

Green buildings for everyone, everywhere



D. Managoudis 12/2024



Moderator

- Mech. Engineer
- Msc in Energy & Environmental Investments
- Energy Inspector in Buildings & HVAC
- Sustainable buildings Auditor DGNB
- Passive house Designer, iPHA
- Certified Thermographer
- Certified for HFC management, 2015/2067
- Certified Project Manager KPMG



Dimitris Managoudis

Vice President & Co-Founder **SBC Greece** CEO **ICON GROUP P.C**. COO & Co-Founder **EVOTROPIA P.C**.











international project management association





SBC Greece

Independent, Non-profit

Official member of WorldGBC

WELCOME TO SBC GREECE

Sustainable Building Council Greece.







Vision

To establish a sound sustainable culture and behavior throughout the diverse nature of the built environment stakeholders in Greece









Mission

To lead and facilitate the transformation of the built environment and its communities in Greece, Plan, Develop, Construct, Maintain Operate Sustainably









Sectors of Activity

- Research & Education
- Certification & Rating
 Systems
- Consultation & Advocacy
- Circular Economy









BoD of SBC Greece







D. Managoudis 12/2024

project management association















Sustainability & Sustainable Development

Sustainability consists of fulfilling the needs of current generations without compromising the needs of future generations, while ensuring a balance between economic growth, environmental care and social well-being.







Sustainable Buildings

Seek to reduce negative impacts on the environment, and health and comfort of building occupants, thereby improving building performance, reducing consumption of non-renewable resources, minimizing waste, and creating healthy, productive environments..







Our Vision

A sustainable built environment at the heart of Europe's future

Our Mission

Unite our whole sector through action and advocacy that accelerates our shift towards this vision.









Our Green Building Councils



Europe









WORLD GREEN BUILDING COUNCIL

Yearbook Edition

Special edition that showcases all certified projects with sustainable principles LEED, **BREEAM** and **DGNB** in the Greek market 2022 & 2023

Layout épyou

Architectural Design: NNN Studio E/M Design: XXX Engineers General contractor: RRR Constructions Project Manager. 000 Company Special consultants: ZZZ Acoustics Sustainability Consultant: Green company Certification: BREEAM Very Good Location: Athens, Greece Total area: 10.000 m2 Construction date: 2022 Photos: John Smith

PROJECT INFO

The building was constructed based on th principles of sustainability. Several of its features promote sustainability and help reduce the relevant carbon emissions. The building was certified as BREEAM Very Good.



PROJECT INFO

The building was constructed based on the principles of sustainability. Several of its features promote sustainability and help reduce the relevant carbon emissions. The building was certified as BREEAM Very Good.



Layout έργου

Architectural Design: NNN Studie

Project Manager: 000 Company Special consultants: ZZZ Acoustics

Certification: BREEAM Very Good

Sustainability Consultant: Green company

E/M Design: XXX Engineers

General contractor: RBR

Location: Athens. Greece

Total area: 10,000 m2

Photos: John Smith

Construction date: 2022



Layout χορηγούμενου έργου

Architectural Design: NNN Studio E/M Design: XXX Engineers General contractor: RRR Constructions Project Manager: 000 Company Special consultants: ZZZ Acoustics Sustainability Consultant: Green company Certification: BREEAM Very Good Location: Athens, Greece Total area: 10,000 m2 Construction date: 2022 Photos: John Smith

PROJECT INFO

The building was constructed based on the principles of sustainability. Several of its features promote sustainability and help reduce the relevant carbon emissions. The building was certified as BREEAM Very Good.

42

YEARBOOK 2022

ΠΑΡΟΥΣΙΑΣΗ ΚΤΙΡΙΟΝ



project management association

43









Buildings are a critical solution to climate change

The challenge we face

104 of 194 countries that signed the Paris Agreement have committed to improve building energy efficiency to meet mitigation targets.

Only **68** countries currently have building energy codes.

Climate action

Buildings are responsible for **39%** of global carbon emissions

Energy demand will increase by **50%** by 2050

Resource efficiency

• Buildings are responsible for 50% of global material use

42.4bn tonnes of materials consumed annually

will increase by 100%

By 2050, global population will increase

27% to **9.8bn** and global floor area

Health and wellbeing

• 91% of people live where air pollution levels exceed World Health Organization limits

People are **40%** more likely to have asthma due to living in a home with damp or mould













GLOBAL SURFACE AIR TEMPERATURE • JULY

Data: ERA5 1940–2023 • Credit: C3S/ECMWF





international project management association

Climate Change Service





D. Managoudis 12/2024

Impact of European Buildings







Paris Agreement

Limit global warming to 1.5 degrees

EU Climate Law

Carbon neutral Europe by 2050

Energy Performance of Buildings Directive (EPBD)

Outlines building policies that will help achieve a decarbonised building stock by 2050

EU Taxonomy

Objective to direct investments towards "sustainable" projects – criteria for construction



Energy Performance of Buildings Directive review

Minimum Energy Performance Standards

Recognise that Minimum Energy Performance Standards are a key instrument to drive building renovation, which can accelerate both the rate and depth of renovation across the EU.

Building Renovation Passports

Recognise the potential of Building Renovation Passports as a tool to set out a pathway to a decarbonised building stock, and their potential to capture the multiple benefits of renovation.

