ZUMTOBEL

LIGHTING IN GREEN BUILDING

GROWTH OPPORTUNITIES THROUGH ENVIRONMENTAL BUILDING CERTIFICATION

Active Energy Building, Vaduz | LI
Sustainable experimental building, the result of extensive research work with Zumtobel's SLOTLIGHT and ONDARIA product families

TURNING ENVIRONMENTAL CHALLENGES INTO GROWTH OPPORTUNITIES

With our state-of-the-art lighting solutions, suitable tools, comprehensive consultancy expertise and a tried-and-trusted process, we provide unbeatable support for our customers when it comes to Green Building certification and the EU taxonomy. As a full-service provider, we also offer solutions for sustainable lighting management, including commissioning and maintenance, as well as attractive financing offers.

Take advantage of our resources: make lighting the key to sustainable building, attractive cities and a better future.

37%

of global energy- and process-related **CO_2 EMISSIONS** are directly and indirectly caused by the building sector.

+5%

growth in global **EMISSIONS FROM BUILDINGS** has been recorded since 2020.

Source: UNEP Buildings-GSR 2022

BUILDINGS AND CLIMATE CHANGE

Whether they're under construction or already in use, buildings are one of the main drivers of climate change. According to estimates by the United Nations Environment Programme (UNEP), 40 per cent of energy demand in Europe comes from the construction and building sector. Globally, the industry is responsible for a third (34 %) of the world's energy demand and 37 per cent of energy- and process-related greenhouse gas emissions.

CLIMATE-NEUTRAL EUROPE

The European Union's goals for achieving a climate-neutral Europe by 2050 are in stark contrast to these consumption values. The EU Green Deal sets out a range of specific measures to put this strategy into action and to balance ecological and economic objectives. The EU member states want to support sustainable investment and refurbishment by providing subsidies into the billions, with the aim of turning environmental challenges into growth opportunities.

CERTIFICATION AND THE EU TAXONOMY

Voluntary building certification schemes such as BREEAM, LEED and DGNB are the first step in rating buildings as sustainable and future-proof. In addition, the EU taxonomy, a cornerstone of the EU Green Deal, is helping the transition towards sustainability in the building sector. The EU taxonomy came into force in January 2022 as a binding regulatory framework to act alongside voluntary certificates. It initially applies to companies listed on the stock market and will gradually be extended to other undertakings. The EU taxonomy provides investors with strict sustainability criteria for new building and renovation projects, ensuring transparency through disclosure obligations.

20 %

of all European **OFFICE BUILDINGS** have a Green Building certificate.

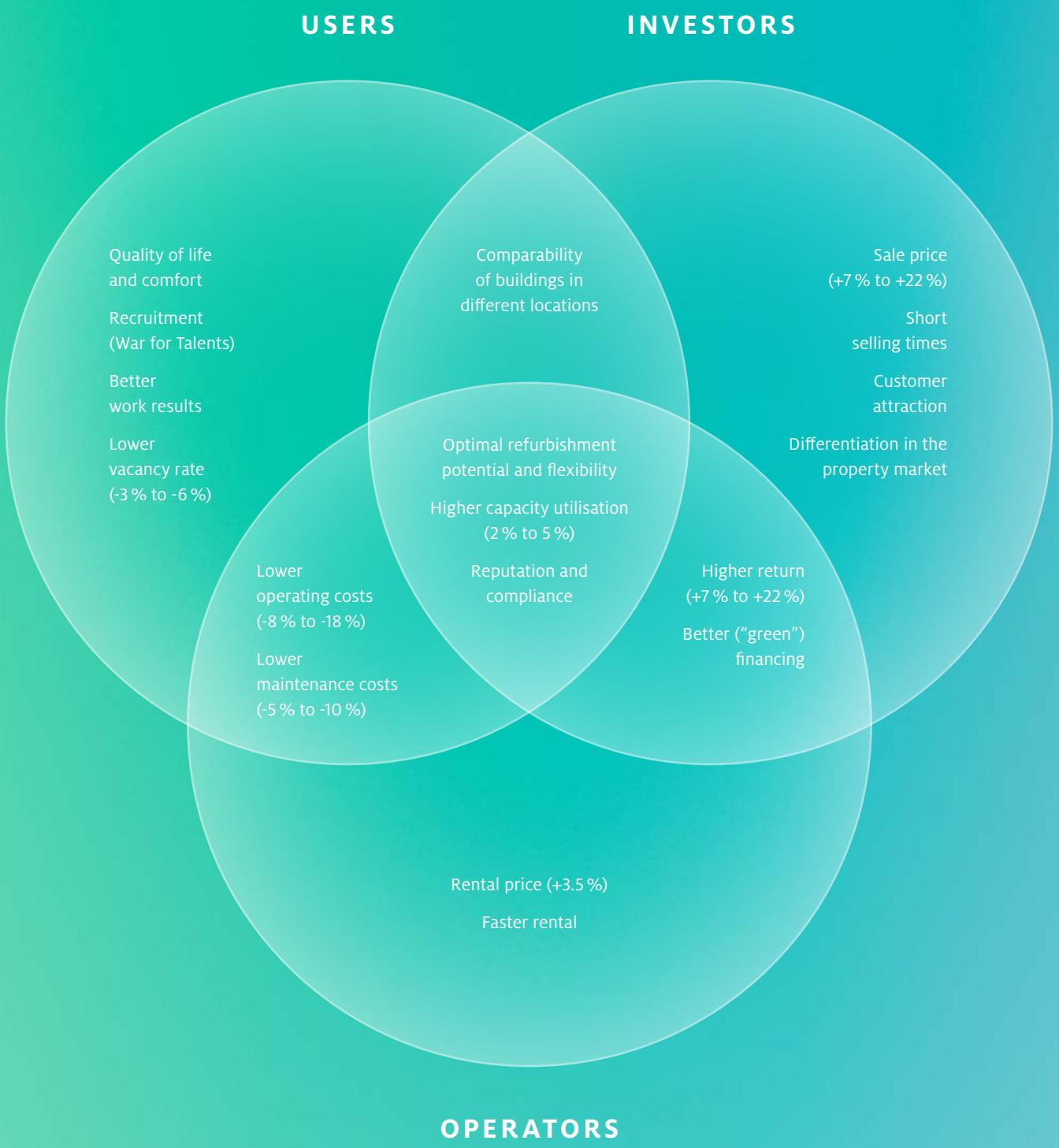
6 %

MORE CERTIFICATES than in 2019.

6–13 %

rise in **RENTAL INCOME**.

Source: office property markets in 18 European countries with 300 million square metres of floor space – 2022 report by global property service provider CBRE



Source: Encon

HOW USERS, OPERATORS AND INVESTORS PROFIT

Sustainable building is not an end in itself. Rather, it is an effective way to approach the ecological, economic and social challenges of our time. It can actively help secure the future of the planet and ensure a good quality of life for future generations.

SIMPLER FINANCING

Property management companies and owners that construct or refurbish buildings sustainably see tangible benefits: Green Building certificates help to access budgets and subsidies for building or refurbishment projects. This applies even more so now the binding EU taxonomy rules are in force, which require companies with reporting obligations to publish strict sustainability criteria. A certified green construction approach can lead to easier access to financing and subsidies.

TRANSPARENT SUSTAINABILITY

Companies with reporting obligations, which must publish their carbon emissions and power consumption, for example, cannot afford buildings with high running costs and a poor environmental performance. However, companies that do not have reporting obligations are also affected indirectly, as they work with larger companies and, as suppliers, are also required to publish their contribution to sustainable buildings. Transparently sustainable construction pays off on many different levels – with benefits for users, operators and investors.

MORE ATTRACTIVE GREEN BUILDINGS

Green Building certificates play an important role in public perception: it is more difficult to find investors and tenants for buildings that meet fewer sustainability criteria. Certified buildings achieve higher purchase prices and rents, and reach optimum capacity utilisation more quickly. Users benefit from comfortable buildings, an inviting working atmosphere and lower maintenance and operating costs.

A STARTING POINT FOR INNOVATIONS

Besides providing a Green Building rating, the certification process also reviews the status quo of a property and identifies potential for improvement. Certification organisations such as DGNB or the quality seals LEED and BREEAM take a structured and transparent approach to pinpoint practical, quantifiable measures across the entire life cycle of sustainable buildings. In doing so, they act as innovation drivers in the property industry.

