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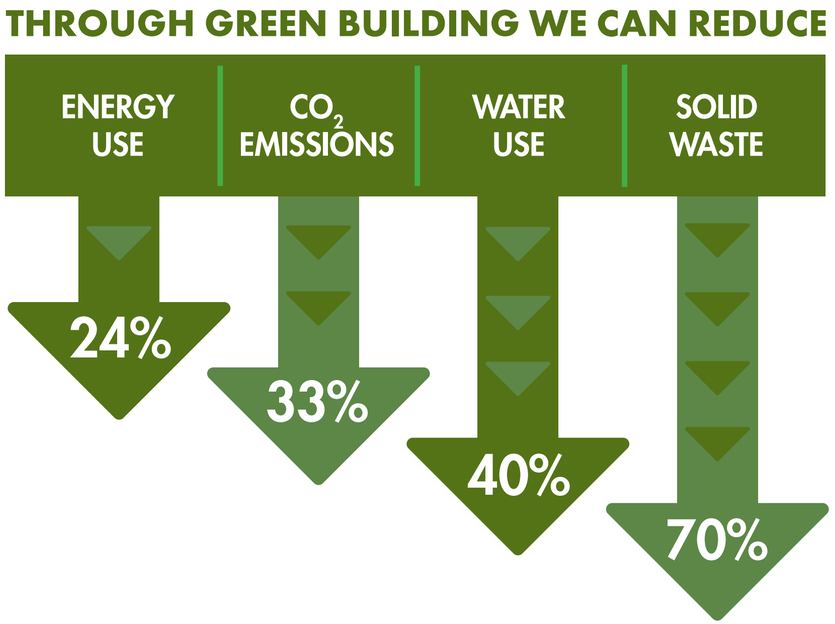
INSULATION MATERIALS.
OUR WORLD.
FOR A BETTER WORLD.

GREEN BUILDING AND CERTIFICATION PROTOCOLS

WHAT IS GREEN BUILDING

Green Building is an innovative approach that was developed no more than a few decades ago and is now one of the central topics in the global building scene.



Even though this term is most often associated with the concept of energy efficiency, Green Building is a much broader topic: it embraces issues such as water saving, reduction of pollutant emissions, use of recovered/recycled materials, thermal, acoustic and visual wellbeing of occupants, site accessibility and alternative transport systems, sustainable site management, and in general the control and reduction of all environmental impacts of a building.

"We don't have to engage in grand, heroic actions to participate in change. Small acts, when multiplied by millions of people, can transform the world."

Howard Zinn

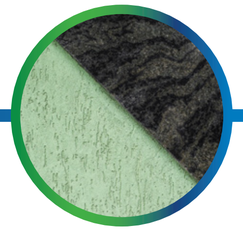
The features that make a building sustainable include the following aspects:

LOW ENERGY LOSSES

HIGH EFFICIENCY STANDARDS

IMPROVED LIVING QUALITY

RENEWABLE RAW MATERIALS



THERMAL INSULATION

ENERGY AUTONOMY

A green building is therefore a building designed to be high-performing and sustainable, both from an environmental point of view and in terms of the well-being of those who live in it.

AGENDA 2030 and SDGs

THE CONTRIBUTION OF THE BUILDING SECTOR TO SUSTAINABLE DEVELOPMENT

Sustainable construction, or Green Building, is extremely important for the development of our society, to the point of being one of the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda, a programme of action for people, planet and prosperity signed in September 2015 by the governments of the 193 UN member states.

Sustainable construction can also contribute to the achievement of other Goals by promoting environmental, social and economic well-being.

Green buildings are indeed an opportunity not only to save energy, water and reduce CO2 emissions, but also to educate, create jobs and improve the health and well-being of people who normally spend 90% of their time inside buildings.

Goal 11 | sustainable cities and communities - make cities and human settlements inclusive, safe, resilient and sustainable.

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WHICH GOALS CAN GREEN BUILDING CONCRETELY CONTRIBUTE TO?

