From: MDCSendmail@mackenzie.govt.nz
Sent: Wed, 23 Nov 2022 13:12:39 +1100 (AEDT)
To: District Plan
Subject: Mackenzie District Council - Submission on Proposed Plan Change to the Mackenzie District Plan
Attachments: Mackenzie-District-Council-District-Plan-Section-22-Response-Bryan-King-and-Kevin-Cawley-23-November-2022.pdf

A new Submission on Proposed Plan Change to the Mackenzie District Plan has been received.

Plan Change Number

Which Plan Change number?:	22

Details of Applicant

First Name:	Bryan
Last Name:	King
Postal Address:	Strategic Lighting Partners Ltd
Email:	bryan@strategiclightingpartners.com
Telephone No:	
Fax:	
Date:	2022-11-23 00:00:00
Customer number (if known):	
Contact person:	Bryan King
Contact person Telephone No:	021 300 111

Submission Details

The specific provisions of the Proposal my submission relates to are as follows:	Document Review of Mackenzie District Plan – Section 32 Report: Plan Change 22 – Light – 20 September 2022
I support / oppose these provisions:	I support in part
The reason(s) for my submission are:	I seek amendment's to be made to the proposed DP
I seek the following decision from the Mackenzie District Council:	I seek that the Council review the attached lighting specialist comments and made DP amendments in accordance with the suggestions.
I do or do not wish to be heard in support of my submission:	I do

If others make a similar submission I would or would not be prepared to consider presenting a joint case with them at any hearing:	I would
Additional information for this submission:	All information contained in the attachment
Attach a supporting document:	Mackenzie-District-Council-District-Plan-Section-22-Response-Bryan-King-and-Kevin-Cawley-23-November-2022.pdf, type application/pdf, 387.6 KB

Mackenzie District Council – District Plan Review

Submission from:
Bryan King – Strategic Lighting Partners Ltd and Kevin Cawley - Total Lighting Ltd

Document Review of Mackenzie District Plan – Section 32 Report: Plan Change 22 – Light – 20 September 2022

Part A - Specific Comment on the Proposed Plan Change 22-Lighting

In part A the following MDC report text is in black text. The RED text is the commentary regarding suggested modifications.

Topic
1.2 This s32 report relates to the management of lighting with the district, in terms of the impact lighting has on the night sky, as well as on safety and amenity.
This scope description is inadequate as it omits the consideration of:

- Ecological impacts and the protection of fauna and flora
- Human sleep and health impacts of light at night
- Outdoor hospitality and tourism precincts

Light Pollution
5.4 What makes the Mackenzie Basin night sky unique is its clarity and the absence of 'light pollution' (wasted light shining upward), which can brighten the sky, and hides the stars, the aurora and the other faint natural lights.
This description of the impacts of light pollution only identifies the problematic aspects for astronomy. The scope needs to be widened to also include addressing the problematic aspects for ecology (flora and fauna) and human sleep and health.

Control of light pollution is therefore necessary to maintain dark skies and its value for tourism and research.
Control of light pollution and obtrusive light is necessary for more than just dark skies and astronomical research. It is also necessary to protect flora and fauna from adverse horizontal light impacts, and for impacts on human sleep and health. Add information to this effect.

While the current rules manage this to a degree, some concerns have been raised with them. This includes that the current rules only apply to outdoor lighting. As such they do not manage indoor lighting which also has the potential to result in light pollution, including skylights and display windows in commercial areas.
Light emissions from buildings are difficult to manage as they emanate from interior lighting from commercial buildings and private dwellings. Such emissions are fragmented in scale and they may not be practical to limit by regulation.

The rules also pre-date the use of LED lamps, some of which contain more blue and green light which can result in light pollution.
This sentence requires amendment. The light spectral characteristics of LED light sources are wide ranging depending on customer needs and wants and can vary broadly, with commercially available correlated colour temperatures from 2000K to 6000K. Light pollution is the result of errors of application of a combination of technical parameters, not simply the use of a LED luminaire.