BENEFITS FOR ALL STAKEHOLDERS

To ensure the right course is taken from the outset, it is important to bring Zumtobel on board as early as possible in the planning process – no matter whether the project involves a new build or refurbishment. A sustainable lighting and property concept will benefit stakeholders throughout the entire building life cycle.

EU TAXONOMY REPORTING

The EU Taxonomy Regulation stipulates binding rules for climate and environmentally friendly activity and investment. All sectors – including new property projects or refurbishments of existing buildings – must be measured against six overarching objectives. Green Building certificates are consistent with the EU taxonomy in many respects, which makes reporting easier. Certificates also often cover important elements for national funding programmes.

LIGHT'S CONTRIBUTION TO ENVIRONMENTAL PERFORMANCE

Together with other building services, lighting determines the market value of a property. Using specialist tools, Zumtobel provides key figures for environmental performance or building certification: these include Environmental Product Declarations (EPDs) or other sustainability figures such as LENI (Lighting Energy Numeric Indicator), GWP (Global Warming Potential) and CO_2 emissions.

"Sustainability strikes a balance between ecology, the economy and social objectives. Greenbuilding labels facilitate communication with stakeholders. They increase property value and help marketing and sales. Sustainable buildings reduce operating costs and make a positive contribution to HR management and well-being. Lighting solutions are a key driver in meeting the property market's ambitious sustainability goals."

Steve Van den Brandt, Encon
Business Unit Manager Green Building

Green Building means sustainable construction.
It encompasses all three pillars of sustainability.

Source: Leonie Barghorn on Utopia.de,
German online sustainability platform

GREEN BUILDING: GOOD FOR THE ENVIRONMENT, ECONOMY AND SOCIETY

Peace and prosperity for humans and the planet – the member states of the United Nations have settled for nothing less in their 2030 Agenda. Green Building is making an important contribution to this, supporting the UN **S**ustainable **D**evelopment **G**oals (SDGs). The goals relevant to the building industry and Zumtobel's contribution are:

	CONTRIBUTION THAT GREEN BUILDING CAN MAKE	CONTRIBUTION THAT ZUMTOBEL CAN MAKE
#3 Good health and well-being	Green Building contributes to the well-being and good health of occupants.	All-round lighting quality with Active Light: where natural light comes first. Visual, emotional and biological support from artificial light.
#7 Affordable and clean energy	Green Building uses renewable energy sources, making properties cheaper to run.	Zumtobel's range of efficient, high-quality luminaires, lighting controls for optimised operation, system maintenance services.
#8 Decent work and economic growth	The development of Green Building infrastructure creates jobs and boosts the economy.	Sustainable, fair production of our product range. The most important production sites are in Central Europe.
#9 Industry, innovation and infrastructure	Green Building design can inspire innovation and contribute to climate-resilient infrastructure.	The Zumtobel brand, with almost 5000 patents and technology partnerships, has been an innovation leader in the lighting industry for decades.
#11 Sustainable cities and communities	Green Building is the basis of sustainable communities.	Promotion of sustainable buildings and refurbishments (see case studies starting on page 20). Engagement in global application research, including in disadvantaged regions.
#12 Responsible consumption and production	Sustainable buildings are based on the principle of the circular economy and do not waste resources.	See **Zumtobel Group sustainability report**. Zumtobel products are manufactured using a high proportion of renewable energy.
#13 Climate action	Green Buildings produce fewer emissions, helping to combat climate change.	From energy efficiency as an established issue for LEDs to sustainable buildings – durability and timeless design are part of the Zumtobel brand statement.
#15 Life on land	Sustainable property improves biodiversity and helps to save water and protect forests.	When developing new technology, Zumtobel not only takes into account the quality of life of humans, but also that of plants and animals.
#17 Partnerships for the goals	By building green, we contribute to strong global partnerships.	Partnerships for sustainable innovations: Haufe Deckensysteme, EOOS etc.

DIFFERENT CERTIFICATES, ONE GOAL: SUSTAINABLE BUILDING

Certification organisations check whether a building can be considered "green" by using a specific list of criteria. They make sustainability measurable and make it easier for investors, operators and users to compare the quality of buildings. BREEAM and LEED are the best known international certification systems. There are also other country-specific organisations with varying international relevance.

International certificates

BREEAM

BREEAM was established in the UK in 1990, making it the oldest and most widely used certification system for sustainable construction. It stands for Building Research Establishment Environmental Assessment Method and assesses sustainability for both new buildings and refurbishments. Points are awarded in ten different categories. Depending on the total number of points scored, properties can qualify for a quality seal on a rating scale of six levels. The criteria take into account impacts on a global, regional and local level as well as in the indoor environment. Since an extensive update in 2008, BREEAM now examines the entire life cycle of a building. A detailed description can be found on page 30.

bregroup.com/products/breeam

LEED

LEED is the US and Canadian sustainability certificate and stands for Leadership in Energy and Environmental Design. Developed in 1998 on the basis of BREEAM, LEED takes into account all phases of a property's life cycle. Points are awarded in nine different categories and then added together to give a total score. Besides new and existing buildings, specialised properties can be certified too, such as schools, retail outlets or health and care facilities. LEED also evaluates the building envelope and core. A detailed description can be found on page 26.

www.usgbc.org/leed

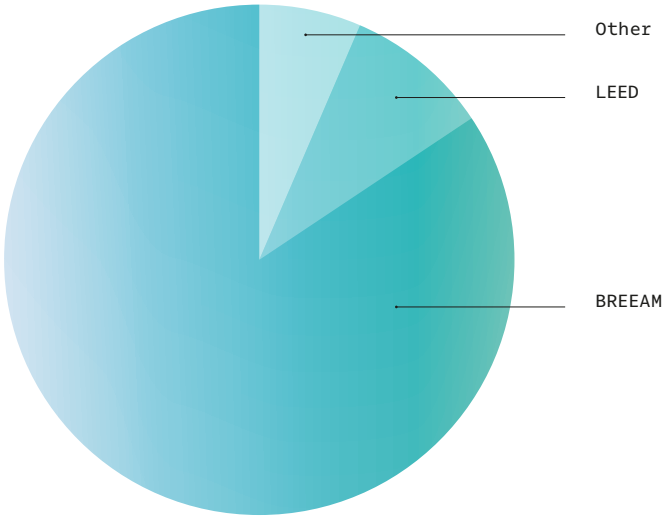
WELL

The International WELL Building Institute (IWBI) in the USA established WELL certification in 2014 with assistance from scientists, architects and medical professionals. WELL is the first system that assesses building quality from the perspective of occupant comfort, health and well-being. It evaluates room air and water quality, nourishment, visual and thermal comfort, fitness, room and building acoustics, healthy and sustainable building materials, satisfaction, community and innovation. Uniquely, the final documentation is based on measurements and lab analyses that are undertaken by project participants with independent experts.

www.wellcertified.com

Green Building certification systems, 2018 (ULI Greenprint members' properties)

Source: Savills Research using Greenprint, ULI



Examples of national certificates

The DGNB seal from the German Sustainable Building Council (Deutsche Gesellschaft für Nachhaltiges Bauen) is the market leader in Germany. It takes into consideration the country-specific standards and building culture on the basis of 37 criteria for new buildings. The comprehensive assessment covers ecology, economy, social factors, functional factors, technology, processes and location. It can be adjusted to meet regional requirements and is used in many different federal states. Awards range from platinum to bronze, with diamond being a special seal for outstanding design and building quality.

www.dgnb-system.de/en/

In Switzerland, the Minergie label established in 1998 focuses on low energy demand and a high proportion of renewable energy, while also taking value preservation and comfort into consideration.

www.minergie.ch

Since 2013, SNBS has been regarded as a holistic approach to sustainable building. SNBS defines four certification criteria each for the areas of society, economy and environment. These are evaluated on the basis of 45 indicators. The first SNBS-certified industrial building is the uptownBasel innovation campus with lighting by Zumtobel.

www.snbs-hochbau.ch

In Austria, the Österreichische Gesellschaft für Nachhaltige Immobilienwirtschaft (Austrian Sustainable Building Council) certifies buildings and neighbourhoods according to the German DGNB. As an assessment under civil law, the evaluation system is based on ecology, economy and socio-cultural and functional quality, as in Germany. Technical quality as well as process-related and location quality is also examined to give a comprehensive assessment. In addition to the certification in accordance with DGNB, the ÖGNI also offers verification of the EU taxonomy requirements. There is a pre-certification option that enables builders to incorporate ÖGNI criteria as early as the planning phase and then to comply with them on a binding basis, which helps to improve their public image.

www.ogni.at

CERTIFICATION SUPPORT FROM START TO FINISH

As a full-service provider, Zumtobel offers support in every phase of Green Building certification with its customised lighting, lighting management and services. We help customers to secure funding and offer attractive financing options (LaaS). Using suitable tools, we compare lighting solutions and gear lighting design towards users' needs.

