



CBI
Ministry of Foreign Affairs

CBI Product Factsheet:

Electronic Lighting in the UK

Introduction

The United Kingdom (UK) is the second largest market for electronic lighting in Europe, benefitting from the increasing focus on sustainability and energy efficiency. Currently, the UK market is driven primarily by political measures (mandatory substitution of conventional bulbs) combined with incentives. Positive automotive industry prospects and state support in the promotion of electronic lighting in public projects will drive LED and OLED production and consumption up in the UK. In order to meet market requirements, including product quality and design, exporters from developing countries should continuously work to improve their competitive advantage, e.g. by increasing LED/OLED life expectancy.

Product Definition

Electronic lighting encompasses two major types, LEDs and OLEDs. Light-emitting diodes (LEDs), HS code 85414010, are a semiconductor light source. LEDs illuminate when an electrical charge passes through it, converting energy directly into light of a single colour. LEDs are used for very different functions and applications ranging from indoor and outdoor use in residential to industrial areas. LED lighting is fundamentally different from conventional light sources such as incandescent, fluorescent, and gas-discharge lamps. LED lights are more efficient at turning energy into light.

Organic light-emitting diodes (OLED), HS code 85414010, have a film of organic compound which turns energy into light. OLEDs have been mainly used in the consumer electronics, but the ongoing R&D enabled the penetration of OLED into industries such as lighting and automotive. The main differences between OLED and LED are indicated in the table below. However, OLEDs have made significant progress in the development and in the improvement of efficiency in the last two years.

Table 1: Advantages of LED and OLED

Advantages of LED	Advantages of OLED
LED is more efficient than OLED	OLED has a larger-area emission
Lifetime of LED is three times longer than that of OLED	OLED offers better design flexibility
LED are 100 times less expensive than OLED	OLED has a higher colour comfort

Source: IDTechEx

For the reasons that LED is currently more efficient (efficient lighting is one of the EU requirements) than OLED and its lifetime (the key market requirement) is much longer than of OLED, LEDs play a more significant role in the electronic lighting market in the UK. The OLED price is much higher than LED, limiting OLED penetration possibilities. For these reasons, the report will focus mainly on opportunities for DEVELOPING COUNTRY exporters in LED and will not be featuring OLED in details.

Strong brand names are important in electronic lighting in all industrial applications including automotive, indoor, and outdoor lighting. The leading suppliers of lighting in the UK are [Philips Lighting](#), [OSRAM](#), and [GE Lighting](#).

Product Specifications

Quality:

European and the UK buyers in general are becoming increasingly alert on the quality and performance of electronic lighting sold on the market, as low quality LED and OLED could negatively impact on the perception of this technology and jeopardise its potential. European companies are typically looking for high quality products that meet the following requirements: 1) fulfil the agreed-upon specifications between the supplier and the buyer, 2) are energy efficient and sustainable, 3) and have up-to-date (intelligent) technology.

- In electronic lighting, the expected buyers' specifications may include semiconductor material, wavelength, light colour, voltage drop, as well as life expectancy. According to experts, there is room for DEVELOPING COUNTRY exporters in the improvement of life expectancy of LED.
- Several features of the LED need to be considered in its design, since it is both an electronic and an optic device. Desirable optical properties such as colour, brightness, and efficiency must be optimised without an unreasonable electrical or physical design. These properties are affected by the size of the diode, the exact semiconductor materials used to make it, the thickness of the diode layers, and the type and the treatment of the semiconductor.

- LED performance is temperature-dependent. Most manufacturers' published ratings of LEDs are for an operating temperature of 25 °C. LEDs used outdoors such as traffic lights or in-pavement signal lights could result in low signal intensities or even failure.
- To assure the durability and safety, products must comply with the relevant EU regulations and standards. The materials used and especially hazardous substances have to comply with RoHS and must meet REACH requirements (see legal requirements in this document).
- Lower energy consumption, sustainability, lower emissions are the buyers' requirements in Europe, where a trend to "greener" lighting solutions is taking place.
- Use of up-to-date or intelligent technology is gaining importance in Europe. Intelligent lighting may include:
 - Integration of hardware and software (e.g. a contemporary street light is an intelligent solution),
 - Sensor integration for temperature measurements,
 - Connectivity to renewable energy sources such as solar panels
 - Use of appropriate material as the interface material for LEDs.

