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Sustainability and energy

Save energy, save the planet

The world is heating up

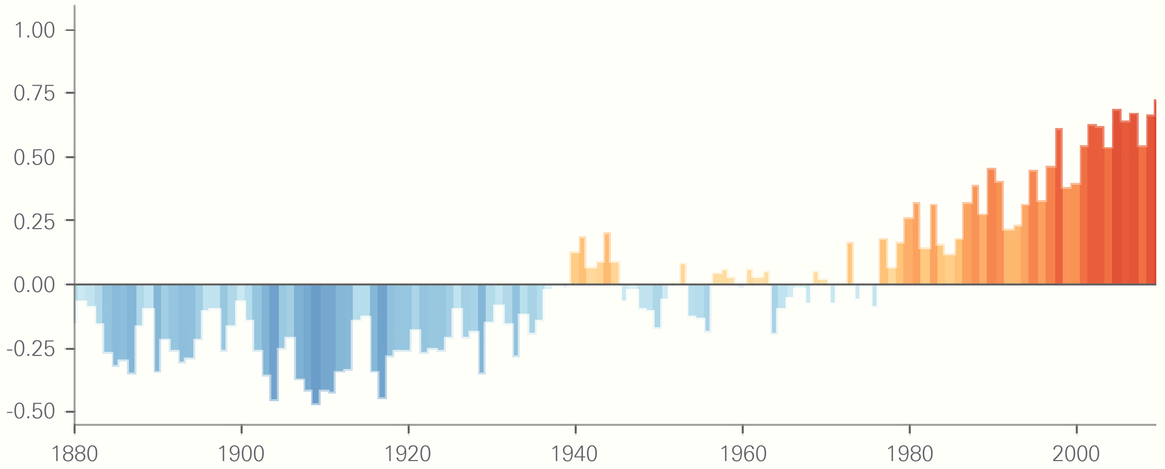
The average global temperature on Earth has increased by at least 1.1° celsius since 1880.

Human activities, particularly emissions of heat-trapping greenhouse gases, are primarily responsible for warming our planet.

Reaching 1,5° is key to preventing climate catastrophe. From heat waves and floods (at 2°) to most ecosystem collapse (at 4°) to make the largest part of our planet uninhabitable (at 5°).

2021 ties 2018 for Sixth Warmest Year on Record

Global Temperature Anomaly (°C compared to the 1951-1980 average)



Source: Nasa Earth Observatory, World of Change: Global Temperatures 2022; https://earthobservatory.nasa.gov/world-of-change/global-temperatures

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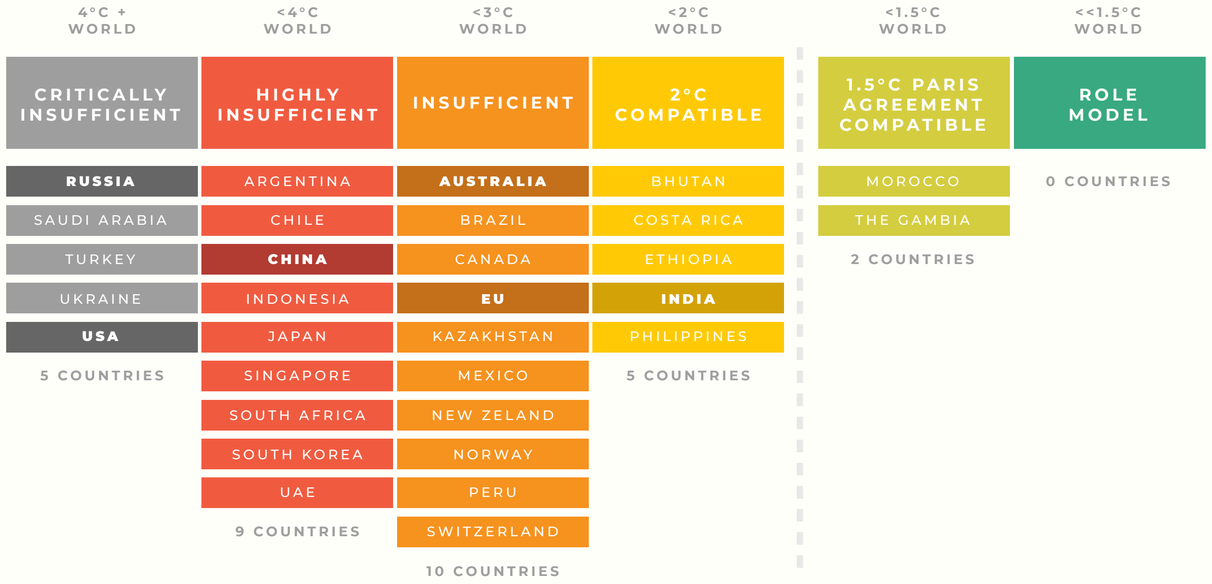
In order to reach 1,5° we have to act now.

A 50-65% reduction of CO_2 emissions by 2030 must happen to be on track to meet 1,5° and reach zero emissions by 2040. In this way, we will meet the remaining carbon budget of 340 GtCO2. Our annual global emission today is 40 GtCO2 per year, so timing is critical.



Source: Climate Action Tracker (June 2019 Update) https://climateactiontracker.org/publications/climate-crisis-demands-more-government-action-as-emissions-rise/

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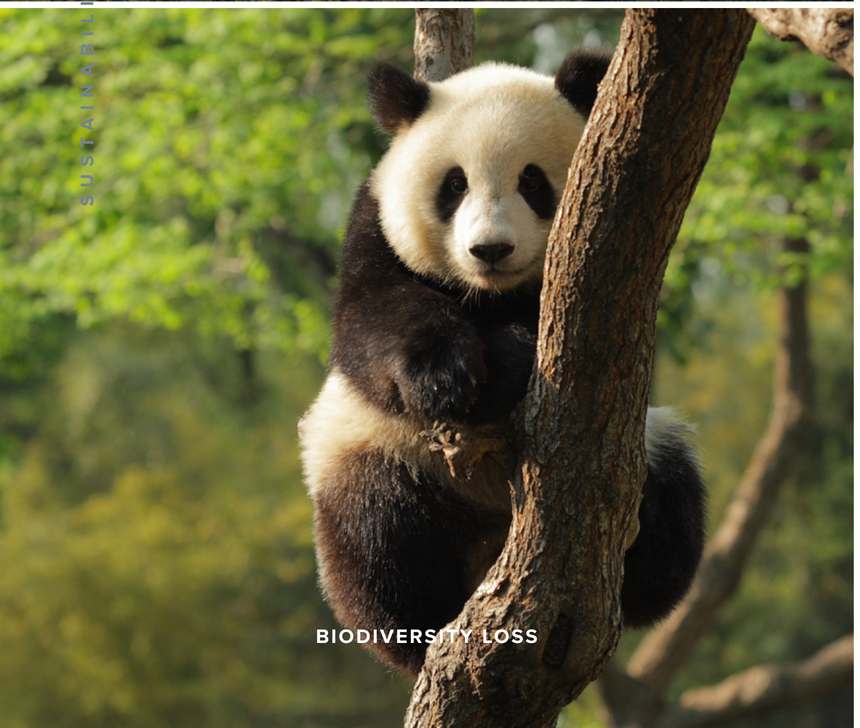
SUSTAINABILITY & ENERGY


SUSTAINABILITY & ENERGY
HOTTER TEMPERATURES


INCREASED DROUGHT


RISING OCEAN LEVELS


BIODIVERSITY LOSS

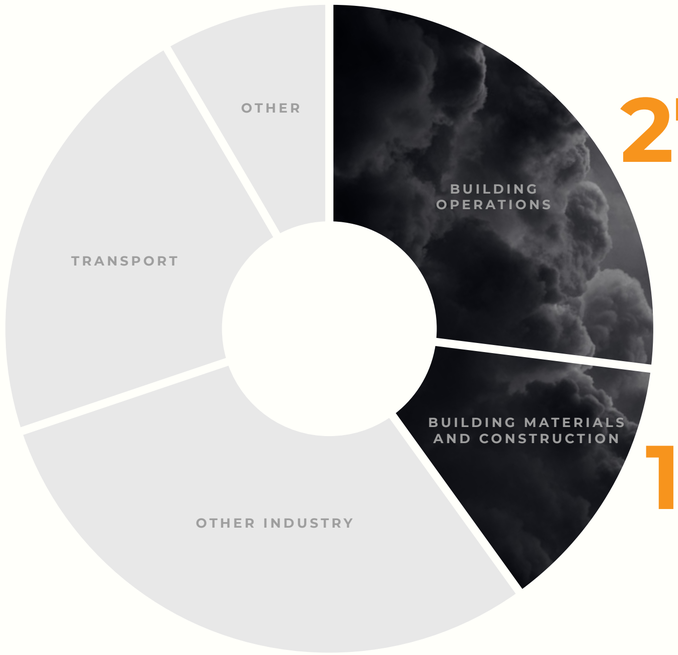

NOT ENOUGH FOOD


MORE HEALTH RISKS

The built environment is responsible for 40% of global CO2 emissions.

