



3d. How to: Adopt energy efficient technologies

Why is it important?

Apart from considering how a dental practice is heated or cooled, there are a number of other ways to reduce energy-related carbon emissions within the practice.

The energy use of equipment can be reduced- for example, curing lights are now using LED technology, lowering their energy use further. When purchasing new products, the practice should aim to procure the most energy efficient appliances, and opt for the longest cost-effective warranty. Many appliances e.g. microwaves and fridges are covered by energy appliance rankings.

Within the dental practice, lighting can use a lot of power. If a practice contains eight 60 Watt light bulbs and these are turned on for 10 hours a day, the cost is approximately £150 (507kg CO₂e) per year. Changing all the light bulbs to fluorescent would reduce the energy expenditure and carbon emissions by approximately one quarter, and the savings with LED bulbs would be even greater.

Computers differ in their energy consumption. Used 8 hours per day, 5 days per week, a desktop computer will consume between £25 and £62 of energy per year, and a further £50 per year if left on overnight. Dental practices can reduce energy consumption by choosing energy efficient smaller hard drives or laptops and by turning them off overnight. In larger organisations, software is available to force computers and monitors into standby or sleep.



What does sustainable practice look like?

Modelled example

Sara is a practice manager and has instituted an energy saving policy in the dental practice where she works. This involves a checklist to ensure both equipment and appliances are fully turned off at night or when not in use. When procuring new goods, she researches which product is most energy efficient and its lifespan as well as how it will be ultimately disposed of. She has noticed a slight reduction in the practice energy bills and will continue to monitor this over the next year to see how much money they will save per year.



Actions

KEY:

Implementation: Easy = Less Easy =

Investment Cost: Low = High =

Financial return on Investment (ROI): Low = High =

Environmental benefit: Small = Large =

- Turn off appliances at night, and at the end of the week



- Concentrate on reducing “high energy” using equipment



- When buying appliances always compare energy use (look for the Kilowatt rating)



- Use small, energy efficient hard drives, or laptop computers



- Install low energy fluorescent or LED lighting



You can calculate both the money saved and carbon saved

•**Money saved:** compare costs of waste collection fees and purchasing of goods costs each month before and after implementation

•**Carbon saved:** Carbon calculator

<http://c.environmentalpaper.org/home>



Resources

More links:

European Commission. Energy Efficient Products. Online information available at:

<https://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products>

OVO Energy. 120 Ways to Save and Conserve Energy. Online information available at:

<https://www.ovoenergy.com/guides/energy-guides/120-ways-to-save-energy.html>

Duane B, Ramasubbu D, Harford S, Steinbach I, Stancliffe R, Croasdale K, Pasdeki-Clewer E. (in press). Environmentally sustainable Dentistry: Energy use within the dental practice. British Dental Journal.

Dental Susnet, online network for improving the sustainability of dental services:

<https://networks.sustainablehealthcare.org.uk/dental-susnet>