Labelling:

- LED and OLED would be typically labelled with description of the content, including the following information:
 - type of product,
 - model type,
 - supplier/manufacturer name and location,
 - serial number
 - lamp lifetime.
- DEVELOPING COUNTRY exporters have to familiarise themselves with the labelling of the energy-related products directive Waste of Electrical and Electronic Equipment (WEEE) in order to formulate labels, indicate all product information, and mark products accordingly (e.g. the symbol of the crossed-out wheeled bin).

Packaging:

- LEDs and OLEDs are typically packaged in plastic bags and cardboard boxes to protect them from becoming damaged. The buyer might specify his own packaging requirements.

Legislative Requirements

To ensure durability and safety, products must comply with the relevant EU regulations and standards. Compliance with European legislative as well as non-legislative requirements is a basic necessity for all exporters in the electronics and electrical engineering sector. Below you will find the main mandatory requirements with which your product must comply. Make sure you have familiarised yourself with legal requirements in terms of labelling, dangerous substances, product safety and liability. Your products must comply with all EU directives.

Liability for defective products.

The liability applies to all products manufactured or imported to the European market. Typically, the company that brings the product onto the European market is responsible, but a claim can be passed on to the producer or exporter.

Tip:

- Familiarise yourself with standards that specifically apply to your products. To ensure that your products are of high quality, review your quality assurance and testing procedure, e.g. through the implementation of an accredited quality management system (ISO 9001). Carefully formulate labels, instructions for use, and disclaimers. Finally, make sure your insurance covers product liability. See the EU information on [liability for defective products](#).

CE marking. LEDs must meet several technical standards laid down in the EU legislation. The manufacturer must carry out a conformity assessment and when compliant, the product must be marked with the CE mark. With a few exceptions, all components must be marked with the CE mark. When electronic components are sold as a subsystem or part of a finished good, they do not legally require CE mark. However, driven by market requirements, nearly all customers will still demand the CE mark for most components, in particular when the components are critical in the application. For LEDs, the following directives may be relevant:

- Electromagnetic compatibility (EMC Directive 2004/108/EC),
- Low voltage equipment (LVD 2006/95/EC),
- Eco-design for Energy related products (Directive 2009/125/EC),
- Equipment for use in potentially explosive atmosphere (ATEX Directive 94/9/EC),

Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive 2002/95/EC).

Tip:

- Apply for the CE mark, which is required by all customers, also in cases when your product is a subsystem or part of a finished good and does not legally require the CE mark. If you are a manufacturer, you have to be familiar with the process of affixing the CE marking to LEDs. [The European Commission](#) has a very insightful website that illustrates the key steps to undertake from the beginning to the trading of the product. See the following documents for more information on EU legislation:
 - [CE marking for Electromagnetic compatibility](#)
 - [CE marking for Low Voltage Devices](#)
 - [CE marking for Eco-design of energy related products](#)
 - [Directive 94/9/EC \(ATEX\)](#)

Waste of Electrical and Electronic Equipment (WEEE). If you want to export electronic or electrical products to the EU, you have to take into account that your EU buyers have obligations regarding the waste of these products. EU producers are obliged to participate in product take-back schemes. Although, this does not directly affect exporters from developing countries, its requirements may have an impact when EU buyers ask their suppliers to meet specific design requirements or provide certain information.

Tip:

- Make sure your product design complies with WEEE and enables product recycling, recovery or dismantling. (Note that these requirements may differ per EU Member State.) Carefully formulate labels and mark products in accordance with WEEE (e.g. the symbol of the crossed-out wheeled bin).



See the EU document on [Waste Electrical and Electronic Equipment \(WEEE\)](#) for more information.

Labelling of energy-related products. EU producers and exporters are obliged to indicate energy consumption on household appliances and other energy-related products (the list is being extended into industrial used products. Please, check when importing your products and discuss this with your European customers).

Tip:

- Make sure you indicate all product details (including, energy class, performance, capacity, noise level, etc.) required by the EU. For more information check EU sources on [energy labelling of energy-using and energy-related products](#).

REACH regulation to manage the risks from chemicals and to provide safety information on the substances. This legislation restricts the use of certain hazardous chemicals used. Furthermore, it sets some requirements regarding information on the used chemicals. Manufacturers are required to provide information on the properties of chemical substances used to their buyers.

Tip:

- Ask your buyer for their requirements regarding [REACH](#). List all chemicals, including raw materials and additional materials, used in your production process.

Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The directive bans the placing on the EU market of electrical and electronic equipment that contains more than the agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl and polybrominateddiphenyl ether flame retardants.

Tip:

- Make sure that none of the hazardous substances referred to in the RoHS Directive is used in your production process. Exporters of electronic components have to meet the requirements under both RoHS and REACH, since they are complementary. See the document [Substances in Electrical and Electronic Equipment \(RoHS\)](#).

Non-Legislative Requirements

Although compliance with non-legislative requirements is still entirely voluntary, buyers often request it. In effect, 'private' or 'voluntary' standards are often established by industry players themselves. They are regularly perceived by producers as a barrier to entering a market, but compliance equally constitutes an opportunity to enhancing your competitive edge in the export of your product.

Quality management systems (QMS) – ISO 9001. If you plan exporting to Europe, all products must meet buyers' quality demands. ISO 9001 is designed to make sure that the manufactured and/or exported products to Europe meet the needs of customers. This document provides information on the world's most widely used QMS.

Tips:

- Apply for ISO 9001 as quickly as possible. Understand your target customers' requirements and if you plan to target automotive industry, get ISO 16949.
- See the document Quality management systems on the [ISO webpage](#).

For automotive application, components within an assembly, subassembly, and a finished good have to meet quality demands outlined in *ISO/TS 16949 QMS*.

Tip:

- See automotive application-related requirements in terms of quality management systems also on the [ISO webpage](#).



Functional Safety in accordance with ISO 26262. ISO 26262 focuses on the functional safety of electrical and electronic systems in vehicles.

Tip:

- Apply for ISO 26262. Even though these requirements are not mandatory, they will definitely give you an advantage over other DEVELOPING COUNTRY exporters. See the ISO webpage for more information on the guidelines [ISO 26262](#).

Occupational health and safety in the electronic components sector. Occupational health and safety (OHS) issues are all aspects related to labour conditions and are very often part of EU buyers' social requirements for their suppliers.

Tip:

- Consider implementing a management system on OHS (e.g. OHSAS 18000). European buyers are becoming increasingly sensitive and need transparency in the supply chain and in labour conditions at all levels. Even though these requirements are not mandatory, they will definitely give you a competitive advantage over other DEVELOPING COUNTRY exporters if you can comply with them. See the document [Occupational health and safety in the electronic components sector for more information](#).

Electronic Industry Citizenship Coalition (EICC) Initiative. The most important sustainability initiative in the Electronics Sector, in Europe and internationally, focuses on social, ethical, health and safety, and environmental issues. Members are required to comply with the Code requirements. Some industry buyers can require their suppliers to follow the EICC code of conduct. This is especially relevant for first tier suppliers.

Tip:

- Find out what buyers (what industry) may require regarding the EICC code of conduct. Try to implement this policy; this will give you an advantage over other exporters. Explain your steps in this area on your website and in other company's literature. See [EICC](#) webpage for more information on the sustainability initiative.

Trade and Macro-Economic Statistics

Imports and Exports

The gradually growing demand for energy-efficient lighting solutions in the UK drives the demand and therefore imports of Light-Emitting Diodes for in-country production of complex lighting solutions. DEVELOPING COUNTRY exporters are recommended to target UK suppliers/importers of LED and OLED, as well as manufacturers of lighting solutions for various applications, in particular automotive and outdoor lighting. In order to increase the competitive advantage over other exporting countries such as China, DEVELOPING COUNTRY exporters should improve the product quality and LED/OLED life expectancy, i.e. the most important market requirements.

Figure 1: Imports of Light-Emitting Diodes (LED and OLED) in the UK in 2013 %

	Share of total imports in EU+EFTA, 2013	CAGR of total imports* (2009-2013)	Share of imports from developing countries of imports, 2013	CAGR of imports from developing countries* (2009-2013)
Imports	9%	-1.3%	41%	2%

*Compound annual growth rate

Source: ONS (2015)

Figure 2: Exports of Light-Emitting Diodes (LED and OLED) in the UK in 2013, %

Countries	Share of total exports in EU+EFTA, 2013	CAGR of total exports* (2009-2013)	Share of exports to developing countries of imports/export, 2013	CAGR of exports to developing countries* (2009-2013)
Exports	5.8%	-7.3%	11%	-0.2%

