

Climate Change & Sustainability Forum
Thursday 5 September 2019, 9:00am-11:00am
Site visit: CP Electronics



Agenda

- **Introductions**
- **Tony Greig – Legrand UK CEO**
- **Mark Lester – CP Electronics MD**
 - CP Introduction
 - Trends in Lighting
- **Mitra Goodger – Legrand Energy Efficiency & Sustainability Manager**
- **Factory Tour**
- **Coffee**
- **Q&A followed by networking opportunity**
- **Close**

CP – an introduction

- **The UK's largest lighting & energy controls manufacturer**

Established in 1971

Manufactured in the UK

Distributing 130,000+ units a month

Employer of circa 200 people

- **Product innovation** – 30% of our products are patented
- **Expertise** – a 'concept to completion' manufacturer
- **Long term support** – Nationwide commissioning, training & maintenance contracts.
- **Broad sectoral & application reach**



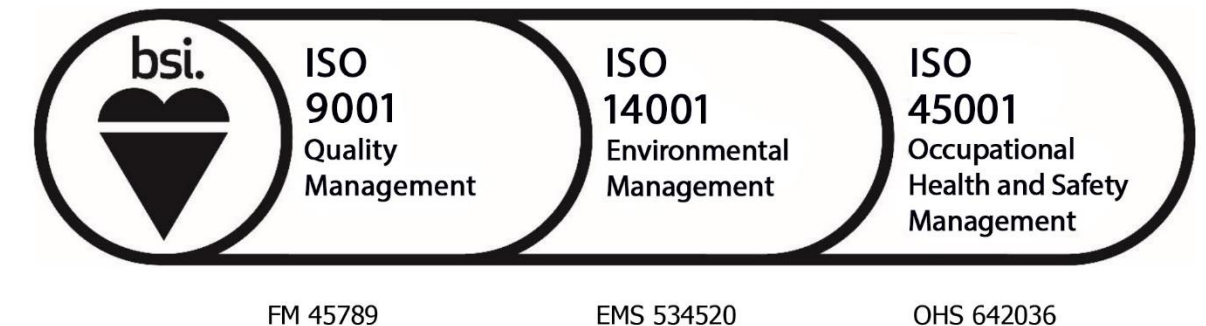


A brand of  legrand®

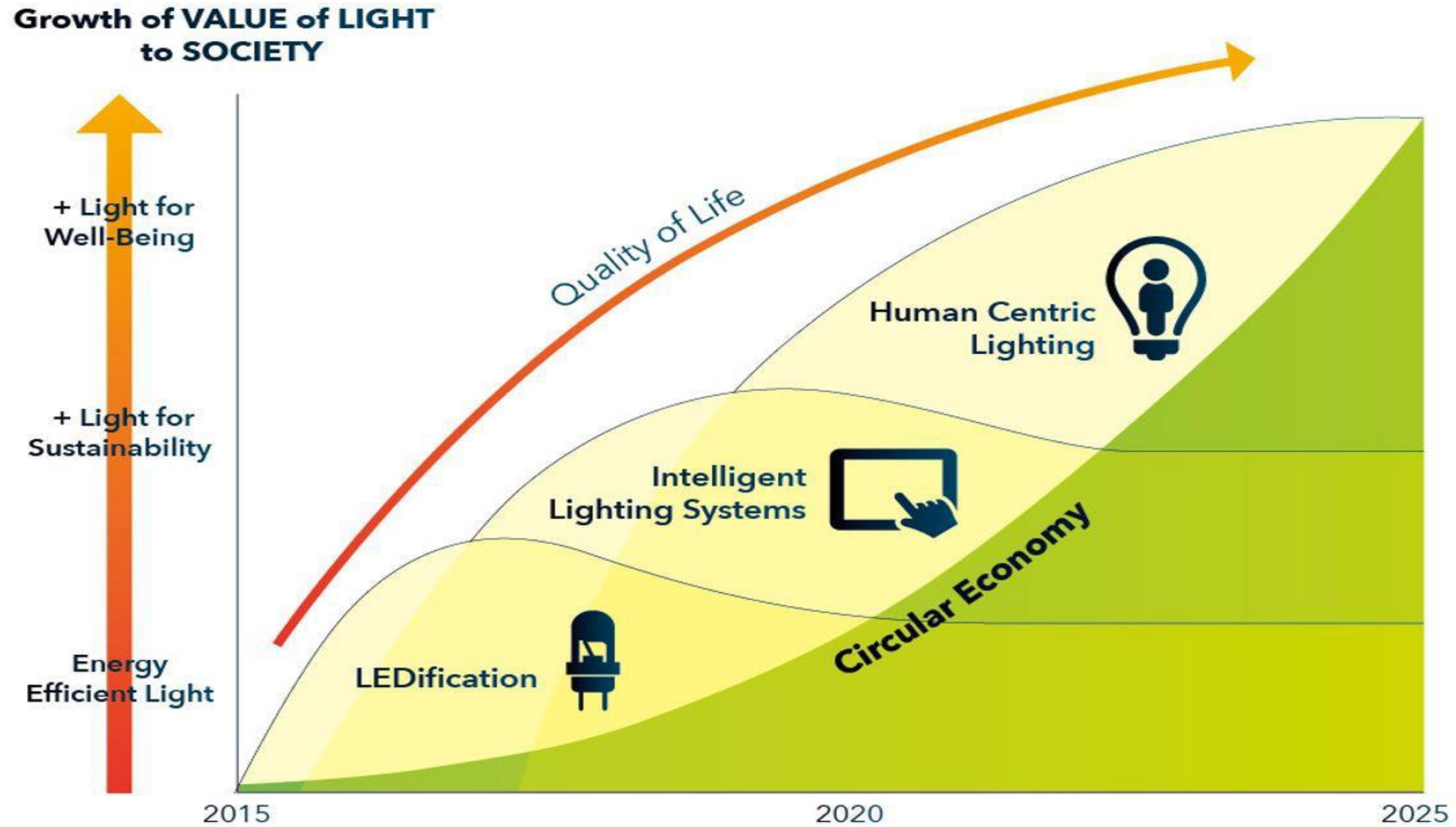
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Our Commitment to Quality

