

Sustainability in practice: A dental case study

Incredible Smiles

May 2026



Government
of South Australia

Green Industries SA

This case study was prepared by Rawtec and 2XE for the Australian Dental Association, South Australia, with support from Green Industries SA through the Lead-Educate-Assist-Promote grant program.

It is one of 3 case studies developed to inspire dental practices to strengthen their sustainability and realise the potential cost, efficiency, and environmental benefits.

Incredible Smiles is a large dental practice with 18 dental chairs across 5 sites in South Australia, treating more than 700 patients each week. The practice is committed to delivering high quality patient care while making sustainability a core business priority.

This case study highlights 3 of the many sustainable initiatives implemented by Incredible Smiles.

To view other case studies and access useful checklists and resources visit the [ADA SA website](#).



Green Industries SA (GISA) acknowledges the Traditional Custodians of Country throughout Australia and their connections to land, water, sky and community. We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

We acknowledge and respect Aboriginal peoples as the state's first peoples and nations and recognise them as traditional owners and occupants of land and waters in South Australia. Further, we acknowledge that the spiritual, social, cultural and economic practices of Aboriginal peoples come from their traditional lands and waters, that they maintain their cultural and heritage beliefs, languages and laws which are of ongoing importance, and that they have made and continue to make a unique and irreplaceable contribution to the state.

We acknowledge that Aboriginal peoples have endured past injustice and dispossession of their traditional lands and waters.

GISA is committed to supporting an inclusive society that recognises the rich histories, cultures and contributions of Aboriginal and Torres Strait Islander Australians. We acknowledge that environmental, social and economic sustainability objectives cannot be separated. The transition to a circular economy needs to be just, and our objective of advancing a just transition to a circular economy will be strengthened by platforming the voices of Australia's First Peoples in this change.

Artist - Karen Briggs

Solar power

Incredible Smiles has taken proactive steps to reduce their energy consumption by installing solar photovoltaic (PV) systems at their Woodville Park and Munno Para sites.

At Woodville Park, a 25-kilowatt peak system with a 20-kilowatt inverter was installed in 2020, generating approximately 33,000 kilowatt hours (kWh) of electricity each year (about 90 kWh per day).

This on-site generation leads to a significant reduction in the amount of electricity drawn from the grid.

In September 2025, Incredible Smiles kept monthly supply costs to under \$650, with electricity use reaching only 1,200 kWh.

Encouraged by these results, Incredible Smiles expanded their solar program to their Munno Para site in 2024. As tenants at this location, landlord approval was required. To address concerns, Incredible Smiles offered to renew their lease early, reducing the landlord's financial risk as a trade-off.

Solar installations are a clear economic choice for dental practices, with payback periods typically expected within 8 to 10 years.

Additionally, they offer the opportunity to provide cost-effective electric vehicle (EV) charging for staff and patients.

Modern EV chargers include billing and demand management systems that automatically reimburse the practice for electricity used. Incredible Smiles is exploring this opportunity at their Woodville Park practice, where one of the dentists already owns an EV.



CAD/CAM dental milling machine

Over a decade ago, Incredible Smiles invested in a Computer-Aided Design/Computer-Aided Manufacturing [CAD/CAM] machine to strengthen their business model. This long-term investment has delivered significant sustainability outcomes, improved operational efficiencies, and enhanced patient experience, making the upfront cost worthwhile.