*Compound annual growth rate

Source: ONS (2015)

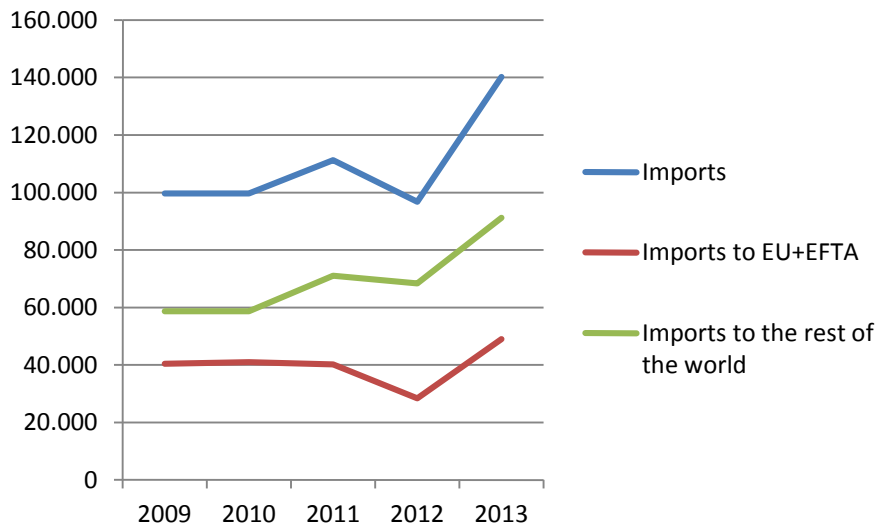
Analysis and interpretation

UK import of LEDs/OLEDs has been hit by the economic slowdown in 2009 and 2010. In 2013, LED/OLED imports exceeded the pre-crisis level thanks to the growing in-country production of electronic lighting and the growing demand for energy-efficient products. The UK market is a significant market for electronic lighting (€ 2.5 billion in 2013). Although it is way behind Germany, it has holds potential for exporters in developing countries in terms of the size of the market. Cost pressures, the market trend of separation of high-tech and low-tech products and the growing role of collaboration will drive up import of LED and OLED to the UK.

Tip:

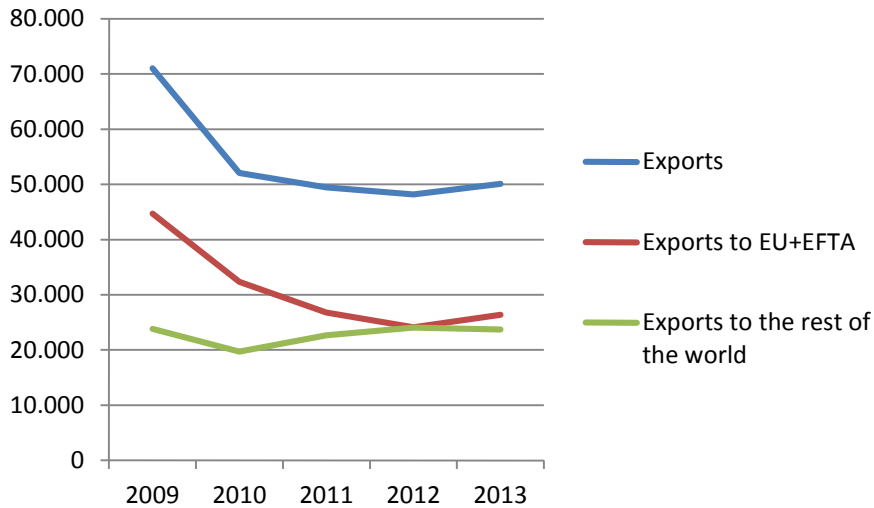
- Developing countries have a potential in entering the UK with LEDs and OLEDs, as the demand for energy-efficient lighting starts to pick up. Actively look for suppliers/importers of light-emitting diodes in the UK, as well as the manufacturers of luminaires and lighting solutions for various applications (e.g. automotive and outdoor lighting).

Figure 3: Imports of Light-Emitting Diodes (LED and OLED) to the UK, value in € 000s



Source: ONS (2015)

Figure 4: Exports of Light-Emitting Diodes (LED and OLED) from the UK, value in € 000s



Source: ONS (2015)

Analysis and interpretation

The importance of developing countries in the LED/OLED market has grown (the share of imports from developing countries rose from 34% in 2009 to 41% in 2014). Imports from Philippines (CAGR 44% between 2009 and 2013), Mexico (CAGR 35% in 2009 - 2013), and China (CAGR 26% in 2009 - 2013) have grown significantly, but Malaysian imports dropped at a CAGR of 37% between 2009 and 2013, possibly due to trade barriers or for other reasons.