LEASING	FLATRATE	PAY PER USE
System leasing	System leasing and service agreement at fixed rates	Modular service agreement customised to basic requirements with additional lighting usage as needed
For up to 8 years	For up to 8 years	For up to 10 years
Product guarantee	Product guarantee Maintenance service Illuminance check Power consumption check (optional)	Product guarantee Maintenance service Illuminance check Power consumption check

With Light as a Service (LaaS), Zumtobel offers an alternative to buying a lighting system. Instead of a one-off investment, refurbishment costs are paid monthly at light contracting rates and offset against the electricity costs saved. Green Building certificates recognise the regular maintenance and servicing of systems by experts.

STEPS IN THE CERTIFICATION PROCESS

CONSULTING

- Quick check (potential analysis)
- Advice on funding programmes
- Monitoring environmental conditions on the construction side

DESIGN AND TOOLS

- EPDs for the key product families
- Full lighting design goes beyond the norms
- Software tools for visualisation, calculation of the impact of daylight (DALEC), comparison of lighting solutions' efficiency and performance over their life time (ecoCALC)
- Close collaboration with experts for daylight calculations (e. g. Bartenbach)
- Provision of data for easy incorporation into life cycle analyses (LCA)

LIGHT FOR PEOPLE

- Energy efficiency (from the light source to optics and heat management to control)
- Application-oriented solutions and experts for all-round lighting quality
- Very long life time, high quality
- Future-proof solutions (connectivity, upgrades)
- External areas with lighting and controls to reduce light pollution (Thorn affiliate brand) for safe building access

CONTROL AND USAGE

- Simple control, high user acceptance
- Variable light scenes for different work tasks and room requirements (from wireless room control to DALI building lighting management system)
- From the project design to commissioning and use

COMMISSIONING

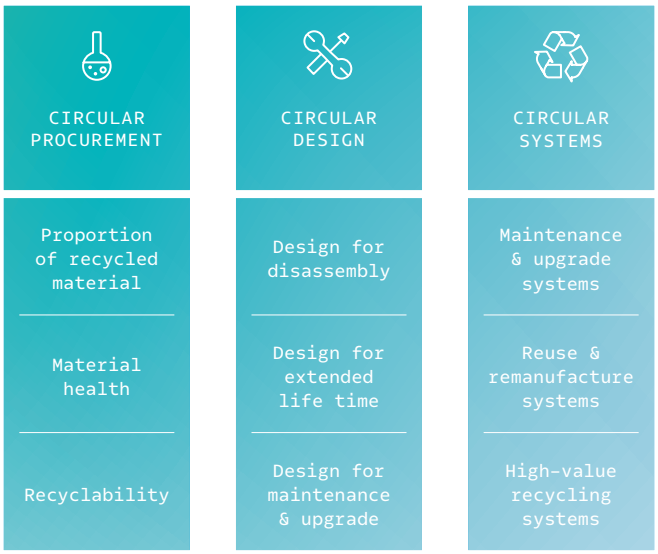
- Range of services for commissioning and turnkey handover
- Energy monitoring (consumption-based measurement of the lighting power consumption, divided into floors or zones)

AFTER SALES

- After sales services, e. g. maintenance contracts to regularly check and optimise the system
- Energy management (ISO 50001)

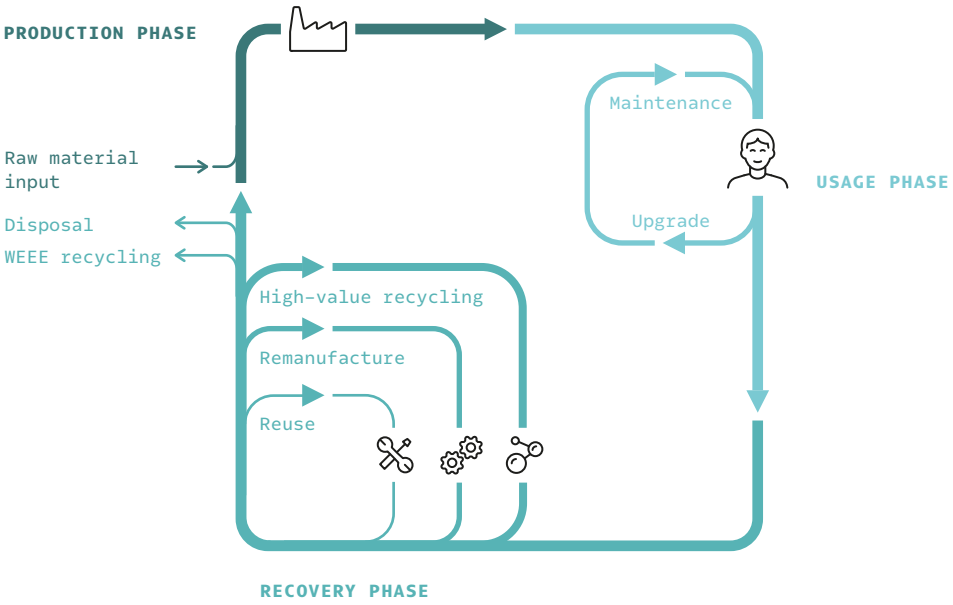
THE CIRCULAR ECONOMY IN PRODUCT DEVELOPMENT

The transition from a linear economy to a circular economy requires companies to fundamentally rethink their processes. New growth opportunities are developing from the focus on circular product cycles. Innovative products and services are emerging in the field of recycling and repair, reuse and remanufacture. The key to success is to integrate circular economy principles into product design and management processes right from the start.



CIRCULAR DESIGN RULES

As well as working on Cradle to Cradle® certification as a universal standard, Zumtobel has also established its own rules for circular design. With the assistance of consultancy EPEA Switzerland and design studio EOOS (founded by designer Harald Gründl), the Zumtobel Circular Design Rules (CDR) have been tailored to luminaire design and are continually developing. The Circular Design Rules have been applied to all new product developments by Zumtobel since May 2021. The internal rules are updated regularly and are based on three pillars: Circular procurement. Circular design. Circular systems.



THE CRADLE TO CRADLE® CONCEPT

Two key circular economy pioneers are Braungart and McDonough. The term literally means “from origin to origin”. Cradle to Cradle® is modelled on biological cycles which do not produce waste. It means products are incorporated into new biological or technical cycles at the end of a product life cycle. There are five different categories of criteria for achieving Cradle to Cradle® certification: material health, product circularity, clean air and climate protection, water and soil stewardship, and social fairness. Different certification levels can be achieved depending on a company’s performance.

CRADLE TO CRADLE® CERTIFICATION

The Product Innovation Institute offers product certification to the new, challenging Cradle to Cradle® standard 4.0. Zumtobel is striving to meet these requirements with selected new products. This will provide independent proof of our continuing commitment to sustainability. Our customers can then be sure that our products are future-proof and fully optimised for the circular economy. The Cradle to Cradle® certification process is also helping us internally to reflect on our endeavours and always strive to be better for humans and the environment.

RECOVERY OR REUSE

Zumtobel believes the circular economy concept can go even further: more and more offers for taking back or reusing products are being developed, such as with our partner Concular. Taken together, all of these measures are important extra factors in Green Building certification.

LIGHTING REFURBISHMENT: ACHIEVING SUSTAINABILITY GOALS WITH CONVERSION KITS

Sustainability starts right at the beginning of the construction stage of a building, for example when choosing a suitable plot of land or the right materials. In addition to the objectives of the Circular Economy for product circularity through refurbishment, there is also a focus on the energy consumption of existing buildings. One way of cutting electricity demand in buildings already in use is to switch to sustainable LED luminaires. Refurbishing lights can cut the power consumption of artificial light by up to 70 per cent.