- The first UK control manufacturer to achieve the following three quality standards:
 - ISO 9001:2015 Quality certification
 - ISO 14001:2015 Environmental certification
 - ISO 45001- 2018 Occupational health & safety management
- Minimum of 5 year warranty on all products
- Returns - component failure typically < 0.05%



'Ledification' starting to slow....



OEM integration of controls

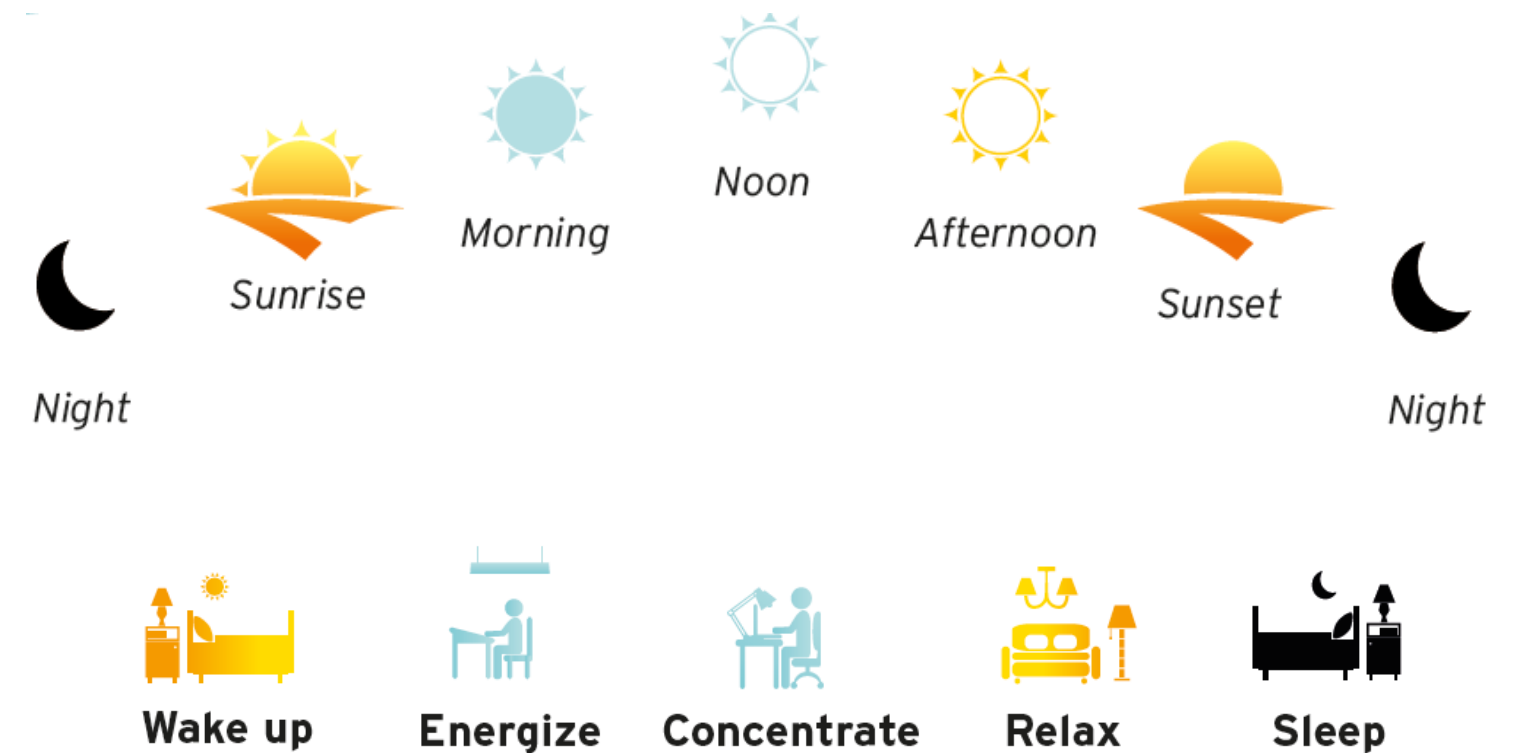
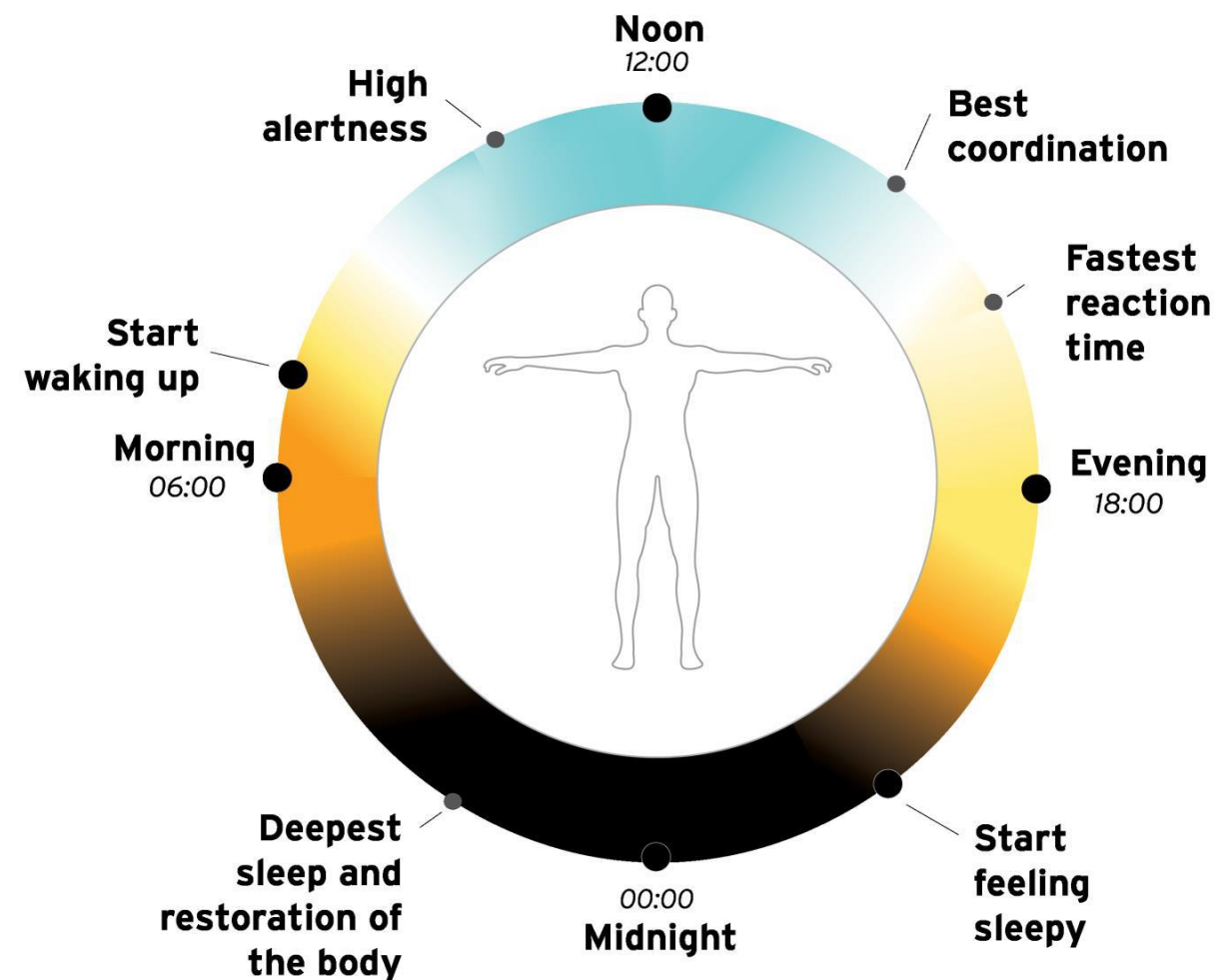
Key sector for CP

