

How commercial buildings support corporate sustainability goals



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA NARAVNE VIRE IN PROSTOR



RECOMMENDATIONS FOR
COMPANIES TO OPERATE
MORE SUSTAINABLY



SUSTAINABLE COMMERCIAL REAL ESTATE – MORE THAN JUST SPACE, A CONTRIBUTION TO A BETTER FUTURE

Commercial buildings as the cornerstone of the business environment

Every business, regardless of size or industry, operates in commercial buildings – either as a tenant or as an owner. These buildings are much more than just places to work – they are the foundation for creating an environment that promotes productivity, employee well-being and long-term business success. Today, commercial buildings are also a key element of sustainability efforts, significantly influencing the environmental, social and governance dimensions of business.

The working environment has a strong impact on employees

According to the OECD, people spend on average a third of their lives at work – around 90,000 hours, or 40 hours a week over a working lifetime of around 40 years. The quality of the working environment therefore has a direct impact on employees' health, satisfaction, productivity and well-being. Sustainably designed commercial buildings are therefore essential to the wellbeing of everyone who works in them.

A holistic approach to sustainable buildings

Sustainable commercial buildings are created through a complex process that encompasses the entire life cycle of buildings – from concept and design, construction and operation to deconstruction. They must deliver value for owners, users and the wider public – from aesthetic, functional and economic perspectives and in terms of respect for people and nature. Both employees and professionals need to be involved in the different stages of the process, working towards a common goal: delivering sustainable, inclusive and aesthetically appealing buildings.

The wider impact of sustainable buildings

By choosing sustainable buildings, companies contribute to their own performance and reputation, broader economic development and the achievement of global sustainability goals. Encouragingly, more and more companies are recognising the benefits of sustainable solutions in commercial buildings.

To help companies decide how to approach sustainable commercial buildings, we have prepared these recommendations. With their support, you can start upgrading your commercial premises and contribute to positive change – for your business and our shared environment.

Let's work together to make commercial buildings more sustainable – every step counts!



Ana Struna Bregar

CEO,
CER Sustainable Business Network

“We shape our buildings and afterwards our buildings shape us.”

Winston Churchill

SUSTAINABLE BUILDINGS ARE NOT A CHOICE BUT A NECESSITY – LET'S BUILD RESPONSIBLY

In a time of environmental, social and economic challenges, responsible stewardship of natural resources and space is crucial for our future. At the Ministry of Natural Resources and Spatial Planning, we are committed to conserving natural assets and the smart, responsible management of natural resources and space. We are proud of Slovenia's invaluable natural assets, the foundation of our prosperity and quality of life.

In this context, commercial buildings have a special role to play. Their sustainable design and use have a decisive impact on the environment, the economy and human health. In both the public and private sectors, they are an important lever for delivering climate and energy goals.

It is essential that all buildings are planned holistically – from thoughtful spatial integration and context-sensitive architecture, to technical solutions that include seismic safety, energy efficiency and a low environmental footprint, while ensuring a healthy and comfortable working environment. This is the only way to build spatially and functionally high-quality buildings that contribute to the sustainable transformation of society as a whole.

The Spatial Development Strategy of Slovenia 2050 (SPRS 2050) specifically highlights sustainable buildings as an essential element in the transition to a climate-neutral, high-quality and inclusive built environment. It tells companies that in the future, sustainable buildings will be the norm and not the exception. The construction of nearly zero-energy buildings, the use of circular materials, digitalization and the renovation of existing buildings are becoming integral components of corporate strategy and spatial development. To deliver the national objectives of SPRS 2050 and the National Energy and Climate Plan (NEPN), which aims for greater energy and material efficiency of buildings, collaboration among ministries will be crucial. The public sector will have to lead by example in this process, ensuring that sustainable public buildings serve as best practice examples and evidence that sustainable solutions deliver long-term benefits.

Achieving these ambitious goals will be supported by our ministry through a range of measures that will make it easier for companies, organisations and communities to transition to sustainable solutions. By fostering cross-sector collaboration and developing innovative solutions, we aim to enable a faster shift to sustainable buildings that benefit both the environment and the wider community, while contributing to long-term prosperity and the conservation of natural resources. We believe that collaboration is essential to developing innovative solutions for a wide range of commercial buildings and communities.

CER recommendations on how commercial buildings support corporate sustainability goals provide public and private companies and organisations with practical guidance for responsible building management. By thoughtfully integrating these recommendations into strategic and operational decisions, we can together build a more sustainable, inclusive, and future-ready business environment.



Jože Novak

Minister of Natural Resources and Spatial Planning

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Preface to the recommendations for sustainable commercial buildings

Sustainable commercial buildings are no longer a choice, but a necessity for modern, successful and responsible businesses. The buildings in which we work and create significantly affect employees' health, wellbeing and productivity, while also shaping the company's environmental and social footprint.

Amid climate change, pressure on natural resources, rising expectations from customers and employees, as well as stricter regulation, sustainably designed and smartly managed commercial buildings are becoming a key element of competitiveness, long-term performance and stakeholder trust.

In the European Union, buildings account for approximately 36% of all CO₂ emissions and consume around 40% of total energy, with most emissions arising from heating, cooling, lighting and other processes that rely on fossil fuels¹.



These recommendations serve as a guide for companies that want to:

- operate in an orderly, healthy and productive environment,
- reduce operating costs,
- improve the environmental sustainability of buildings and reduce climate impacts,
- increase resilience to climate change,
- strengthen the company's reputation and attractiveness,
- be empowered to make the right decisions and partnerships,
- contribute to the collective achievement of sustainability goals.

These recommendations are aimed at:

- companies of all sizes and in all industries,
- all types of commercial buildings (office, industrial, retail, mixed-use, healthcare, educational, administrative and cultural; including working from home),
- both owners and tenants,
- employees across departments and management levels,
- various professionals involved across the building life cycle.

Every company and every type of commercial building has specific construction, spatial and maintenance requirements. Therefore, each company must develop its own commercial building management strategy. It is also important for companies within wider business areas to coordinate so they can jointly pursue sustainability objectives and high-quality spatial planning. The recommendations provide a foundation for setting more ambitious targets and appropriate measures across different timeframes.

We believe they will serve as a practical tool to help companies achieve their sustainability milestones.

In Slovenia, commercial buildings together account for 39,449,000 m² of floor area.

2024 Slovenian commercial real estate market report

HOW WERE THE RECOMMENDATIONS DEVELOPED?

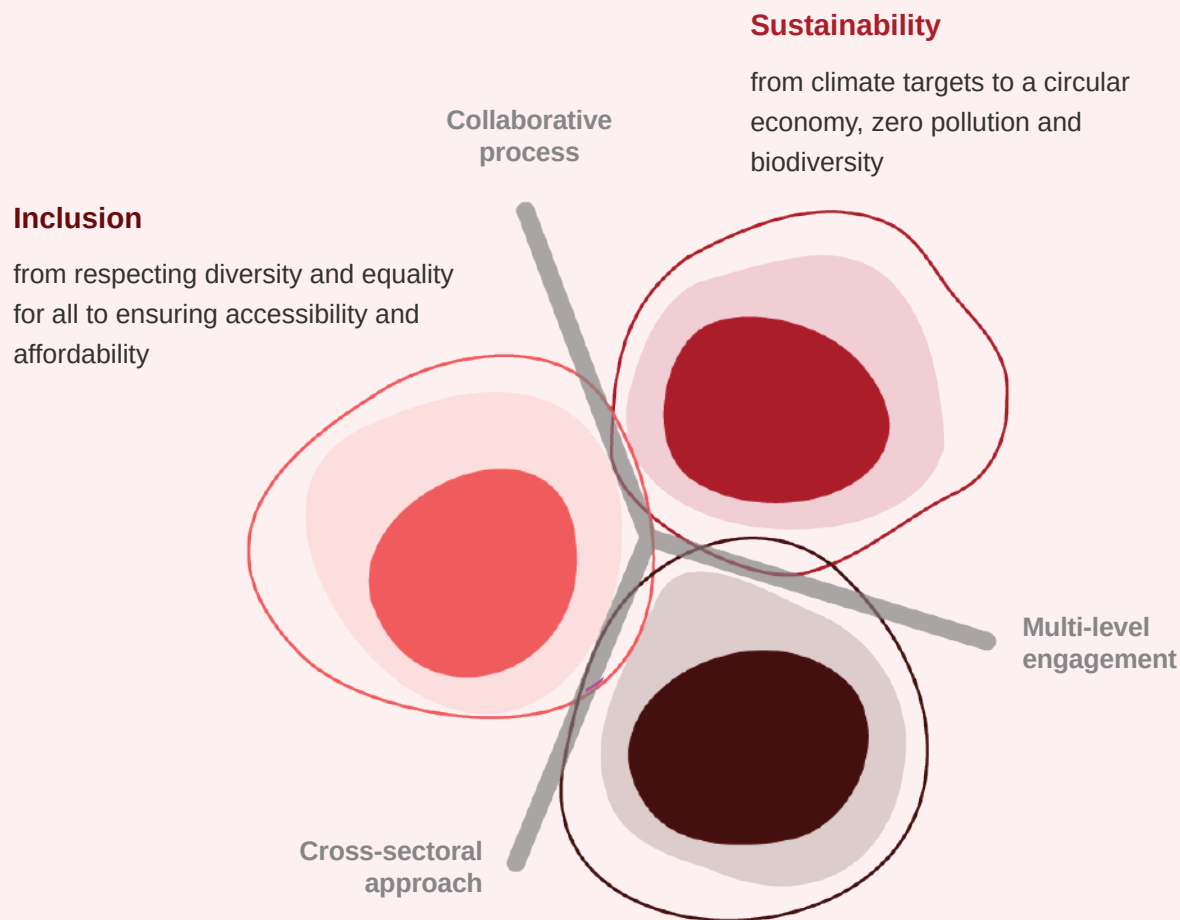
The recommendations are the result of years of collaboration with CER members, Slovenian and international experts, academic partners and decision-makers. They were created to provide guidance that delivers tangible benefits for companies.