Where Lighting Provisions are Applied
5.5. Most of the rules restricting lighting only apply in the area identified in the Outdoor Lighting Restriction map. Outside this area, the only control is that all fixed exterior lighting is directed away from adjacent properties and roads. This is considered to offer minimal protection from the potential nuisance effects of lighting. In terms of the impact of light pollution on the night sky, an application has been made to expand the AMIDSR to include the whole of the Mackenzie District. This provides an opportunity to manage light pollution consistently throughout the whole district.
In principle this is a constructive approach. However, it is not clear if the intention is to regulate for the application of the same lighting restrictions both inside and outside the AMIDSR region. Application of the exact same AMIDSR lighting parameters to other areas that require public lighting for road safety, pedestrian safety, urban amenity and outdoor hospitality would not be appropriate. Selective application of regulation is imperative, based on professional lighting design advice and guided by a MDC Regional Lighting Masterplan. The standards body the International Lighting Commission (CIE - Vienna) publishes guidance on the development and use of regional and urban lighting masterplans.

Technical Input
6.1. The proposed rules were discussed with representatives of the University of Canterbury, who provided technical advice on updating the rules to reflect modern day lighting, and to address particular areas of concern.
There is no mention of technical input from lighting professionals, or consultation regarding best practice lighting products and techniques with lighting organisations such as the Illuminating Engineering Society of ANZ (IESANZ) or Lighting Council New Zealand (LCNZ). This appears remiss, as lighting technologies and their capabilities and affordability are evolving very rapidly.

Scale and Significance
7.2. The Operative District Plan already contains provisions managing lighting. The key changes proposed in PC22 are:

- Extending the rules relating to dark sky lighting to apply across the whole District, rather than only in the current AMIDSR. This introduces controls on outdoor lighting in eastern parts of the district where they do not currently apply.

Refer Section 5.5 above. Application of the exact same AMIDSR lighting parameters to other areas that require public lighting for road safety, pedestrian safety, amenity and outdoor hospitality would not be appropriate. Selective application of lighting regulation is imperative, based on professional lighting design advice and guided by a MDC Regional Lighting Masterplan.

- Updating the rules, in line with advice received from Canterbury University, to better manage security lighting and skylights and bring the controls up to date in relation to LED lighting.

Technical input from independent professional lighting consultants is essential to ensure not only light pollution mitigation, but safety compliant and fit for-purpose general lighting outcomes. In addition, Technical Standards from organisations such as AS/NZS, CIE, IEC and ISO are constantly under update and it is essential to ensure that the references in MDC guidance documents and bylaws are current.

- The introduction of light spill (horizontal and vertical illuminance) limits.

Spill light quantification is a basic and well-established technical approach to identify and limit obtrusive light impact on adjacent sites and should be introduced ASAP as a practical and enforceable means of spill light minimisation. As the AS/NZS obtrusive light technical standard is currently under update it will be necessary for MDC to review and align with latest requirements.

Evaluation of proposed policies, rules and other methods

9.3. The proposed provisions relating to lighting, have been grouped, for the purposes of this assessment, as follows:

- Light pollution
- Nuisance effects

This categorisation is inadequate for use in a best-practice District Plan. A broader approach that includes ecological and human effects is required. For example:

- Light pollution – Astronomical Effects – Night Sky Darkness
- Light pollution – Ecological Effects – Horizontal Darkness
- Light Pollution - Human sleep and health impacts
- Nuisance effects

Light Pollution provisions

9.4. The provisions assessed is this section are:

- Policies:

LIGHT-P2 Night Sky Darkness

Require outdoor lighting to minimise, as far as practicable, the potential for upward light spill that would adversely affect the ability to view the night sky.

The proposed DP makes no mention of the use of lighting control systems for use as a tool for mitigating light pollution. This is remiss. Central Management System (CMS) lighting control systems for street lighting, parks, reserves, and public spaces are a transformative technology now widely used by NZ councils. These smart systems are very effective at off-peak dimming and trimming to cut unnecessary lighting, reduce energy and operational carbon emissions, as well as saving money via reduced energy and maintenance expenses. For privately owned and/or fragmented outdoor lighting deployments new generation wireless control systems are using protocols such as Bluetooth Long Range communication for outdoor light minimisation.

9.5. Key changes from the status quo are:

- Applying the controls to the entire District, not just the current AMIDSR.
- Replacing the existing filtration rule with a colour temperature and lamp type rule.