Tip:

- Work on your *Unique Selling Proposition*, i.e. why should European OEMs buy your product. Improve the product quality and LED/OLED longevity, in order to increase your competitive advantage over other exporting countries such as China, Mexico, and Malaysia.

UK's exports of LEDs and OLEDs within Europe dropped by CAGR of 11% between 2009 and 2013, as a result of the growing in-country consumption of electronic lighting products. Germany is the main export destination for the UK, followed by France and Sweden. Export of LED and OLED from the UK to Europe will continue to decline, as the country's OEMs will switch to the direct cooperation with developing country suppliers of LED and OLED.

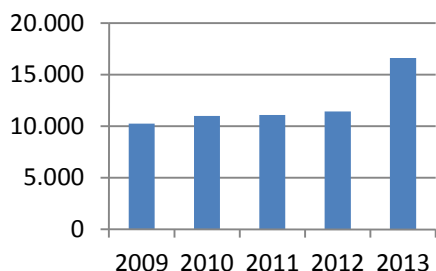
Tip:

- There are limited opportunities in targeting other European countries through re-exports in the UK. Reconsider your marketing strategy, if it is focused on re-exports.

Production and Consumption

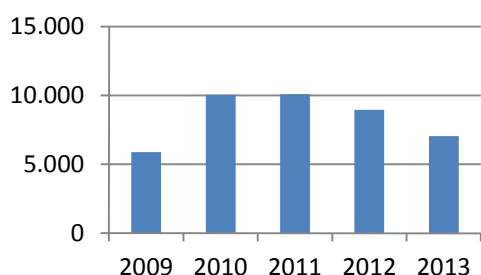
Currently, electronic lighting in the UK is driven primarily by the mandatory substitution of conventional bulbs with energy-efficient lighting. In the next five years, the growth of the UK electronic market will be impacted by price increases, but in the long term the market will see increased sales volume. Positive automotive industry prospects and state support in the promotion of electronic lighting in public projects will drive the LED and OLED production and consumption in the UK.

Figure 5: Production of Light-Emitting Diodes (LED and OLED) in the UK, value in € 000s



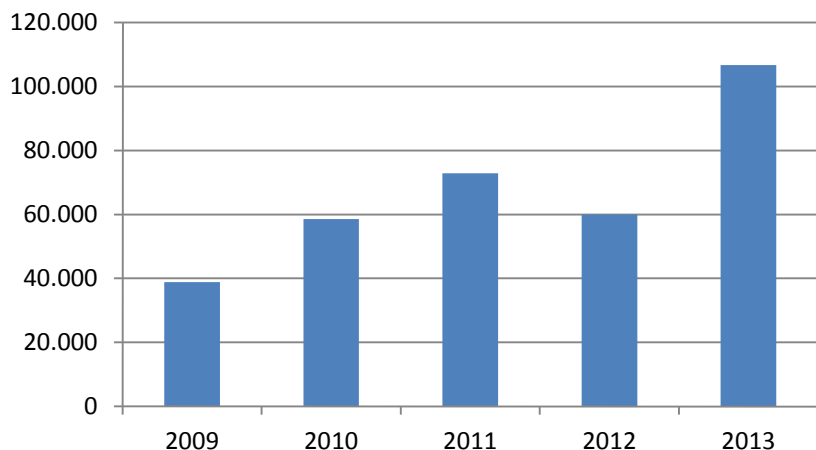
Source: ONS (2015)

Figure 6: Production of Light-Emitting Diodes (LED and OLED) in the UK, volume in 000s units



Source: ONS (2015)

Figure 7: Consumption* of Light-Emitting Diodes (LED and OLED) in the UK, value in € 000s



*Apparent consumption (Production + Imports - Exports)
Source: ONS (2015)

Analysis and interpretation

The UK is the second largest producer of LEDs and OLEDs in Europe. The in-country production of LEDs/OLEDs recorded a CAGR of 5% between 2009 and 2013. Production of energy-efficient lighting will grow along with rising mainstream acceptance of innovative technologies. Besides, production of Light-Emitting Diodes will be driven by the expected strong performance of the automotive OEM sector in the UK (Financial Times' projections are that the car annual output will hit the 2 million mark by 2017).