A key starting point for developing these recommendations was the two-year European **DESIRE** project, one of the first of **New European Bauhaus**. The aim of the project was to develop guidelines for the regeneration of urban areas and renovation of buildings by involving diverse experts and partners. The Slovenian partners in the DESIRE project were CER and BTC.

We also drew on other CER projects related to construction, including two CER competence centres that helped upskill employees: **Kompetenčni center za inovativne stavbe (KOC Inovatis)** and **KCDM 3.0 – Kompetenčni center za design management**, as well as on the **ZaBoljšiZrak.si** campaign, aimed at raising awareness of indoor air quality.

The recommendations are grounded in clear steps, proven practices and state-of-the-art global guidance for sustainable construction, bringing together knowledge from multiple disciplines. Their publication was also endorsed by the Ministry of Natural Resources and Spatial Planning.

NEW EUROPEAN BAUHAUS GUIDELINES FOR SUSTAINABLE CONSTRUCTION



New European Bauhaus is an integral part of the European Green Deal, translating its objectives into action in sustainable construction by promoting solutions that reduce emissions, improve energy efficiency and create beautiful, inclusive and socially just living and working spaces.

Commercial value of buildings

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People spend as much as 90% of their time indoors, meaning buildings have a direct impact on our wellbeing, health and productivity².

Sustainable commercial buildings as a key driver of business success

In the European Union, approximately **25% of all buildings are non-residential** – that is, offices, industrial facilities, hotels, shopping centres and other commercial real estate³.

Commercial buildings are more than just a roof over our heads – they are the foundation for creating a welcoming and enabling environment that supports business success. Companies often overlook how profoundly their buildings influence business performance, employee and customer well-being, the reduction of negative environmental impacts and their positive contribution to the wider community.

It is important to recognise that personnel costs – salaries and benefits – typically account for up to 90% of a company's operating costs, while energy and rent together represent only around 10%⁵. Employee productivity – and the many factors that enhance it – should therefore be among every company's top priorities.

STEPS FOR A HOLISTIC CORPORATE APPROACH TO SUSTAINABLE COMMERCIAL BUILDINGS



Determine how buildings influence your business

Review the status of commercial buildings in terms of environmental footprint, costs, impacts on employee wellbeing and health, as well as management. This forms the basis for all subsequent decisions.



Set targets to guide your sustainability transformation

Based on the assessment, set targets for emission reduction, improved energy efficiency and a healthy working environment that are aligned with your business strategy.



Renovate buildings for greater efficiency and wellbeing

Reduce costs, increase functionality and enhance employee satisfaction through strategic renovation and space improvements.



Demonstrate progress and build trust

With transparent reporting on the outcomes of sustainability measures, strengthen customer, investor and employee trust and demonstrate the credibility of your ambitions.

WHY IS A HOLISTIC APPROACH TO SUSTAINABLE COMMERCIAL BUILDINGS ESSENTIAL?



Strengthen strategic real estate management

Systematic building assessments enable companies to make better decisions on investment, resource optimisation and long-term development. This strengthens strategic asset management.



Align with corporate sustainability targets

A clear commitment to sustainability targets enables a company to embed sustainability at the core of its business strategy and align it with climate and other sustainability standards. This creates a competitive advantage.



Boost efficiency and lower costs

Transforming workspaces delivers energy savings, better space utilisation, reduced resource consumption and lower operating costs. At the same time, buildings have a positive impact on employee health and productivity.



Build trust and reputation

Transparent disclosure of progress strengthens the trust of investors, customers, employees and the wider public. A sustainability-led approach and transparency are key to securing finance, attracting talent and maintaining competitive advantage.



Manage risks and unlock opportunities

Effective management of regulatory risks, climate change impacts and evolving stakeholder expectations strengthens corporate resilience and enables the identification of new business opportunities.



Lead by example

Companies can set an example through their buildings: by investing in nearly zero-energy buildings, using sustainable materials, engaging supply chains and tenants, and working with municipalities to develop green urban infrastructure.

Competitive advantage in the era of climate change

Higher employee productivity due to better air quality, more daylight and appropriate temperatures delivers **up to EUR 40 billion in added value** to the European economy⁷.

Sustainable buildings are a key step towards mitigating climate change while also enabling effective adaptation to its impacts. Integrating both approaches – mitigation and adaptation – enables companies to reduce environmental impacts while increasing their resilience to climate change.

CLIMATE CHANGE MITIGATION

Objective

Reducing greenhouse gas emissions and the environmental impact of commercial buildings.

Key measures

- reducing energy consumption (e.g. high-performance insulation, smart building management systems),
- using renewable energy sources (e.g. solar energy, heat pumps),
- promoting circular practices in construction and renovation (efficient space utilisation, extending service life, recycling of materials),
- using sustainable materials with low emissions, free of hazardous substances and/or with a long service life,
- integrating nature-based solutions to regulate the microclimate and enhance the environment,
- digitalisation to monitor emissions and energy efficiency.

CLIMATE CHANGE ADAPTATION

Objective

Reducing buildings' vulnerability and improving their resilience and user safety during extreme weather events.

Key measures

- appropriate siting and orientation of buildings (considering location, solar exposure, winds and vegetation),
- leveraging passive cooling through natural ventilation and shading of window openings to reduce the need for mechanical cooling,
- green infrastructure (green roofs and façades) to mitigate heat effects, retain rainfall and promote biodiversity,
- permeable and absorptive surfaces around buildings to reduce flood risk,
- efficient water management systems (rainwater harvesting, greywater recycling).

The impact of buildings on employee safety, health and productivity

A well-designed work environment that supports health is not just a benefit but a strategic investment that improves business performance over the long term. High-quality indoor air, thermal comfort, appropriate lighting, access to nature, noise control and appealing aesthetics deliver tangible benefits for employee health and performance⁵.

Seismic safety must be an integral part of any deep sustainable renovation or new build. Neglecting this dimension can pose serious risks to people, business operations and long-term financial viability.

FIVE KEY DIMENSIONS THAT IMPROVE SPACES AND BOOST EMPLOYEE HEALTH, SATISFACTION AND PRODUCTIVITY

(Healthy Buildings Barometer 2024)⁷

Improving mental and physical health

Air quality, natural daylight and thermal comfort directly affect wellbeing and productivity.

Designed for human needs

Spaces should be tailored to users – with easy access, functionality and comfort that meet employee needs.

Sustainably built and managed

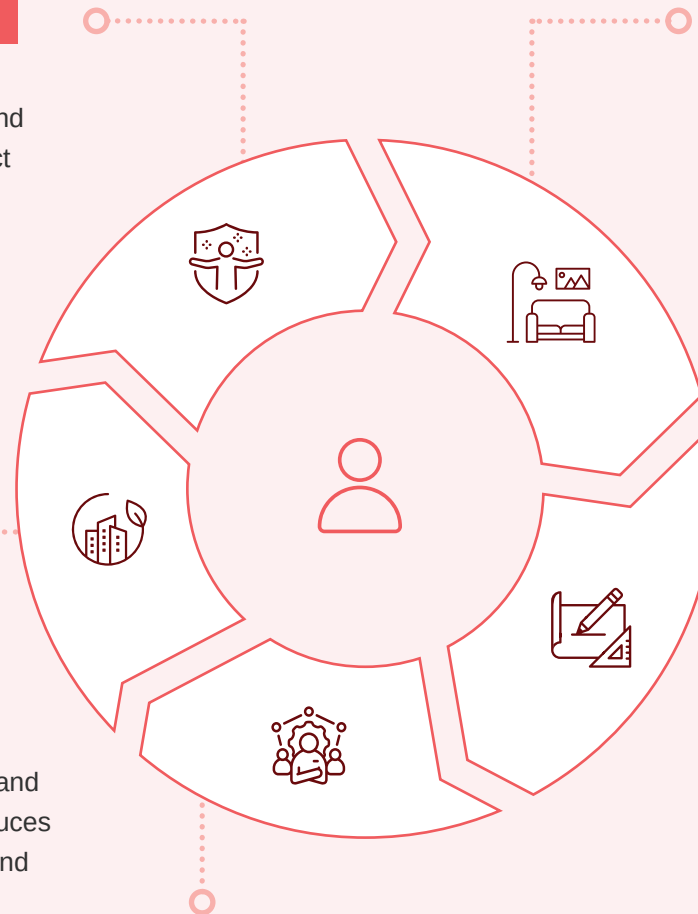
Using sustainable materials and energy-efficient systems reduces the environmental footprint and delivers long-term savings.

Resilient and adaptive

Buildings must be designed to adapt to evolving needs, increasing their long-term utility and value.

Empowering people

Spaces that engage users and encourage sustainable practices build a sense of belonging and responsibility.



TANGIBLE IMPACTS ON HEALTH AND JOB PERFORMANCE



Air quality

Polluted indoor air can cause health issues that lead to lower productivity and economic losses estimated at 4–6% of GDP⁸.



Thermal comfort and personal control

If employees can adjust the temperature, they are more satisfied and productive. Efficiency can decrease by 10% if the temperature drops to 15 °C or rises to 30 °C (optimal: 21–23 °C)⁵.



Daylight and views of nature

Employee performance can increase by up to 10% in spaces with good natural daylight. Views of greenery and nature raise productivity by 6–12%.⁷



Noise reduction and thoughtful interior layout

A well-designed interior that reduces noise and fosters collaboration enables higher productivity and better communication.



Aesthetics and access to services

Aesthetically refined spaces have a positive effect on mood and motivation. Employee satisfaction is also influenced by the proximity of essential services.



Poor working environment

Spaces with poor lighting, inadequate ventilation and high noise levels increase the risk of Sick Building Syndrome (SBS), leading to poorer wellbeing, lower productivity and higher absenteeism.



Tenant expectations and collaboration with landlords and business zone managers

Tenants demand certifications such as **BREEAM**, **LEED** or **DGNB**, because they want lower operating costs, a better working environment and a demonstration of sustainability commitment, which affects their brand and talent attraction⁵.

THE ROLE OF TENANTS IN SUSTAINABLE BUILDING MANAGEMENT

Tenants play a key role in achieving the sustainability objectives of commercial buildings, as their practices, expectations and collaboration with owners can significantly reduce the environmental footprint.