The building sector is a high energy-consuming and carbon-emitting sector.

The focus for reduction is mainly on **new buildings**, which have to be designed with zero carbon (operations) and finding alternatives to concrete and steel, representing 50% of the embodied carbon emissions of materials (industrial sector emissions). On the side of the **existing buildings**, the challenge is to make them zero carbon (operations) as well, starting with large buildings, which represent 5% of all buildings and are responsible for 50% of the building sector's emissions.



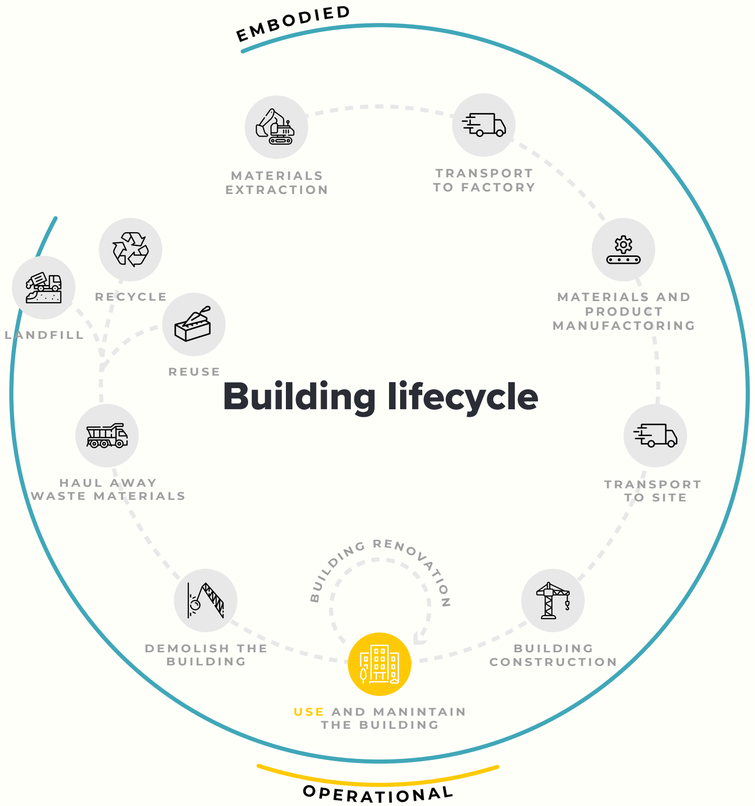
27% (9.9 GT)
THE IMPACT OF USING BUILDINGS

13% (4.7 GT)
THE IMPACT OF MAKING BUILDINGS

Source: Architecture 2030 (Data source: IEA 2022)

Becoming carbon neutral

Most carbon reduction efforts have focused on **operational efficiency**, but **building materials** account for half of a building's total lifetime carbon footprint, which can not be ignored. We need to **eliminate or offset the impact of both operating and embodied energy** to become carbon neutral.



NEW CONSTRUCTIONS*
(TOTAL CARBON EMISSIONS)

49%

51%

EMBODIED CARBON**
(MAKING BUILDINGS & END OF LIFE)

- MATERIALS EXTRACTION
- MATERIALS AND PRODUCT MANUFACTORING
- TRANSPORTATION
- BUILDING CONSTRUCTION
- DEMOLITION & WASTE PROCESSING

+

OPERATING CARBON
(USING BUILDINGS)

- LIGHTING
- VENTILATION SPACE HEATING COOLING
- WATER HEATING
- COOKING REFRIGERATION
- PROCESS LOADS PLUGLOADS

−

CARBON OFFSETS

- RENEWABLE ENERGY PRODUCTION
- CARBON SEQUESTRATION

= **TOTAL NET CARBON IMPACT**

** Source: Total Carbon Emissions of Global New Construction from 2020-2050, Architecture 2030. Data source: UN Environment Global Status Report 2017; EIA International Energy Outlook 2017*

***Source: THE GENSLER CITIES CLIMATE CHALLENGE (GC3) https://www.gensler.com/the-gensler-cities-climate-challenge?utm_source=dialogue-now-email_2022_dec01&utm_medium=email&utm_campaign=dialogue-now&utm_content=master-list*

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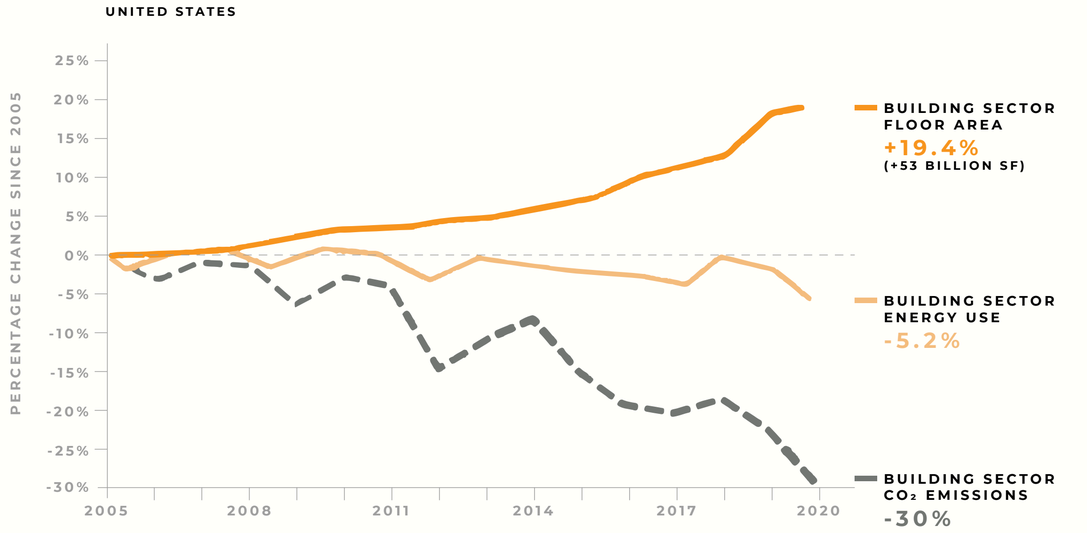
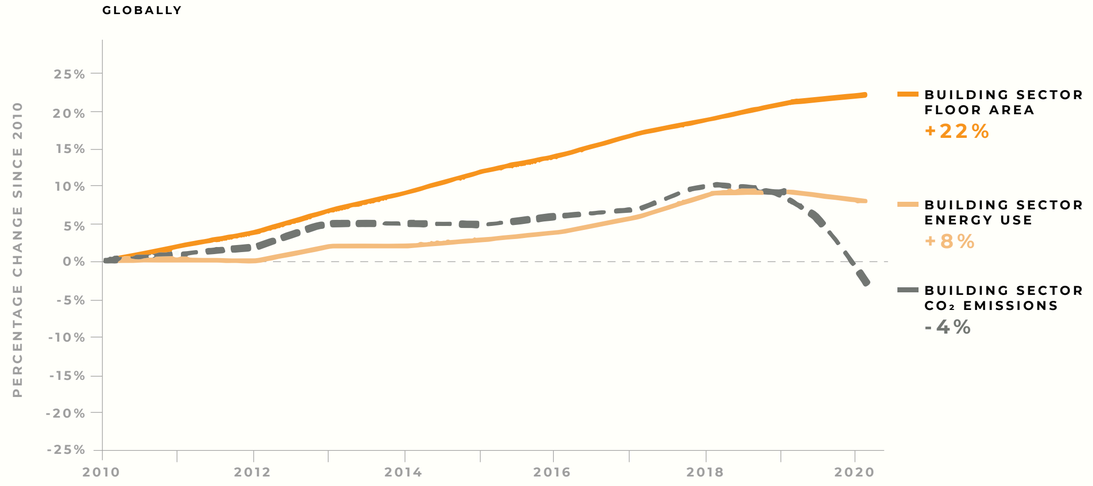
Decreasing operation emissions

The change is happening. Throughout the years, the floor area increased, but energy consumption decreased and didn't keep up with the floor area. New buildings and renovations were more efficient, using cleaner energy by switching to renewables. Building operation emissions dropped by **30% from 2005 levels in the US and 4% globally**.