Tip:

- Developing country exporters have opportunities for supplying UK manufacturers (e.g., automotive OEMs) with LEDs and OLEDs on the component level (semiconductors). There are limited opportunities at the system-solution level (electronic lighting systems), because the after-service availability is important and means the necessity of DEVELOPING COUNTRY exporters' representation through a local partner.

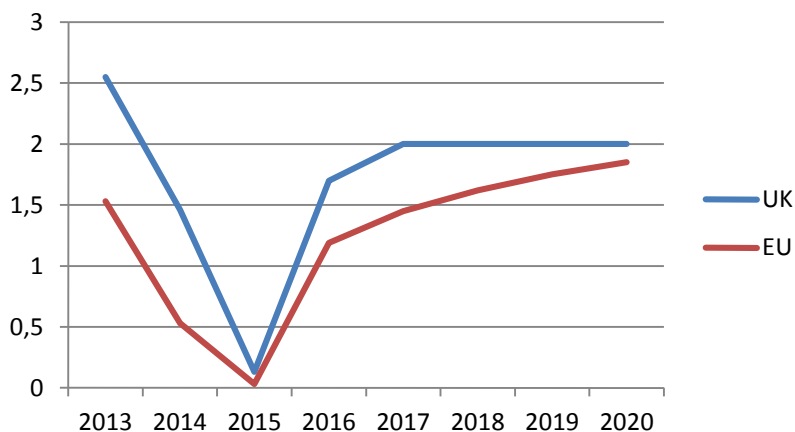
Current demand for electronic lighting in the UK is primarily the substitution of existing lighting. This was primarily a consequence to the introduction of electronic lighting in the EU. According to MBD (Market and Business Development) analysts, the UK lighting equipment market is set to reach € 2.8 billion by 2016, up from the current € 2.4 billion market. Price increases may affect the value in the next 5 years, but in the long term increased sales volumes should outweigh this issue. The demand for electronic lighting in the UK will be driven by increasingly sophisticated, sustainable, efficient task-orientated lighting used across all markets (e.g., street lighting), as well as outstanding automotive industry prospects. Besides, the UK government remains committed to promoting the use of energy-efficient products within public sector projects. Projects on the implementation of LED street lights have been already rolled out across several boroughs in the UK including Birmingham, Salford, and Sheffield.

Tip:

- Developing country exporters have opportunities for supplying UK makers of electronic lighting solutions, as well as local suppliers of lighting components. It is important to continuously work on the improvement of know-how and product quality. If you are lacking in product knowledge, look for proof of quality by European partners.

Macro-Economic Statistics

Figure 8: Inflation in the UK (end of year change), %



Source: EconomyWatch, International Monetary Fund (IMF), (2015)

Analysis and interpretation

Inflation in the UK will exceed the European level. The growing level of annual inflation will have an impact on the market-value growth of all goods, manufactured and sold on the market, including electronic lighting. The expected lighting market size growth will be impacted by the in-country inflation.

Tip:

- Inflation in the UK will not have a significant influence on the production costs in developing countries. Nevertheless, take into consideration the inflation rate when analysing the future demand in the country. Production/demand for LEDs in volume terms may have a slower development

Market Trends

Analysis and interpretation

Political measures (EU): Europe is accelerating the switchover to more ecological lightning sources.

- In September 2012, the EU banned the sale of all of the traditional incandescent lamps. Halogen lamps will be phased out by 2016, which means that the energy-efficient LED lights will have a broader market to replace the traditional lighting.

- Energy infrastructure requirements and incentives for entire building infrastructures are also being extended for the long term. For instance, the EU has ruled that by 2020, all new building structures should consume “nearly zero” energy.

Tip:

- Familiarise yourself with the latest and pending European legislation acts to understand the growth potential of new and existing markets. If you decide to supply European and the UK companies with intelligent lighting solutions, consider partnering with other manufacturers from developing countries in order to strengthen your product portfolio or to co-design electronic lighting solutions. However, be aware that the opportunities for supplying components for electronic lighting are more abundant than in supplying complete solutions.

Political measures (UK):

- The demand for electronic lighting in the UK is currently driven by the mandatory substitution of existing lighting in various applications. The UK government promotes the use of energy-efficient lighting within public sector projects.