Barriers to entry have meant reliance on OEM suppliers

Economies of scale driving luminaire manufacturers to reassess outsourced v inhouse



Lighting for comfort, health and performance



We need the **right light** at the **right place** at the **right time** to support our activities

A primary school in Denmark has invested colour-tuning LED lighting to boost the concentration of pupils during the notorious 'afternoon lull'.

The lighting switches between warm (3000K), cool (4000K) and cold colour temperature (6000K).

Control is by an internet-enabled and app-based lighting management system. Colour settings and light intensity of all the luminaires are individually adjustable & teachers can define the lighting mood, changing three times a day on average.

Seasonal daylight differences and the arrangement of the classrooms, (which face in different directions), all have an influence on the lighting conditions.



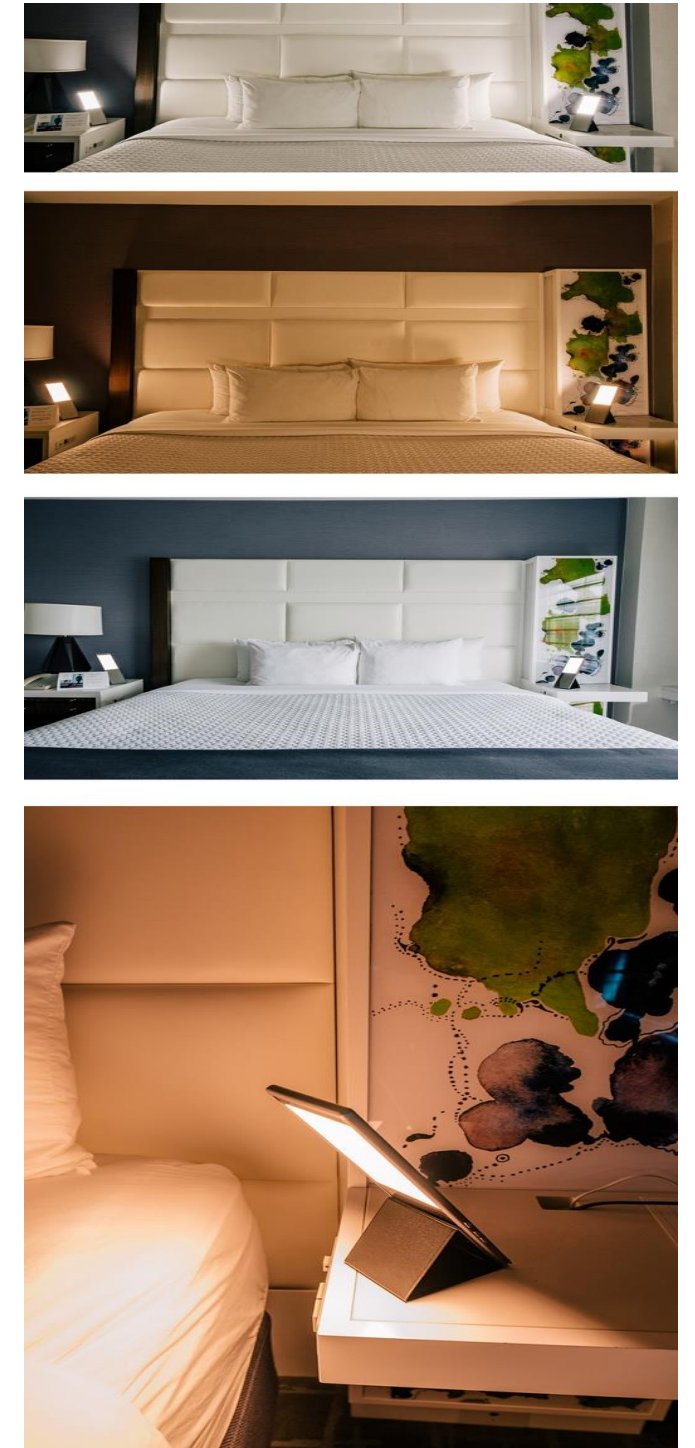