Source: Architecture 2030, GABC 2021 Global status report for Buildings and Construction

Electricity from renewable sources

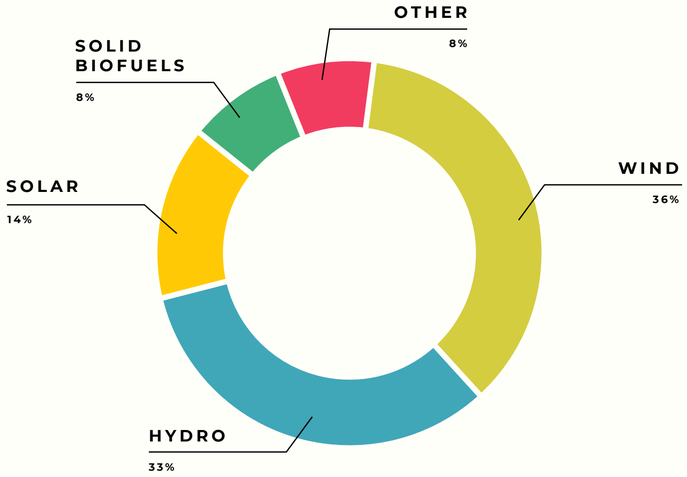
Renewable power demand is increasing and is responsible for the drop in emissions in the global building sector in the past years.

Solar is the cheapest electricity in history and the fastest-growing source, accounting for 14% of all renewables in 2020.

Source: Eurostat

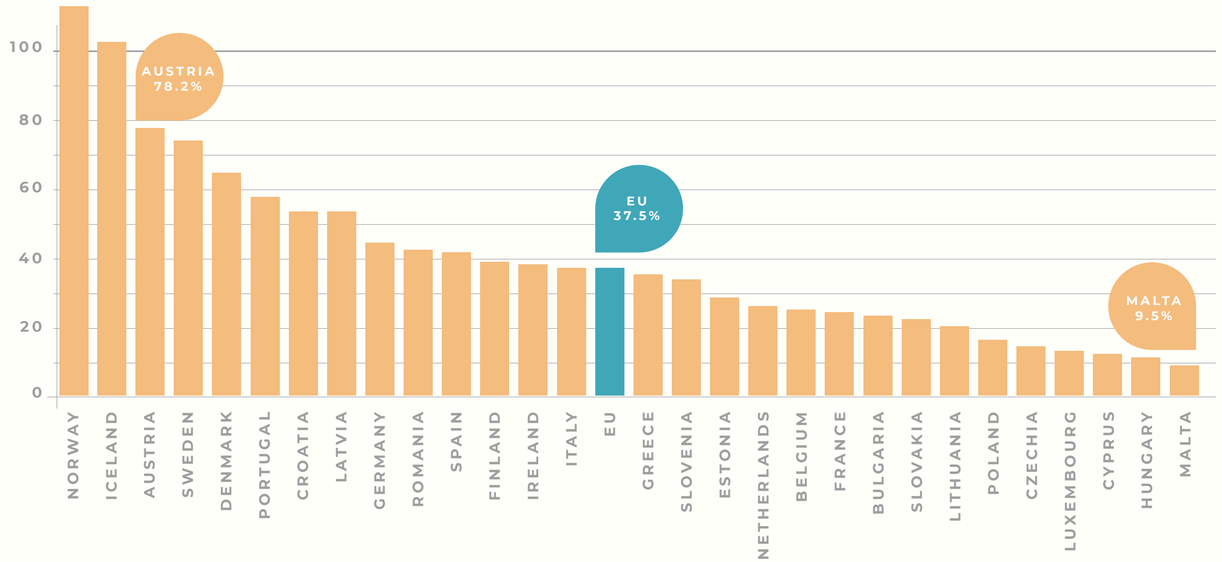
Renewable sources generating electricity in the EU

% of total, 2020



Electricity from renewable sources

% of total gross electricity consumption, 2020



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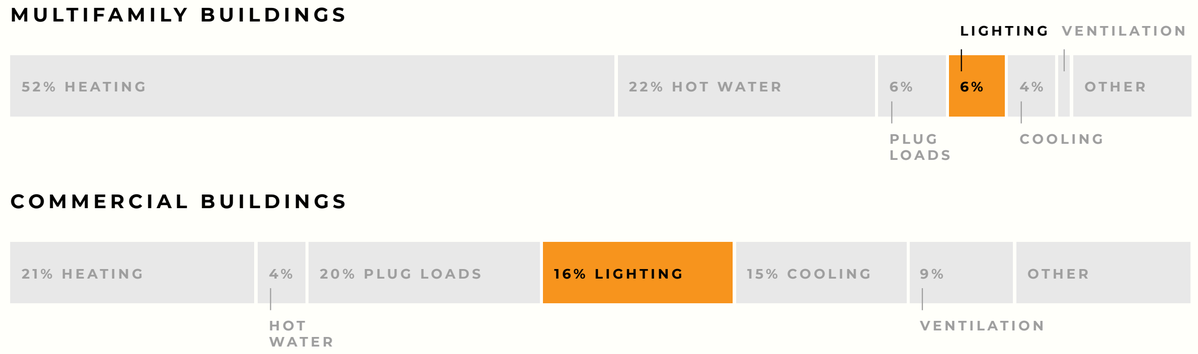
Embodied Carbon in lighting

Due to **occupancy, activities, and equipment types**, greenhouse gas emissions from building systems vary significantly between multifamily and commercial buildings.

Lighting has a role to play. It has significant energy-saving potential when designing daylight into the space, using energy-efficient products and intelligent lighting design by placing light only where it is needed. There are also ways of reducing embodied carbon emissions by improving different product lifecycle stages.

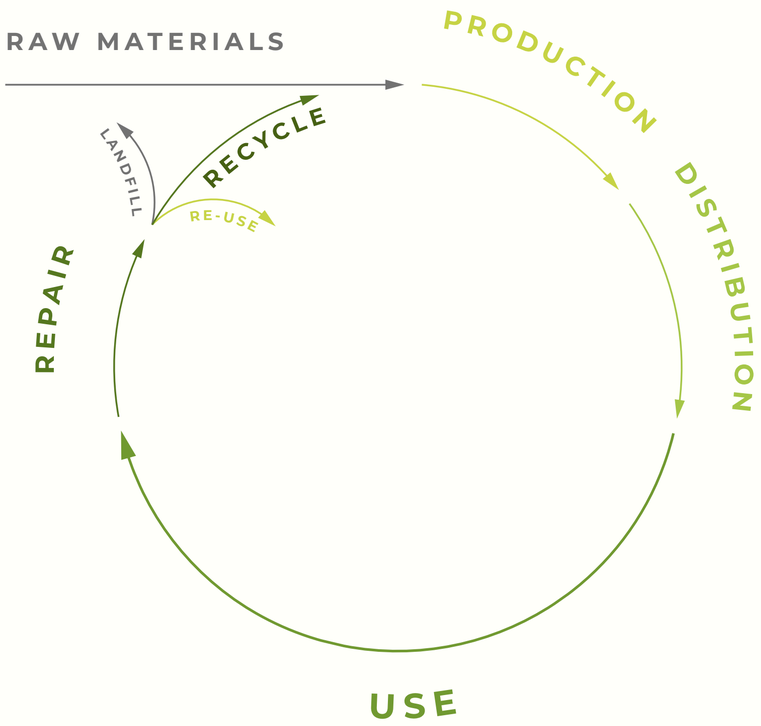


Source: Contribuition of Buildings in NYC, https://be-exchange.org/anatomy-intro/

Which are the areas with the biggest impact?

Carbon emission reduction has become the consensus globally.

The **design** has to be circular. It considers the impact of the product in every stage of the product lifecycle. From the choice of **materials** and distributors to how it is produced, **used** and maintained, right to the end of life—creating lighting that is good for people and the planet.



Main impact areas:

