

# LEDS

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The  
Ultimate  
No-Brainer

# What are LEDs

- The electrical energy in incandescent bulbs must be converted into heat before light can be produced.
- Light Emitting Diodes (LEDs) are able to transform electrical energy directly into light energy.
- They convert 95% of electricity used into light and only 5% into heat
- LEDs use up to 90% less energy than incandescent bulbs and up to 60% less than fluorescent lighting
- They contain no harmful chemicals such as those used in fluorescent lights



# Comparison of light bulbs and outputs

		Brightness				
		220+	400+	700+	900+	1300+
	Halogen	18W	28W	42W	53W	70W
	LED	4W	6W	10W	13W	18W
	CFL	6W	9W	12W	15W	20W
	Standard	25W	40W	60W	75W	100W

# Cost, Energy and Maintenance Savings

- Installing LEDs will definitely reduce your electricity usage
- LEDs last much longer than other bulbs
  - 100 watt incandescent bulbs last approx. 1000 operational hours
  - Fluorescent lamps last approx. 15,000 operational hours
  - LEDs last approximately 50,000 – 75,000 operational hours
  - LEDs need replacing far less frequently
- Less frequent replacement means less maintenance and a reduction in manufacturing, transportation and use of raw materials →

**reduced carbon footprint**



Fewer replacements are also good for health and safety, especially in churches with high ceilings or where scaffolding may be needed

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## Some Drawbacks

- LEDs are more expensive than ordinary bulbs
- Not all fittings, especially heritage fittings in listed buildings are suitable
- Changing fittings may involve the use of scaffolding or rewiring
- Some churches may be unable to afford the cost – but possible to run funding schemes e.g. at St Peter's we asked members of the congregation to donate the cost of one bulb

# How to set about it

- Plan well – contact the Church of England Birmingham’s lighting adviser Tim Bowden – through Ben Smith, the DAC Secretary
- Read the CCB lighting guidance on the Church of England website  
[https://www.churchofengland.org/sites/default/files/2022-05/CCB\\_Lighting\\_guidance.pdf](https://www.churchofengland.org/sites/default/files/2022-05/CCB_Lighting_guidance.pdf)
- Consider the age of your fittings – it might be more cost effective in the long run to replace fittings near the end of their life

# Some further information

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- Outside lights and floodlights can also be replaced by LEDS
- Existing fluorescent lighting can usually be easily replaced
- If you are making changes, consider installing sensors in toilets, kitchens and hallways to make further savings
- Buy good quality bulbs for the longest life – particularly in difficult to reach spaces
- Research bulb suppliers and buy all bulbs the same
- Buy a good brand – Phillips, Osram

Remember - though the initial cost may be high, your investment will soon be repaid



# Useful websites

- [https://www.churchofengland.org/sites/default/files/2022-05/CCB\\_Lighting\\_guidance.pdf](https://www.churchofengland.org/sites/default/files/2022-05/CCB_Lighting_guidance.pdf)
- <https://energysavingtrust.org.uk/advice/lighting>
- Ben Smith Diocesan Property team  
- [dac@cofebirmingham.com](mailto:dac@cofebirmingham.com)
- [www.lyco.co.uk](http://www.lyco.co.uk) Bulk lighting supplier

THANK YOU

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Any  
Questions?