POSITIVE CONTRIBUTION TO THE EU TAXONOMY

The reduction in electricity consumption has a positive impact on assessments for Green Building certification and also helps to meet EU taxonomy requirements. Since 1 January 2022, companies with reporting obligations, and in effect their suppliers too, must disclose the extent to which they are "taxonomy-eligible". Since 1 January 2023, they have also had to prove taxonomy alignment. This applies across all sectors – including for investments in refurbishment projects.

LIGHTING REFURBISHMENT FOR SUSTAINABILITY

The topic is becoming even more urgent given the ban on light bulbs coming into force in 2023 – switching to LEDs will be unavoidable, as it will be prohibited to continue producing many widely used lamp types, such as fluorescent lamps. For refurbishment projects, Zumtobel offers lean solutions that achieve maximum added value with minimum effort. Conversion kits, which are offered as a standard or special solution, mean many components in the lighting can be retained, helping to ensure the refurbishment protects resources and is sustainable. Standard conversion kits are available for Zumtobel's SLOTLIGHT, TECTON, PANOS, CLARIS evolution and ONDARIA luminaires.

MINIMUM INTERVENTION, MAXIMUM EFFECT

Instead of replacing the entire luminaire, the conversion kits mean that only parts need to be renewed or replaced. This is in line with the circular economy concept and offers a range of advantages: the lighting quality is better, plus existing resources remain in use for the long term. That not only means lower CO_2 emissions – costs are reduced too because there's no need to invest in an entire new luminaire. Customers are also spared extensive refurbishment measures on the building because in many cases the ceiling does not have to be changed or damaged. The product stays on site and moves into a second phase of use. And that benefits investors, building management companies and – not least – the people in the building.

TECTON
TECTON offers tool-free conversion of fluorescent lamps to diverse LED solutions for new room and work requirements. In combination with safety luminaires, control components and sensors.

SLOTLIGHT
For the simple changeover from a conventional T16 to an efficient and continuous LED solution, only LED battens and electrical cables need to be replaced before being securely closed with a new cover.

PANOS
Retrofit rings in various diameters enable old PANOS solutions to be quickly adapted to LED technology – without further measures on the ceiling.

ONDARIA
The resource-saving refurbishment of an ONDARIA T16 luminaire is carried out using a new LED device holder, which allows the existing housing to be retained.

CLARIS evolution
The pendant luminaires can be easily replaced using the refurbishment kit. All mounting points and suspensions of the previous T16 model can still be used thanks to an adapter plate.

Refurbishment Guides
connect.zumtobel.com/lighting-refurbishment-through-refurbishment-kits

basicDIM Wireless
Luminaire and app. No extra cables. No additional control components. The basicDIM Wireless lighting controls for individual rooms adapt effortlessly – whether in a new building or an existing space, for additional luminaires or a lighting conversion. Even sensors and wall switches can easily be integrated wirelessly. basicDIM Wireless can also be combined with LITECOM by means of a DALI gateway, so that emergency luminaires can also be monitored wirelessly, for example.

zumtobel.com/basicdim

uptownBasel AG, Arlesheim | CH

CAMPUS FOR INNOVATORS: BUILT FOR GENERATIONS

Floor-to-ceiling glass fronts. Green interior spaces. An environment befitting agile work. uptownBasel is pioneering – in more ways than one. In the past, electric motors and locomotives were assembled on the historic Schorenareal site. Today, the innovation campus in Arlesheim not only offers attractive workspaces for knowledge transfer and Industry 4.0, it is also Switzerland's first industrial project to receive the coveted Standard Nachhaltiges Bauen Schweiz (SNBS) sustainability certification.

SNBS HOCHBAU

Project report and interview:
z.lighting/en/zumtobel/inspiration/uptownBasel-AG-Arlesheim/

GREEN BUILDING PAR EXCELLENCE

A place where space is used flexibly with an eye on the future. Buildings that can be disassembled easily to support the circular economy. A 20 000-square-metre photovoltaic system plus heating that doesn't rely on gas. Old, regional timber. And last but not least: a Zumtobel continuous-row lighting system that allows flexible, future-proof room usage. Not to mention state-of-the-art lighting controls for on-demand, energy-efficient lighting. These are just a few of the many different aspects that make the 70 000-square-metre uptownBasel a Swiss flagship project for Green Building. To date, SNBS certification has only been given to residential and office buildings.

FUTURE-PROOF AND FLEXIBLE

"The builders for uptownBasel are a Basel family that do not build for their own benefit, but for their children and children's children," explains Hans-Jörg Fankhauser, the site developer for uptownBasel. "Sustainability was a focus right from the first moment." Zumtobel not only supplied the entire lighting solution for the futuristic site, it was also responsible for lighting design. With its incredible flexibility, readiness for future needs and compatibility with all types of luminaires and sensors, the TECTON continuous-row lighting system was the perfect fit for the dynamic, forward-thinking workplace.

LIGHT FOR PEOPLE AND THE ENVIRONMENT

While workshops and production halls are fitted with functional, robust TECTON continuous-row luminaires, TECTON MIREL office lighting prevents disruptive glare on screens. The lighting controls give staff the perfect amount of light at any time of day, ensuring focussed work, creative exchanges and restorative breaks. "The settings work so well that users can't tell the difference between artificial light and daylight. The feedback has been extremely positive," concludes Philipp Bienz from electrical installation company Etavis Kriegel + Schaffner AG.

Volksbank Freiburg, Freiburg im Breisgau | DE

NEW BANK BUILDING AT THE INTERSECTION BETWEEN CULTURE AND NATURE

Sustainable building also means reusing existing resources and making smart use of existing buildings. That's exactly why the new Volksbank Freiburg building was awarded a gold certificate by the German Sustainable Building Council (DGNB). Almost all of the existing materials were recycled when the old building was demolished. It was a smart move that minimised the ecological footprint of the new site.

Find out more:
z.lighting/en/zumtobel/inspiration/volksbank-freiburg-en/

"It's a great example of how valuable resources can be fed back into the circular economy using intelligent design."

Matthias Menke
Atelier of Light, Zumtobel Group

ICONIC AND FUNCTIONAL

Over the course of three years, a new structure was developed in Freiburg with a total floor space of 43000 square metres, creating a striking focal point in the urban landscape. It was the work of renowned architect Hadi Teherani. The building was fitted with a distinctive slat façade and striking Zumtobel ELOQUIA and AMBITUS luminaires. The pioneering new bank building stands at the intersection between nature and culture, between the Black Forest national park region and the tradition-rich University of Freiburg (Albert-Ludwigs-Universität). It combines an iconic shape with optimum functionality and unequivocal sustainability.

DGNB AND THE CIRCULAR ECONOMY

No fewer than 37 sustainability criteria were included in DGNB's certification process for the gold award. Factors taken into consideration included ecology, economy, socio-cultural and functional quality as well as technology, process quality and location. One of the most important elements was the reuse of the old bank building's façade panels from 1974: they were disassembled by hand, and the demolition waste was painstakingly separated out. It was crushed and is now being used as a base material in road construction.

LIGHT AND WELL-BEING

Zumtobel's lighting, which is geared towards users' needs, also plays a part in the sustainability standards of the modern office building: "The natural lighting effect emanating from this luminaire leads to a positive sense of spatiality," said the jury of the Red Dot Design Awards 2021 in its statement about Zumtobel's award-winning pendant luminaire, AMBITUS. The narrow light ring designed by Yorgo Lykouria combines diffused indirect light with precise, workplace-friendly direct light and variable light colours with tunableWhite. The ELOQUIA free-standing luminaire – which was developed in a three-way partnership between Zumtobel, a·g Licht and Hadi Teherani Design – also harmoniously facilitates the work of the building's users.

SERVICES AND TOOLS FOR SUSTAINABLE LIGHT

Key data on the entire life cycle of a lighting solution is just a few clicks away: our services and digital tools provide a solid foundation for our customers' lighting design. What's more, the results can also be used as a basis for environmental building certification.