DESIGN	MATERIALS	USE

Materiality Matrix 2022

Key themes

Circular, long lasting products

Healthy living and improved well-being with light

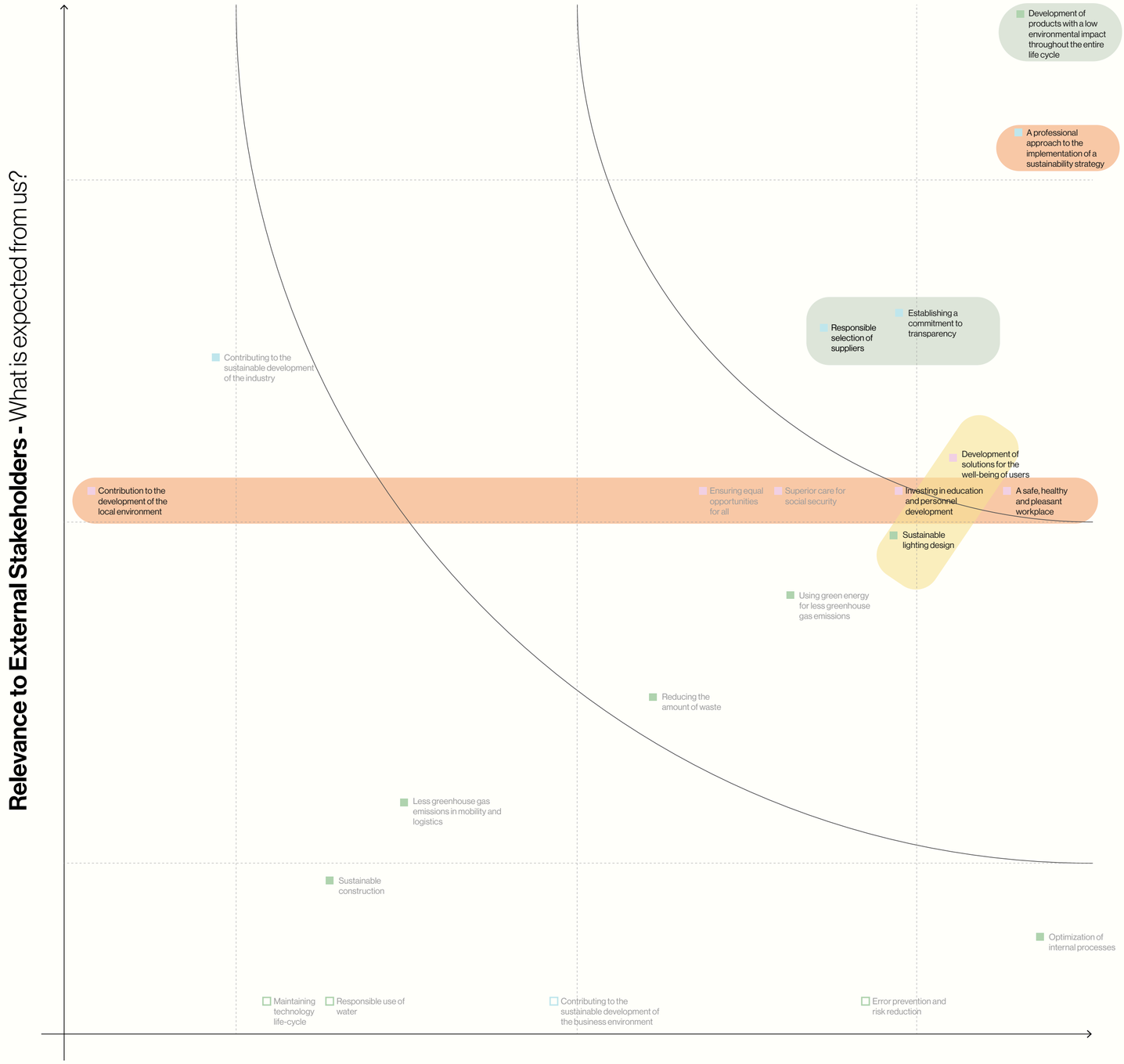
Sustainable and ethical company

Area of responsability

Economic responsibility

Social responsibility

Environmental responsibility



Sito

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KEY AREAS WE WILL FOCUS ON

01

PRODUCTS

Circular and human-friendly products

- Products supporting people's well-being
- Responsible use of materials
- Material and data transparency
- Energy-efficient products
- Repairability, prolonging products life
- Design for disassembly
- High recyclability

02

SOLUTIONS

Healthy living and improved well-being with light

- Human-centric lighting solutions
- Supporting health, positive feelings and motivation
- All-in-one acoustics solutions
- Smart use of artificial and natural light
- Connection with different LMS systems

03

COMPANY

Sustainable and ethical company

- Becoming a net zero company
- High ethical standards
- Environmental-friendly production
- Responsible supplier choice
- A caring employer
- Care for local community

Impact of our products

Energy

LESS. GREEN. EFFICIENT.

- Energy-efficient products
- Planning light in an efficient way
- Relamping to increase building efficiency, replacing Fluo with LED
- Light management systems (LMS)
- Electricity from renewable sources to produce the products, improving process efficiency

Materials

LESS. BETTER. LONGER.

Product design:

- Decrease material use when possible
- Increased recycled content
- Maximize product recyclability
- Material transparency

Production process:

- Made to order (no overproducing)
- Locally & sustainably sourced high-quality materials
- Reduce waste and watter use
- Plastic-free packaging

Health & Well-being

DYNAMIC. HEALTHY. PERSONALIZED.

Lighting can:

- Impact mood, circadian rhythms, and physical health
- Affect productivity and creativity of employees
- Is dynamic and creates a sense of well-being
- Supports different age groups and different light levels needs

Prolonging use

REPLACABLE. SMART. FOR LIFE.

Design:

- Timeless design
- Durability
- Modularity
- Minimise component variations

Service:

- 7-year warranty
- Label with product info
- Product traceability
- Spare parts
- Product repairability

Easier to recycle

EASILY DISSASEMBLED. RECYCLABLE.

Design for disassembly:

- No glued components
- Disassembly instructions

Recycling:

- Clearly marked recycling information
- Easy to recycle materials
- Reduce recycling intensity

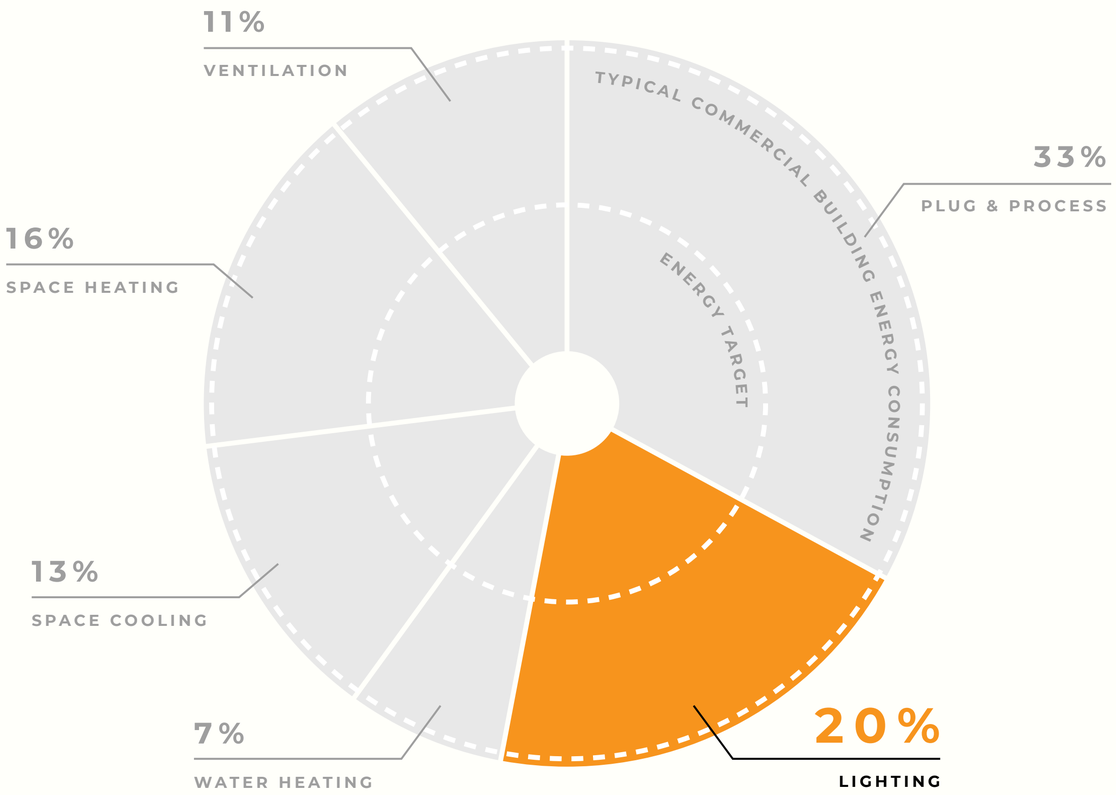
Energy

Use less, save more

Lighting in a typical commercial building

Lighting represents approximately 20% of a typical Commercial Building Energy consumption.

Significant energy savings can be made by **designing daylight into the space, using energy-efficient products, professional lighting design, and integration of occupancy and daylight sensors**, reaching greater occupant comfort, wellness, productivity and improved aesthetics.