The term ‘lamp’ is obsolete in this context, ‘light source’ (fixed within the luminaire) is now the accepted term. The draft DP states that the colour temperature for MDC shall not exceed 2500K. Typical warm colour temperatures commercially available are 2000K, 2200K, 2700K, 3000K, thus the maximum for MDC use is 2200K.

2200K may be suitable for use in the AMIDSR area, but for other areas such as town centres, retail and hospitality precincts this is not likely to be an acceptable choice for the wider community for general use.

Thus, it is not appropriate to totally prohibit the use of higher colour temperature light sources, as limited use as part of professionally developed night sky conscious lighting designs is appropriate. Such use is unlikely to contribute materially to degradation of the night environment. For example:

- The limited use of 3000K light sources for targeted outdoor lighting in tourist, retail, and hospitality precincts
- The use of 3000K or 4000K spotlighting or effect lighting for limited use on town memorials, statuary, public artworks etc

Conversely, the unthinking selection, installation and use of low first-cost LED spotlight and floodlight security luminaires of up to 6000K (typically supplied by big-box retailers or electrical wholesalers) is an application ripe for intervention from astronomical, ecological and neighbourhood nuisance perspectives. This issue would be a constructive addition to the draft DP. Whether an intervention is best framed as a mandatory requirement (difficult to monitor and enforce) or a voluntary one is a matter for local discussion.

Nuisance Effects Provisions

9.10. The provisions assessed is this section are:

- Policies:

LIGHT-P1 Managing Outdoor Lighting

Manage the location, design and operation of outdoor lighting to ensure:

1. it does not distract or interfere with traffic; and
2. it is compatible with the zone in which any light spill or glare is received.

The above information is not sufficiently detailed to be meaningful. More specific information is required:

a) Manage the location of outdoor lighting:

For nuisance effect mitigation by location, this means that various ‘Environmental Zones’ will need to be established in selected locations according to latest AS/NZS obtrusive light standards guidance and based on professional lighting design advice and guided by a MDC Regional Lighting Masterplan.

b) **Manage the design of outdoor lighting**:

For nuisance effect mitigation by design, professional lighting design services are required working to latest AS/NZS obtrusive light standards guidance, as well as applying guidelines stipulated by international Standards Development Organisations (CIE, ANSI, BSI), and NGO’s such as IESNA (US), CIBSE (UK) and ILP (UK).

c) Manage the operation of outdoor lighting:
For nuisance effect mitigation via operation, this means the application of electronic control devices or control systems to minimise operation times, trim and dim luminaire output at off-peak periods, meet curfews etc. Such control techniques should be added to the draft DP.

Conclusion/Reasons
10.2. Overall, the key changes in PC22 from the operative District Plan approach are to expand the application of the light pollution-based controls to apply a consistent approach across the district, and to update them to better take into account modern lighting and manage its potential effects on the darkness of the night sky, as well as address known gaps. The implications of 'consistent' needs review. This implies that the exact same lighting techniques should be applied across the district. More appropriately, a selective but harmonised approach is required based on professional lighting design advice and guided by a MDC Regional Lighting Masterplan.

Part B - General Comment on the Proposed Plan Change 22-Lighting

There are some issues to highlight and comment on regarding shortcomings in the scope and approach of the proposed Plan Change 22:

1) From an environmental perspective, Plan Change 22 is dominated by light mitigation for astronomical protection. This prime positioning is right and proper for the MDC region, but there is a complete void in requirements for other stakeholder interests such as ecological protection (flora and fauna) and human sleep and health protection. Suitable provisions for ecological and human protection should also be included.

2) Plan Change 22 includes only a narrow source of technical input, with Canterbury University being the only cited source on lighting technology and application information. Input from widely experienced lighting professionals is necessary to ensure the appropriateness, accuracy, completeness, and credibility of the updated DP.

3) Plan Change 22 includes no consideration of the use of off-peak adaptive lighting techniques, delivered via lighting control systems, as a light pollution mitigation tool. This is a major oversight. Digital lighting controls can be a council owned and operated Central Management Systems (CMS) for outdoor public lighting. For fragmented and/or private applications Bluetooth Long Range systems can provide wireless connectivity and control effectively and economically. Such systems can be used generate deep reductions in hours of operation and light levels (i.e. the lumens required to meet AS/NZS 1158 safety and amenity requirements at particular times of the night) thus greatly reducing unintended and unwanted light impacts.