Generally, the cold 6000K colour temperature is used to tackle the low-energy period after lunch, while the warm-white light provides a relaxing ambience for breaks.

Leisure & hospitality HCL

Crown Plaza Atlanta has lights on bedside cabinets in a pilot study into how the right light spectrum can assist guests in maximising their sleep.

Luminaires feature technology which either adds or removes the blue 480 nanometers wavelength of light – believed to be the key wavelength of light that impacts on the circadian rhythm – to achieve optimal biological benefits.

Guests can change the colour of the lighting in their rooms to blue, red, green, yellow or 'energise or relax'.



Daylighting and targeting NZEB*

Spaces will be designed to better use natural light to illuminate interiors.

Main components are

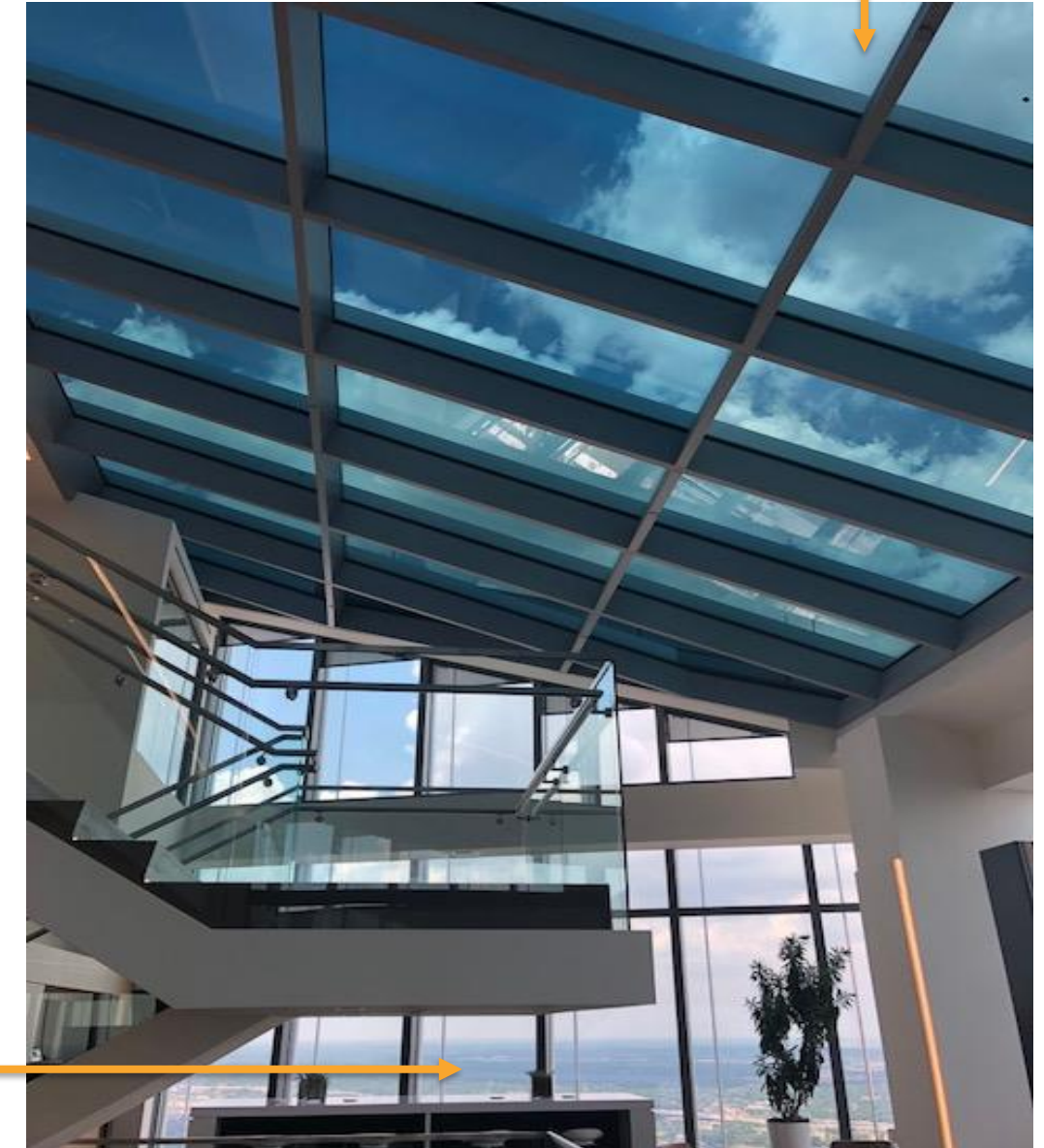
1. Daylight apertures (windows & skylights)
2. Daylight-responsive lighting control system
3. Solar shading systems