GOAL 3 | GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

The way a building is designed can influence the health and well-being of its occupants: there is a direct connection between unhealthy indoor environments and negative impacts on human health. The correct air conditioning and lighting of rooms, the use of technology and digital services, all lead to an increase in the well-being of the people who inhabit these places, while also recording an increase in productivity.

GOAL 7 | AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

Energy savings from efficient buildings are often one of the most recognised benefits. Green buildings also often use renewable energy, which can be cheaper than fossil fuels and does not produce carbon emissions, limiting the impact on the planet.

GOAL 8 | DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

The building sector in Europe provides 18 million jobs. Moreover, the life cycle of a building - from concept to construction, operation and even renovation - impacts a wide range of people and provides numerous job opportunities. A building constructed with the right care and comfort can also provide a decent working environment for those who use it.

GOAL 9 | INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Green buildings, in particular, must be designed to ensure that they are resilient and adaptable to cope with a changing global climate. This is of key importance in developing countries, many of which will be particularly sensitive to the effects of climate change. In the coming years, investments will be needed in the infrastructure sector all over the world to realise zero-emission works for a more prosperous future.

GOAL 11 | SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

Almost 60% of the world's population will live in cities by 2030. Ensuring that cities are sustainable is therefore of key importance. Whether homes, offices, schools, shops or green spaces, the built environment contributes to communities, which must be socially, environmentally and economically sustainable to ensure a high quality of life for all.

GOAL 12 | RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Construction plays an important role in preventing waste through reduction, recycling and reuse, all principles of the circular economy in which resources are not wasted. A circular economy system is important not only to reduce the amount of waste that goes to landfill, but also the number of raw materials that are extracted from the earth.

GOAL 13 | CLIMATE ACTION

Take urgent action to combat climate change and its impacts

Buildings and the building sector are responsible for more than 30% of global greenhouse gas emissions, contributing significantly to climate change. Green buildings have enormous potential to fight this, through measures such as energy efficiency, emission reduction and water saving.

GOAL 15 | LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The materials that make up a building are crucial in determining its sustainability. In this sense, the building industry and its supply chains have an important role to play in using responsibly sourced materials. It is also important to consider the preservation of biodiversity in the spaces that are built, both during and after construction, minimising damage.

GOAL 16 | PACE, GIUSTIZIA E ISTITUZIONI SOLIDE

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

As for Goal 15, responsible sourcing of resources plays a key role here: the goal in construction is to improve human rights in global supply chains. Assuming this responsibility means for companies to identify potential risks with suppliers and to prioritise the use in building and outdoor facilities of products that are optimised in terms of social impact along the entire value chain and that the extraction and processing of the raw materials used meet recognised social standards.

The natural environment is deteriorating at an alarming rate:

Green Building represents a great opportunity to reverse this trend.

CERTIFICATION PROTOCOLS

The characteristic aspects of green buildings also provide benefits recognised by the real estate market and guaranteed by sustainability certifications.

Over the years, many **certification protocols** have indeed been developed on a voluntary basis with the **aim of assessing and certifying a building** not only from an energy point of view, but also in relation to its impact on the environment and the health and well-being of the occupants. The first one of these certification protocols has been **BREEAM®**, Building Research Estabilishment Environmental Assessment Method, developed in 1990 by the Building Research Estabilishment (BRE).

A few years later, the standard **LEED®**, Leadership in Environmental and Energy Design, was launched in the United States by USGBC, the American branch of the World Green Building Council, an international organisation founded with the aim of promoting sustainable building issues worldwide.

Since then, several other certification systems have appeared on the international scene, developed in different countries, such as France (HQE), Germany (DGNB) and Italy (ITACA).

Adherence to one of these certification systems guides the realisation of a building entirely, through the stages of design, choice of materials, construction, operation and maintenance, towards the established sustainability goals.

BREEAM, LEED and DGNB

BREEAM®

BREEAM (Building Research Establishment Environmental Assessment Method) is a voluntary certification system, which defines the criteria for a sustainable design, construction and management through a series of pre-established parameters and recognised standards.
The system is based on criteria divided into different categories, from the management of resources to ecologic topics, and include aspects related to the use of energy and water, the internal environment (health and wellbeing), pollution, transport, materials, waste, ecology and management processes.