Joining the supply chain with low-cost products: European OEMs start separating high-price and low-price electronic lighting. Electronic solutions (also lighting) become more intelligent and integrated. Thus, there are opportunities for DEVELOPING COUNTRYs in supplying low-tech components for high-tech solutions.

Tip:

- Supply local (UK) manufacturers primarily with LEDs and OLEDs at the component level (semiconductors). You may also think of creating a product portfolio on a modular basis, enabling the possibility to order not only a lighting component, but also a lighting solution. However opportunities for supplying electronic lighting at the solution level are limited.

Technological innovations: As a result of technological innovations in electronic lighting, new functions of lighting have been introduced recently: modified lighting to create an impact on emotions, adjustment of light colour, position, and micro-flickering.

Tip:

- DEVELOPING COUNTRY exporters have opportunities for supplying intelligent components for lighting solutions, e.g. semiconductors for electronic lighting solutions. Besides, suppliers of other electronic components and products have opportunities for supplying the electronic lighting industry in the UK, e.g. intelligent power supplies for lighting with a controlling function or power supplies equipped with an integrated sensor (for example, to measure temperature changes).

Product quality: Besides the economical advantage, European OEMs are looking for high-quality electronic lighting, i.e. long life expectancy among other factors. High product quality is required, because local OEMs must guarantee the product quality and provide after-service to their customers. LEDs are expected to change the transmission parameter (wavelength) to a wider range for new applications of electronic lighting, what may increase the product quality expectations towards DEVELOPING COUNTRY exporters.

Tip:

- Continuously work on the improvement of the product quality and LED/OLED life expectancy, in order to increase your competitive advantage over other exporting countries. If you are lacking in product knowledge, look for proof of quality by European partners.

Product design: Not only the product quality is essential for European OEMs, but also the product design is increasingly important. DEVELOPING COUNTRYs need to work on acquiring Europe’s best practices, not only in quality standards implementation, but also in product design and presentation; e.g. no signs of handwork on product surface, clean and accurate packaging.

Tip:

- Improve the product design and packaging. Work according to European standards and follow all the buyer requirements.

Minimisation of the total cost of ownership: With the growing role of international cooperation, European companies will be increasingly facing various risks that need to be measured and managed in order to keep the total cost of ownership (TCO: a financial estimate to help buyers or owners to determine the direct and indirect costs of a product) at a reasonable (low) level. Both smaller and larger companies will increasingly be looking for the most reliable suppliers and will try to eliminate the risk through supplier contract and cost management.

Tips:

- European small and medium enterprises (SMEs) present better opportunities as potential customers for DEVELOPING COUNTRY exporters, but also larger companies may contact you as a potential supplier. That is why visibility on the market is crucial. Develop your sales and marketing strategy:
 - Work on well-structured and up-to-date content on your company's website;
 - Attend trade shows several years in a row. Start preparations for the trade show far in advance (see a list of trade shows in Useful Sources);
 - Work on your *Unique Selling Proposition*, i.e. why should European OEMs buy your product?
- Work on the product pricing.

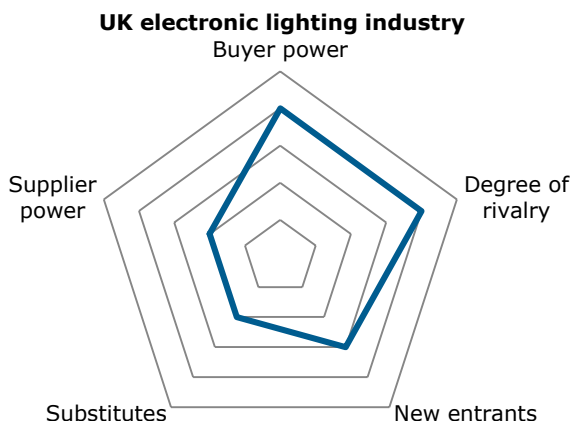
For more information on entering the European market, please refer to [CBI Trends for Electronics and Electrical Engineering](#).

Market Channels and Segments

See CBI [Market Channels and Segments for Electronics and Electrical Engineering](#), because the viable trade route of LEDs/OLEDs does not differ significantly from the general trade route.