Likely to be further driven by regulation including Well Building recommendations

* Net Zero Energy Buildings

Diffused
skylight

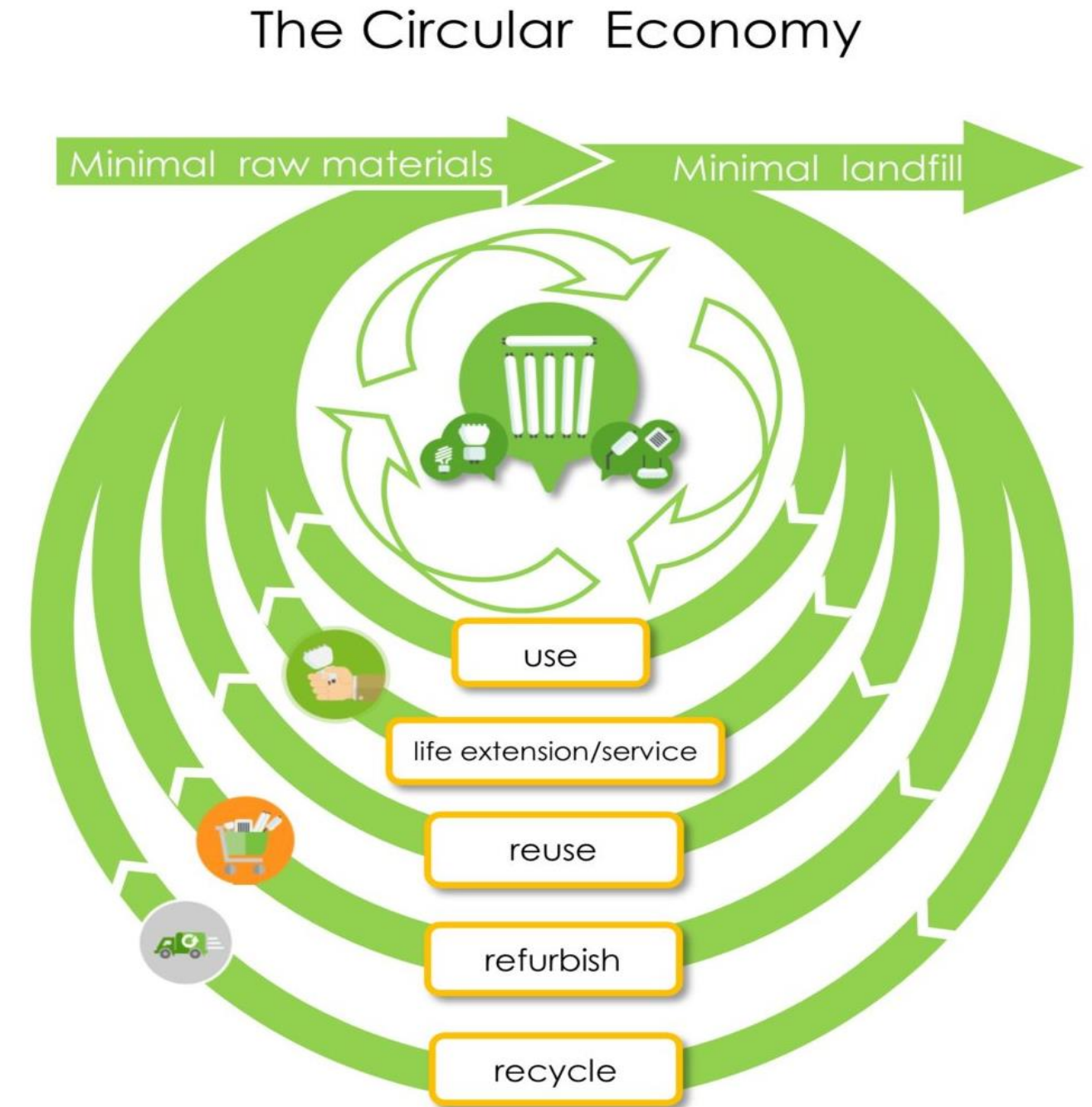
Direct
sunlight



The Circular Economy

“An economy which is regenerative by design, with the aim to retain as much value as possible of products, parts and materials. This means that the aim should be to create a system that allows for the long life, optimal reuse, refurbishment, remanufacturing and recycling of products and materials.”

[Kraaijenhagen, Van Oppen & Bocken. 2016,](#)
[Ellen MacArthur Foundation, 2016](#)



Lighting as a service

Common in large streetlighting contracts but moving to commercial & industrial applications.

Service contract guarantees illuminance of between 200 and 400 lux, depending on the requirements of each specific area.

Annual energy saving of 40 per cent, whilst doubling the luminous intensity.

Installation and maintenance of the lighting is carried out by the supplier for a fixed monthly fee.