Although they often have no direct influence over the structural elements of the building, they can make a material contribution to:

- improving energy efficiency,
- reducing resource consumption,
- more efficient, more responsible and long-term successful operations, and
- encouraging owners to improve sustainability already when entering into lease agreements.



GREEN LEASE AGREEMENTS – A TOOL FOR COLLABORATION BETWEEN TENANTS AND LANDLORDS

One of the most effective approaches to promoting sustainable management is the so-called **Green Lease** – lease agreements that include:

- shared sustainability goals and accountabilities,
- clauses on the use of renewables, monitoring consumption and implementing upgrades,
- measures to reduce water use and waste generation and to improve indoor environmental quality,
- incentives for sustainable mobility,
- mechanisms to share the costs and benefits of sustainability measures,
- obligations to obtain sustainability certifications (LEED, BREEAM, DGNB),
- guidelines for integrating sustainable solutions into tenants' operations.

HOW CAN TENANTS CONTRIBUTE TO MORE SUSTAINABLE COMMERCIAL BUILDINGS?



Optimising energy use

- switching off equipment outside working hours,
- using energy-efficient office equipment,
- working with landlords to transition to energy from renewable sources.



Sustainable resource and waste management

- separate waste collection,
- promoting material reuse,
- reducing plastic use,
- transition to digital solutions instead of printing.



Ensuring indoor environmental quality

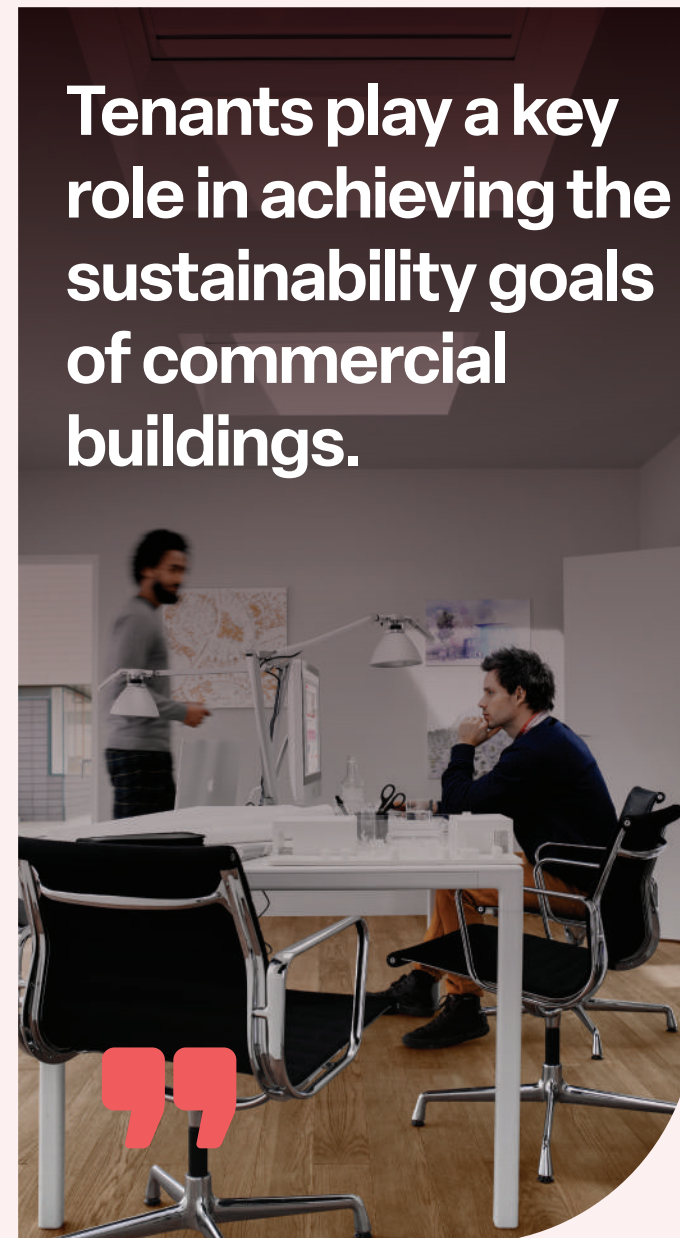
- use of natural materials and plants,
- regular ventilation,
- reducing the use of harmful chemicals.



Efficient use of space

- flexible work organisation,
- optimising workspace utilisation.

Tenants play a key role in achieving the sustainability goals of commercial buildings.



HOW CAN COMPANIES IN BUSINESS ZONES IMPACT THE SUSTAINABLE DESIGN OF THE ENVIRONMENT?



Collaboration and coordination

Partnerships with municipalities, business zone operators and other companies to develop joint sustainable solutions.



Joint investments

Establishing energy communities, investing in renewable energy sources and smart infrastructure.



Sustainable mobility

Promoting the use of public transport, cycling routes, EV charging points and ride-sharing.



Circularity measures

Resource sharing (e.g. waste heat, raw materials), joint waste management, logistics optimisation.



Green infrastructure

Integrating green solutions: green roofs, natural shading, rainwater harvesting systems, expanding green areas.



Community impact and reputation

Transparent communication of sustainability efforts and active engagement with the local community.



Sustainable commercial buildings are no longer just a choice but a strategic direction that enables companies to build resilience, reduce costs, and secure long-term competitive advantage. At BTC, which manages an extensive real estate portfolio, we regard buildings as a key element of a sustainability-driven business model – not only in terms of energy efficiency, but also in their impact on user well-being and the adaptability of buildings to climate change. As part of the European DESIRE project, we have joined forces with partners to develop an ambitious vision for BTC City Ljubljana to transform it into a green, inclusive, and climate-resilient urban centre by 2050.

Miha Mermal

Executive Director for Marketing and Sustainability at BTC,
Vice-Chair of the CER Board



In residential construction, there is already strong awareness of the importance of energy-efficient and sustainable building practices, which is encouraging. We now need to extend this awareness to commercial and public buildings, which have a major impact on everyday life. Today, sustainable buildings are not only energy-efficient, they also enhance quality of life, as people spend most of their time indoors.

The CER Sustainable Construction section brings together companies whose practices set a benchmark for others. Our goal is to promote the wider adoption of sustainable solutions and foster collaboration in creating healthier, more energy-efficient environments. Only by working together can we achieve real progress in this field.

Marko Lukić

Owner and CEO of Lumar IG,
member of the CER Board and Chair of the CER Sustainable Construction section



Smart design

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Commercial buildings have long lifespans – on average 50 to 60 years or more. It is therefore crucial that they are designed for sustainability from the outset.⁴

Buildings as systems of layers with different lifespans

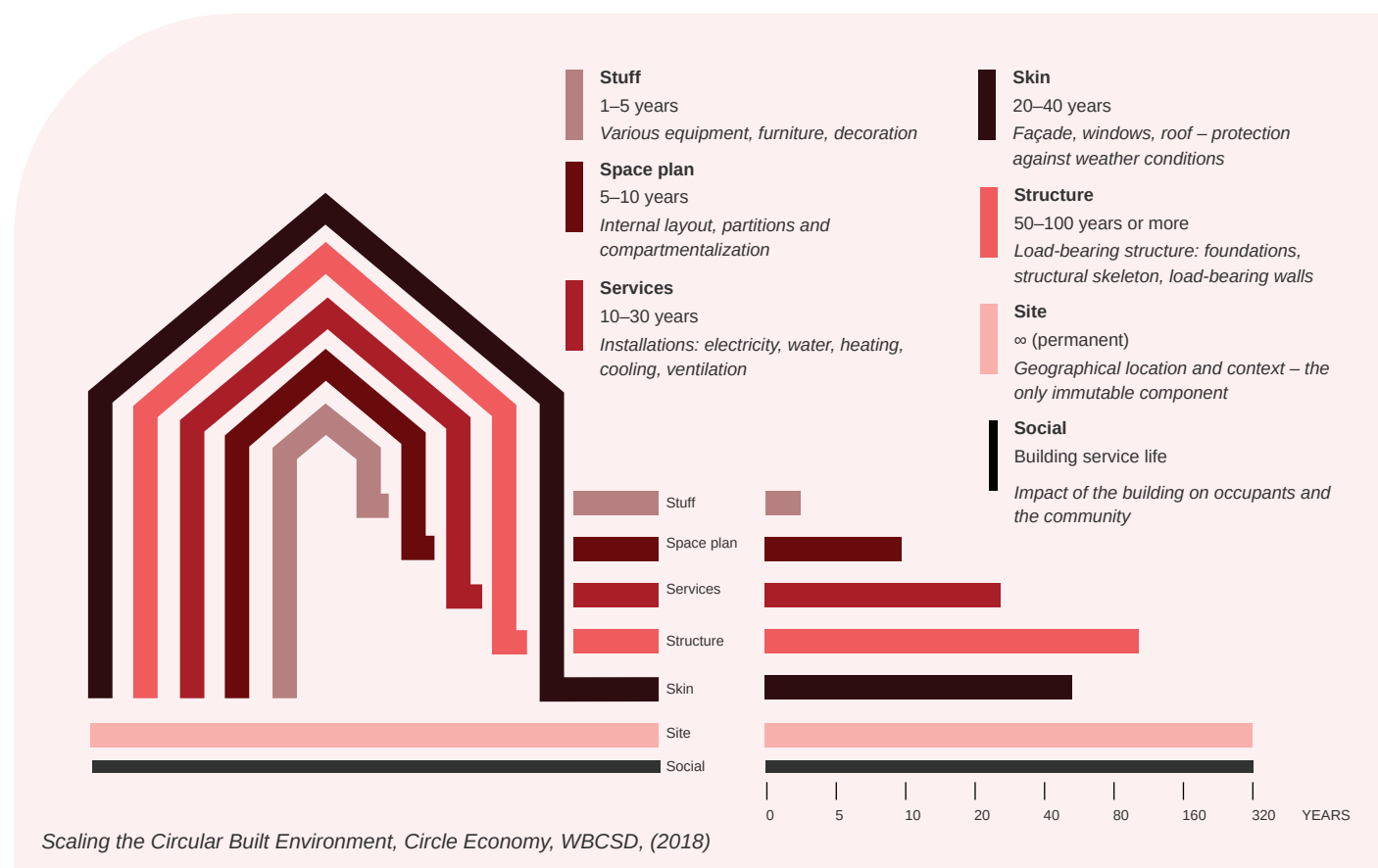
By understanding building layers, companies can:

- ✓ **plan** investments by the service life of individual components,
- ✓ **separate** long-term decisions (e.g. structure) from short-term ones (e.g. furniture),
- ✓ **improve** circularity and reduce maintenance costs,
- ✓ flexibly **design** the work environment to take into account user needs,
- ✓ more efficiently **integrate** sustainable solutions where they make the most sense.