DAYLIGHT PLANNING

The first choice for sustainability and well-being

The best energy is energy that isn't consumed in the first place. That's why daylight is the starting point for truly sustainable artificial lighting design for buildings: together with our partners, we analyse how light and heat enter a building. We then design the artificial lighting so that it only has to be switched on when needed, for example during the evening and at night and in the dark months of the year. Focussing on daylight not only saves electricity, it also boosts the well-being of the building's occupants.

EPD

Measurable, plannable environmental impacts

Zumtobel has been making Environmental Product Declarations (EPDs) available to its market partners for more than 10 years now and was one of the first luminaire manufacturers to do so. Thanks to this long-standing experience, Zumtobel can create EPDs cost-effectively and at short notice using an automated process that is currently unique. An Environmental Product Declaration outlines the environmental impact of a product during its entire life cycle as part of the ecological building assessment in accordance with DIN EN 15978 ("Sustainability of construction works"). It covers materials, manufacturing, transportation, (re-)use and waste disposal. In-depth data compliant with ISO 14025 and EN 15804 serves as the basis for Green Building certification, sustainability programmes and other specifications.

Example of an EPD

2226 Lustenau with lighting from Zumtobel.
A manifesto for sustainable construction.
Architecture: be baumschlager eberle

ECOCALC

Calculating cost-effectiveness

ecoCALC is Zumtobel's software for analysing the costs of a lighting solution across its entire life time. To do this, ecoCALC not only calculates the one-off investment costs, but also takes into account CO_2 emissions, power consumption, maintenance costs and waste disposal. The program integrates the relevant EPDs and calculates the LENI value. The Lighting Energy Numeric Indicator is an important guide value for lighting efficiency in the energy assessment – it must be calculated for sustainability certification. A simplified, browser-based solution is available in the form of ecoCALC light.

ecocalclight.zumtobel.com

DALEC

Determining energy saving potential

DALEC stands for Day- and Artificial Light with Energy Calculation. The online software enables the energy saving potential in rooms with daylight and artificial lighting systems to be determined in the early stages of a project. To do so, DALEC calculates the monthly or annual energy demand for artificial light, heating and cooling in different room situations. Building envelope, glazing, light distribution – users can adjust different settings and gain a quick evaluation of the lighting situation, room temperature or glare control.

dalec.zumtobel.com

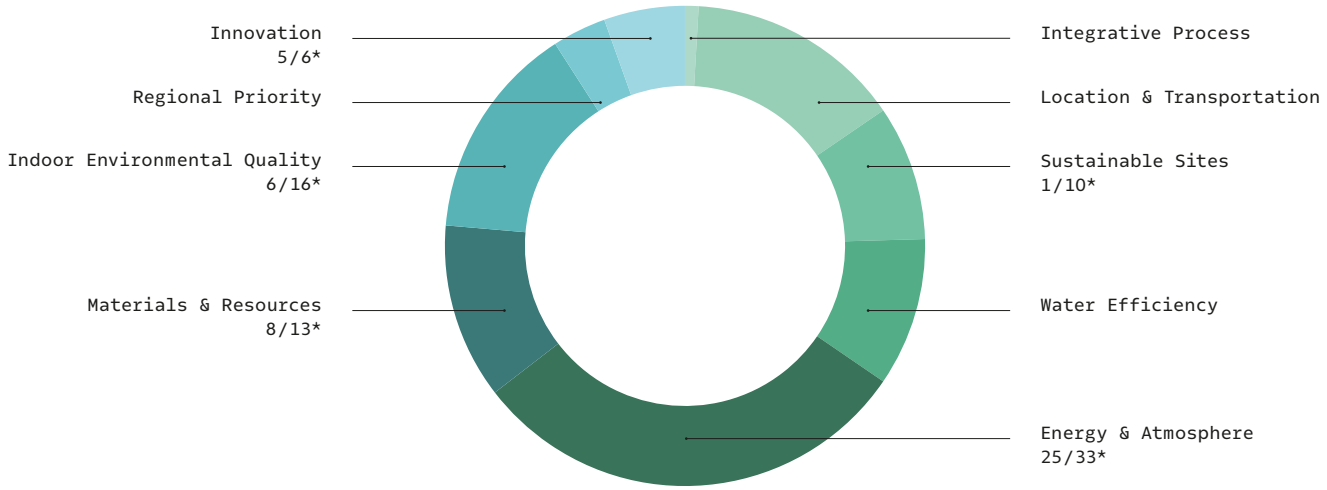
BESTFIT

Planning customised lighting

Our lighting design tool bestFIT helps our customers create a high-quality and standard-compliant lighting solution easily and in near real time. Whether it's luminaire models, room dimensions or the desired illuminance, users can simply enter the information they have into the bestFIT screen. In just a few clicks, they can then view the most suitable number of luminaires for their application as well as the optimal arrangement. In addition, users can see a calculation of energy costs by selecting the relevant service life. A fact-based comparison with other luminaires/systems is also available.

bestfit.zumtobel.com

LEED CERTIFICATION



*Number of points that can be achieved with Zumtobel out of the total number of points available

SUSTAINABLE SITES (SS) — UP TO 1/10 POINTS

Light pollution prevention. The photometry of luminaires and the establishment of light zones in line with international requirements should prevent light from shining into the night sky (IES and IDA).
This is essential to protect people, plants and animals.

REQUIREMENTS

SS: LIGHT POLLUTION REDUCTION

Achieved when light pollution is avoided providing the following requirements are met:

- Limitation of upwards light distribution and light trespass using the BUG method (option 1) or calculation method (option 2).
- Reference to calculation methods, requirement for lighting zones and luminaire classification to limit light as defined in the MLO (Model Lighting Ordinance) and by the Illuminating Engineering Society and International Dark Sky Association (IES/IDA).

CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE

1/10 POINTS

- Zumtobel Group's external lighting (Thorn brand) with optimised light distribution that prevents light from shining into the upper half of the room.
- Lighting controls to control night-time illumination – amount of light and time, controlled amount of light exposure through external lighting and disturbances through light trespass from indoors.
- Zumtobel Group's expertise and engagement with associations for external lighting (e.g. International Dark Sky Association).

ENERGY AND ATMOSPHERE (EA) — UP TO 25/33 POINTS

Monitored, verified and optimised use of energy through defined processes for commissioning and monitoring the systems in the building. Documentation and energy measurements to reduce CO_2.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
EA: ENHANCED COMMISSIONING	**3–4 / 6 POINTS**
Prerequisites are stipulated. In addition, enhanced requirements with credits are specified for the following: • Optimised commissioning requires records and officially monitored or accredited commissioning processes with defined measurement points. • Operating and maintenance schedule and system documentation for all building services that are relevant for efficient operation. • Reference to ASHRAE guidelines.	• Zumtobel Services for commissioning, including documentation. • Zumtobel Services offers enhanced project documentation and, where required, on-site training for facility managers and users.
EA: OPTIMISE ENERGY PERFORMANCE	**1–20 / 20 POINTS**
• To minimise power consumption, simulations are required and targets must be set for the building's total energy efficiency. A target should be set that refers to specific measurements, e. g. kWh/m²/year, CO_2 emissions in kg, energy costs in currency/m²/year. • Documentation of efficiency measures during the planning process. Comparison with published data of similar buildings. For lighting optimisation, there must be a complete plan for at least 20 % of the building's floor space in order to be eligible. Credits are given for evidence of improvements compared with the ASHRAE/ASHRAE/IESNA standard 90.1-2016. • Three levels of electricity saving are defined for internal and external lighting. • Daylight controls are recommended in rooms that are used regularly and are taken into consideration on two levels in the evaluation system.	• Simulation of power consumption and all required figures in our comprehensive ecoCALC cost calculation software based on a plan of the connected load per room, room type and control information. Analysis and documentation for luminaires and controls. • Integration of daylight linking and presence detection into the simulation software. Other options for energy savings through lighting management can be submitted for review with arguments for energy savings.
EA: ADVANCED ENERGY METERING	**1 / 1 POINT**
• One credit is awarded in the Advanced Energy Metering category for the continuous use of energy measurement devices for ongoing operations. • The power consumption must be recorded at one-month intervals. This obligation applies for five years or until the building has a change of owner or tenant.	• Documentation and review of project requirements. • Installation and documentation of the lighting system in collaboration with a Zumtobel project manager. • Maintenance contracts to ensure reliable, efficient operation. • Zumtobel Services' power consumption metering service for in-use lighting (energy monitoring).