Treated as an OPEX rather than CAPEX item.



Current Industry Predictions

By 2025, new buildings in North America and Europe will incorporate lighting controls with renewable energy, further developing NZEB's. Will be particularly evident in residential and commercial applications.

Machine learning (ML) and AI will reduce human interference in lighting control operations. Will aid predictive maintenance, optimal use of light sources, integration with other building systems, and adaptability to building and external climatic conditions.

Increasing competition will reduce revenues for market leaders. The focus will shift towards offering customised software solutions compatible with multiple brands so vendors may position themselves as providers of indoor and cloud-based control.

Solutions for energy efficiency in buildings

Energy efficiency as a driver
for Legrand core business

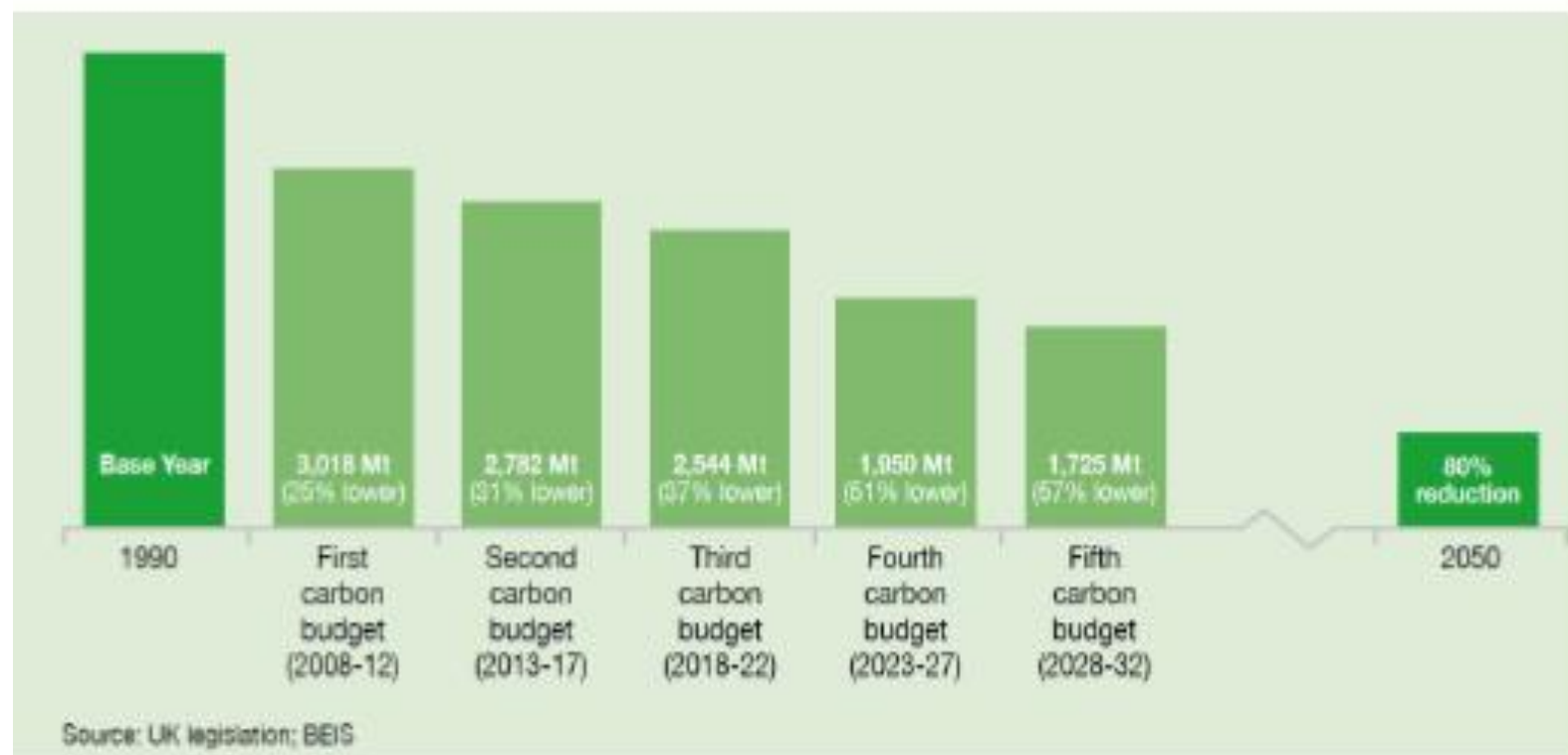


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THE GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES



80% CO2 reduction by 2050, incremental CO2 improvements are harder to obtain



Advent of new EE/EPBD directives support EU targets of:

- 20% Energy consumption
- 20% to via renewables
- 20% Green house effects by 2020

Buildings consume 40% of global energy

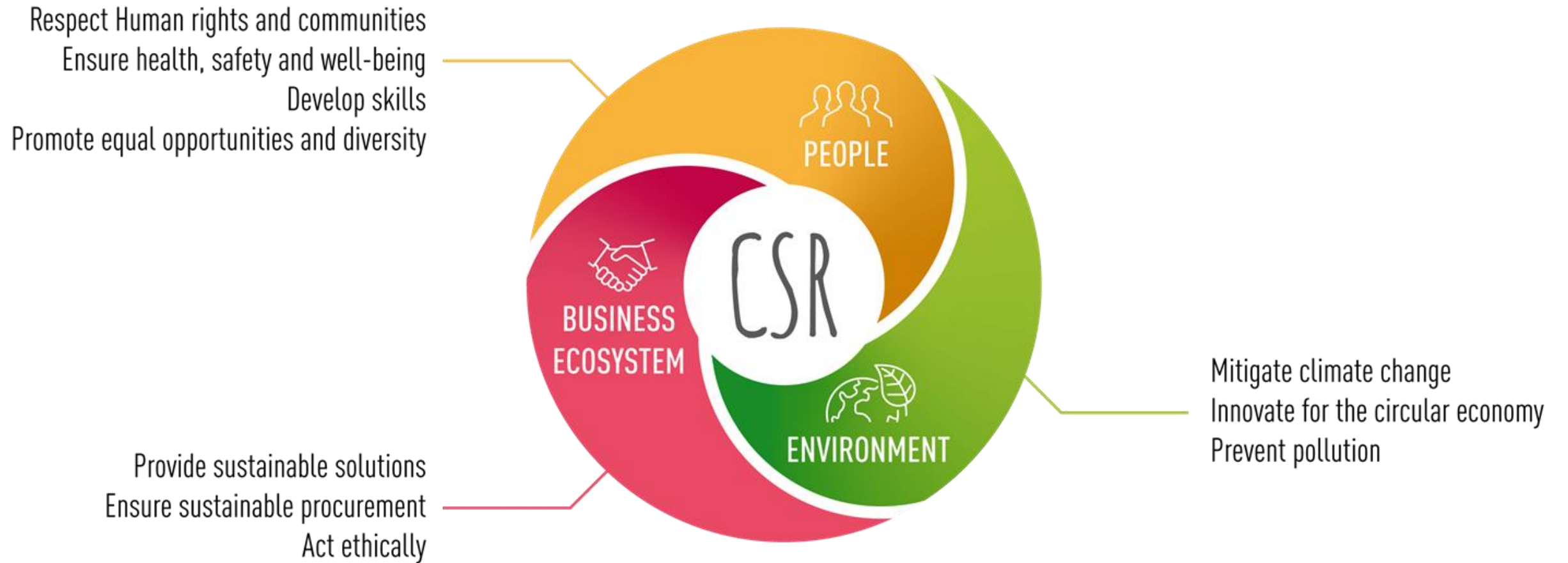
UK Government has no intent to devalue Bream /Leed post Brexit



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Our corporate social responsibility

At Legrand, Corporate Social Responsibility lies at the foundation of our business, our development strategy and the new challenges we all face.






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Solutions for energy efficiency in buildings

Perimeter solutions

- High Energy Efficiency performance offers, reduced energy bills
- Applications covered by the Energy Efficiency regulations and Green Building codes
- All verticals: Residential, Commercial, Industrial

EFFICIENT ENERGY DISTRIBUTION				
Green transformer	Green Busbar	Energy quality and Power Factor Correction	HE UPS	Eco wallbox
				

ENERGY EFFICIENT DATA CENTRES		
Metering with smart PDU	Cold corridor	Air conditioning
		

ACTIVE ENERGY MANAGEMENT										
Metering & displaying			Building Energy Management System including GRMS		Load shedding equipment	Lighting management & Lighting Control		Active lighting fixtures	HVAC Control	
										

Thank you!