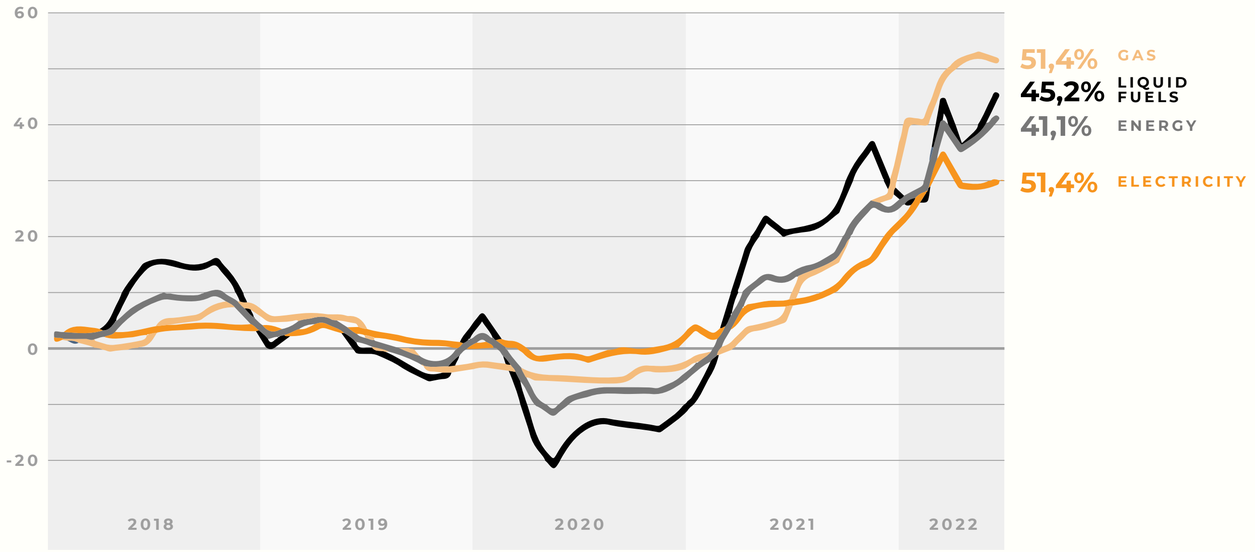
Source: Energy consumption in a typical commercial building, Arup, Zero Net Energy and Carbon; Data source: Realizing High-Performance Buildings, NREL, March 2015

Rising energy costs

The immediate need for a drastic reduction in energy consumption is commonplace worldwide. Focusing on sustainability, energy security and improving energy efficiency will demand new solutions to reduce energy costs and waste.

Energy Prices Keep Climbing in the EU

Monthly rate of inflation in terms of electricity, gas, liquid fuels and energy as a whole in the EU (in %)



Source: Eurostat

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100% green energy

We pay a lot of attention to how the product is produced. We are investing in green energy and looking to collaborate with suppliers in proximity that work according to our ethical standards. We monitor production processes and find ways to make them more efficient, sustainable and with less waste. We collect rain to water our green areas. Our building was refurbished by reviving a degraded area and giving new life to old building materials. We care for our environment.

2022

Renewables (solar) 29%* | -214 tCO_2 less

2023

Renewables (solar) 72%* | -526 tCO_2 less

2024

Renewables (solar) 100% | -784 tCO_2 less

*The remaining energy is nuclear, a low-carbon alternative to fossil fuels.

Energy efficient products

- Up to 130 lm/W
- Homogeneity
- Lighting quality
- UGR<19 (Glare control)
- No flickering
- Less luminaires for more luminance

Rylo Pro F

EXPLORE

Trix

EXPLORE

Gyon LDP

EXPLORE

Demi

EXPLORE

Pipes R

EXPLORE

Nitor RV Flat

EXPLORE

Rylo Pro

Office first

LUMINAIRE LUMINOUS FLUX	LED COLOUR	GLARE CONTROL	DRIVER
1130 lm - 12111 lm	927, 930, 935, 940	UGR<16	Casambi, DALI, FO, IQ, sensor

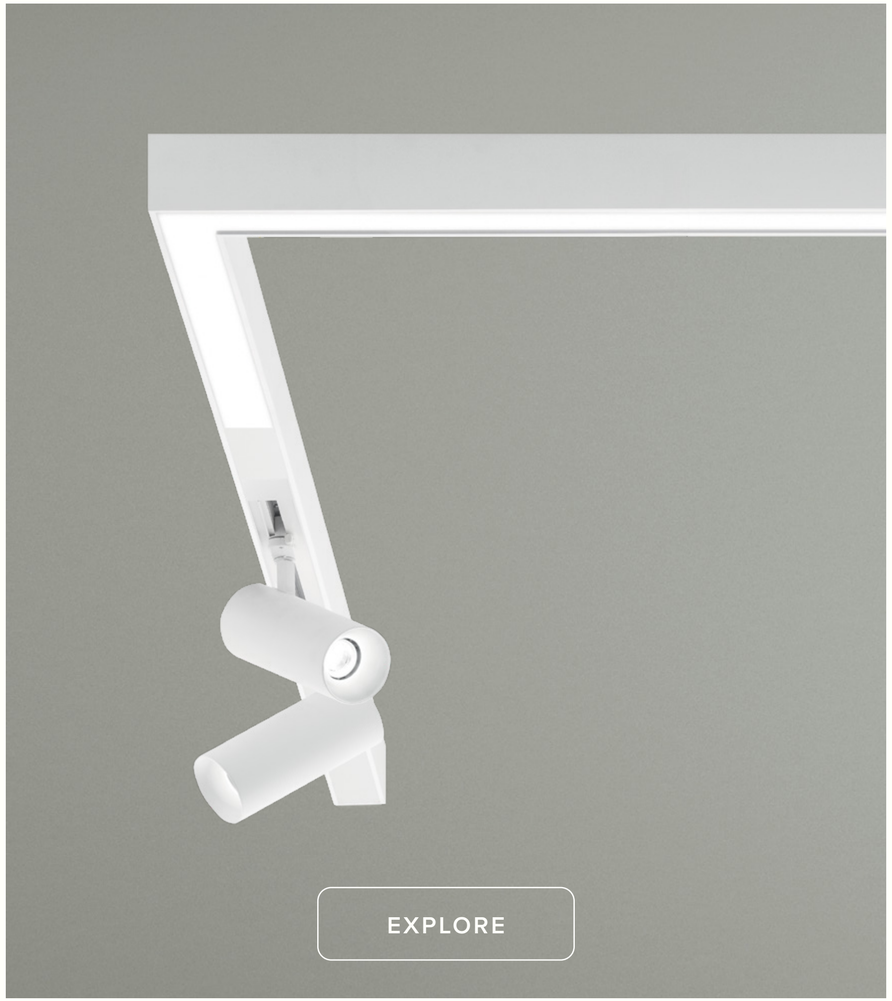
Trix

Uncompromising, no tricks

INSTALLATION	OPTIC TYPE	LED COLOUR	LUMINAIRE LUMINOUS FLUX
Recessed, Ceiling / Suspended	30°, 60°, 60° (UGR<19), 110°, Double asymmetric, Asymmetric	830, 840, 930, 940	1900 - 7800 lm/m

Gyon

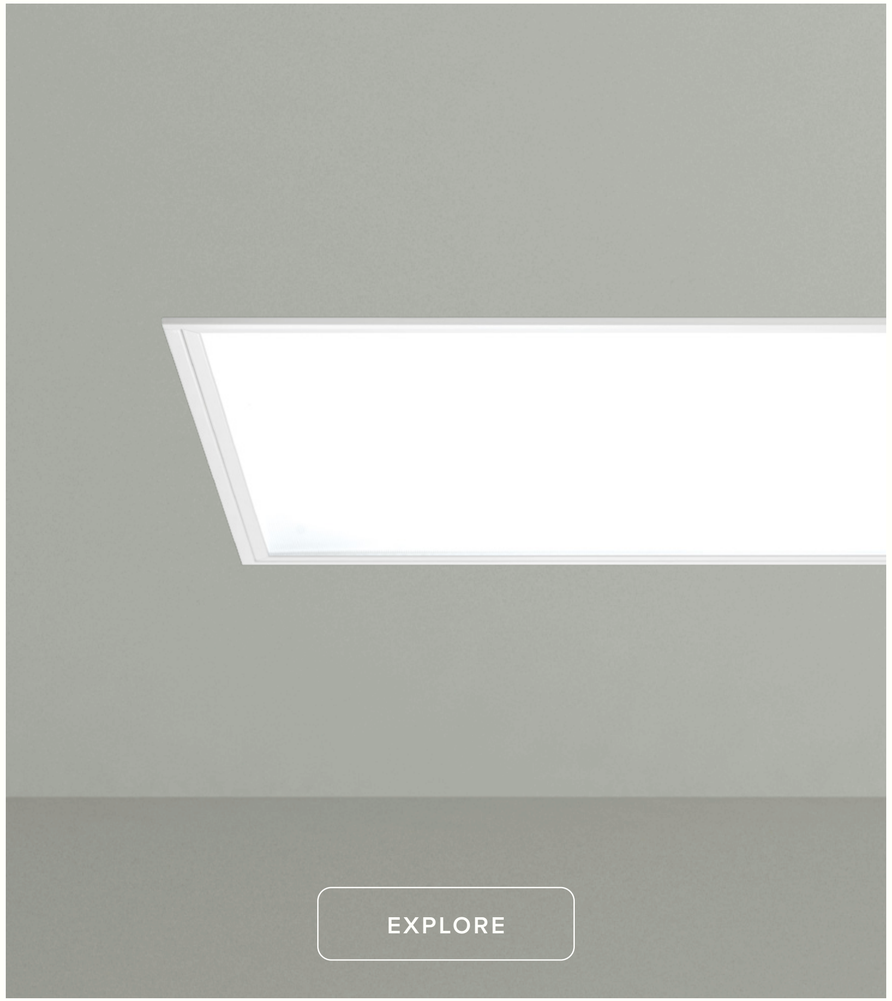
More is more



INSTALLATION	GLARE CONTROL	OPTICS	MODULE TYPE	LUMINAIRE LUMINOUS FLUX
Recessed, Ceiling / Suspended (S, SDI)	UGR<19 (LDP, HMP optic)	SOP, DPR, LDP, HMP, AS	Single, Linear, Corner	800 - 5200 lm/m

