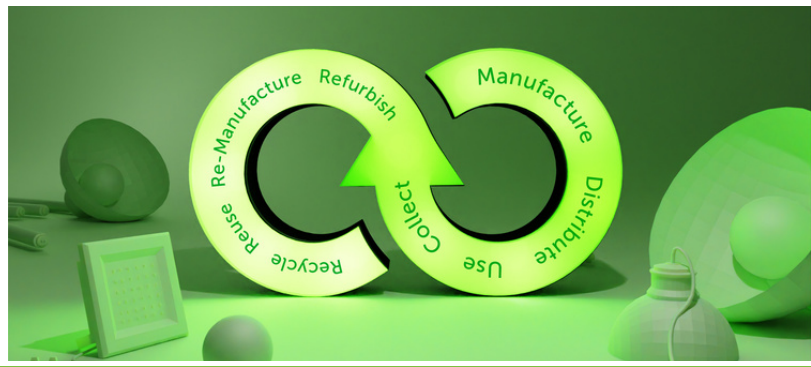# ReColight
CIRCULAR & SUSTAINABLE JARGON BUSTER FOR LIGHTING

The adoption of a Circular Economy for truly sustainable lighting has seen the introduction of many new metrics, regulations, standards, and assessment methods.
The Recolight Jargon Buster is to help demystify these for you.

BS 8887 Remanufacturing | British Standards for the process of remanufacture.

BS 8887-220:2010 – Design for manufacture, assembly, disassembly, and end-of-life processing (MADE).

BS 8887-220 specifies requirements for the process of remanufacture.
A proposed new part of the BS 8887 series specifies the process of remanufacturing luminaires. It emphasises the need for a remanufactured luminaire to be supported by robust technical documentation, testing and compliance assessment.

It lists the steps required to change a used product into an as-new product, with at least equivalent performance and warranty of a comparable new replacement product. This remanufacturing process can include parts or components to be used in subsequent assembly.

UK Standard for remanufacturing

Process Flowchart
Based on BS8887

The process for remanufactured and reconditioned products.

An approach recommended when assessing product being discarded.

For reference only and does not necessarily reflect the data in the final document

BS EN 4555 | BSI Circular economy standards within the CENELEC EN4555X series.
These include :

BS EN45552 'Durability'
BS EN45553 'Remanufacture'
BS EN45555 'Recyclability'
BS EN45556 'Reused components'
BS EN45557 'Recycled Content'
BS EN45558 'CRM'
BS EN45559 'Information'

European Standard for circular product design

BREEAM® is a suite of validation and certification systems for sustainable built environment.
The BREEAM® suite of schemes enables consistent and comparable assessment and verification across the entire built environment lifecycle.

Global building certification | Lifecycle

CBAM | Carbon Border Adjustment Mechanism
An EU's initiative to reduce so-called 'carbon leakage' – i.e., companies based in the EU could move carbon-intensive production abroad to take advantage of lax standards, or EU products could be replaced by more carbon-intensive imports.

In 2020, the UK Government launched a consultation which proposed how the Carbon Emissions Tax would operate if it was introduced from 2023 and proposes how the tax might be developed.
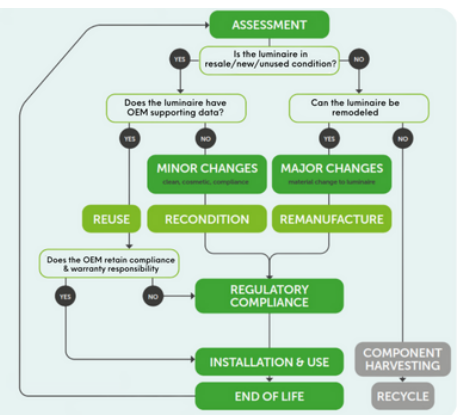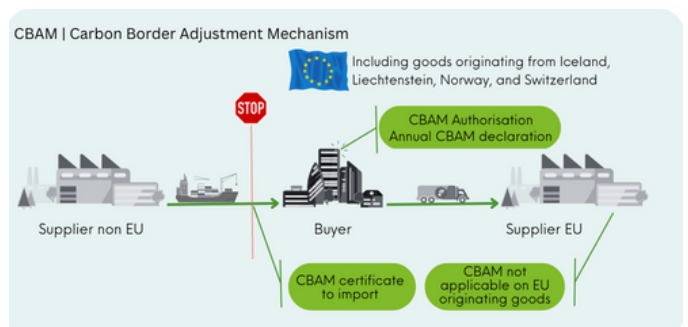
EU Carbon Taxonomy