4) Plan Change 22 sates that Low Pressure Sodium (LPS) and High-Pressure Sodium (HPS) lamps 'shall be used'. These are obsolete lamps with rapidly diminishing commercial availability and should not be an included item in this DP.

5) Plan Change 22 includes no apparent consideration of the relationship between the various statutory bodies that oversee and regulate environmental aspects for the MDC region, or their areas of jurisdiction and relative levels of authority.
These bodies are:
   - Regional Plan - Environment Canterbury
   - District Plan - Mackenzie District Council
   - National Park Management Plan & Conservation Management Strategies - Department of Conservation

   A particular focal point is the DOC mandate, which includes:
   - Managing Protected Natural Areas
   - Protecting biodiversity
   - Protecting natural landscapes, nightscapes, and soundscapes

   These three points are highly relevant to the MDC DP as errant light can be a negative contributor to all three items. The proposed DP would benefit from explanation of the organisational connections and ways which the parties align for cohesive interaction on the protection of astronomical and ecological values.

Part C - Concluding Statement on Proposed Plan Change 22-Lighting

For MDC to impose regulation for tactical interventions on lighting implies the existence of a strategic plan that considers all appropriate factors and stakeholder interests relevant to MDC and then balances these influences to determine the tangible tactics required.

An overview document in the form of a MDC Regional Lighting Masterplan is a necessary part of sound regional lighting planning and regulation.

Such a document would serve as a well-rounded and explicit tool for lighting design and application guidance and provide a clear lighting 'hierarchy of needs' with task-focused but regionally harmonised parameters across broad range of MDC locations and uses.

We suggest that MDC develops a lighting strategic plan based on International Lighting Commission (CIE) guidelines, and then finalises the aspects of Plan Change 22 as an implementation tool that will assist MDC to act with consensus and confidence to deliver the intended outcomes that will protect, preserve, and promote the best interests of the MDC region.

Appendix – Submitter Profiles – Bryan King and Kevin Cawley

Bryan King and Kevin Cawley are independent lighting consultants and highly experienced lighting professionals and are both multi-awarded for lighting achievements nationally and internationally over many decades. Their fields of lighting specialisations are different and complementary, and they collaborate on projects where a range of backgrounds and skills are necessary to deliver on client needs.
Bryan is based in Auckland and Kevin in Christchurch.

Refer submitter CV's - Attached.

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Managing Director - Strategic Lighting Partners Ltd

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https://www.linkedin.com/in/bryan-king-25027813/?originalSubdomain=nz

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https://www.totallighting.co.nz
https://www.linkedin.com/in/kevin-cawley-a6498b1/

END

CURRICULUM VITAE - Bryan King

November 2022

Address:
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Birthdate: 7 February 1955
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LinkedIn: https://www.linkedin.com/in/bryan-king-25027813
website: https://strategiclightingpartners.com

CURRENT ROLES

Bryan King is an independent consultant on technical, economics, environmental, ecodesign, standards and regulatory matters for commercial lighting, public lighting, lighting controls and smart cities applications.

- Director: Strategic Lighting Partners Ltd
- Director: Lighting Management Consultants Ltd
- Executive Director: Lighting Council New Zealand Inc

CAREER ROLES

- Strategic Lighting Partners Ltd – Director - Consultant 2013-current
- Lighting Council New Zealand - Executive Director 2013-current
- Global Lighting Association – Board member 2019-Current
- Institute of Public Works Engineering Australasia – Advisor 2014-current
- Essential Services Commission Victoria Australia – Advisor 2019-2020
- Massey University School of Engineering- Lighting Advisory Committee 2014-current
- Lighting Management Consultants Ltd – Director - Consultant 2008-current
- Lighting Council New Zealand – Founder, Chair 2003-2006
- Modus Lighting Ltd – Auckland – Founder, Managing Director 1983-2005

ACADEMIC QUALIFICATIONS

- **Massey University** - Centre for Energy Research
  MTech - Master of Technology (Energy Management). Two years undertaken. Unfinished work in progress. Thesis topic - "Development of a Road and Urban Lighting Holistic Assessment Model"

- **University of Auckland** – 1984-1986 MBA - Master of Business Administration.
  Thesis "A-" Grade