Demi

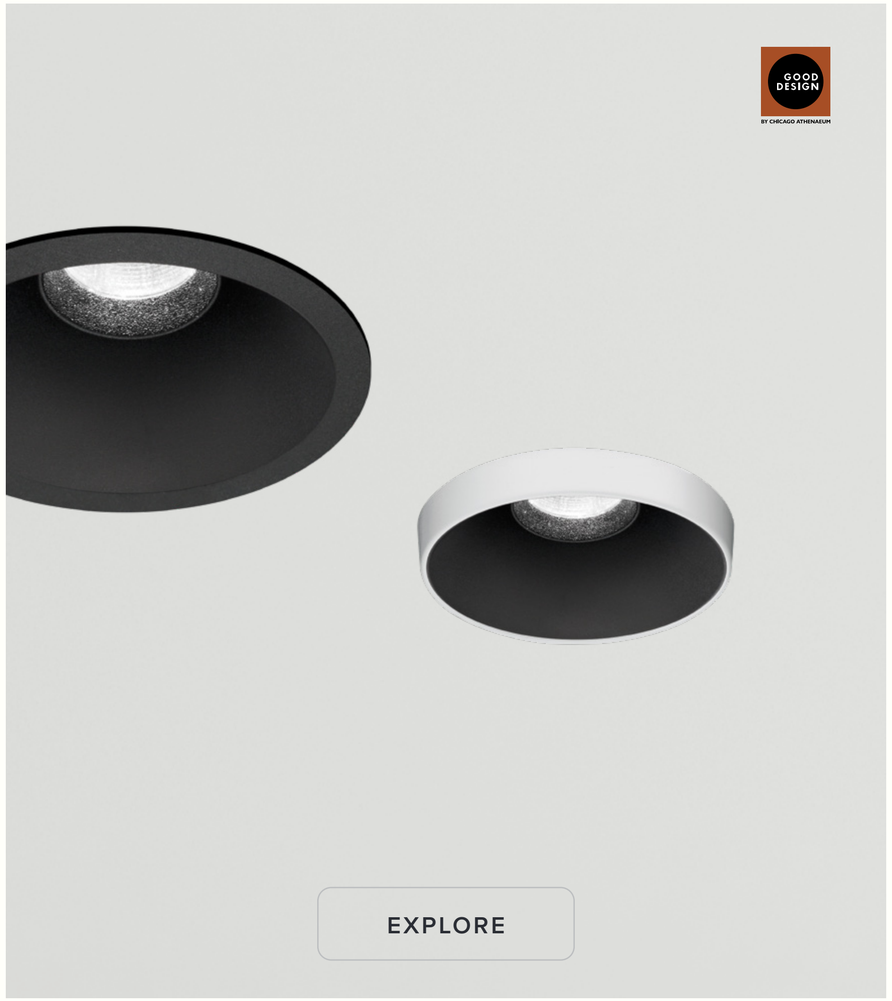
Office reviver



INSTALLATION	GLARE CONTROL	OPTICS	LED COLOUR	LUMINAIRE LUMINOUS FLUX
Recessed, Ceiling, Suspended	UGR<16, UGR<19	DPR, HMP, SOP	830, 840, 930, 940,TW	1900 - 8500 lm

Pipes R

Totally responsive



DIAMETER	BEAM ANGLE	LUMINAIRE LUMINOUS FLUX	LED COLOUR
60 - 140 mm	15° - 62°	up to 6500 lm	CRI>80, CRI>90, Vivid, Clear White, Plant White, Tunable White

Nitor

Simply efficient

DIAMETER	OPTICS	LUMINAIRE LUMINOUS FLUX	IP PROTECTION
Ø 154, 240 mm	10°, 15°, 30°, 56°, AS, DPR, SOP, Wide	970 - 6600 lm	IP20, IP44, IP54

Planning light in an energy efficient way

The biggest savings can be made with professional lighting design: by designing **light where it is needed, when it is needed and as much as is needed**.

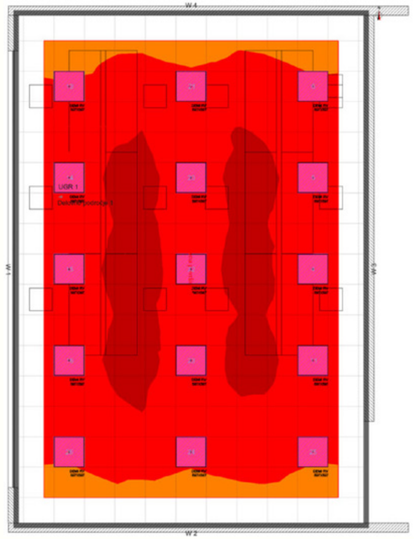
Lighting can impact mood, circadian rhythms, and physical health, affecting the productivity and creativity of employees.

Poor lighting leads to fatigue, headaches and illness. Major causes of absence are headaches (57%), back, neck and shoulder complaints (66%) and eye problems (42%).

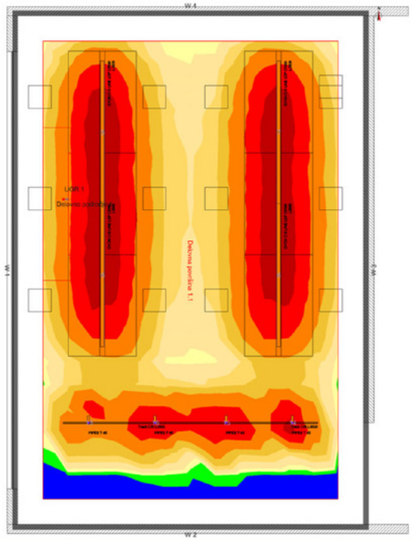
From even illumination to light where is needed

Days of flat illumination are over. When entering the space, we see different lighting levels tailored to occupants' needs and furniture positions. It allows people to look good on camera and feel good when working.

Solutions may vary from the minimalistic product above the table to a more creative composition. Energy savings are happening all around the tables.



644 lx | Em/Emin*0,93 | UGR<17.9 | 7,1 W/m²



684 lx | Em/Emin=0,72 | UGR<=17.8 | 3,2 W/m²

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Relamping in existing buildings