MATERIALS AND RESOURCES (MR)

UP TO 8/13 POINTS

Implementation of the circular economy by reducing material consumption. Ecologically, economically and socially beneficial impacts on life cycles with minimal demolition waste through recovery. Material requirements concerning health, social standards, flexibility and the adaptability of the building. Encouragement of material reuse and recycling. Disclosure and optimisation of building products, including with EPDs.

Prerequisites for waste planning, mercury reduction and life cycle analyses to provide evidence of reduced environmental impact, and enhanced requirements with credits.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
MR: BUILDING PRODUCT DISCLOSURE AND OPTIMISATION – ENVIRONMENTAL PRODUCT DECLARATIONS • For products from multiple manufacturers with EPDs.	**1/2 POINTS** • EPDs have been provided for more than 10 years. Transparent data for life cycle assessments.
MR: BUILDING PRODUCT DISCLOSURE AND OPTIMISATION – SOURCING OF RAW MATERIALS • With responsible production and procurement processes.	**1–2 / 2 POINTS** • Production and procurement processes with sustainable standards primarily in Central Europe. • Zumtobel Group awarded EcoVadis gold medal (environment, labour rights and human rights, sustainable procurement, ethics).
MR: BUILDING PRODUCT DISCLOSURE AND OPTIMISATION – MATERIAL INGREDIENTS • For the disclosure of material components or ingredients.	**1/2 POINTS** • EPD • Zumtobel Circular Design Rules (CDR)
MR: PBT SOURCE REDUCTION – MERCURY • For the use of lamps with a reduced mercury content.	**1/1 POINT** • Switch to LED solutions with reduced, recyclable and healthy use of materials in refurbishments (no mercury).
MR: DESIGN FOR FLEXIBILITY • For the selection of future-proof products that are highly flexible and adaptable.	**1/1 POINT** • Zumtobel pursues the goals of the circular economy and Circular Design Rules (CDR) when developing new products. • Flexible, future-proof, modular lighting solutions (TECTON/SLOTLIGHT/PANOS history, conversion kits for refurbishments, lighting management).
MR: CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT • For the reduction of construction and demolition waste.	**1–2 / 2 POINTS** • Partnerships (e.g. with Concular) for sustainable innovations and implementation of the circular economy (Cradle-to-Cradle). • Recovery systems and material reuse and recycling are used increasingly in our product and service range.

INDOOR ENVIRONMENTAL QUALITY (EQ) — UP TO 6/16 POINTS

Encouragement of well-being, comfort, productivity and communication. Holistic approach to the quality of indoor spaces, taking into consideration ventilation, acoustics and the use of artificial and natural light as a link to the outdoors and to stabilise building users' body clocks.

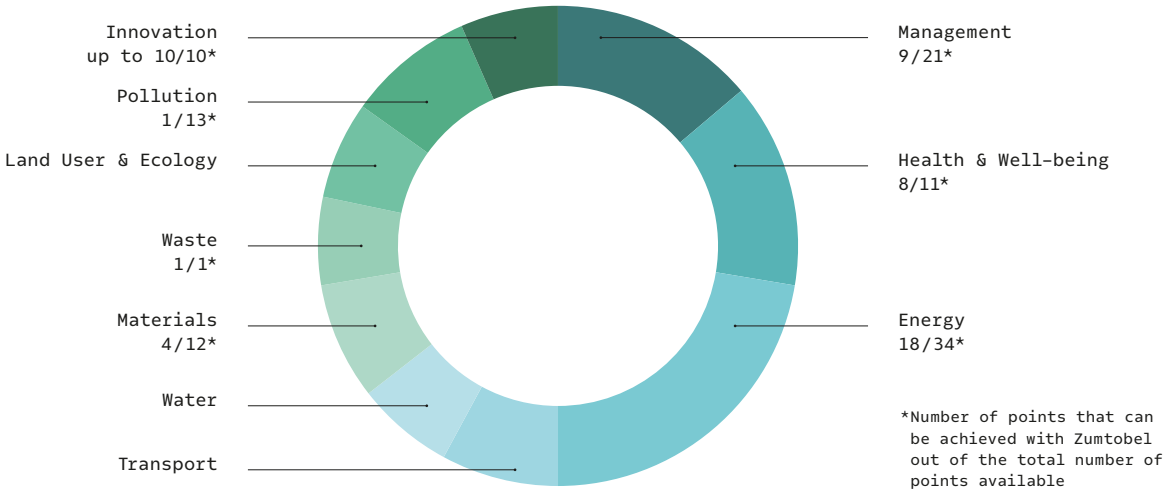
Prerequisites are met by monitoring natural and mechanical ventilation systems and through a minimum number of acoustic measures in classrooms.
The enhanced requirements that are awarded credits relate to:

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
EQ: INTERIOR LIGHTING	**2/2 POINTS**
• Artificial light increases the quality of indoor spaces using lighting controls (1 credit), which should be taken into consideration in at least 90 % of rooms. At least three lighting scenes should be implemented taking individual controls into consideration (ON/OFF, mid level). • Another credit can be achieved if four out of eight possible strategies for artificial light quality are implemented. The strategies specify, for example, photometric quality criteria such as glare prevention (2500 cd/m² between 45 and 90 degrees from nadir), a colour rendering index greater than 80 and LED technology with an L70 life time. A maximum of 25 % of the electricity for lighting should be consumed by direct-only overhead luminaires. 90 % of the space must have the following reflectance factors: 85 % for ceilings, 60 % for walls and 25 % for floors. Furniture finishes, walls and ceilings should meet basic requirements for reflectance factors and uniformity.	• Lighting design in accordance with the current state of the art (e. g. EN 12464-1) as evidence for meeting the targets. • In-depth, compliant artificial lighting design with additional services for simulating and monitoring artificial light quality. • Wide product range that meets the credit requirements for artificial light. • More than 30 years' experience of lighting management. Definition of scenes. Lighting control services.
EQ: DAYLIGHT	**1–3 / 3 POINTS**
• Glare-control devices are recommended for the impact of daylight on the quality of indoor spaces. • Two options that offer up to 3 credits each are specified for daylight simulation. Option 1 requires simulation to demonstrate the amount of daylight used in the interior space and the effect of sunlight in accordance with international standards. Option 2 specifies simulation using illuminance levels throughout the course of the day in particular sky conditions and at fixed times of the day. • Credits are also awarded for daylight measurements in rooms that are used regularly.	• Blind control system and daylight monitoring • Daylight simulation to prove compliance with IEQ credit 8.1 is a special service offered by Zumtobel. • DALEC simulation software for energy-based evaluation of heating, cooling and lighting demand. Fusion of daylight and artificial lighting design.
EQ: ACOUSTIC PERFORMANCE	**1/2 POINTS**
• One credit is awarded to encourage acoustic measures for work spaces and classrooms.	• Fusion of acoustic and lighting solutions (e. g. CIELUMA).

INNOVATION (IN) EXTRA — UP TO 5/6 POINTS

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
These credits aim to encourage major sustainable building projects that go beyond the standard categories. An exceptional, innovative service must be demonstrated – one that is significant, measurable and not yet covered by the LEED evaluation system for Green Building. The LEED pilot credit library can also be used as another option. This method enables innovation credits to be gained in projects for requirements that are not yet part of the full evaluation process. With the third option, additional, eligible LEED credits are given if the building reaches the next-level threshold values.	• Examples for lighting: An innovative luminaire offers an exceptional, brand-new concept for material usage and recyclability, which is significantly better than the market standard and can be proven through numerical values (e. g. via EPDs). • Example for IoT: A significant, measurable improvement in environmental performance is achieved through digital services. This includes the integration of sensors into the existing lighting infrastructure.