- **University of Auckland** – 1981-1982 DipBIA - PG Diploma in Business and Industrial Administration (Industrial Engineering). Dissertation "A" Grade

- **Auckland University of Technology** – 1973-1978 NZCE New Zealand Certificate of Engineering (Mechanical)

MEMBERSHIPS AND PROFESSIONAL ACTIVITIES

International Standards Organisation (ISO) Geneva:
ISO TC 274 Light and Lighting Committee - NZ Representative

International Electrotechnical Commission (IEC) Geneva:
IEC TC 34 Lighting Standards Committee – NZ Head of Delegation at General Assembly Meetings: Tokyo 2014, Denver 2015, Sydney 2015, Paris 2016, Frankfurt 2016, Pretoria 2017, Shanghai 2017, Vienna 2017, Sydney 2018, Frankfurt 2018, Busan 2018, Washington DC 2019, Delft 2019, Shanghai 2019, Wellington 2020, Zoom 2020, Zoom 2021, San Francisco 2022, Washington DC 2022.

Committee participation IEC TC 34 Lighting:

- SC34D Working Group 1 – Luminaire Committee – Member and Project Leader
- Working Group 14 - Lighting Systems - Member
- Advisory Group 4 - Lighting Systems - Member
- Advisory Group 1 – Chair's Advisory Group - Member
- AG 20 Advisory Group - Environmental Aspects – Founder and Convenor
- WG 24 Working Group – TR Environmental aspects for lighting products and systems – Leader

IEC Advisory Committee on Environmental Aspects – TC 34 Lighting Sector Representative

Essential Services Commission, Victoria – Lighting Energy Efficiency Programme – Advisor- 2018-2021

AU/NZ Government - Equipment Energy Efficiency (E3) Committee - Canberra – Minimum Energy Performance standards (MEPS) Technical Working Group - 2016-current

Standards Australia Lighting Committees:

- LG-002 AS/NZS1158 Road Lighting - Energy WG4 Leader – 2016-2020
- LG-002 AS/NZS1158 Road Lighting - Controls WG3 Leader – 2013-2015
- LG-002 AS/NZS1158 Road Lighting – Committee - 2006-current
- TE-003 Electro Magnetic Compatibility – Committee - 2019-current
- EL-041 Lamps and luminaires – Committee - 2013-current
- EL-041 AS/NZS 5341:2021 – LED Lamp MEPS Committee - 2019-current

NZS 4243 Energy Efficiency Large Buildings – Lighting:2017 – Committee Chair - 2017
NZS 4246 Energy Efficiency - Installing Insulation – Committee - 2015-2016
NZS 20086:2022 Energy Performance of Lighting in Buildings - Committee Chair - 2021-2022

NZ Transport Agency - NZ National Road Lighting M30 LED Specification WG - Member – 2017-current
NZ Transport Agency - NZ National Road Lighting M31 Lighting Controls WG Member – 2017-current

Illuminating Engineering Society of Australia and New Zealand:

- Professional Member, MIES-ANZ from 1991
- National Council Board Member 1996-1999
- Judge – Lighting Awards 1996-1997
- Judge - Lighting Awards - 2008
- Conference paper review panel – 2008

Carbon and Energy Professionals NZ (Energy Management Association) – Member 1996-current
Energy Management Association of NZ – Board Member – 2009-2011
Energy Management Association of NZ – Local Govt Working Group – 2008-2012

University of Auckland – Graduate School of Business - MBA Case Study Board 2002-2003
University of Auckland - School of Architecture – Guest Lecturer Lighting - 1997-1998

Ministry for the Environment NZ – Lighting Product Stewardship Steering Group 2006-2007
Ministry of Economic Development NZ – Sustainable Lighting Procurement Group – 2007

New Zealand Life Cycle Association – Foundation member – 2009-current

Australasian EPD (Environmental Product Declaration) Programme Ltd – Board Director 2014-2015

NZ Electricity Commission – NZ Efficient Lighting Strategy – Advisory Panel – 2006-2007

APEC International CFL Lamp Standards Conference - Xiamen China – NZ Head Delegate - 2007