The concept of building layers aligns strongly with the circular economy, encouraging adaptability, long-term use and resource efficiency. Buildings designed according to this principle enable easier disassembly, reuse of material and upgrades without the need for demolition. This concept provides a practical framework for designing buildings that are resilient, adaptable and aligned with circular economy principles.

For effective planning, construction and operation of commercial buildings, it is essential to recognise that a building is comprised of multiple layers – each with its own function, service life and sustainability impact.

The division into basic layers (S layers) – **site**, **skin**, **structure**, **services**, **space plan**, **stuff**, **social** – helps companies plan investments, improvements and maintenance more effectively.²⁶



Commercial buildings affect corporate reputation and long-term business performance

Commercial buildings have a long-term impact on the environment, employees and corporate performance. It is therefore essential that they are strategically designed and architecturally refined from the outset, as this is the only way to ensure sustainable efficiency, functionality and aesthetic value.

Long-term impact of buildings

Commercial buildings have a lasting influence on:

- **the environment** (land use, resource consumption, emissions),
- **people** (employees, customers, the local community),
- **corporate business performance** (productivity, reputation, attractiveness).

Role of high-quality architecture

High-quality architecture:

- expresses the company's values and culture,
- is respectfully integrated into, and enhances, the natural, cultural and urban context,
- ensures multimodal accessibility,
- meets the needs of employees and customers,
- supports efficient business processes,
- ensures safety, functionality and regulatory compliance,
- contributes to the quality of public space and the common good.

Benefits of sustainable construction

Sustainably designed buildings enable companies to:

- achieve appropriate site integration, flexibility and long-term performance,
- reduce operating costs,
- reduce environmental impact (land use, emissions, waste),
- boost employee productivity and well-being,
- achieve higher occupant and customer satisfaction,
- have a positive impact on urban environmental quality,
- increase the real estate market value.

Reputation, visibility and differentiation

Companies that invest in sustainable, architecturally high-quality buildings:

- strengthen their reputation and brand recognition,
- demonstrate commitment to sustainable practices and corporate social responsibility,
- successfully differentiate from competitors,
- collaborate with diverse experts to achieve optimal solutions.



Legislation and certification as levers for sustainable commercial buildings

In the EU, the average **sickness absence rate is 4.7%**, often due to **poor working conditions**. The cost of absence from work is estimated at around 2.5% of GDP – equivalent to total costs of EUR 470 billion⁹.

The EU regulatory framework for sustainable construction sets clear guidelines for:

- ✓ reducing emissions,
- ✓ greater energy efficiency,
- ✓ use of renewables,
- ✓ circularity,
- ✓ investment,
- ✓ digitalisation,
- ✓ inclusion,
- ✓ nature-based solutions,
- ✓ aesthetics.

LEGISLATION NOT ONLY IMPOSES OBLIGATIONS, BUT ALSO CREATES OPPORTUNITIES.

The European regulatory framework, underpinned by the Green Deal, is driving the transformation of the construction sector into a sustainability-oriented industry. **Objectives include zero-emission and nearly zero-energy buildings.** The focus is on greater use of **renewable energy sources, reducing waste and emissions and promoting recycling and the reuse of materials.** Legislation is also introducing **standards for green investments.** **Digitalisation** of buildings enables more efficient monitoring of energy use and CO₂ emissions. In parallel, the **expansion of green spaces and the use of nature-based solutions (NbS)** are being promoted, while renovations are becoming **inclusive, accessible and aesthetically refined**, with additional support for regions in transition¹⁰.

Slovenia, through strategic and operational documents, is also pursuing the goals of sustainable renovation and the decarbonisation of the building stock.





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The focus is on greater
use of renewables,
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materials.”

European legislation

- **EPBD** – Energy Performance of Buildings Directive
- **EED** – Energy Efficiency Directive
- **RED III** – Renewable Energy Directive III
- **CEAP** – Circular Economy Action Plan
- **CPR** – Construction Products Regulation
- **ESPR** – Ecodesign for Sustainable Products Regulation
- **EU Taxonomy** – EU Taxonomy Regulation
- **NEB** – New European Bauhaus

Slovenian strategic documents

- **SPRS 2050** – Strategija prostorskega razvoja Slovenije 2050 (Spatial Development Strategy of Slovenia 2050)
- **DSEPS 2050** – Dolgoročna strategija za energetske prenovi stavb do leta 2050 (Long-Term Strategy for Energy Renovation of Buildings 2050)
- **NEPN** – Nacionalni energetski in podnebni načrt (National Energy and Climate Plan)
- **Construction legislation** – [access](#) to legislation

Certificates

Various voluntary international certification systems are used to assess building sustainability, taking into account the environmental, economic and social aspects of construction. Their use in Slovenia is growing.

The most widely established are: **LEED** (USA), **BREEAM** (UK), **DGNB** (Germany), **Level(s)** – the European framework for sustainable buildings, **Slovenian sustainable construction indicators** – adapted to the Slovenian context.



The financial sector plays a key role in financing the transition to sustainable construction. We provide sustainable financing to companies investing in energy-efficient, low-carbon and circularly designed buildings. Our goal is not only to finance the construction or renovation of commercial properties, but also to support comprehensive solutions that reduce emissions, improve energy efficiency and create long-term value for businesses.

Anita Stojčevska

Vice-President of the Management Board,
OTP banka d.d., and Member of the CER Board



Sustainability in construction means creating buildings with well-considered architecture that are energy-efficient, people- and environmentally friendly and designed with future generations in mind. Understanding how materials and construction methods affect the environment allows us to design spaces that preserve nature, reduce energy consumption and improve quality of life. Every sustainable decision during the design and construction phases is a step toward a responsible future. A low carbon footprint, a service life of up to 150 years, and high thermal mass are interrelated material properties that, in sustainable construction, are not mutually exclusive. These parameters complement one another, enabling durable and affordable buildings.

Tomislav Franko

Member of the Management Board and
Commercial Director, Wienerberger Adriatic



Efficiency and environmental impact

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The International Energy Agency (IEA) estimates that existing technologies could reduce global energy consumption by more than a third.

Energy efficiency is key to sustainability objectives and lower costs

Decarbonisation of commercial buildings is essential to meet climate goals, cut energy costs and improve competitiveness and company reputation.

A building's carbon footprint includes:

- **operational emissions** (generated by heating, cooling, electricity use – **Scopes 1 and 2**) and
- **embedded emissions** (arising from materials, construction and maintenance – **Scope 3**).
- **LCA (life-cycle assessment)** is a comprehensive method that covers **all the building's environmental impacts** and enables more **strategic decisions** on materials, design and the use of products and the building.

With a comprehensive decarbonisation approach, companies can significantly reduce energy use and operating costs, increase resilience to energy price volatility and contribute to an environmentally responsible business transformation that is sustainable in the long term.

Buildings in the EU consume around 40% of all energy, with a large share of these costs stemming from inadequate insulation and inefficient energy systems¹.

By 2030, near-zero emissions and building resilience will be the new norm¹¹.



KEY STEPS TO IMPROVE THE ENERGY PERFORMANCE OF COMMERCIAL BUILDINGS

1

Energy audit

Thorough baseline analysis enables identification of the most effective measures – in terms of required investment and environmental impact. An energy audit is the basis for economic and environmental optimisation of measures. Energy performance certificates also include recommendations for improvements.

2

Setting clear emissions-reduction targets

Setting clear emissions-reduction targets enables targeted action, measurable progress and compliance with legislation and stakeholder expectations.

3

Awareness and training

Raising employee awareness of efficient energy use significantly contributes to the business's overall energy efficiency and to the effectiveness of selected measures.

4

Optimising operations and maintenance

By deploying smart technologies and building management systems and through regular maintenance, companies can optimise the operation of heating, cooling, ventilation and lighting and reduce costs.

5

Building renovation

The energy renovation of the building envelope (insulation, windows, doors), together with efficiency measures that adopt sustainable approaches (green roofs, sustainable materials), significantly reduces energy consumption and delivers long-term savings.

6

Equipment upgrade

Replacing outdated equipment with high-efficiency systems quickly delivers tangible energy savings.

7

Adoption of renewable energy

Integrating solar energy, heat pumps and other renewables reduces dependence on fossil fuels, lowers greenhouse gas emissions and stabilises energy costs over the long term.



Circular practices for greater sustainability and extended building service life

Today's construction practices are often not sustainable – they fuel the climate crisis and deplete natural resources. The transition to a **circular economy** is essential to achieve a low-carbon future, as it addresses as much as **45% of emissions** that energy efficiency improvements alone cannot eliminate¹².

Circular approaches encourage the reuse and recycling of materials, reducing the need for virgin resources and the emissions associated with material production and disposal.

FOUR PATHWAYS TO CIRCULAR CONSTRUCTION BY 2050¹³

1



Prioritising renovation over new build

The “**Build nothing new**” principle encourages companies to renovate existing spaces instead of constructing new ones. Extending the service life of buildings through renovation reduces the environmental footprint and costs, and enables more sustainable use of existing infrastructure.

2



Efficient use of resources

“**Efficient construction**” means reduced material consumption and emissions through smart design. Companies can adopt less material-intensive solutions, such as upgrading existing structures, space sharing and using materials with a lower environmental footprint.

3



Long-term use and design for disassembly

The “**Building for long-term use**” principle means that buildings and their components are designed so they can be disassembled and reused. This preserves the embedded carbon in materials and enables effective building management even at end of life.

