, architects, planners, academics, sustainability professionals, contractors and facilities managers.

<https://www.leti.uk>



ROYAL INSTITUTE OF BRITISH ARCHITECTS

The RIBA is working with members, policy makers and other institutions to tackle the climate emergency. The RIBA 2030 Climate Challenge sets out a series of targets for practices to reduce operational energy, embodied carbon and potable water. Studioort has signed up to the challenge and is looking at adopting such measures in each of their projects.

<https://www.architecture.com/about/policy/climate-action>

Certification schemes

Worldwide there is an abundance of certification schemes - many of them are only applied nationally or regional. A list of sustainable building certifications can be found on the World GBC website:

<https://worldgbc.org/sustainable-building-certifications/>



BREEAM

The certification scheme by the Building Research Establishment (BRE) founded in the UK is now one of the most popular schemes worldwide. Millions of buildings across the world are registered to work towards BREEAM's holistic approach to achieve ESG, health, and net zero goals.

<https://bregroup.com/products/breem/>



LEED

Leadership in Energy and Environmental Design - the certification scheme by the US GBC is one of the most widely used green building systems in the world, with more than 120,000 buildings participating today.

<https://www.usgbc.org/leed>



PASSIVE HOUSE

The Passive House Institute (PHI) is an independent research institute that has played an especially crucial role in the development of the Passive House concept - the only internationally recognized, performance-based energy standard in construction. Originally from Germany, the scheme can be found worldwide.

<https://passivehouse.com/index.html>



DGNB

The Certification scheme by the German GBC. Assessment revolves not only around ecological aspects but also includes a holistic examination of the entire life cycle of a building or urban district.

<https://www.dgnb-system.de/en/>

Retrofit

The UK has some of the oldest and least energy-efficient housing stock in Europe and 80% of the buildings that will be around in 2050 have already been built. Retrofitting some 28 million buildings is a huge challenge and we therefore need to be realistic about what should and could be achieved.



LETI Climate Emergency Retrofit Guide

LETI

<https://www.leti.uk/retrofit>



Passivhaus retrofit in the UK

Passivhaus Trust

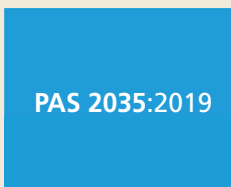
<https://www.passivhaustrust.org.uk/>



ENERPHIT

EnerPHit is the established Standard for refurbishment of existing buildings using Passive House components. The EnerPHit Classes Classic, Plus or Premium can be achieved depending on the use of renewable energy sources.

https://passiv.de/en/03_certification/



PAS 2035 Retrofitting Dwellings for Improved Energy Efficiency

PAS 2035 is a specification for 'whole building' retrofit. It was published by the British Standards Institution, BSI. PAS describes a 'publicly available specification'. While it is not officially a 'standard', it is a document that is likely to have a major effect on the way UK homes are retrofitted.

<https://knowledge.bsigroup.com/products/>

Studioort and Sustainability

Studioort is a creative studio working within the fields of architecture, design and urbanism. We are a RIBA chartered practice and our portfolio ranges across multiple sectors including residential, hospitality, workplaces and urban design.

We are fully committed to creating a built environment that is highly sustainable in order to fight climate change.

We are a signatory of [‘UK Architects Declare Climate and Biodiversity Emergency’](#) - a voluntary network of architectural practices committed to addressing the climate and biodiversity emergency.

Studioort is a member of the [International Passive House Association](#), promoting Passive House Standards and highly energy efficient buildings.

We have also joined the RIBA 2030 Climate challenge targeting reductions in embodied carbon, operational energy and use of potable water.

<https://www.architecture.com>

The success of a project depends on the successful collaboration between Client, Architect and Consultant team. As Architects we have the unique responsibility and opportunity to guide and assist clients - from brief development, to scheme design and realization on site. Client’s aspirations, budget and timelines are never the same - each solution is therefore different.

In many of our reconfiguration and retrofit projects, we often suggest smaller changes to specifications and detailing, which go beyond minimum regulatory requirements and create easy wins, without ‘braking the bank’. But we are also skilled in creating full EnerPHit-informed Retrofit Plans, tackling existing structures holistically.

Our thorough understanding of building physics, carbon emissions and the wider construction industry, helps us to make suggestions suited to the context of each project.

www.studioort.com

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