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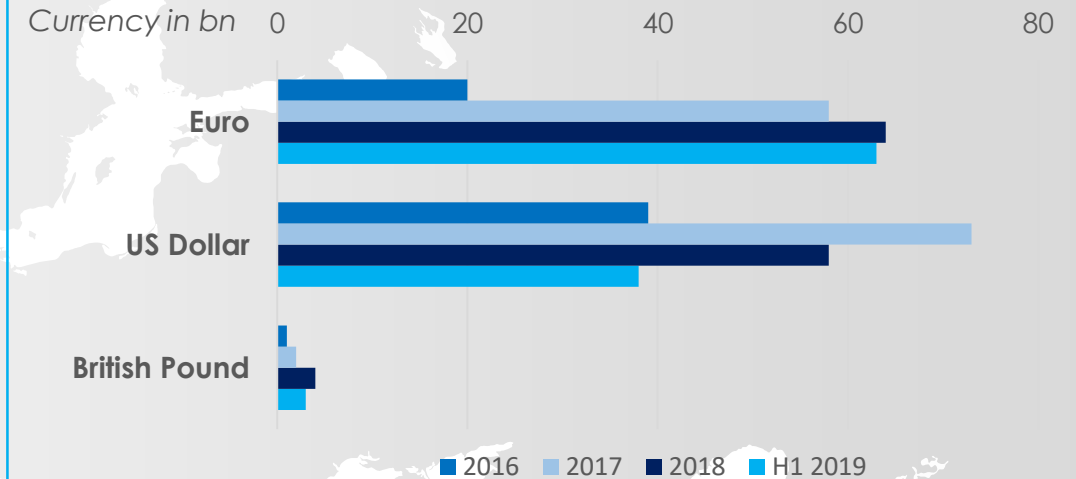
INSIGHT INTO SUSTAINABILITY FINANCIAL NEWS – SUMMER 2019

- **Record \$117bn of Green bonds issuance globally in 1H2019**
 - “European investors are more sophisticated in their understanding [of the asset class]”
- **London Climate Action Week (1-8 July 19)**
 - Taxonomy, taxonomy, taxonomy => avoid risk of “greenwashing”
 - Significant demand from investors for ESG investable assets
- **Pressure mounting on insurers over ESG risks (July 19)**
 - Credit rating agencies warn of looming vulnerabilities for the insurance sector
 - “Look at property and casualty insurance [...] increasing unpredictable severe weather”
 - Chubb will no longer sell insurance policies to coal companies [...]
 - [...] \$10tn of fossil fuel assets could become “stranded”
- **Big Oil seeks concrete gains from green ventures**
 - Very small fraction of capital spend - risen eight-fold btw 2015-18, to reach \$1bn in 2019
 - Focused on areas where they have proprietary knowledge
 - New energies outside Majors' skill sets. Industry moving fast & constellated by start-ups
- **UK royal institutions cut fossil fuel stocks (July 19)**
 - The National Trust (£1bn of fossil fuels within 1 year / 100% within 3 years); The RSA ...
 - PR boost to campaigners arguing for rapid action to tackle climate change
- **“Impact investing has arrived” says E. Marshall partner at DWM**
 - “Impact investment”: Financial returns with a social or environmental purpose
 - Increasing demand, inc. from millennials who want their money to have positive impact
 - Industry body Global Impact Investing Network estimates market worth \$502bn
 - £400bn+ AUM Schroders buys majority acquisition of BlueOrchardFinance (July 19)

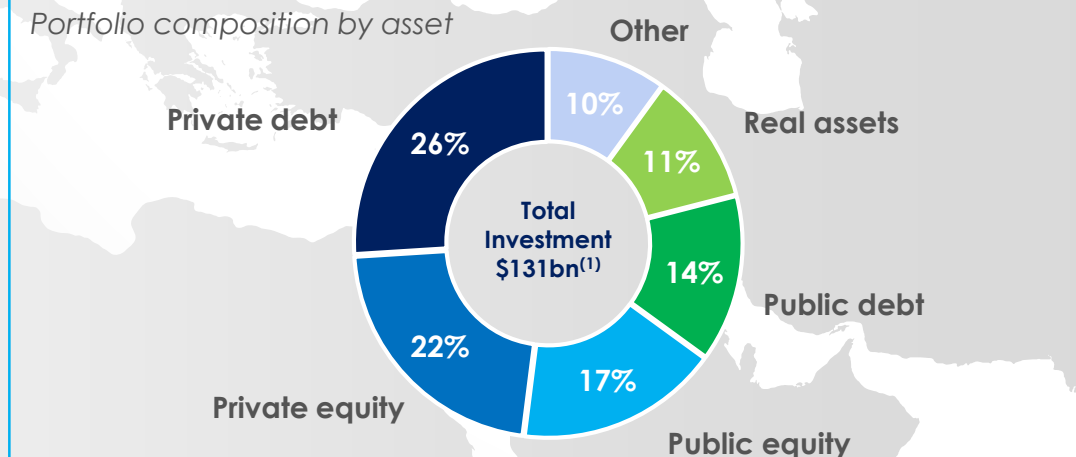
Recent and forthcoming agenda

- 1-8 July - London Climate Action Week
- 20th – 27th Sept – WW Climate Action Strike
- 2 July - UK Government green-finance strategy: “Greening finance and financing green”
- 23rd Sept - 2019 UN Climate Action Summit

Green Bond issuance



How Impact investors allocate their funds



Sources: Financial Times, Climate Bonds Initiative, Moody's, www.London.gov.uk, Verdier & Co. Note: (1) survey amongst investors managing \$131bn of AUM