4



Choosing the right materials

The “**Building with the right materials**” principle promotes the reuse and recycling of uncontaminated construction materials and the use of bio-based resources. By 2050, this approach could enable the reuse of more than 60 million tonnes of materials, significantly reducing waste and emissions.

Nature-based solutions contribute to a healthier work environment

Nature-based Solutions (NbS) are key to creating resilient, sustainable and healthy commercial buildings. By integrating natural elements, buildings can enhance quality of life, reduce environmental impacts and contribute to both climate change mitigation and adaptation. At the same time, such solutions strengthen companies' reputation as sustainability-focused and responsible¹⁵.



KEY APPROACHES TO APPLYING NATURE-BASED SOLUTIONS IN COMMERCIAL BUILDINGS

Green roofs and façades

Vegetation on roofs and façades reduces urban heat build-up, improves thermal insulation, regulates the microclimate and retains rainwater. It contributes to energy efficiency and fosters biodiversity in urban areas.

Biophilic design

Integrating natural materials, textures and shapes into interior and exterior building elements creates environments that promote psychological wellbeing, reduce stress and strengthen connection with nature. Wood, stone, water and plants have a positive impact on mood and productivity.

Natural ventilation and daylight

Building designs that promote natural airflow and daylight use reduce the need for artificial cooling and lighting. This supports occupant well-being and improves energy efficiency.

Urban green spaces and biodiversity corridors

Green areas around buildings improve air quality, reduce noise, mitigate urban heat island effects and provide spaces for employee recreation and relaxation.

Rainwater harvesting and greywater recycling

Systems for rainwater harvesting and greywater reuse enable efficient water resource management and reduce the load on urban infrastructure.

Permeable surfaces

Permeable surfaces enable natural infiltration of rainwater into the ground, prevent flooding and relieve pressure on the sewer system. They also help preserve groundwater.

From planning to operations, digitalisation delivers benefits

Digitalisation makes a significant contribution to sustainable buildings, enabling greater efficiency, accuracy and transparency across all phases of the building life cycle – **from planning and construction to use, maintenance and renovation or decommissioning.** It connects sustainability objectives with operational efficiency – reducing resource consumption, improving occupant comfort, increasing economic viability and enabling transparency throughout the entire building life cycle²⁵.

KEY BENEFITS OF DIGITALISATION IN SUSTAINABLE COMMERCIAL BUILDINGS

1

Operational efficiency

- Enables coordinated planning, real-time data collection and analytics for better decision-making.
- Improves energy efficiency and helps reduce costs.

2

Occupant well-being

- Supports a healthier, more adaptable workplace.
- Drives employee productivity and satisfaction.

3

Decarbonisation and environmental sustainability

- Supports achieving emission-reduction targets and integrating renewable energy.
- Optimises energy loads and reduces the carbon footprint.

4

Risk management

- Enables automated response and uninterrupted building operation.
- Enhances protection against a range of risks.

5

Financial performance

- Increases the market value and attractiveness of commercial spaces.
- Unlocks new revenue streams, such as EV charging or energy services.

6

Strategic advantage

- Enhances corporate reputation, ensures regulatory compliance and improves access to sustainable finance.
- Ensures faster adaptability, better decision-making and competitive differentiation.



Sustainable commercial buildings – both public and private – are not merely spatial structures, but cultural and business environments which, through thoughtful design, can change our outlook on the world and help create a vision of a modern, diverse and responsible society. We must understand sustainability much more broadly than solely through the lens of energy efficiency and construction solutions – it must also encompass the spatial, material and social context. A key aspect of a sustainable commercial building is its functional flexibility, enabling spaces to respond to changing needs and ways of working. It is also important to recognize the remarkable potential of existing commercial buildings no longer serving their original purpose. Through thoughtful renovation, they can be revitalized, guided by care and environmental responsibility.

Maja Vardjan

Director,
Museum of Architecture and Design



The economics of sustainability have fundamentally shifted. What was once viewed as a premium investment is now recognized as risk mitigation. Forward-thinking businesses understand that leasing spaces in high-performance buildings is not an environmental luxury but simply financial prudence in the face of rising energy costs and increasing climate regulation. Architectural design is following suit, marrying aesthetics and functionality to deliver spaces that can reduce environmental impacts, improve well-being, enhance recruitment, and foster stronger community relations.

Kåre Stokholm Poulsen

Partner, Head of Innovation at GXN,
Partner in the DESIRE project



Governance and collaboration

”

Successful sustainable construction is built on bringing together a broad spectrum of expertise – from creativity, engineering precision and environmental responsibility to social insight, financial judgment and effective communication.

Collaboration is key to sustainable commercial buildings

Successful planning, renovations, operation and maintenance of a sustainable commercial building rely on **comprehensive collaboration across internal departments and close engagement with external specialists.**

The degree of involvement of internal departments depends on the size of the company, its organisational structure and its sustainability ambitions. **Only empowered employees can collaborate effectively with specialists, understand the complexity of sustainability projects and contribute to creating sustainable value.**

A key role is also played by **external experts** who, with their specialised expertise, help companies to:

- select the best solutions,
- ensure compliance with legislation and standards,
- optimise investments in sustainable buildings.

Collaboration with them is not only advisable – it is essential for long-term success.

It is crucial for a company to **communicate its sustainable building objectives and actions clearly, credibly and in a way tailored to different stakeholders**, as this builds trust, fosters collaboration and strengthens reputation.



INTERNAL DEPARTMENTS AND EMPLOYEES AND THEIR CONTRIBUTION TO SUSTAINABLE COMMERCIAL BUILDINGS

Company management

Sets targets, makes strategic decisions and provides resources for the sustainability transition. Steers the company towards long-term sustainable operations.

Real estate management department

Manages, maintains and optimises commercial buildings. Plays a key role in energy efficiency and reducing operating costs.

Development and construction department

Plans new projects and selects sustainable materials. Delivers building solutions based on environmental, functional and economic criteria.

IT department

Deploys smart technologies and systems to monitor indicators. Enables digital optimisation of resource consumption and building operations.

HR

Delivers training and wellbeing programmes and strengthens a culture of sustainability. Increases employee inclusion and engagement.

Legal department

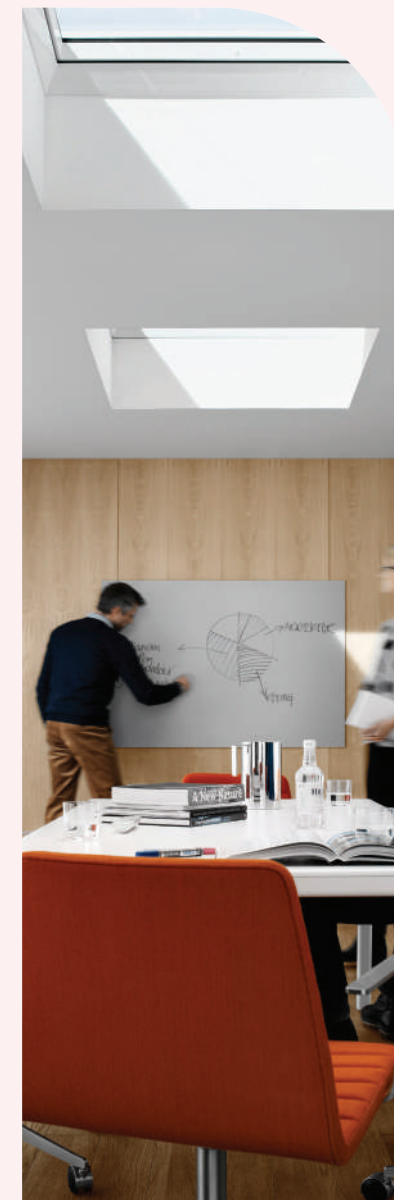
Ensures regulatory compliance, prepares ESG reports and provides legal support for sustainability projects. Reduces legal risks.

Communications department (public relations, marketing)

Communicates sustainability targets and achievements internally and externally. Builds reputation and recognition and ensures transparency.

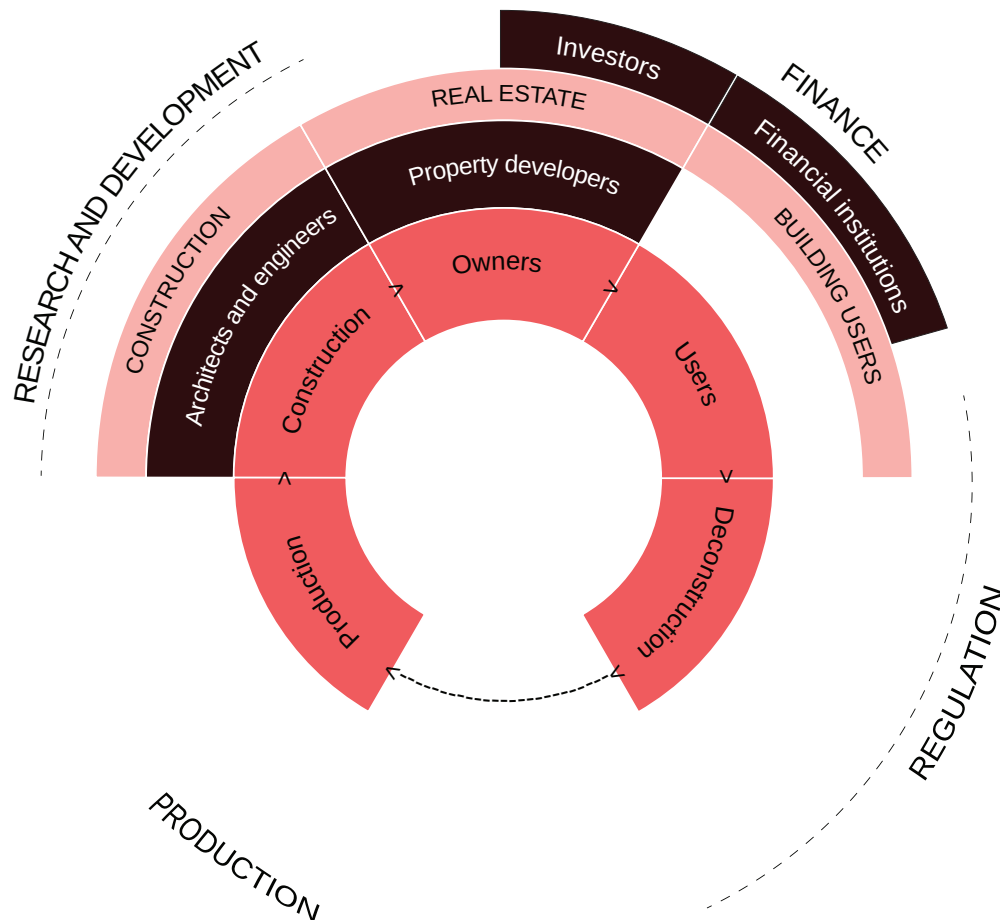
Employees

Actively contribute to delivering sustainability targets through everyday habits and behaviour change. Contribute to creating a sustainable workplace.