BREEAM CERTIFICATION



MANAGEMENT (MAN)

UP TO 9/21 POINTS

Ecological and economical factors should be balanced through management processes and services. The costs for the entire life cycle and maintenance/services must be planned and evaluated – from the concept design phase, with an analysis of the life cycle costs, to funding for sustainable building operations, to the commissioning process and after sales service one year after handover.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
MAN2: LIFE CYCLE COST AND SERVICE LIFE PLANNING	**3/4 POINTS**
• Provision of an elemental plan showing all life cycle costs (LCC) in the concept design phase. • A credit is awarded based on the LCC analysis at component level, which focusses on the building system as well as specifications to minimise life cycle costs.	• ecoCALC cost efficiency calculation with a detailed cost analysis for the building's life cycle (LCC).
MAN3: RESPONSIBLE CONSTRUCTION PRACTICES	**1/6 POINTS**
• Responsible practices on construction sites are proven through compliance with ISO14001. A credit can be gained if the main contractor has an environmental management system.	• Zumtobel tools, product information and know-how as a basis for detailed LCC. • Zumtobel Group's environmental management system in accordance with ISO14001 is available.
MAN4: COMMISSIONING AND HANDOVER	**3/4 POINTS**
Credits can be earned for a well-planned handover and commissioning process. The process should include: • A schedule with responsibilities (1 credit). • Commissioning of building services with a commissioning manager (1 credit). • Handover (1 credit) with a building user guide for the building users, training, information about the after sales process, direct introduction to the systems and presentation of the maintenance requirements.	• Range of services for commissioning luminaires and controls.
MAN5: AFTERCARE	**2/3 POINTS**
• Aftercare for the project with additional commissioning during the first year after handover to ensure reliable operation and optimal adaptation of the building.	• After sales services

HEALTH AND WELL-BEING (HEA) — UP TO 8/11 POINTS

Holistic approach to room quality, with requirements for visual comfort, indoor air quality and acoustics.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
HEA1: VISUAL COMFORT	**3/4 POINTS**
• A credit is awarded for daylight in the visual comfort category for meeting quality requirements involving national best practices and an assessment with daylight simulation. • Glare control (1 credit) is a priority for both daylight and artificial light, including shading and control options. For artificial lighting design, the usual national design parameters such as illuminance, uniformity and UGR values under EN 12464 must be taken into consideration. • One credit is also given for zoning and individual lighting control.	• Lighting design in accordance with national standards and best practice. EN 12464 for illuminance. • Zoning and controls. • Daylight assessments by Zumtobel or external partners. • Glare control is the top priority in product design and optics. Blind controls.
HEA2: INDOOR AIR QUALITY	**4/5 POINTS**
• Air quality (HEA2) also requires national best-practice standards for ventilation (1 credit), • Avoidance of emissions from construction products (2 credits) and • Measurement of indoor air quality after the construction stage (1 credit).	• Digital services: integration of CO_2 sensors into the lighting infrastructure (ambient sensing). • Air quality monitoring. • Healthy use of materials in Zumtobel's product range with no harmful vapours. • Verified material quality and certification.
HEA5: ACOUSTIC PERFORMANCE	**1/2 POINTS**
• The acoustic requirements (HEA 5) concern sound insulation and adequate reverberation times	• Acoustic solutions are integrated into lighting (e.g. CIELUMA, TRAMAO).

ENERGY (ENE) — UP TO 18/34 POINTS

Reduction of power consumption and CO_2 emissions indoors and outdoors. Energy monitoring.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
ENE1: REDUCTION OF ENERGY USE AND CARBON EMISSIONS	**15/15 POINTS**
• Reduced power consumption and decarbonisation must be proved by an accredited specialist using approved calculation software (country-specific, DesignBuilder, TRNSYS, EPB software 3G). • Simulation of energy saving in the building under assessment by making a comparison with a fictitious equivalent that complies with local regulations or the ASHRAE standard (6 credits/10 credits for excellent rating).	• Calculation of light and cost efficiency by specialists in accordance with standards. • Advice on efficient lighting solutions with a lighting management system and influencing factors such as daylight or presence.
ENE2: ENERGY MONITORING	**2/2 POINTS**
• Sub-meters are used to monitor energy consumption if an energy source accounts for more than 10 % of the annual consumption (1 credit). • Another credit is awarded for sub-metering on different floors.	• Zumtobel Services: energy monitoring and maintenance services.
ENE3: EXTERNAL LIGHTING	**1/1 POINT**
• One credit is given for external lighting with a luminous efficacy higher than 60 lm/W and controls.	• Efficient external lighting from the Zumtobel Group (Thorn brand) in conjunction with external-lighting management.

MATERIALS (MAT) — UP TO 4/12 POINTS

Encouragement of robust life cycle assessment tools and specification of materials with a low environmental impact over the entire life cycle of the building. Use of building products that come from sustainable sources.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
MAT1: LIFE CYCLE IMPACTS	**2/6 POINTS**
• Documentation of the environmental impact of all building elements over the entire life cycle. The building structure, services and exterior design are taken into consideration. One credit is given for BREEAM-compliant life cycle analyses (LCA). Another credit can be achieved if there is also an EPB certificate. The special MAT1 calculator, which is to be used for the analysis, is particularly valued.	• Simulation of power consumption and costs in the ecoCALC cost efficiency calculation software (includes integrated EPD). • EPDs have been provided for more than 10 years. Transparent data for life cycle assessments (LCA).
MAT3: RESPONSIBLE SOURCING OF CONSTRUCTION PRODUCTS	**2/4 POINTS**
• A credit can be achieved by having a sustainable sourcing plan in the sustainable procurement category. Another credit is given for having detailed documentation on policies and processes that ensure sustainably sourced building materials are used. • An environmental management system (EMS) in accordance with ISO 14001 and use of the BREEAM MAT3 calculator (as an assessment tool) are also required.	• Zumtobel Group's ISO 14001-compliant environmental management system is available. • Proof of sustainable supply chain and procurement processes.

WASTE (WST) — UP TO 1/1 POINT

Encouragement of material recycling and reuse in line with circular economy principles. Minimisation of material consumption. Optimisation of maintenance and adaptation work to meet changing functional requirements.

REQUIREMENTS	CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE
WST6: FUNCTIONAL ADAPTABILITY	**1/1 POINT**
• Adaptability and future-proofing of the products and building. • One credit is given for functional adaptability and ease of product disassembly. • Implementation of an adaptable building with integration of products that can be disassembled.	• Flexible solutions (e. g. TECTON continuous-row lighting system as a modular, adaptable system for luminaires and controls). • Simple disassembly, replacement and repositioning of light inserts in many different product families. • Light zoning through controls and modularity. • Conversion kits for refurbishments. • Product development in accordance with Circular Design Rules (e. g. VIVO II).

POLLUTION (POL) — UP TO 1/13 POINTS

Light pollution prevention. External lighting should be concentrated in appropriate areas and directed to the lower half of the room to minimise power consumption, nuisance to the surrounding environment and night sky glow.

REQUIREMENTS

POL4: REDUCTION OF NIGHT TIME LIGHT POLLUTION

- To reduce night time light pollution, all external lighting (except safety lighting) should switch off automatically between 11 pm and 7 am.
- Safety lighting must comply with CIE 150-2003 and CIE 126-1997.
- The maximum luminance must be specified in the user guide (1 credit).

CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE

1/1 POINT

- Zumtobel Group external lighting (Thorn brand) with optimised light distribution that prevents light from shining into the upper half of the room.
- Lighting controls to control the timing of night-time illumination – amount of light and time, controlled amount of light exposure through external lighting and controlled light trespass from indoors.

INNOVATIONS (INN) — UP TO 10/10 POINTS

Encouragement of robust life cycle assessment tools and specification of materials with a low environmental impact over the full life cycle of the building. Use of building products that come from sustainable sources.

REQUIREMENTS

The Innovation category recognises exemplary services and innovations in the building that are not covered by the other credit criteria or go beyond the standard issues. This includes innovative products and methods in conjunction with an approval process. This encourages innovations aiming to improve sustainability and efficiency and reduce costs, facilitating their market launch. The innovation may concern aftercare services, adaptability to climate change, the quality of indoor spaces, circularity or material health.

CONTRIBUTIONS THAT ZUMTOBEL CAN MAKE

An example for lighting: Linking multiple building services beyond pure lighting through innovative digital services can make a new, significant contribution to improving sustainability and process efficiency.

GREEN PROPERTIES AND SUSTAINABLE CONSTRUCTION. THE KEY TERMS.