BREEAM environmental protocol addresses a wide range of environmental and sustainability-related issues and allows investors and planners to guarantee the customers and the local administrators the **environmental credentials** of their buildings.
It uses a simple and clear scoring system (credits), supported by research based on experience and concrete data. It has a positive influence on the project, construction and management of the building. It establishes and maintains a high technical standard through a strict system of quality control and certification.

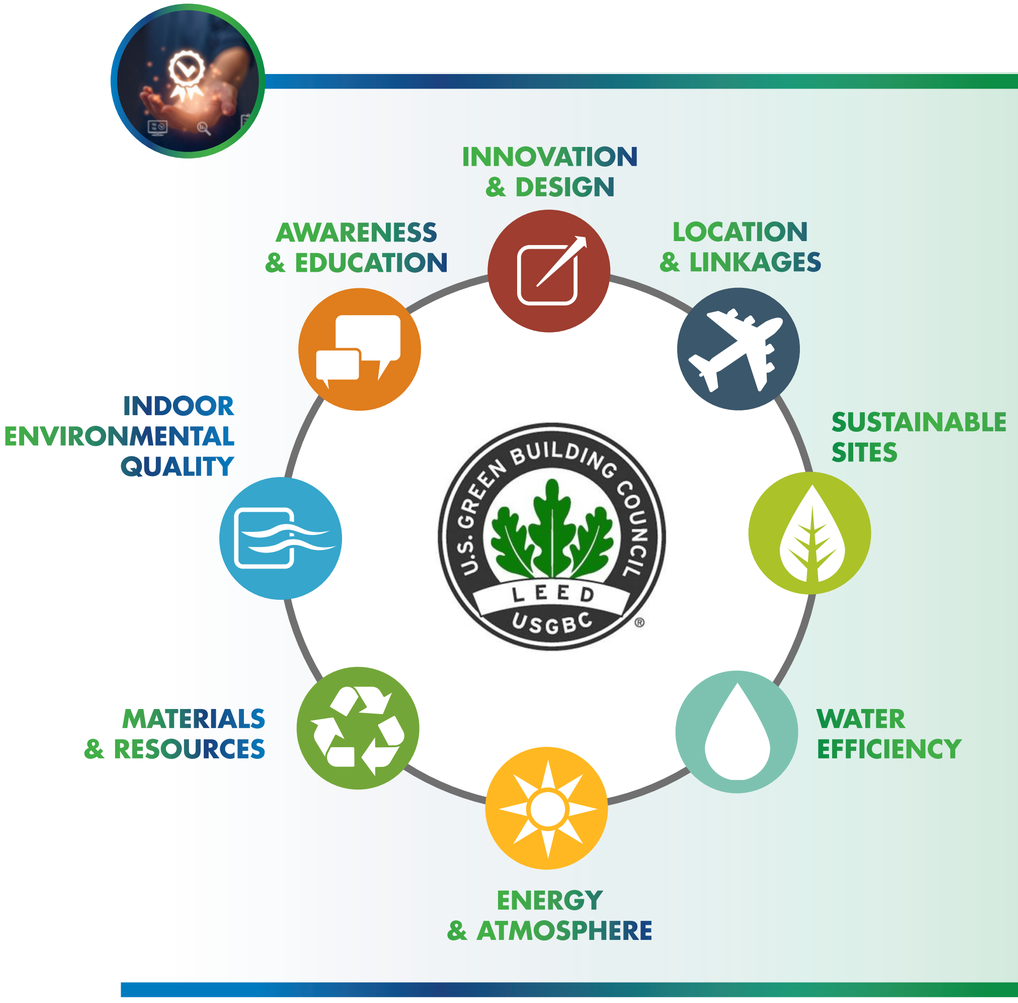
BREEAM aims to **reduce the environmental impacts of the entire construction and management of a building**, not only reducing CO2 emissions, but taking into consideration all areas of sustainability.

LEED®

LEED (Leadership in Energy and Environmental Design) is a voluntary certification program that can be applied to any type of building (both commercial and residential). It is a holistic system that focuses on all the critical building elements in order to optimise them and create the best building possible, starting from the design phase.