AWARDS

IEC '1906' Award - International Electrotechnical Commission (IEC) – Geneva – July 2022
https://www.iec.ch/awards
The award was conferred for exceptional individual engagement in Technical Committee TC 34 Lighting, to organise and develop the first internationally standardised procedures for environmental engineering for lighting.
https://www.standards.govt.nz/news-and-updates/iec-1906-award-shines-a-light-on-bryan-kings-international-contribution/

CONFERENCE AND SEMINAR PRESENTED PAPERS

- **"AS/NZS De-Jointing and the Future of NZ Electrotechnical Standardisation"**
  Standards New Zealand Seminar - Wellington – October 2022

- **"2022 IEC Activity on Environmental Aspects for Lighting"**
  LightingEurope "Brussels Direct" Webinar Series – Brussels - August 2022

- **"The New NZS Standard 20086 Lighting Energy Performance"**
  Lighting Council NZ Seminar – Auckland - August 2022

- **"NZS 20086:2022 Energy Performance of Lighting in Buildings"**
  Standards New Zealand Seminar - Wellington – July 2022

- **"IEC TC 34 Lighting Committee Progress on Environmental Aspects"**
  IEC Advisory Committee on Environmental Aspects – Seminar - Geneva - June 2022

- **"Circular Economy for Lighting Products"**
  Carbon and Energy Professional Conference - Rotorua - June 2022

- **"What's New in Public Lighting Standards?"**
  IPWEA Street Lighting and Smart Controls Conference – Adelaide - May 2022

- **"2021 IEC Activity on Environmental Aspects for Lighting"**
  LightingEurope "Brussels Direct" Webinar Series – Brussels - May 2021

- **"Taking Tech to the World with Standards"**
  Standards New Zealand Seminar - Wellington - May 2021

- **"Carbon Accounting for Public Lighting in the Digital Age"**
  Carbon and Energy Professionals NZ Inc – Wellington/Zoom - November 2020

- **"The New Zealand Lighting Market - Present and Future"**

Global Lighting Association Seminar – Telford UK - October 2019

- **“An Overview of the Controversies of Blue Rich White Light in Outdoor Lighting”**
  Massey University Healthy Lighting Symposium – Auckland - September 2017

- **“Street Lighting and Smart Controls - South Australia Workshop”**
  Australian Department of the Environment and Energy – Workshop - Adelaide - August 2017

- **“Smart Street Lighting Controls**”
  Institute of Public Works Engineering (IPWEA) – Street Lighting and Smart Controls Programme – Webinar - July 2017

- **"SLSC Model Specifications for LED Luminaires and Control Systems"**
  IPWEA Street Lighting and Smart Controls Conference – Brisbane - March 2017

- **“Pathways for progress in Public Lighting Standards”**
  IPWEA Street Lighting and Smart Controls Conference – Brisbane – March 2017

- **“Smart Street Lighting Controls”**
  Australasian Smart Cities Association Webinar - August 2017 - Co-Presenter Godfrey Bridger

- **“Towards More Sustainable Street Lighting”**
  IPWEA National Workshop Series - Co-Presenter - Six Australian Workshops - 20-28 October - Brisbane, Melbourne, Adelaide, Perth, Hobart, Sydney

- **“The Good the Bad the Ugly – A Demonstration of Road Lighting Luminaire optics”**
  Road Lighting 2015 International Conference - Auckland - March 2015

- **“Smart Procurement and innovative business models for LED Street Lighting”**
  Road Lighting 2014 International Conference - Auckland - March 2014

- **“Performance Contracts for Road Lighting Procurement”**
  Society of Local Government Managers - Energy and Utility Forum – Wellington - May 2013

- **“Off Grid Solar LED Product Life Cycle Management Options”**
  World Bank - International Finance Corporation - Third International Off-Grid Lighting Conference - Dakar, Senegal, West Africa - September 2012

- **“Development of a Road and Urban Lighting Assessment Model”**
  Massey University – School of Engineering - Lighting Technology Seminar
  Albany, Auckland - July 2011

- **“Development of a Road and Urban Lighting Assessment Model”**
  PLDA Professional Lighting Design Association Conference - Invited Speaker
  Madrid, Spain – October 2011

- “**Road Lighting Performance Based Procurement and Project Management”**
  Philips Lighting – Transforming Cities Seminars - Auckland, Wellington, Christchurch - November 2010