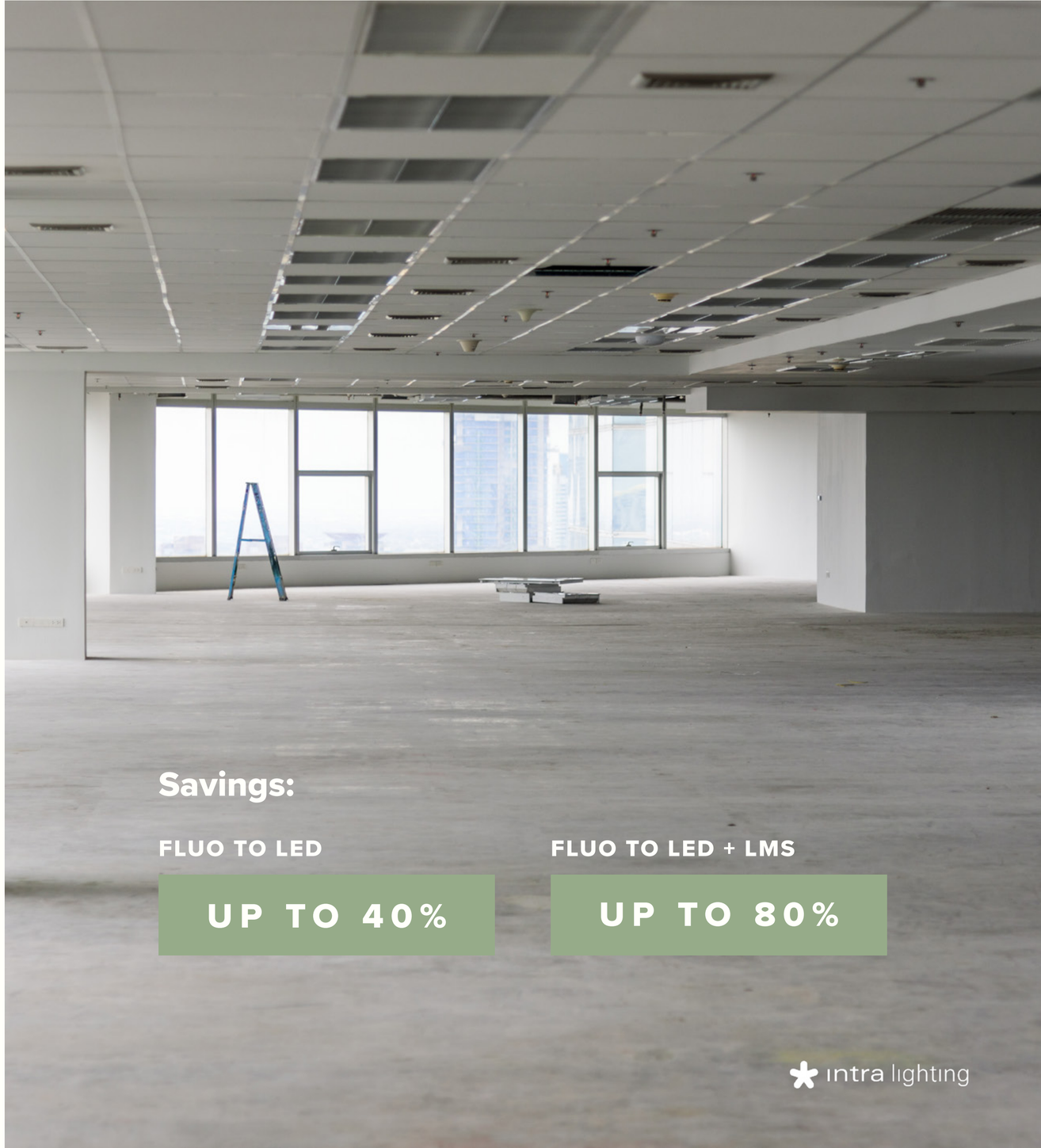
Rising energy costs make relamping an interesting way to **reduce energy costs**. By adding LMS, and integrating Casambi and sensors, further savings can be achieved and light quality improved.

1:1 replacement

- Electrical changes are not needed (leave existing installation cables, and swich cabinets)
- Maintain existing luminaire positions (reduce installation costs, maintain normal work cycle)
- Prolonging lifetime and improving the spectre
- Especially in renovation projects, Bluetooth applications don't need electrical changes.

New lighting project

- Electrical installation needs to be redone
- Further savings can be made



Replacing Fluo with LED

Compact fluorescent will be banned in 2023, while fluorescent is getting like Kodak films - more expensive and difficult to get.

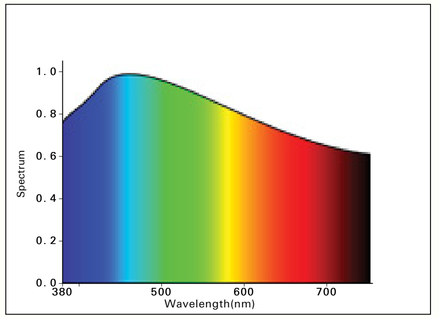
With the transition to LED there are several advantages:

- Significant improvement of the light spectre
- The source lifetime is almost 3x longer
- The energy consumption of the product is decreased
- With energy cost increase, the payback time can be 3x shorter*

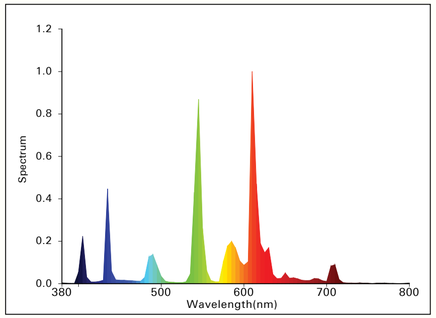
**Depending on product operational time, energy and labor cost.*

Spectre differences:

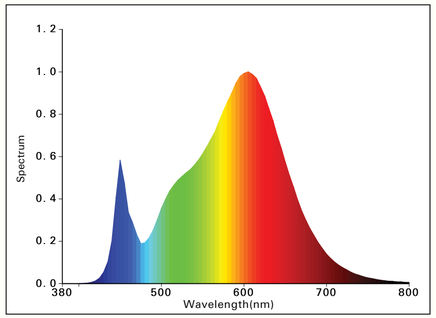
DAYLIGHT



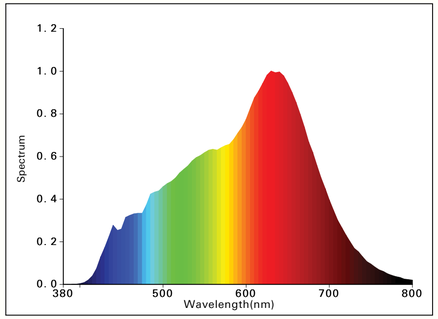
FLUORESCENT (T5) 3000K **CRI80**



LED (SMD) 3000K **CRI80**



LED (SMD) 3000K **SUNLIKE**



Source lifetime | Lumen mantainance (h):

FLUORESCENT

18.000h L70

LED

50.000h L90

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Product replacement:
Unicredit Bank, Croatia

TOTAL OFFICE AREA: **1.056 m²** | ESTIMATED DAILY USE: **6h**

ENERGY COST: Increase from **0,10€/kWh** (2020) to **0,48€/kWh** (2022)

Before:	After:
FLUORESCENT ON/OFF	LED ON/OFF

INSTALLED POWER (kW)

88,74 kW	30,61 kW	**-65%** ENERGY SAVED

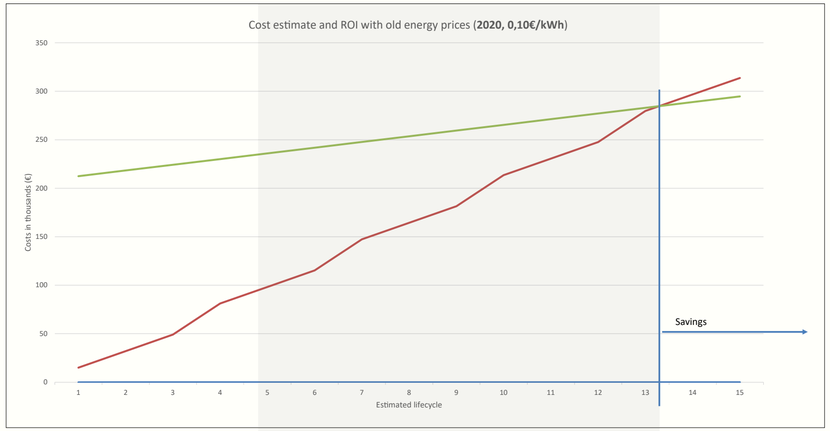
SOURCE LIFETIME | Lumen mantainance (h):

8.000h L70	50.000h L80	**6x** LONGER LIFETIME

YEARLLY ENERGY CONSUMPTION (€)

81.782 €	28.206 €	**1-2 cars** EARNED/YEAR

Payback from 13 to 4.5 years



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Turn off the lights

4 h/day off = 21€/month less

The cheapest energy is the one you don’t use.

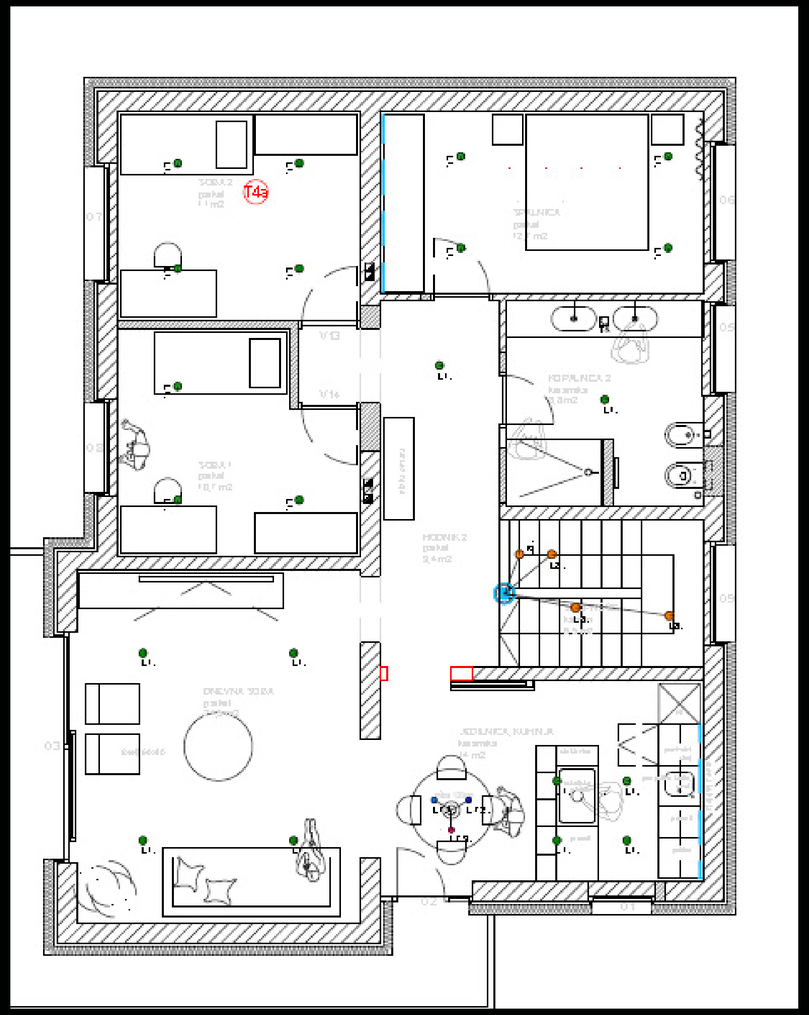
A lot of energy waste is made by leaving the lights on when we don’t need them. By saving 4 hours daily, you will pay 21€ less for your electricity bill. These are the monthly savings of a 88 m² apartment. Imagine what this means on a bigger project.