EXTERNAL EXPERTS AND PARTNERS AND THEIR CONTRIBUTION TO SUSTAINABLE COMMERCIAL BUILDINGS

Built environment value chain²⁷



Across the different phases of sustainable construction, collaboration among many stakeholders is crucial, from planning and construction to operation and use of buildings. This is a diverse yet connected network of actors who together determine whether and how a building will be sustainable – for the environment, users and business performance. Because a building's impacts, emissions and costs arise across different phases, no single company can reduce them alone.

Success in decarbonising buildings depends on collaboration across the value chain – with clear targets, agreements and transparent reporting.

Two types of value chains²⁷

The building value chain

Includes companies and professionals directly involved in the design, construction, furnishing, operation and use of the building. Their decisions affect quality of life, the local community, energy efficiency, long-term operating costs, reputation, and the building's adaptability to future needs. They are therefore key partners in creating buildings that are sustainable across environmental, social and economic dimensions.

They include: **architects, urban planners, landscape architects, designers, civil engineers, mechanical and electrical engineers, construction companies, suppliers of sustainable materials and products, certification experts, digital consultants, IT partners, building operators and end-users.**

The influencer value chain

Includes stakeholders who decide whether, what, where and how buildings are constructed. Although they do not build directly, they have a decisive influence on buildings' sustainability outcomes in the early project phases.

They include: **financial institutions, investors, insurers, clients, policy-makers, legal advisers and certification experts.**



The Municipality of Kranj has been actively pursuing the sustainable renovation of public buildings for more than two decades. These are long-term investments in higher-quality public services, energy independence and a healthier living environment for residents. Our goal is to reduce environmental impact, improve energy efficiency, lower energy costs and increase the use of locally sourced renewables. To date, we have renovated more than 30 public facilities; by 2026 we plan to renovate a further 19 buildings, often leveraging private capital. Sustainable renovations enhance energy performance and user comfort – less overheating, more stable temperatures, increased daylight and the use of natural, non-combustible materials and advanced building management systems. A project for 16 solar PV plants (2 MW) is currently under way; within an energy community they will supply 20 municipal facilities. We also plan to upgrade district heating with multiple renewable energy sources.

Matjaž Rakovec

Mayor of the City Municipality of Kranj



In urban environments, commercial buildings are an important part of the built and social landscape and can – and should – contribute to wider goals beyond their core function. We often forget that sustainable design is not only about efficient building systems or envelopes; it begins with the architectural and spatial concept itself. This can enhance accessibility and attractiveness for pedestrians, cyclists and people with disabilities. In cities, the role of climate resilience is increasingly important – addressing higher volumes of rainwater that the building and its surroundings can retain and, where possible, reuse, as well as resilience to rising temperatures, supported by landscape design and appropriate material choices. As space is finite and central locations are an advantage, the adaptive reuse of buildings or sites is increasingly preferred.

Matija Kovač

Mayor of the City Municipality of Celje



Best practices



Renovation



DEEP ENERGY RENOVATION WITH ARCHITECTURAL ADDED VALUE

Investor: Podkrižnik d.o.o., 2015, Nazarje

Architects: Superform

Contractors: AJM d.o.o. (façades and insulation)

Award: ARHIOF 18 – special mention and nomination for Archdaily Building of the Year 2018

The **Pogon 2** energy renovation project demonstrates that an industrial building, when architecturally enhanced, can surpass mere functionality. The investor relocated

production to a former Gorenje hall, which was renovated both functionally and in terms of energy efficiency. The new façade, conceived as a tribute to the gear – the company's key product – combines energy efficiency with a strong visual identity. A distinctive feature of the renovation is the double-skin façade that enables natural ventilation of all spaces via stack effect, eliminating the need for mechanical cooling. Tinted glazing prevents overheating, while a brise-soleil system provides additional shading. The renovated building expresses not only energy efficiency but also the company's values and core business – without any additional advertising narratives.

Renovation



RENOVATION AS A REFLECTION OF THE COMPANY'S SUSTAINABILITY IDENTITY

Investor: Lumar IG, 2024, Maribor

Architects: Lumar IG

Contractors: Lumar IG

Award nomination: Finance newspaper Energy Efficiency Award

The renovation of the **Lumar** commercial building is a model example of a holistic sustainability approach combining energy efficiency, architectural excellence and care for employee wellbeing. The project is based on an energy audit, with measures planned to account for energy and material efficiency and holistic environmental impacts. The building was upgraded with well thought-out architectural and technical solutions: high-performance thermal insulation, a green roof and a photovoltaic system. Particular emphasis was placed on circular resource management: the existing windows, doors and shading devices were retained and refurbished, as replacing them would have resulted in higher environmental burdens than the gains from the improved energy performance of new components.

Renovation

COMMERCIAL BUILDING AS A TOOL FOR SUSTAINABILITY COMMUNICATION

Investor: Baunit d.o.o., 2023, Ljubljana

Architects: Studio.a+v

Contractors and suppliers: VELUX Slovenia, SGP Graditelj d.d.

The **Baunit** commercial building in Ljubljana was renovated with a clear vision to improve energy performance and create a healthier working environment. The renovation focused on the quality of the building envelope, the installation of energy-efficient materials,

and the application of Baunit's own innovative solutions, such as façade systems with improved thermal insulation. Special emphasis was placed on improving the indoor environment – using façade solutions that enable natural regulation of humidity and temperature, and carefully planned natural lighting, including roof windows on the flat roof. The building thus reflects not only a visual renovation, but the company's holistic commitment to sustainability. Through the renovation, Baunit reduced operational costs, improved working conditions for employees and strengthened its reputation as a company that lives the values of sustainable construction in its own practice.

Renovation

FROM INDUSTRIAL HALL INTO MULTI-PURPOSE HALL AND CULTURAL VENUE

Investor: L56 d.o.o., 2022, Ljubljana

Architects: Vidic Grohar Arhitekti

Contractors: Wienerberger, CBD

The renovation of the **L56 industrial hall** in Ljubljana is an exemplary case of sustainable renovation, combining respect for the existing architecture with innovative solutions for contemporary use. The former 1960s industrial hall was transformed into a multi-purpose venue suitable for concerts, fairs and symposia, later serving as a temporary venue for SNG Drama Ljubljana. The renovation preserved a robust industrial aesthetic through the use of coarse materials such as brick walls, concrete floor slabs and aluminium doors. A special feature of the renovation is the multi-level shared space that creates a dynamic, adaptable environment. With minimal external interventions and a focus on interior functionality, the renovation enabled continued use of the building at low cost with high adaptability.



OLD PRINTING HOUSE CONVERTED INTO OFFICES

Investor: Tolstojeva d.o.o., 2024, Ljubljana

Architects: Savin Sever (original building), OFIS arhitekti d.o.o. (renovation)

Other renovation planners: Project-PA d.o.o. (structural engineering), ISP d.o.o. (mechanical installations), Pro-elekt d.o.o. (electrical installations)

The renovated **former Mladinska knjiga printing house**, designed in the 1960s, is a best-practice example of a sustainable renovation of a modernist industrial building, already characterised by modularity and flexibility in its

original iteration. The renovation is based on respecting existing structures with minimal intervention in the structure. Energy efficiency and thermal insulation were delivered through internal insulation and additional glazing. The roof glass prisms were preserved to provide natural daylight, maintaining architectural integrity and improving the quality of the indoor environment. The building incorporates a new entrance as an urban hub and retains elements of printing heritage. The renovation ensured high functionality of the new office space and enhanced the aesthetic value of the entire building. The project is a tribute to architectural heritage and an example of responsible stewardship of the existing built environment, which also increased the value of the building.



INDUSTRIAL ARCHITECTURE WITH A LOW CARBON FOOTPRINT

Investor: TEM Čatež d.d., 2018, Čatež

Architects: Jereb in Budja arhitekti d.o.o.

Contractors: Sustinno d.o.o. (structures), Emineo d.o.o. (mechanical installations), Studio razvoj d.o.o. (electrical installations)

Awards: Nagrada Prešernovega sklada (2021), BIG SEE Architecture Award (2019)

The **TEM Čatež** commercial buildings are designed with a clear aim to reduce the environmental footprint and enhance the working environment. The complex is subtly integrated into the local landscape and, with its refined form and sustainable solutions, sets high standards for industrial construction. It is founded on energy efficiency and well thought-out resource use – a compact design, natural light, durable materials and heat recovery, insulation, natural ventilation and on-site solar PV ensure low energy consumption. Open-plan spaces and visual connections to the outdoors contribute to employee well-being. The building therefore goes beyond the usual functional requirements and demonstrates that high-quality architecture, sustainability and social responsibility can be inextricably linked.



Materials

LARGEST TIMBER BUILDING IN SLOVENIA

Investor: InnoRenew CoE Research Institute, 2021, Izola

Architects: InnoRenew CoE, Eva Prelovšek Niemelä, Aarne Niemelä, Bojan Cebin, Monika Rečnik

Contractors: VG5 d.o.o with partner Marles hiše Maribor

Awards: Special Mention at the Architizer A+ Awards 2025, SHARE Architecture Awards 2024, NEB finalists 2024

The **InnoRenew CoE** research institute building is the largest timber science and research building in Slovenia. It is designed as a hybrid structure of timber, concrete and steel, combining energy efficiency with an emphasis on a healthy indoor environment. The architectural concept follows REED (restorative environmental and ergonomic design) principles, based on the use of natural resources and creating ergonomically designed, accessible, adaptable and sustainable buildings. Advanced technologies were installed to monitor air quality, temperature and humidity, enabling optimal management of the indoor environment. The building is also a best-practice example of climate adaptation and long-term resource use, as it is almost entirely designed for circular use of materials.