- **“Energy Efficient Lighting - Delivering Results with Performance Based Project Management**
  Energy Management Association of New Zealand – Technical Presentation - Auckland – June 2010

- **“Development of a Road and Urban Lighting Holistic Assessment Model”**
  Massey University Centre for Energy Research – Conference - Palmerston North – November 2009

- **“Advanced Technology Street Lighting – A Holistic Evaluation”**
  Massey University Centre for Energy Research – Conference - Wellington – July 2008

- **“Development of a Road and Urban Lighting Holistic Assessment Model”**
  Energy Management Association of NZ – Seminar - Wellington - February 2010

- **“Lighting Infrastructure – The new Energy Agenda”**
  Massey University – School of Engineering and Advanced Technology
  Post Graduate Lighting Technology Seminar - Auckland – November 2008

- **“Road Lighting - The New Energy Agenda”**
  Energy Management Assn of NZ – Technical Seminar - Auckland – July 2008

- **“Street Lighting Control and Metering Systems”**
  NZ Electricity Commission – Advanced Metering Infrastructure Conference
  Wellington – November 2008

- **“Street Light Energy Metering – Impediments and Opportunities”**
  Waitakere City Council – Advancing NZ’s Street Lighting Technologies - Conference
  Auckland - October 2008

- **“Lighting Control and Dimming Systems”**
  Waitakere City Council – Advancing NZ’s Street Lighting Technologies - Conference
  Auckland - October 2008

- **“New Technology Street Lighting – Implications for Light Pollution”**
  Royal Astronomical Society of NZ – Annual Conference - Tekapo - New Zealand – May 2008

PAPERS, ARTICLES AND PUBLICATIONS

- **“Lowering energy consumption with adaptive lighting in non-residential buildings”**
  Touchstone Magazine - Standards New Zealand – Wellington - July 2022

- **“IEC Environmental Standardisation for Lighting Products”**
  Building Services Engineering Magazine Ireland - Dublin - September 2021

- **“IEC Environmental Standards for Lighting Products”**
  Electrolink Magazine – New Zealand - September 2021

- **“AS/NZS 1158.3.1:2020 Road and Public Lighting Energy Performance”**
  Standards Australia – Sydney - 2020

- **“International Standard IEC 60598-2-20:2021 - Lighting Chains”**
  International Electrotechnical Commission (IEC) – Standard Author - Geneva 2021

- **“User Guide on 2020 energy metrics in AS/NZS 1158 Lighting for roads and public spaces”**
  Department of Industry, Science, Energy and Resources – Canberra – January 2021. Co-author-Godfrey Bridger

- **“How Lighting Can Support New Zealand’s Economic Recovery and the Goal of a Net Zero Carbon Economy”**
  Lighting Council New Zealand – Auckland - February 2021

- "**Model LED Public Lighting Specification"** - Institute of Public Works Engineering - Street Lighting and Smart Controls Programme – Sydney - July 2017. Co-author - Graham Mawer

- **"Model Public Lighting Controls Specification"** - Institute of Public Works Engineering - Street Lighting and Smart Controls Programme – Sydney - March 2017. Co-author - Godfrey Bridger

- **"Street Lighting Roadmap"** - Institute of Public Works Engineering – Street Lighting and Smart Controls Programme – Sydney - April 2017. Co-authors - Godfrey Bridger, Graham Mawer

- **"Towards More Sustainable Street Lighting"**
  Institute of Public Works Engineering Australasia - E-Book – Sydney June 2013
  Co-authors - Graham Mawer, Godfrey Bridger

- **"Performance Contracts for Road Lighting Procurement"**
  NZ Society of Local Government Managers - Energy and Utility Forum – Wellington - May 2013

- **"Lighting the way to road safety – A policy blindspot?"**
  Australasian Road Safety Research, Policing and Education Conference 2012 – Wellington- October 2012. Co-author - Godfrey Bridger

- **"Strategic Road Lighting Opportunities for New Zealand"**
  NZ Transport Agency – Wellington - May 22, 2012. Co-authors - Godfrey Bridger, Crystal Beavis

- **"Development of a Road and Urban Lighting Holistic Assessment Model"**
  Lighting Magazine – Australia - Feb 2012