CBAM | Carbon Border Adjustment Mechanism

Including goods originating from Iceland, Liechtenstein, Norway, and Switzerland

CBAM Authorisation
Annual CBAM declaration

Supplier non EU   Buyer   Supplier EU

CBAM certificate to import

CBAM not applicable on EU originating goods

CEAM | Circular Economy Assessment Method of TM66 (see below)
For analysing and scoring the circular attributes of luminaires

Cradle to Cradle Certified® | Global standard for products that are safe, circular and responsibly made.

Carbon & Circularity | Global Standard

CSRD | Corporate Sustainability Reporting Directive
An EU ESG (environmental social governance) directive designed to make corporate sustainability reporting more common, consistent, and standardized like financial accounting and reporting.

EU Directive

DPP | Digital Product Passport – **product-specific data set.**
Providing information on the origin, composition, repair, and disassembly options of a product as well as how the various components can be recycled.

EU Directive

EcoVadis | Assessment process which evaluates the sustainability of a business and its supply chain.
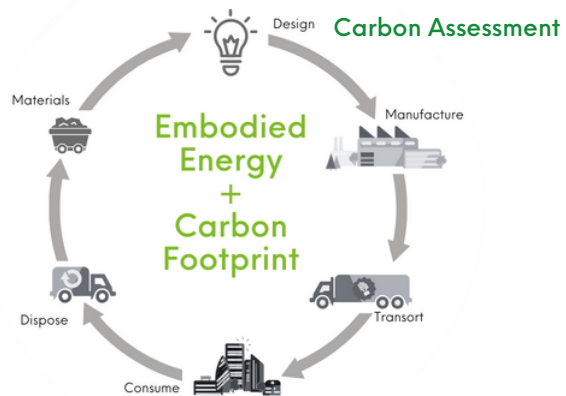
Carbon Assessment

Embodied Carbon
Embodied emissions are those that took place in the supply chain to manufacture, transport and install a product and all its components, as well as to dispose of it at the end of life. Operational carbon emissions are related to energy and resource use during the product's lifetime.

In lighting the operational emissions (~90%) massively outweigh embodied emission (~10%)
Lighting accounts for nearly 5% of global CO_2 emissions
Source: https://www.theclimategroup.org/led

Carbon Assessment

EPD | Environmental Product Declaration Defined by the International Organization for Standardization (ISO) 14025 as a Type III declaration that "quantifies environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function." The EPD methodology is based on the Life Cycle Assessment (LCA) tool that follows ISO series 14040
It consists of two key documents:

Global Life Cycle Assessment

1. The underlying Life Cycle Assessment report: a systematic and comprehensive summary of the LCA project to support the third-party verifier when verifying the EPD. This report is not part of the public communication.
2. Public EPD document that provides the LCA results and other EPD content.

EPREL | European Product Registry for energy labelling
As of 1 January 2019, suppliers (manufacturers, importers or authorised representatives established in the EU) must register their products in the European Product Registry for Energy Labelling (EPREL). In May 2022, the database was launched for public access and consultation.

EU Regulation

EPREL offers detailed information on models placed on the EU market by scanning the QR code featured on the new energy labels. The database provides information such as the luminous flux, colour temperature and cap type.

ESPR | Ecodesign for Sustainable Products Regulation
The proposal for a new Ecodesign for Sustainable Products Regulation, published on 30 March 2022, is the cornerstone of the EU Commission's approach to more environmentally sustainable and circular products. The proposal builds on the existing Ecodesign Directive, which currently only covers energy-related products.

EU Regulation

30 new delegated acts expected to be developed by 2030 as part of ESPR

ESG | Environmental, Social, and Governance reporting
In April 2022, the UK enacted two mandatory ESG disclosure laws. The new rules will ensure consumers and investors have access to information they need to assess risks arising from climate change and other sustainability issues. It will also create a culture of transparency regarding the impact companies have on people and the environment.
- The Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2022
- The Limited Liability Partnerships (Climate-related Financial Disclosure) Regulations 2022.

Certain large companies within the EU must disclose ESG information under the Non-Financial Reporting Directive (NFRD).