Materials

SUSTAINABILITY IN MATERIALS AND SPACE

Investor: Ministry of Education, Science and Sport, Institute for the Deaf and Hard of Hearing, 2019, Ljubljana

Architects: ARREA, arhitektura, d.o.o.

Contractors: VG5 d.o.o. (construction), Alfa Natura d.o.o. (structures), Opeka stil d.o.o. (façades and insulation)

Award: Plečnikova medalja za aktualno realizacijo 2021

The renovation and extension of the **Institute for the Deaf and Hard of Hearing Ljubljana** is an example of sustainable construction with a clear focus on using natural materials. The new facilities are built from cross-laminated timber. The exposed timber structure, together with timber furniture and flooring, creates a warm, calm ambience that has a positive effect on user wellbeing. The architectural design enables good acoustics, high-quality natural light, and healthy indoor conditions. A façade of cut brick integrates the building in the existing urban context. The building follows nearly zero-energy building (nZEB) principles. Through appropriate design, high-quality insulation and energy-efficient systems, it helps reduce energy use in the public sector.

Materials



A PUBLIC BUILDING COMMITTED TO RESPONSIBILITY

Investor: Municipality of Mokronog – Trebelno, 2017–2018

Architects: Kontra Arhitekti d.o.o.

Contractors: Marles Hiše d.o.o. in cooperation with CGP d.o.o.

Award: Zlati Svinčnik 2019

Športni center Trebelno sports centre is an exemplary application of sustainability principles in public buildings. The modern public building is thoughtfully integrated into the village landscape and designed with sustainable

materials that ensure a long service life, are easy to maintain and respect the local environment. The building structure is made of prefabricated timber elements insulated with thermal materials of natural origin such as wood fibre and cellulose. The external timber façade brings the whole to life with a natural tone, while the interior wall surfaces are enhanced by the aesthetics and functionality of timber acoustic panels. In public spaces such as a sports hall, sustainability considerations are particularly important, as such facilities often serve a wide range of users who visit frequently. With an energy-efficient design and the integration of ecological technologies, the hall is not only energy-efficient but also an exemplary use of public funds and a reduction in environmental impact.

Materials



INNOVATIVE CONSTRUCTION APPROACHES

Investor: DARS d.d, 2024, Ljubljana

Designers: studio abiro, d.o.o.

Contractors: CGP d.d.

Certification: DGNB

Award: 2025 Annual Architizer A+Awards Winner – Sustainable Commercial Building

The new **DARS** commercial building in Grič in Ljubljana, the solution for which was selected through a public architectural competition, is an example of advanced sustainable architecture that combines

innovative construction approaches with the use of environmentally friendly materials. The building is designed as a hybrid structure with concrete cores and a steel frame, enabling flexible internal layouts and long-term adaptability in use. Recycled and biogenic materials such as timber and wood composites were used, contributing to a reduced carbon footprint. In addition, the building incorporates natural ventilation systems, passive shading, and thermal activation of the concrete core, which improves the energy performance and provides a comfortable working environment. The building's design reflects DARS's commitment to sustainable development and responsible resource management.

Smart technologies



ARCHITECTURAL AND TECHNOLOGICAL DESIGN HAND IN HAND

Investor: BTC d.d., 2011, Ljubljana

Architects: Atelje S d.o.o.

Contractors: IMP d.d (mechanical installations), HVAC sistemi (heating, ventilation, air conditioning), ACO d.o.o (drainage), Valmor d.o.o. (electrical installations and control systems)

Kristalna palača, the tallest commercial building in Slovenia, is a contemporary urban icon and a symbol of the development of the eastern part of the capital. Its design was chosen in an architectural competition and it combines public and semi-public spaces. Sustainability was embedded in the design – the building features its own solar power plant, an ice-based cooling system and a green terrace with 2,500 m² of open space. Advanced technological solutions, such as smart lighting, temperature and indoor air quality management systems, enhance energy efficiency, comfort and safety. Kristalna palača thus combines aesthetic architecture, sustainable technologies, and adaptability to future challenges.

Smart technologies



HIGH-TECH COMPLEX

Investor: ELES d.o.o., 2018, Boričovo

Architects: Scapelab d.o.o.

Contractors: Kolektor d.d.

Award: Plečnikova nagrada 2019

The **ELES** technology centre encompasses nearly zero-energy buildings that integrate advanced architectural

solutions with high-tech infrastructure for operating Slovenia's power system. With a design selected through an international architectural competition, the complex includes office space and a technology centre with a computer centre for monitoring energy infrastructure. The building is designed in line with the highest safety, functional and sustainability standards. Key sustainability features include the use of groundwater for heating and cooling, low-speed ventilation and leveraging the building's thermal mass, ensuring energy efficiency, comfort and a minimal environmental footprint. This makes the centre an excellent example of energy-smart and resilient commercial infrastructure of the future.



WORKPLACES THAT FOSTER CREATIVITY, MOVEMENT AND COLLABORATION

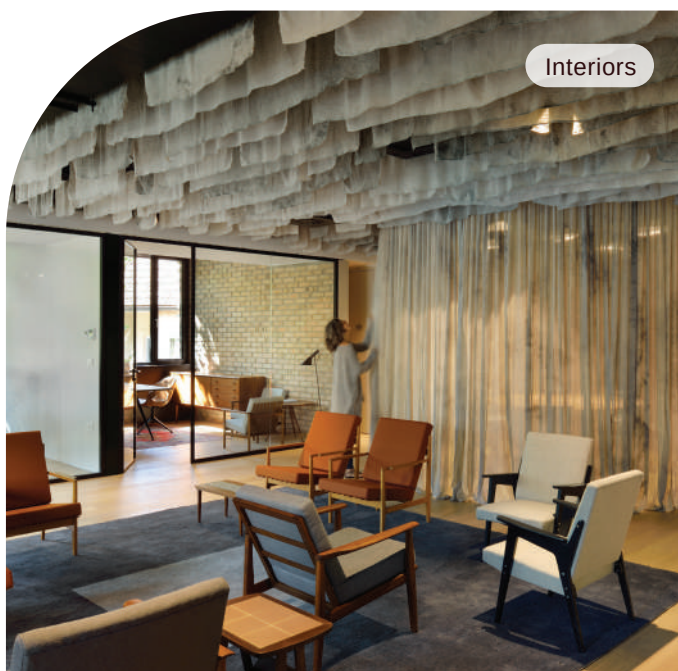
Investor: GenePlanet d.o.o., 2019, Ljubljana

Architects: Kragelj arhitekti d.o.o.

Contractors: Decor & Design d.o.o.

Award: BIG SEE Interior Design Award 2021 for the sustainable workplace of the future

The **GenePlanet** offices are conceived with a clear sustainability vision, combining environmentally responsible materials, wellbeing features and spatial dynamics that encourage creativity and collaboration. They reflect the company's boldness. The interior design promotes movement and informal encounters with a variety of work settings – from open collaboration areas to quiet zones for focused work. Daylight, high-quality ventilation and acoustic comfort further contribute to employee health and productivity. Smart technologies for managing lighting, ventilation and energy use optimise the environmental footprint while enabling adjustment to individual needs.



FROM ARCHITECTURAL HERITAGE TO A CONTEMPORARY WORKPLACE

Investor: Bera 9 d.o.o., PM, poslovni mediji d.o.o., 2018, Ljubljana

Architects: ARP studio d.o.o.

Contractors: Reflex d.o.o. (windows, doors), Klimko d.o.o. (installations)

Award: BIG SEE Design Award 2019

The **Edvard** offices are located on the ground floor of a heritage building that is part of the iconic Ferantov vrt in Ljubljana, designed in the 1970s to the plans of architect Edvard Ravnikar. The intervention revealed the building's structural and spatial logic and established a gallery-like space that balances openness with the option of retreat. By removing non-loadbearing elements and deploying modern technology, a flexible space for business meetings, exhibitions and other events has been created. The project is based on principles of reuse, resource efficiency and enhanced quality of the indoors, demonstrating that even smaller sustainable interventions can significantly improve the user experience and reduce the environmental footprint.



Over a trillion euros flows through European construction sites each year; it wouldn't be surprising if digital technologies could save several tens of billions. BIM is not just about design, it provides data for the better management of buildings and other infrastructure.

Ksenija Marc

Director of the Professional Services
Division at DRI upravljanje investicij, d.o.o.,
Vice-President of SIBIM and Slovenia's
representative in the EU BIM Task Group



We spend most of our time indoors and on average, more than a third of the day at work, which means commercial buildings have a significant impact on our health, well-being and performance. Data from the Healthy Buildings Barometer 2024 show the importance of a healthy work environment, contributing up to EUR 40 million in added value to the EU economy each year. Appropriate lighting, contact with nature and thermal comfort directly influence our concentration, productivity and long-term health. At VELUX Slovenia, we believe that sustainable, healthy buildings should be the norm, as this means creating spaces where people can work, grow and feel good.

Mario Bojić

Managing Director, VELUX Slovenia and Croatia



DEMONSTRATION BUILDINGS

In recent years, several demonstration buildings have been constructed in Slovenia, purpose-built as model sustainable buildings to showcase advanced practices, materials and technologies in construction.

Demonstration buildings such as **Aktivna hiša** Lumar in Dragomelj, **Dom24h** – Marles smart house in Maribor, **KI Experience Center** Knauf Insulation in Škofja Loka and **Mednarodni center za trajnostno gradnjo** (MCTG) GIC Gradnje in Rogaška Slatina, play a key role in the transition to sustainable commercial buildings.

They serve as living laboratories where solutions for energy efficiency, the use of natural and durable materials, digital building management and circular thinking in construction are tested and demonstrated in practice.