TOTAL HOME AREA: **88m2**

ENERGYCONSUMPTION: **4W/m2** I **352 W**

ENERGY COST: From **0,1€/kWh** (2020) to **0,5€/kWh** (2022)

MONTHLLY SAVINGS: From **4,2 €** (2020) to **21 €** (2022)



Use of sensors and Light Management System

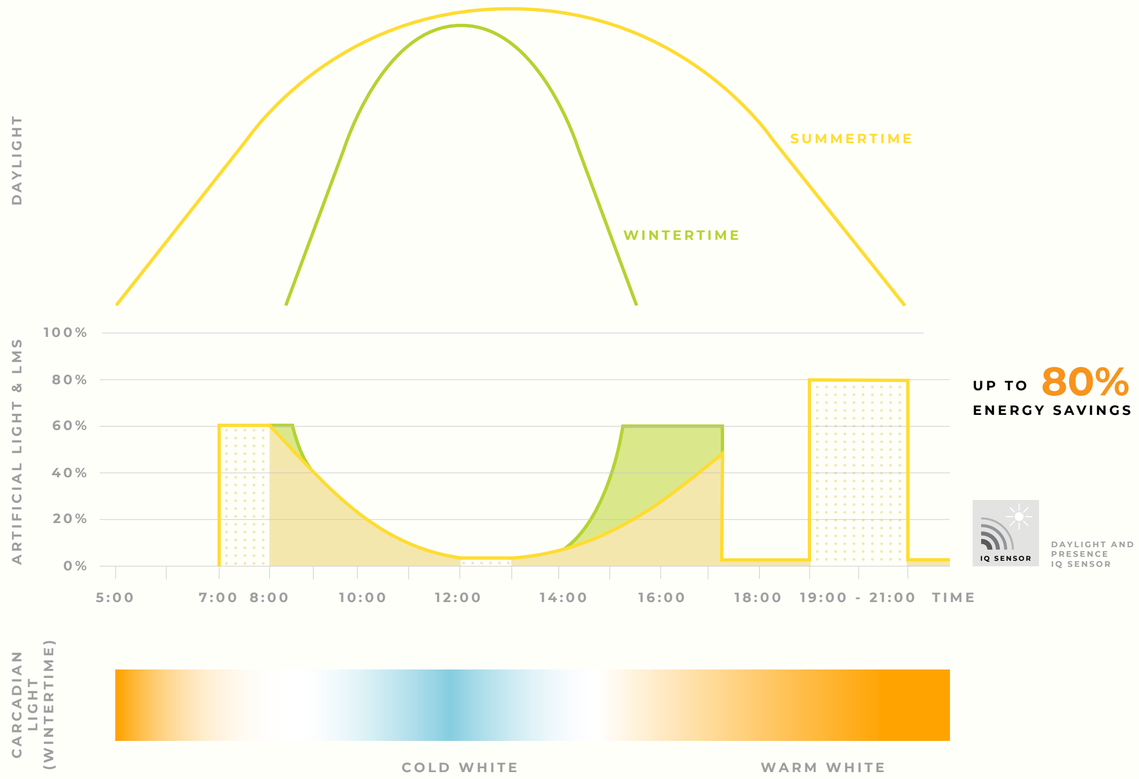
Adjusting lighting according to the time of day, season and individual needs increase user satisfaction. Another way to save energy is to set up motion and daylight sensors and install dimming luminaires. Turning down the lights when your work doesn't require maximum brightness is good for people, the planet and profit.

Our luminaires are compatible with most Light Management Systems.

We can support you and provide solutions with the following:

- DALI/DALI II DT8
- Bluetooth (Casambi)
- PoE

Energy saving potential with LMS



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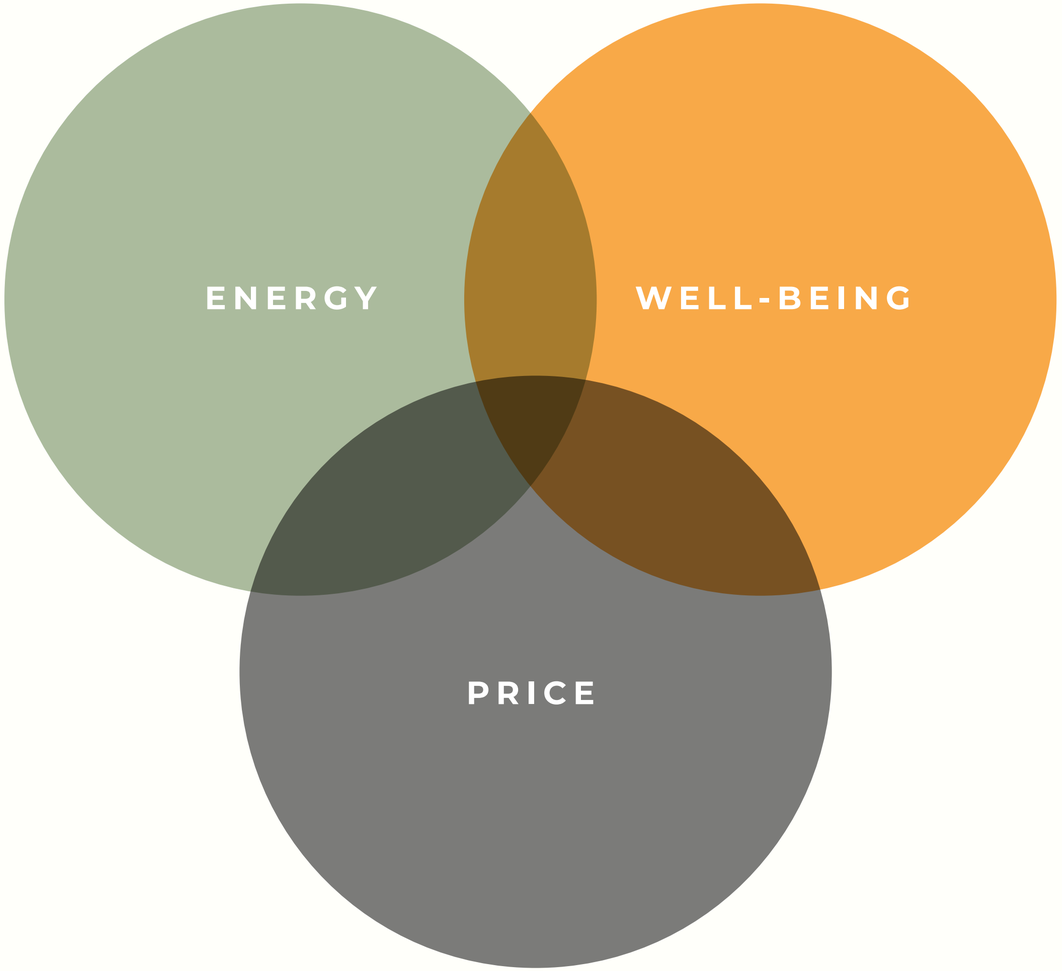
Designing daylight into the space

People spend more than 90% of their time indoors, so providing the optimal amount of natural light is vital. **Natural light creates a better indoor experience**, and controlled daylight unlocks significant **health and wellness benefits for office workers**.

Exposure to natural light helps regulate hormones and keeps your circadian rhythm in check, helping employees sleep better at night and work productively.



Finding the right balance

Finding the right balance is important in light and in life. Energy is one of many factors to consider. Long-term quality can win over a short-term price and bring well-being to your employees.

We can be your partner for lighting.

Get in touch

HEADQUARTERS

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Sales point

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