EU Legislation & UK Legislation
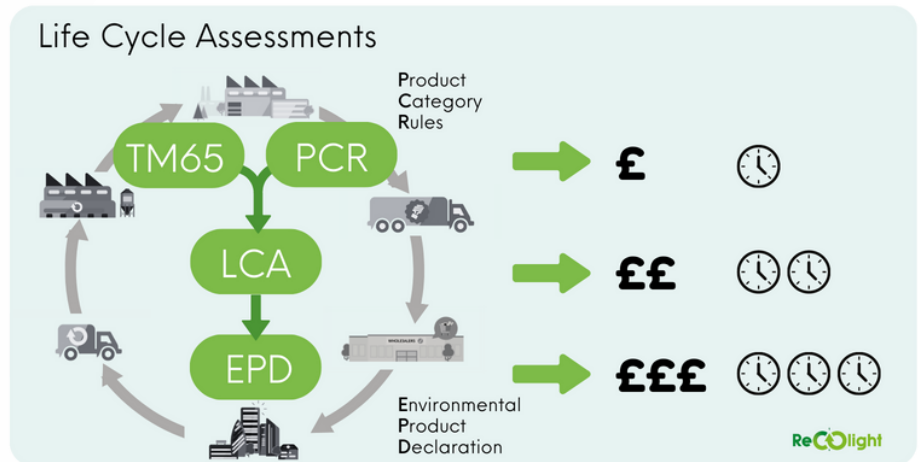
LCA | Life-cycle assessment
Methodology for assessing environmental impacts associated with all the stages of the life cycle of a commercial product, process, or service. Environmental impacts are assessed from raw material extraction and processing (cradle), through the product's manufacture, distribution and use, to the recycling or final disposal of the materials composing it (grave).

Global methodology

LCA is a framework standardised by ISO 14044

LCAs are provided by several consultants and are very comprehensive, but can be costly, especially if your company has a large portfolio of products to assess.

LCA's will be expected with all new product designs.
If carbon is taxed, then the spotlight will be on quantifying and validating carbon emissions.
Likely to be adopted at European level as common assessment method.

LPC | Living Product Challenge
A framework that encourages manufacturers to create products that are healthy, inspiring and give more than they take across their life cycles.

Guidelines

PCR | Product Category Rules provide the rules, requirements, and guidelines for developing an EPD for a specific product category.

Guidelines

PEPecopassport® PSR 0014, an international reference program for environmental declarations of products from electric, electronic and heating & cooling industries. The association defines, in compliance with the ISO 14 025 requirements, the PEPecopassport® Program management process, with respect to professional ethics and transparency. Program currently supported by Lighting Europe

Environmental declaration methodology

PPT | Plastic Packaging Tax – High embodied carbon assessments will result in higher taxation

UK Taxonomy

SPI | Sustainable products initiative

This initiative, which will revise the Ecodesign Directive and propose additional legislative measures as appropriate, aims to make products placed on the EU market more sustainable.

TM65 Embodied carbon in building services

Method for calculating embodied carbon in building services. A dedicated lighting version is being written by CIBSE; SLL.

Embodied carbon is understood as the greenhouse gas emissions (GHG) associated with the making of a product, its installation, its maintenance, repair, replacement, and then its end of life. It covers the whole life cycle, excluding operational aspects and the potential recovery, reuse or recycling of materials,

TM66 | Quantified Circularity – Creating a circular economy in the lighting industry | CIBSE and SLL Technical Memorandum for the lighting industry.

TM66 is a new Circular Economy Assessment Method, for designers, specifiers, and engineers, allowing the quick comparison of two or more lighting products. It includes a new Circular Economy Assessment Method, designed to create an overall assessment of the circularity of a product on a 0-4 scale.

WELL v2 | International WELL Building Institute

The WELL standard is currently focused on the promotion of good quality lighting, used in conjunction with natural daylight and the embodiment of state-of-the-art circadian principles.

Future drafts will include the demand for circular solutions, adding weight to products that have circular principles and/or are capable of being remanufactured in the future.

Waste Hierarchy

Recycling destroys value & loses embedded carbon. Plastics in recycled WEEE cause CO2 emissions. Re-use and repair should always be considered first. Recycling is not the best option

EU Legislation

Environmental declaration methodology

Life Cycle Assessments

Circular Economy Assessment

Building Regulations