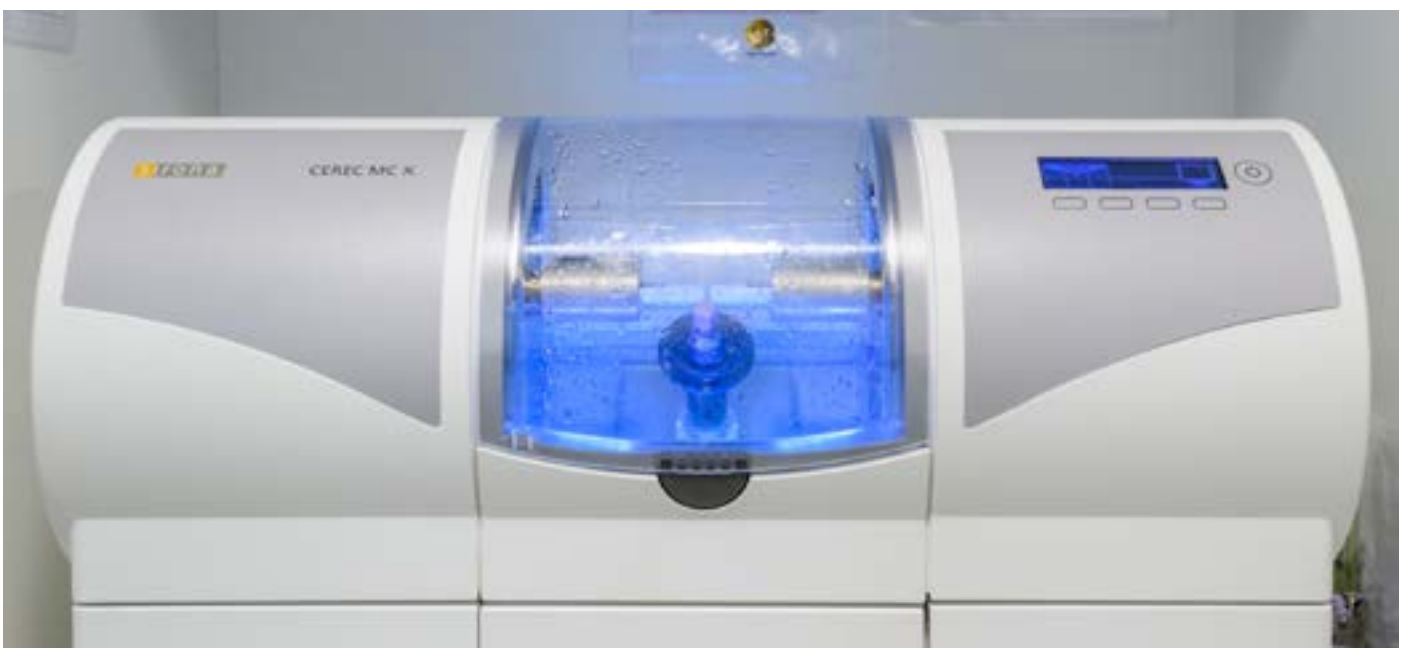
CAD/CAM machines are used to design and manufacture dental restorations, including crowns, bridges, custom fillings, dentures, and veneers.

At their Woodville Park practice, a CAD/CAM machine is showcased in a glass cabinet along the main hallway, allowing patients to watch it mill their dental restorations in real-time. This visible process builds transparency, trust, and patient engagement by involving them directly in their treatment journey.



The benefits of a CAD/CAM machine can include:

- durability – machines are built to last, ensuring a long equipment lifespan
- reduced treatment time – restorations can be completed in fewer and shorter appointments
- improved efficiency – faster workflows can result in significant cost savings for the practice
- less waste – generates less material waste than conventional scanning and moulding
- precision and customisation – CAD technology reduces error and allows for precise adjustments
- fewer couriers – manufacturing in-house reduces couriers, which lowers costs and carbon emissions.



Digitalisation

Before digitalisation, most dental practices used paper-based systems to manage appointments, billing, and patient communication. X-rays were captured on film, which required chemical processing with hazardous materials such as mercury, printing for patients, and long-term physical storage that was inefficient and difficult to dispose of correctly.