These assets provide investors, designers, contractors and the public with insight into practical approaches that combine comfort, low operating costs and a reduced environmental footprint, thus setting new standards for a sustainable commercial environment.



GREEN SOLUTIONS

Members of the **CER Sustainable Business Network Slovenia** offer a broad portfolio of services, products and solutions that support a comprehensive approach to sustainable construction. Together, they help transform commercial buildings into architecturally well-designed, energy-efficient, resilient and user-friendly spaces that support the companies' competitiveness. Their expertise covers all key phases of the construction process:



Planning (sustainable building and site design)



Materials selection (low-carbon materials, recycled and sustainable sources)



Resource management (efficient management of energy, water and waste, and implementation of renewables)



Circular principles (reuse of materials, reduction of construction waste)



Indoor environmental quality (healthy indoor climate, user-friendly spatial design)



Smart building management (advanced technology systems, sensors and digital twins, performance optimisation)



Nature-based solutions and green infrastructure (green roofs and façades, enhancing biodiversity in the surroundings)



Sustainability certifications and regulatory compliance (LEED, BREEAM, DGNB)

Assess the sustainability of your commercial buildings

Steer the development of your facilities towards sustainability using the clear steps and core areas shown in the table on the next page. These steps lead to a more efficient, healthier and more competitive workplace.

The list of core areas for sustainable buildings serves as an assessment tool and a starting point for the strategic development of sustainable management of commercial buildings. It enables companies to systematically assess the current state of their real estate assets or the properties they operate in, align it with business, environmental and social objectives and, on that basis, set sustainability priorities.

The list supports target-setting, action and investment planning, strengthens cross-functional collaboration and provides a basis for structured dialogue with internal and external stakeholders. It helps justify decisions and drives a goal-oriented sustainability transition of the real estate portfolio.

HOW TO FILL IN THE TABLE

For each claim, mark:



YES

if the claim is fully implemented in your company,



PARTLY

if measures are only partly in place or are being phased in,



NO

if the area has not yet been addressed or is irrelevant.

In the “**COMMENT / NEXT STEP**” field, enter:

- notes (e.g. which building already meets the criteria),
- proposed next steps (e.g. carrying out an energy audit),
- the person responsible or a timeframe for improvement.

WHAT THE RESULTS MEAN

- A high share of “**YES**” answers indicates that the company is already **mature in terms of sustainable building management**.
- Answers “**PARTLY**” reveal areas where **further development or additional activities are needed**.
- A higher number of “**NO**” answers indicates risks and **potential opportunities for improvement**, where you can direct resources, expertise or partnerships.

NEXT STEPS

Analyse the results

Add up the number of YES, PARTIAL, NO answers. Identify 3–5 priority areas.

Assign responsible persons

Define who in the company will lead the next steps in each area.

Set targets and measures

Based on the comments, develop concrete action plans (e.g. renovation, establishing Green Lease agreements, certification).

Track progress

Use this checklist every 12–24 months as a tool for tracking progress and reporting.

CLAIM	YES	PARTLY	NO	COMMENT / NEXT STEP
1. Sustainable commercial buildings as a key driver of business success				
We hold data on the impact of buildings on productivity and health, and the related costs due to absenteeism.				
We have clearly defined targets and indicators for building management, included in the company's strategic documents.				
Management is actively involved in decisions on sustainability measures in building planning, renovation and management.				
2. Buildings as a competitive advantage in the climate crisis				
We have set targets and selected measures across our buildings to reduce emissions and improve energy efficiency.				
We have implemented or plan measures to protect buildings from extreme weather (e.g. shading, green spaces, protection against water ingress).				
In our buildings, we plan and implement measures (shading, NbS) to adapt to extreme weather events (e.g. heatwaves, flooding).				
3. Impact of buildings on employee health, wellbeing and productivity				
We monitor air quality, lighting, temperature and noise, and track evidence of their effects on employee performance, wellbeing and health.				
We provide a variety of work settings according to tasks (open-plan areas, private corners, quiet rooms).				
We ensure spaces are accessible for people with disabilities.				
4. Tenant expectations and collaboration with landlords				
Lease agreements include sustainability provisions (energy efficiency, waste, ventilation).				
We regularly communicate information on the building's sustainability targets to tenants and invite them to participate in sustainability initiatives.				
We are familiar with the building's sustainability policy and align our operations with it.				
5. The added value of architecture and design				
The commercial building is sited with respect for the natural, cultural and public space and complements it.				
The commercial building is functional, visually appealing and economically viable over the long term.				
The building's architecture expresses the company values.				
6. Compliance with legislation and certifications				
We are familiar and comply with regulatory requirements and standards.				
Our buildings hold green building certifications (LEED, BREEAM, DGNB, Level(s), Slovenian sustainable construction indicators).				
We transparently disclose data on the performance and targets of our commercial buildings.				
7. Energy efficiency				
We have conducted an energy audit and monitor energy use.				
Using advanced and smart technologies and building management systems, we optimise building operations and improve energy efficiency.				
We are introducing renewables.				
8. Circularity and extended building service life				
In construction and renovation we choose low-impact materials and enable disassembly, reuse or recycling.				
Buildings and spaces allow functional adaptations (e.g. partition walls, modular furnishings) without major construction works.				
We prioritise renovation over new-build.				
9. Nature-based Solutions (NbS)				
We integrate nature-based solutions into buildings to mitigate overheating of the surroundings and improve building insulation (e.g. green roofs, natural ventilation, rainwater harvesting).				
Interiors include natural materials (wood, stone), plants, and visual connections to nature.				
Green areas around buildings enhance local biodiversity and provide recreational spaces for the community.				
10. Involvement of employees and external experts				
Building management involves regular collaboration between departments covering HR, communications, digitalisation and strategic development.				
We collaborate with external experts (architects, energy consultants, research institutions) and include sustainability measures in capital investment plans.				
We provide employee training on sustainable space use, energy efficiency and occupational health.				

Mini glossary

“Sustainable construction and renovation” are key to the sustainable development of society. This initially involves recognising a holistic view of the building which, in addition to environmental, financial and sociological aspects, also includes the full technical and functional perspective. In sustainable construction, buildings follow the principles of environmental stewardship, the circular economy and conservation of natural resources throughout planning, construction, operation and end-of-life, and their construction and use are cost-effective¹⁶.

“Sustainable building” is a building characterised by materials with low embedded carbon and energy, clean construction processes, the ability to recycle waste, efficient decommissioning or reuse of components, energy efficiency and cost-effectiveness. A sustainable building is also user-friendly, supports wellbeing, enables healthy living, remains functional over the long term and positively contributes to preserving social and cultural values¹⁶.

“Zero-emission building” is a building with very high energy efficiency that requires little or no energy, produces no on-site fossil fuel carbon emissions and generates no – or only minimal – operational greenhouse gas emissions¹⁷.

A **“nearly zero-energy building”** is a building with very high energy efficiency, at least equivalent to the nationally determined cost-optimal level. The nearly zero or very low amount of energy required is covered to a very significant extent by energy from renewable sources, including renewable energy produced on-site or nearby¹⁷.

“Deep renovation” is a renovation in line with the “energy efficiency first” principle, focusing on the essential elements of the building, which transforms a building or building unit before 1 January 2030, into a nearly zero-energy building, and, as of 1 January 2030, into a zero-emission building¹⁷.

“Energy performance of a building” means the calculated or measured amount of energy required to meet the energy needs associated with the standard use of the building, including energy for heating, cooling, ventilation, domestic hot water and lighting¹⁷.

“Energy audit” is a systematic procedure with the purpose of obtaining adequate knowledge of the energy consumption profile of a building or group of buildings, an industrial or commercial operation or installation or a private or public service, identifying and quantifying opportunities for cost-effective energy savings, identifying the potential for cost-effective use or production of renewable energy and reporting the findings¹⁷.

Useful links

- [World Green Building Council](#)
- [International Union of Architects](#)
- [EU Green Buildings](#)
- [European framework for sustainable buildings](#)
- [New European Bauhaus](#)
- [Circular Economy in Construction – EU Platform](#)
- [ZAG – EPD environmental product declarations database](#)
- [Sustainable construction indicators](#)
- [European Commission – Funding & Tenders Portal](#)
- [Eko sklad – Slovenian Environmental Public Fund](#)

Partners



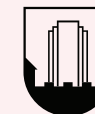
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CER Sustainable Business Network

CER is Slovenia's leading association for sustainable business, bringing together more than 100 companies and numerous experts from various sectors.

Since 2012, it has acted as an advocate of the sustainable economy, bringing together stakeholders and accelerating the sustainability transition. It is founded on expertise, collaboration, open dialogue and trust.

Through a range of activities, CER encourages companies to adopt sustainable business practices and supports their sustainability transformation. It develops own projects, participates in EU programmes and awareness campaigns and has received multiple awards.

It advocates for an ambitious and responsible approach to sustainable business and addressing the climate crisis. CER operates as an information hub, an advocate for business in strategic debates, and a coordinator within national and international networks. CER's activities are based on four pillars: sustainable business, cross-sector collaboration, innovation and stewardship.

By joining CER, companies gain access to a community that fosters a mindset shift and responsible, long-term oriented business based on collaboration, knowledge sharing and strategic partnering.

 www.cer-slo.si



Green Star



Green Star is a tool and certification developed by CER for a comprehensive assessment of companies' sustainability performance. It is based on the analysis of more than 150 indicators across environmental, social and governance (ESG) dimensions. It provides insight into a company's sustainability maturity, highlights strengths and opportunities for improvement and enables comparisons between companies. Based on the results, companies receive a report and recommendations for further action, while the certificate serves as evidence of commitment to sustainable development. It encourages companies to underpin their sustainability decisions with facts and data.

For Green Star, CER received the 2023 Energy Award from the Finance newspaper for the best promotional project and became the national winner of the European Commission's European Enterprise Promotion Award in the "Supporting the sustainable transition" category.

 www.green-star.si

Recommendations for companies to operate more sustainably



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How commercial buildings support corporate sustainability goals

RECOMMENDATIONS FOR COMPANIES TO OPERATE MORE SUSTAINABLY

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