Market Competitiveness

Figure 7: Competitive forces in the UK electronic lighting industry



Analysis and interpretation

- *Buyer power:* The bargaining power of buyers is relatively high for the following reasons:
 - Customers are buying LEDs/OLEDs in large volumes;
 - LEDs/OLEDs have a low degree of differentiation;
 - Switching to an alternative product is relatively simple and is not related to high costs.

Tip:

- Diversify the distribution channel; join forces with other DEVELOPING COUNTRY companies in order to diminish the risk of losing volume orders. Enter the supply chain by delivering better-priced components (e.g. LED semiconductors) to producers of high-tech solutions. Distribute your revenues evenly among your customers in different markets.

Degree of rivalry: Approximately 90% of the UK electronic lighting market is concentrated in the hands of a few leading companies (including Philips Lighting, OSRAM, but there is a number of smaller companies on the market (e.g. Aurora Lighting, ACDC Lighting). Major technology firms such as Sharp, Toshiba, and Samsung are entering the market to compete with both LED chip manufacturers (e.g. Cree, Lumileds) and traditional lighting players. Cree, a relatively new lighting entrant has strongly increased its market share. By focusing on high manufacturing output, Cree is in search of the tipping point on costs.

Tip:

- European small and medium enterprises (SMEs) present better opportunities as potential customers for DEVELOPING COUNTRY exporters, but also larger companies may contact you as a potential supplier. Actively contact SMEs in the UK and participate at trade shows to enable larger market players to find out about your product offering.

New entrants: Strong brand names are important for electronic lighting suppliers and new companies need to establish brand recognition on the market. Better-priced and better-quality products are required on the market.

Tip:

- If you aim at supplying the UK market with electronic lighting at a solution level, be aware of the entry barriers for unknown brands. Consider selling your products under private labels in the UK. Since the after-service availability is important, look for a local partner who has credibility to guarantee the product quality and to offer on-site service.

Substitutes: Due to the imposed EU regulations, there are few substitutes to LEDs at the moment. Out of the traditional lighting technologies, both halogens and incandescent lights are being phased out. This is one of the reasons making the LED market very attractive. Currently, LED lighting offers a better performance and better price than OLEDs. OLED lighting

could gain market success if it clearly defines its unique selling points and carves out initial market niches. Intensive R&D of possible applications for OLEDs is still ongoing.

Tip:

- Regularly familiarise yourself with new developments on the LED and OLED markets and the new applications of electronic lighting. If you have know-how, consider investing in the R&D or you may co-manage research projects with European peers.

Supplier power: There is high level of competition among suppliers that affects the product price level. Besides, high-volume orders have a negative impact on the bargaining power, since the buyer can cut volumes at any time.

Tip:

- In order to increase the competitive advantage of your product offering vis-à-vis the leading LED chip manufacturers such as Cree, continuously work on the product quality improvement and seek for European proof of quality.

For more information on the market competitiveness, please refer to [CBI Competition for Electronics and Electrical Engineering](#).

Useful Sources

- Office of National Statistics (ONS), URL: <http://www.ons.gov.uk>
- Eurostat, URL: <http://ec.europa.eu/eurostat/web/main/home>
- Eurostat ProDeveloping Countryom, URL: <http://epp.eurostat.ec.europa.eu/portal/page/portal/prodcom/introduction>
- Distributors of electronics in all countries, URL: <http://www.list-of-companies.org>
- European online magazine for LED lighting, URL: <http://ledsmagazine.com/>
- Lighting Europe Association, URL: <http://www.lightingeurope.org/>
- Lighting Industry Association, URL: <http://www.thelia.org.uk>
- UK Lighting news portal, URL: <http://www.lighting.co.uk/>

Leading trade fairs in Europe

- Light + Building, URL: <http://light-building.messefrankfurt.com/frankfurt/de/aussteller/willkommen.html>
- Electronica, URL www.electronica.de
- CeBIT, URL www.cebit.de
- Hannover Messe, URL www.hannovermesse.de

Leading trade fairs in the UK

- LuxLive, URL <http://www.luxlive.co.uk/>
- PLASA, URL www.plasashow.com

More information

CBI market information:

- [Trade Statistics for Electronics and Electrical Engineering](#);
- [Trends for Electronics and Electrical Engineering](#);
- [Market Channels and Segments for Electronics and Electrical Engineering](#);
- [Competition for Electronics and Electrical Engineering](#).
- [Product Fact Sheet Electronic Lighting in other countries](#).



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