CIRCULAR DESIGN RULES, CDRS

CDRs are an innovation tool and a fundamental part of product development. They cover three factors:
#1 Circular sourcing encourages the use of recycled materials and limits the use of substances that are incompatible with the concept of the circular economy.
#2 Circular design ensures products have a long life time and are easy to repair.
#3 Circular systems, such as upgrade & maintenance, reuse & remanufacture and high-quality recycling are being explored to find new business models. The CDRs are applied in all new product development at Zumtobel, helping us to reach our goal of making products that are compatible with the circular economy.

CIRCULAR ECONOMY

The circular economy helps to prevent waste, reduce demand for new materials and cut emissions from raw materials by 50 %. The circular economy is opening up new business opportunities based on upgrade & maintenance, reuse & remanufacture as well as high-value recycling. The Zumtobel Group is contributing to this by evaluating the circular potential of existing solutions. As a brand, we are committed to developing products that are compatible with the circular economy. That's why we have incorporated Circular Design Rules (see CDRs) into our development process.

CRADLE TO CRADLE®, C2C

Cradle to Cradle® means the opposite of cradle to grave. The international Cradle to Cradle® Products Innovation Institute based in San Francisco certifies products to establish the circular economy and help protect the planet and its inhabitants. The C2C approach is to design products in such a way that they can be reused in a new cycle (see "Circular economy" and "Circular Design Rules"). The concept is based on nature, which does not produce anything that has to be thrown away.
In the certification process, ecological factors such as choice of materials, use of renewable energy and water usage are evaluated. Social aspects are also considered. In the lighting industry, the choice of materials poses a particular challenge because electronic components are generally made from non-biodegradable materials.

ECOVADIS

EcoVadis is one of the biggest providers of sustainability and corporate social responsibility ratings in the corporate sector. It evaluates factors such as environmental protection, labour rights and human rights, ethics and sustainable procurement. All issues are taken into consideration in the rating depending on the size of the company, sector and location. The company being evaluated then receives a scorecard showing the number of points awarded (0–100) or a medal (bronze, silver or gold), which is easy to understand for laypersons.

ENVIRONMENTAL PRODUCT DECLARATIONS, EPDS

Environmental Product Declarations (EPDs) describe the environmental impact of products across their entire life cycle. This includes the materials, manufacture, transportation and use until the end of the product's life time. EPDs are verified by third parties and can be provided for products made in-house. They are used in specifications, Green Building certification and customer sustainability programmes. Zumtobel has already been providing EPDs transparently for more than 10 years and was one of the first luminaire manufacturers to do so. Thanks to this long-standing experience, the documents are produced cost-effectively and at short notice using an automated process.

ESG

ESG stands for the three key words "environmental", "social" and "(corporate) governance". These three key criteria assess whether a corporate investment and a company's actions are truly sustainable. ESG criteria are playing an increasingly important role in investment decisions alongside financial criteria.
"Environmental" means: what is a company's environmental performance like? Does the business save energy? Does it reduce pollutants in product cycles and production?
"Social" poses questions concerning socially responsible working conditions and dealing with employees, customers and suppliers in general.
"Governance" considers how transparently and independently a company is led – from executive pay to reporting for shareholders. The United Nations' Six Principles for Responsible Investment (PRI) are a starting point for ESG criteria.

EU TAXONOMY

The term "EU taxonomy" refers to Regulation (EU) 2020/852. The EU Regulation sets out requirements for sustainable investment on the one hand. On the other hand, it governs how and to what extent financial market players must disclose information on the sustainability of their investment decisions. The aim of the EU taxonomy is to encourage private investment in activities and undertakings that contribute to the EU climate goals (see "Green Deal"). The EU Taxonomy Regulation stipulates binding rules for climate and environmentally friendly activity and investment. All sectors – including new property projects or refurbishments of existing buildings – must be measured against the EU taxonomy's six overarching climate and environmental protection objectives in the future. Compared with voluntary building certificates, in some areas the EU taxonomy stipulates stricter requirements for the sustainability of properties.

HEALTH AND WELL-BEING

Zumtobel wants to help create positive environments where light assists people with visual tasks. Lighting solutions designed in accordance with applicable standards create built environments that are geared towards people's needs. Light that boosts human health and well-being does not need to come at the cost of high power consumption. Our lighting solutions save energy and make a positive contribution to health and well-being.

GREEN BUILDING CERTIFICATION

There are several different Green Building certification systems. The two best known schemes are BREEAM and LEED. Green Building certificates enable companies to increase the value of their investments, reduce operating costs and prove their sustainability performance. With Zumtobel products, services and data (e. g. EPDs), we help our customers to achieve Green Building certification.

GREEN DEAL

The EU Green Deal is an EU programme that aims to turn climate and environmental challenges into growth opportunities. The EU taxonomy sets out criteria for economic activities that can count as a contribution to the EU climate goals. The programmes have provided billions of euros of funding to EU member states for sustainable investments and refurbishments. The EU "Recovery and Resilience Facility" is part of the EU Green Deal. Every country has a different investment focus, for example education in Italy and health in France. The UK is preparing its own programmes. Zumtobel takes appropriate, country-specific measures to identify and make use of financing opportunities for its customers.

LIGHT BULB DISCONTINUATION/BAN

From 1 September 2023 linear T8 fluorescent lamps (approx. 26 mm in diameter) and most types of halogen lamps that are currently still permitted will no longer be put into circulation. Thin T5 lamps (approx. 16 mm in diameter) that are used in many different light systems will also be discontinued in 2023. That does not mean that companies will have to replace luminaires with fluorescent lamps that are already used and installed. The keyword here is "phase-out"; existing stocks can still be used up. The ban offers operators of outdated systems the opportunity to improve light quality for people's living and work spaces. Switching to LEDs will also increase energy efficiency, improving sustainability.

LIGHT AS A SERVICE (LAAS)

Light as a Service is a Zumtobel offering for property owners, managers and developers who would like to switch to LEDs for sustainability and/or cost reasons but are put off by the incalculable investment required. Instead of a one-off investment, the lighting is paid for using monthly light contracting rates – LaaS is a one-stop-shop service package. LaaS starts with designing a modern, efficient lighting system based on LEDs, and also includes removal and recycling of existing lighting by experts, plus turnkey delivery and installation of the new lighting. Under a Light as a Service contract, Zumtobel undertakes all of the activities associated with lighting – based on the customer's individual situation and requirements, a tailor-made turnkey project is implemented as a modernisation solution.

REFURBISHMENT

The construction industry is seeing a move away from new building towards refurbishment. The trend is accelerating due to high energy prices and the funding available for refurbishment under the EU Green Deal. The ban on light bulbs in 2023 will make this an even bigger focus – switching to LEDs will be unavoidable, as it will no longer be permitted to produce many widely used lamp types, including fluorescent lamps. With conversion kits, which are available as a standard or special solution, Zumtobel offers a way of retaining many components in the lighting and the existing ceiling construction, helping to ensure the refurbishment or modernisation protects resources and is sustainable. The outcome is that customers benefit from better light quality and significant energy savings. Standard conversion kits are available for Zumtobel's SLOTLIGHT, TECTON, PANOS, CLARIS evolution and ONDARIA luminaires.

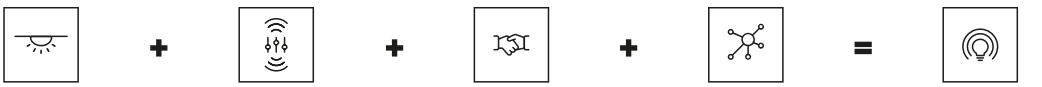
SERVICES

Companies are increasingly looking for partners that cover the full range of services, including advice, project engineering and after sales support, all from one provider. Zumtobel offers turnkey services and customised project setup and management, from planning, to life cycle management, to financing (see "Light as a Service, LaaS"). Numerous new digital services are emerging based on lighting infrastructure, in combination with sensors: from air quality monitoring to location-based services. Zumtobel also assists customers with Green Building certification as well as with energy audits that open up access to public funding.

UN SDGS

The United Nations' 17 Sustainable Development Goals (UN SDGs) published in 2015 are a "blueprint to achieve a better and more sustainable future for all". The specific ways in which the Zumtobel Group contributes to these goals are described in our sustainability report. These ambitions are underpinned by our membership in the UN Global Compact. Zumtobel Lighting is making a significant contribution thanks to its innovative products. Customers that are working towards the SDGs compare their goals with those of Zumtobel to find strategic overlaps and shared values.

T H E L I G H T



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