The Zero Emission Building standard

Define clearly what constitutes a Zero Emission Building and clarify that this definition will take into account both operational and embodied carbon, covering the Whole Life Carbon (WLC) impact of buildings.

Strengthened Energy Performance Certificates

Strengthen and harmonise Energy Performance Certificates across the EU so that they can support the vision of a zero emission building stock by 2050.

Whole Life Carbon reporting

Support the inclusion of WLC reporting metrics, which should be brought forward in time to inform the establishment of WLC targets and benchmarks.









international project management association



D. Managoudis 12/2024



project

management association





international project management association

SBC GREECE / Sustainable Building / Sustainability assessment & certification systems

Sustainability assessment & certification systems



international project management association

Certifications Systems





D. Managoudis 12/2024

Certifications Systems / Aspects





international project management association

Certifications Systems / Environment

Environmental Aspect

Resources optimization through reuse and recycling, as well as lowering of environmental impact throughout the building life cycle.



Certifications Systems / Finance

Financial Aspect

Deals with the balance between total costs and the quality of the building. This dimension focus on achieving balance between total building costs including preparations for the possibility of changing the use of the building.



Certifications Systems / Social

Social Aspect

Addresses health and safety implications of both the building and its surroundings.



Certifications Systems / Environment Criteria



D. Managoudis 12/2024



Certifications Systems / Financial Criteria





international project management association

Certifications Systems / Social Criteria





Certifications Systems





international project management association

Environmental quality 22,5%	Economic quality 22,5 %	Sociocultural and functional quality 22,5%
	Technical quality 1	5%
	Technical quality 1 Process quality 12,	5% 5%

Optimization tool: to increase real sustainability in buildings and districts

Profitability: low life cycle costs, flexibility and usability, commercial viability and long-term value retention Investment oriented

EU standards and legislations are the basis of the DGNB Certification System Planning oriented



DGNB Assessment Criteria

TEC1.1

TEC1.2

TEC1.3

TEC1.4

envelope

Fire safety*

Sound insulation

Quality of the building



ENV1.1 Building life cycle assessment

ENV1.2 Local environmental impact

ENV1.3 Sustainable resource extraction

ENV2.2 Potable water demand and waste water volume

ENV2.3 Land Use

ENV2.4 Biodiversity at the site



ECO1.1 Life cycle cost

ECO2.1 Flexibility and adaptability

ECO2.2 Commercial viability

SOC1.1

SOC1.2

SOC1.3

SOC1.4

Thermal comfort

Indoor air quality*

Acoustic comfort

Visual comfort SOC1.5

Quality of indoor and outdoomponents

SOC1.7 Safety and security

Design for all*

Use and integration of building technology

TEC1.5 Easy of cleaning building

> **PRO2.2 TEC1.6** Easy of recovery and recyclingQuality assurance of the construction

TEC1.7 Emissions control

TEC3.1 Mobility infrastructure



PRO1.1 Comprehensive project brief

PRO1.4 Sustainability aspects in tender phase

PRO1.5 Documentation for sustainable management

PRO1.6 Procedure for urban and design planning

PRO2.1 Construction sire / construction process

PRO2.3 Systematic commissioning

PRO2.4 User communication

PRO2.5 FM-compliant planning



project management association

J K

7 5

SITE1.1

SITE1.2

district

SITE1.3

SITE1.4

Local environment

Influence on the

Transport access

Access to amenities

* Minimum requirements

D. Managoudis 12/2024

User control

SOC1.6

spaces

SOC2.1

Sustainability and PM society

Project management practices are integral to achieving DGNB certification, in several areas such as:

- ✔ Process Quality
- ✔ Technical Quality
- Economic Quality



Sustainability and PM society / Process Quality

Process Quality

This criterion assesses the effectiveness of project management throughout the building's lifecycle. It includes aspects like **Quality Assurance, Documentation**, and **Stakeholder Communication**.

Effective project management ensures that sustainability goals are met during planning, design, construction, and operation



Sustainability and PM society / Technical Quality

Technical Quality

This involves the implementation of technical solutions that enhance the building's performance. Project managers coordinate the integration of these solutions, ensuring they align with sustainability objectives and regulatory requirements.



Sustainability and PM society / Economic Quality

Economic Quality

Project managers play a crucial role in balancing costs with sustainability benefits. They conduct life cycle cost analyses to ensure that sustainable choices are economically viable over the building's lifespan.



Sustainability and PM society / Examples

Use of DGNB System Software:

Project managers utilize this software to register projects, manage documentation, and monitor compliance with certification criteria. This tool aids in maintaining transparency and efficiency throughout the certification process



Sustainability and PM society / Examples

Early Integration of DGNB Auditors:

Engaging DGNB Auditors at the project's inception facilitates the incorporation of certification criteria into the planning phase. This proactive approach streamlines the certification process and ensures that sustainability measures are effectively implemented



Sustainability and PM society / Examples

Stakeholder Engagement:

Effective communication with all stakeholders, including architects, engineers, and clients, ensures that sustainability goals are understood and prioritized. Project managers facilitate this collaboration, aligning the project team with DGNB objectives



Certifications Systems / Benefits



management association

Certifications Systems / Benefits





international project management association



international project management association

Thanks for your attention.

Green buildings for everyone, everywhere

D. Managoudis 12/2024