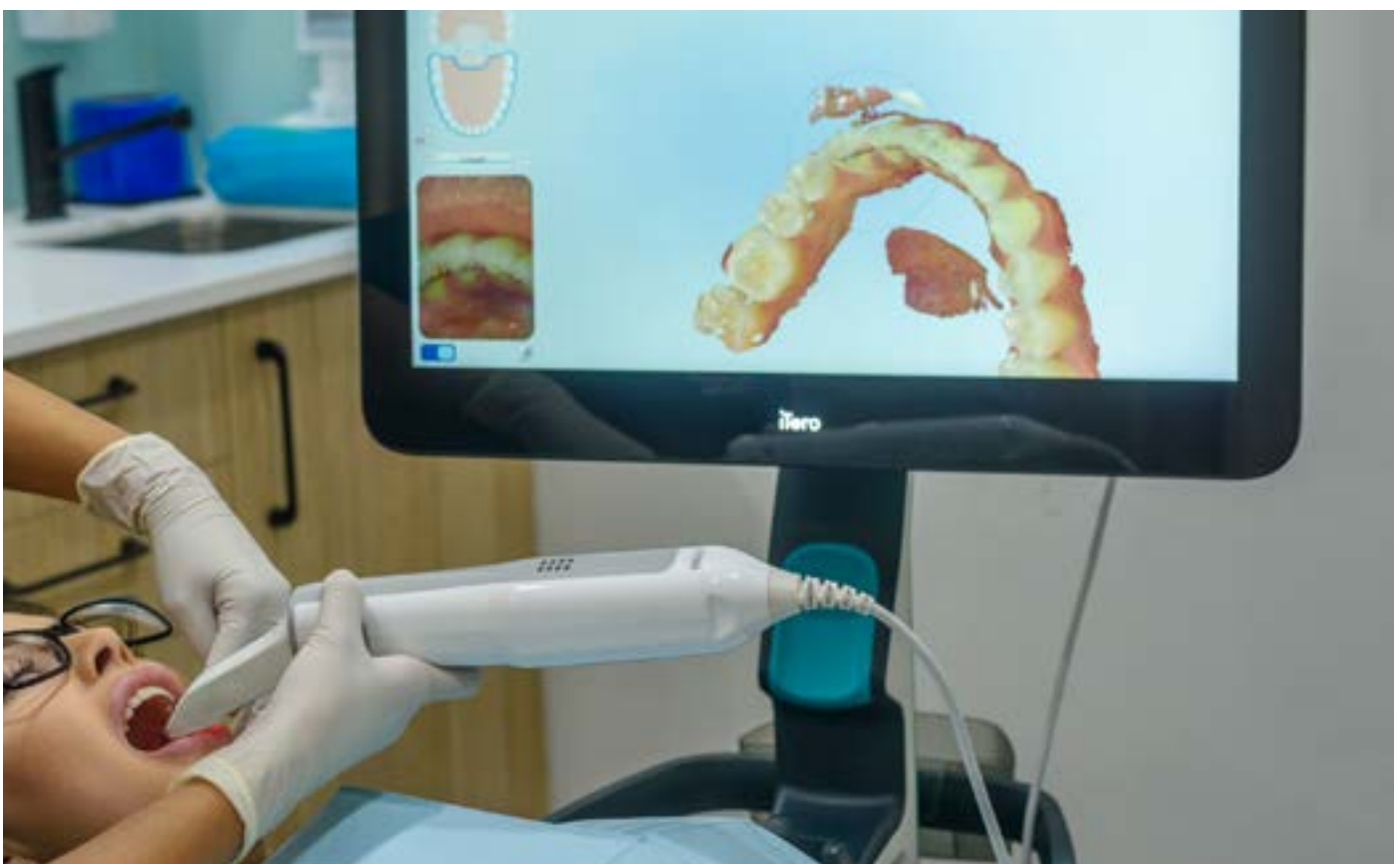
Incredible Smiles is proactive in adopting advancements in digital dentistry and has committed to digitalising all aspects of their operations.

Incredible Smiles use a cloud-based dental software called CareStack to manage all patient records and documents. Incredible Smiles have experienced a range of benefits since adopting CareStack, which include:

- minimised administration/paper waste
- reduced carbon emissions associated with paper production and delivery
- streamlined appointment scheduling
- fewer manual tasks and less human error
- reduced paper storage requirements
- improved efficiency across business operations.

In addition, Incredible Smiles have used digital X-rays since opening in 2015. This has provided many benefits, including:

- reduced radiation exposure for patients
- immediate image access, which reduces patient appointment times
- enhanced record keeping with electronic storage
- no chemical waste from traditional film processing
- high-resolution imaging that supports early detection of dental issues.



Other sustainability initiatives

Beyond the major projects detailed in this case study, Incredible Smiles has also adopted a range of practical, lower-investment initiatives, including:

- using reusable tote bags for giveaways
- installing LED downlights throughout the practice
- reducing sterilisation waste.



Incredible Smiles demonstrates that sustainability can be seamlessly integrated into a dental practice.

Through investments in renewable energy, advanced technology, digitalisation, and waste reduction, the practice has strengthened operations, reduced costs, enhanced the patient experience, and lowered their environmental impact.

Their commitment to sustainability shows that meaningful change in the dental industry is both achievable and rewarding.



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