ELECTROLINK MAGAZINE - ARTICLES – NEW ZEALAND - WRITTEN 2017-2022

- The NZ large building lighting energy standard – February 2022
- UV-C light joins the fight to combat COVID-19 – November 2021
- Low carbon lighting for New Zealand – September 2021
- What is UGR 19 office lighting? – August 2021
- Why LED colour rendering matters - May 2021
- Radio spectrum compliance for lighting – March 2021
- Economic recovery and a net-zero carbon economy – January 2021
- Towards a circular economy for lighting – October 2020
- Digital lighting means DALI-2 – August 2020
- Effective home office lighting – April 2020
- LED lighting: Buy cheap, buy twice – March 2020
- Explaining human centric lighting - January 2020
- Landscape lighting magic – November 2019
- Captivating residential lighting - September 2019
- Better exterior home security lighting – July 2019
- Blue-rich white light and LED myths – January 2019
- What is colour rendering – December 2018
- All LED light is not created equal - October 2018
- Responsible recycling for lighting – September 2018
- Compliance - Not an option – March 2018
- What makes a good LED luminaire warranty - January 2018
- What makes good lighting - August 2017
- Choosing LED independent controlgear – July 2017
- Choosing a compliant luminaire - April 2017
- The new standard for recessed luminaires – February 2017

Lighting Designer

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International Association of Lighting Designers

Illuminating Engineering Society of Australia and New Zealand

Association of Lighting Designers London

Institute of Lighting Professionals London

International Dark-Sky Association

Lighting Council of New Zealand

Awards

IES Lighting Award, 1994
Energy Efficiency Award, 1994
IES Lighting Award ,1995
Master Builders Interior Lighting Awards,2012
Retail Interior Lighting Awards, 2011
International Retail Interior Lighting Awards, 2012
IES Lighting Awards of Excellence, 2012
Dark sky Award 2012
IES Lighting Awards of Commendation 2012
International Flower Show Gold Award, 2013
International Flower Show Gold Award, 2013
International Flower Show Supreme Lighting Awards, 2014
IES Lighting Awards, 2015
Royal Astronomical Society NZ
IES Lighting Awards, 2016
IES Lighting Awards, 2017
Dark sky Award, 2017
IES Lighting Awards of Excellence 2019
Royal Astronomical Society NZ Excellence 2019

Skills and Experience

A Lighting Designer, internationally respected and known for his skills in matching the clients lighting needs for cost effective, location specific, people friendly solutions that reflect the market he is designing for. Kevin Cawley offers lighting solutions that work for and with the environment and the location.

His influence internationally as a Creative Designer, who delivers reality, has Kevin in demand as a speaker both nationally and internationally.

Kevin has had 30 + years in the Electrical Industry and Design. His formative years in the Electrical Industry combined with his education and parallel career as a lighting designer for the theatre has created a unique “professional combination”. These combined skills give him the understanding of how to meet budget requirements yet at the same time creating sublime design solutions that offer not just value but also a long-term living environment that lights up a space, yet allows shadows to be cast, adding atmosphere and improving the living quality of the user.

Selected projects

International Airport Control Tower, Christchurch

Colour changing illumination of this challenging structure and gateway to Christchurch.

Knox Church, Christchurch

Lighting Knox Church following Christchurch earthquake. Kevin took inspiration from the building being a place of spiritual worship. By using some of the existing fittings he was able to maximize the effect of this beautiful building by focusing the light on the ceiling, giving back the buildings soul and showing the original architecture.

Pallet Pavilion

Creative illumination of a temporary open-air pavilion able to cope with the many different uses of the site.

Theatre Royal, Christchurch

Lighting of the façade extended to restoration of lighting in the wider theatre to restore the grandeur and enhance the architecture of this important venue.

Christchurch Casino

To attract people back to the City with a clever design, having hundreds of fittings concealed as not to interrupt the architecture, with stunning results.

Lyttleton Time Ball

Make this iconic structure become a beckon of pride to the community.
To respect the architectural integrity of the tower and enhance the beauty of the structure by night

Miss Saigon, Les Miserables, Chess, Evita…

It was Kevin’s passion for the theatre that convinced him that the ability of theatrical lighting design to create moods and elicit emotions could be transformed into other areas of society. He is one of the most respected theatrical lighting designers in the industry and continues to stun audiences with his work.