

# CARBON REDUCTION POLICY

## Sustainability in General Dental Practice

At Nationwide Healthcare Providers Ltd, we recognize the critical role that healthcare facilities play in contributing to a sustainable and healthier future. As oral health providers, we acknowledge our responsibility to reduce our carbon footprint and actively contribute to environmental sustainability. Our commitment is rooted in the understanding that the healthcare sector, including dental practices, has a significant impact on the environment.

Sustainability can also have a powerful influence on patient choices. 67% of consumers are reported make decisions based on environmental factors (Global consumer trends survey 2022), therefore informing patients of sustainable practice innovations will build trust and make dental business brands increasingly popular.

While sustainability is not specifically mentioned in the GDC standards, we are already using a variety of methods to increase awareness of the environmental impact of dental care amongst staff, patients, other professionals and local communities, including:

- Developing a practice sustainability policy
- Using online resources and educational posters to communicate the 'green' vision to patients and staff
- Measuring and evaluating sustainability improvements
- Incorporating sustainability education in staff induction and training processes
- Calculating and disseminating information on the environmental (and financial) benefits of sustainable practice.

## Importance of Environmental Sustainability in Healthcare:

1. **Health and Wellbeing** - Environmental sustainability is inseparable from public health. By reducing our carbon emissions, we aim to create a healthier and more sustainable environment for our patients, staff, and the community at large.
2. **Global Impact** - Healthcare operations, including dental practices, contribute to carbon emissions through energy consumption, waste generation, and

procurement practices. Addressing these aspects is crucial for mitigating climate change and preserving the health of our planet.

3. **Leadership and Responsibility** - As a healthcare provider, we recognize the importance of setting an example and demonstrating leadership in environmental responsibility. By actively engaging in carbon reduction initiatives, we demonstrate our commitment to ethical and responsible healthcare practices.

## The Greenhouse Effect

The greenhouse effect happens when certain gases, such as carbon dioxide, methane, nitrogen oxide, and chlorofluorocarbons (CFCs) collect in Earth's atmosphere creating an insulating layer that keeps the climate comfortable. The current global average temperature is 15 °C; without greenhouse gases it would drop to -18 °C, causing most life forms to freeze.

Since the beginning of the industrial revolution (~ 1750), human activities have increased the greenhouse effect. Emissions of carbon dioxide, the most important greenhouse gas, have increased by 80% between 1970 and 2004. The main examples of human activities that generate greenhouse gases are:

- Combustion of fossil fuels, principally coal, petroleum (including oil) and natural gas
- Deforestation (living trees absorb carbon dioxide)
- Incineration of waste products.

Medical waste disposal presents greater challenges. Across Europe up to about 25% of medical waste is incinerated, releasing greenhouse gases as well as toxic substances such as dioxin compounds which are serious and persistent environmental pollutants.

## Carbon Footprint

The term carbon footprint refers to the total greenhouse gas emissions caused by an individual, event, organisation, service, place or product, expressed as a carbon dioxide equivalent.

The NHS has announced a vision to be net zero by 2040. This will include dentistry, which accounts for 3% of the total health service carbon footprint.

Although difficult to measure precisely, the components making up the carbon footprint for dentistry have been estimated.

### Breakdown of the annual carbon footprint for dental services

Patient travel	31.1%
Staff commuting	30.3%
Procurement	19%
Electricity	7.7%
Gas	7.6%
Work travel (Staff)	3.1%
Nitrous oxide release	0.9%
Waste	0.2%
Water	0.1%

### Travel

More than 20% of global carbon dioxide is generated by transportation. Vehicle exhausts also cause air pollution e.g. carbon monoxide and sulphur dioxide, which is reported to result in 40,000 UK deaths annually.

As the majority of dental appointments are short and have comparatively few material/equipment costs, patient and staff travel accounts for a massive 61.4% of dentistry's total carbon footprint.

### UK dental care statistics

Average dental patient return journey	<b>7.57 miles</b>
Average staff return journey	<b>7.26 miles</b>
Examinations/scale & polish/fluoride varnish and radiographs as a percentage of all procedures (adults & children)	<b>73%</b>
Examinations as a percentage of all procedures (adults & children)	<b>41%</b>
Replacement restorations as a percentage of all operative treatments	<b>&gt;50%</b>
Average dental appointment duration	<b>15 minutes</b>
Annual number of radiographs	<b>14 million</b>

## Relative carbon footprint of the common dental procedures

Examination	27.1%
Scale and polish	13.4%
Amalgam filling	9.7%
Composite filling	9.5%
Acrylic dentures	8.6%
Radiographs	6.4%
Extractions	3.5%
Non-precious metal crowns (the type most frequently prescribed)	3.3%
Endodontics	2.9%
Study models	1.6%

As transport is the primary contributor to dentistry's greenhouse gas emissions, a range of methods have been proposed to limit patient and staff travel. The main proposals fit well with the preventive, minimally invasive focus of contemporary NHS practices, where patients are empowered to take an active role in managing their own health and wellbeing.

## Methods of Reducing the Impact of Patient and Staff Travel

All of the below are practical suggestions, that as time goes by, the effect of all this carbon reduction activity will make a difference.

- Oral health promotion / disease prevention
- Minimum intervention dentistry (reduce the amount of dental treatment)
- Minimally invasive dentistry preserves healthy natural tissues and smaller interventions last longer
- Focussing on renovation and repair increases the functional longevity of dental restorations
- High-quality restorations have greater longevity
- Reduced recall frequency (based on risk assessment)
- Identification and elimination of co-morbidity factors e.g. dietary analysis, smoking cessation
- Holistic patient care promotes the early detection and diagnosis of systemic diseases, reducing the future burden on wider healthcare services

## Appointment scheduling

- Efficient screening / use of virtual consultations
- Maximise chair occupancy (business efficiency as well as energy e.g. heating)
- Complete multiple treatments at one appointment where possible
- Combine dentist and hygienist appointments
- Minimise failed appointments e.g. using text alerts and phone calls 24 hours prior to appointment
- Optimising staff work patterns will maximise productivity and reduce the risk of work-related stress disorders e.g. ≤ four clinical days/week

## Facilities

- Display walking/cycle/bus routes on practice websites
- Car sharing/public transport for staff
- Encourage active travel e.g. pedometers for walking to work
- Install secure cycle parking
- Register for the government's cycle to work scheme (allows tax-free bicycle purchase)
- Install shower/locker facilities
- Install electric vehicle charging points
- Digital impressions and in-practice milling or technicians eliminate the need for transport to and from laboratories
- On-site specialists will further reduce the need for patient travel

## Conclusion and Commitment

At Nationwide Healthcare Providers Ltd, our commitment to carbon reduction is at the heart of our environmental responsibility and dedication to sustainable practices. We recognize the significant impact that healthcare operations can have on the environment and are devoted to pioneering positive change within our industry.

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Director

18/03/2025