LEED standard is based on a system of **prerequisite and credits,** divided into categories or families. The prerequisites are mandatory to obtain the certification.

The credits are chosen according to the designed goals and determine the final score of the building and consequently the level of certification achieved: Certified, Silver, Gold and Platinum.



It is important to consider that it is not possible to ‘certify LEED or BREEAM’ a product.

The term ‘certification’ is not correct in this case, as only a building as a whole can achieve LEED or BREEAM certification.

However, companies often receive this kind of request, so they proceed by carrying out an analysis of the construction and performance characteristics of the materials used. They will then release a sort of ‘certification’, called LEED or BREEAM Mapping or Scorecard.

DGNB®

Among the other protocols developed in Europe, DGNB, Deutsche Gesellschaft für Nachhaltiges Bauen (German Sustainable Building Council), has gained particular prominence in recent years.
As a planning and optimisation tool for assessing sustainable buildings, interiors and districts, DGNB certification system helps to increase **real sustainability in construction projects:**

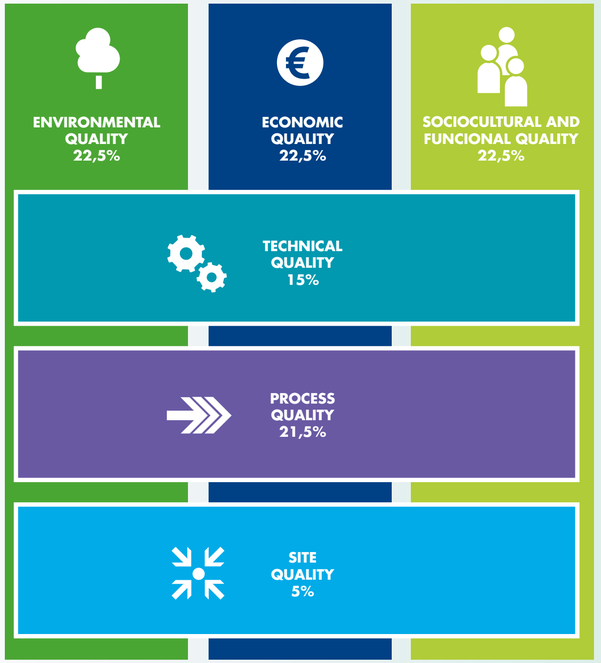
LIFE CYCLE ASSESSMENT

HOLISTIC APPROACH

PERFRORMANCE ORIENTATION

The certification consistently considers the entire life cycle of a project and evaluates its overall performance instead of individual measures.

DGNB certification system is based on the three central sustainability areas: ecology, economy and sociocultural quality, which are equally weighted in the assessment. In the sense of a **holistic approach**, the DGNB System also evaluates the location as well as the technical and process-related quality.



There is not just one DGNB System, but a multitude of variants. Depending on the project status, the DGNB System can be used as a **planning, optimisation or management** tool.
For buildings, for example, there are separate system variants for new construction, buildings in use or renovations. There are also specific DGNB System criteria sets for districts, interiors, the deconstruction of buildings and construction sites.

As for the other protocols, the system is based on different criteria and indicators to assess the quality of a building project, especially from a sustainable point of view.
Depending on the final score obtained by fulfilling requirements and prerequisites for each criterion or category, it is possible to obtain Platinum, Gold or Silver certification. For buildings in use or existing buildings a Bronze certification can be achieved, too.

As for LEED and BREEAM, it must be considered that the final DGNB certification **does not concern the individual product, but the entire building.**
Following a detailed analysis of their characteristics and performance and depending on their conformity to the different categories of the system, **single products may contribute** to the building obtaining higher scores in the final assessment.

Through product mapping, the DGNB protocol also underlines the UN **2030 Agenda Goals** to which a building can contribute when a particular criterion is met.

DGNB Platinum

DGNB Gold

DGNB Silver

DGNB Bronze*

For EUROBATEX, EUROBATEX HF and EUROBATEX SC products, the mapping of contribution to LEED, BREEAM and DGNB protocols are available and downloadable.

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