

LIGHTING

IEC environmental standardisation for lighting products

The International Electrotechnical Commission (IEC) now has an advisory group working on environmental standardisation for lighting products. An update on this initiative was featured in a recent LightingEurope "Brussels Direct" webinar, presented by Bryan King, the convenor of IEC TC 34 Lighting Committee, Advisory Group 20. This webinar gave an insight into the IEC project, and explained why environmental standardisation action is needed for lighting products. The key points of Bryan King's address are summarised here.

The driving force for change is mainly the upcoming European Commission Single Lighting Regulation (SLR). This is not only a European matter, as many rest-of-world countries are also considering EC SLR-like regulation. Additionally, clear guidelines and methods are needed for organisations aiming to meet commitments to the UN Sustainable Development Goals, in particular SDG 12 Responsible Consumption and Production.

There are many IEC and ISO guidance publications on environmental matters but these are at the generalist level, not at

the operating level, or specific to lighting products. The AG 20 Advisory Group is working on strategies so that "Relevant TC 34 publications will evolve to incorporate well-structured, clear and harmonised guidance and/or requirements on environmental aspects specific to lighting products".

Work initially started in 2019 with the formation of a one-year terminating IEC Ad Hoc Group which evolved into a permanent



Bryan King is convenor of IEC Advisory Group AG 20 Environmental Aspects and is IEC TC 34 head of delegation New Zealand. He is member of one ISO and three Australia/New Zealand lighting committees. Bryan is Executive Director of industry association Lighting Council New Zealand, and Managing Director of New Zealand lighting consultancy Strategic Lighting Partners Ltd.



Advisory Group in 2021. This group has a diverse geographic mix of contributors with 16 lighting expert members spanning nine countries. The AG 20 workplan approach is to identify, collate and review guidance from existing IEC, ISO, EN and other environmental publications and to identify gaps in the current guidance relating to lighting products.

It is still early days, but the Advisory Group is forging linkages with other standards committees such as the IEC Advisory Committee on Environmental Aspects and IEC committee TC 111 Environmental standardisation for electrical and electronic products, and also with ISO committees TC 207 Environmental Management and TC 323 Circular Economy.

A significant source of input is from the work of the European Committee on Standardisation CEN/CENELEC JTC-10 joint committee on Material Efficiency Aspects for Ecodesign. This standards development work evolved from the European Commission under regulatory directive 2009/125/EC. The resultant EN 4555X series of eight environmental standards for "Energy Related Products" published in 2019 and 2020 are for guidance on extending product lifetime, the ability to re-use components and materials at end-of-life, and the use of re-used components and recycled materials. AG 20 is reviewing these JTC-10 Material Efficiency publications with a view to adapting them for lighting product applicability.

IEC pioneering work has recently been published by the switchgear

Lighting Association Ireland (LAI) is an independent, non-profit organisation established to represent the collective views of member companies and professionals engaged in all aspects of the lighting industry in Ireland. It is the established voice of the sector and is regularly consulted by Government Departments, standards bodies and regulatory organisations.

It also has strong relationships with all the other professional and contracting bodies engaged in building services and construction in general.

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and controlgear committee IEC TC 121, with a product level environmental Technical Specification: IEC TS 63058 Ed1:2021 Switchgear and controlgear and their assemblies for low voltage – Environmental aspects. This was published in January 2021 and is the first IEC Technical Specification for environmental aspects at the product level. This publication is under evaluation by AG 20 as a potential model or template for a Technical Specification on environmental aspects for lighting products.

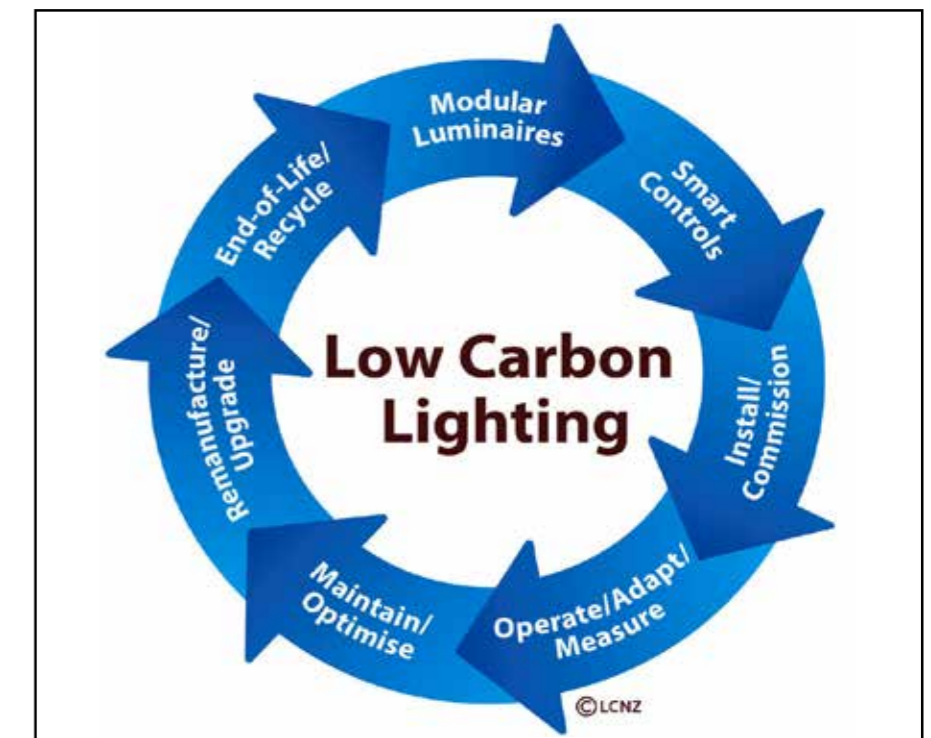
It is too early to judge at present what AG 20 outcomes will eventuate, but possible progressions from working group action could include the citation of a Technical Specification for lighting environmental requirements in lightsource, luminaire and controlgear "IEC Part-1 General Requirements" standards. Or alternatively, the embedding of particular clauses on environmental guidance and requirements into such standards.

Identified environmental information gaps for lighting products include specific life-cycle

assessment (LCA) product and materials information, and life-cycle product category rules (PCRs) for the standardisation of lighting product environmental product declarations (EPDs). The development of such additional information will pave the way towards facilitating full building information modelling (BIM) optimisation with operational and embodied whole-of-life performance modelling.

International guidance

We have all often seen bold advertising claims for "green", "sustainable" or "eco" lamps and luminaires, without any evidence-based support. However, the era of loose and vaguely-expressed environmental generalities is over, with internationally standardised data now becoming an expectation for convincingly substantiating environmental performance claims. When developed, internationally standardised IEC guidance and methods will assist lighting with specific ways for defining, calculating and reporting of circular economy, materials efficiency, embodied and operational carbon emissions performance. ■



This "low carbon lighting" graphic was compiled by LCNZ to simplify the confusing internet morass of "eco stuff" diagrammes.