

# *Greening up: Environmental sustainability in general practice*

June 2022



By taking action to minimise the environmental footprint they generate, general practices can actively contribute to preserving our environment and planetary health, helping to manage the current and future adverse health effects of climate change – and reducing practice overheads.

This resource will help you and your practice reduce your environmental impact while improving outcomes for patients and staff.

It provides information on:

- climate change and its impacts on human health
- the role of GPs and practice staff in addressing climate change and environmental sustainability
- actions at an individual, practice and population level to minimise the carbon footprint (both clinical and non-clinical).

## **What is climate change?**

Climate change resulting from human activity presents an urgent, significant and growing threat to health worldwide. <sup>(1)</sup> Activities such as burning fossil fuels for energy and changes in land use – particularly deforestation – increase the levels of carbon dioxide and other gases in the atmosphere, holding heat near the surface of the earth. Increased levels of carbon dioxide in the atmosphere, and the resulting increased heat, are altering the planetary systems of Earth, including ocean circulation, prevailing winds and cloud cover. <sup>(1)</sup> Increased carbon dioxide is considered the largest single contributor to human-induced climate change. <sup>(2)</sup> The second main contributor to climate change driven by emissions from human activities is methane, a potent greenhouse gas largely produced by agriculture (from livestock, such as sheep and cattle). <sup>(3)</sup> You can read more in the Intergovernmental Panel on Climate Change's [summary for policymakers](#). <sup>(4)</sup>

## Climate change and health

The World Health Organisation (WHO) predicts 250,000 additional deaths globally from climate-sensitive diseases (such as heat stress, malnutrition, vector-borne diseases and injury) from 2030 onward. <sup>(5)</sup> Australia is particularly vulnerable to the impacts of climate change, including species loss, floods, heatwaves, drought, storms, bushfires and risk of zoonoses. Climate change threatens the foundations of good health: clean air, safe drinking water, nutritious food supply and safe shelter. <sup>(5)</sup> It also undermines many of the social determinants of health, such as livelihoods, equality, mental health, and access to healthcare and social support structures. <sup>(6)</sup> These impacts are direct, indirect or social in nature.

An example of **direct climate-change impact** is the increase in morbidity and mortality resulting from higher temperatures and heatwaves, particularly among groups such as older adults and those with pre-existing cardiovascular and respiratory diseases. <sup>(1)</sup> The **indirect impacts** of climate change result from interactions

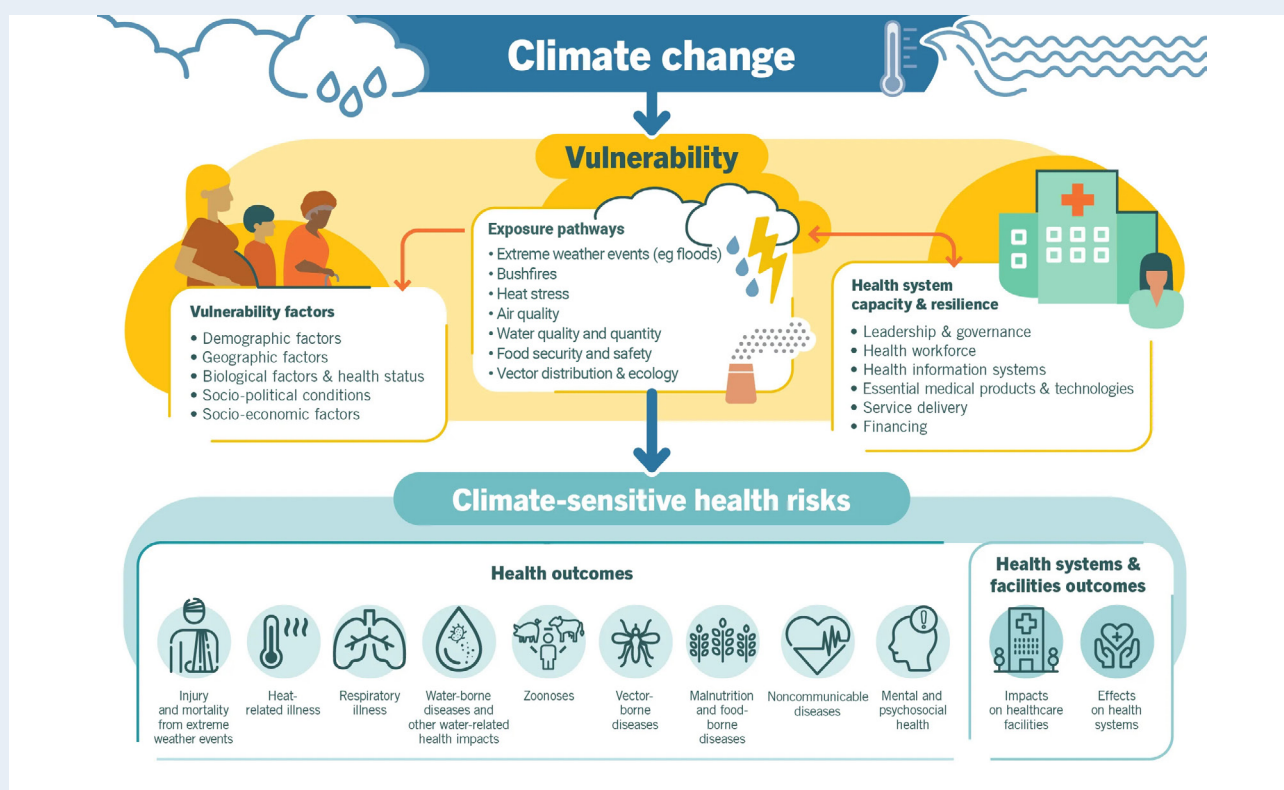
of climate with other systems; for example, declining agricultural yields and quality caused by drought, resulting in poorer nutrition despite higher caloric intake, and changes in the distribution of vectors that spread infectious disease, caused by flooding and habitat loss. <sup>(1)</sup>

**Social impacts** of climate change include conflict, forced migration and damage to livelihood. <sup>(1)</sup>

Critically, these climate-sensitive health risks are disproportionately felt by vulnerable populations, including Aboriginal and Torres Strait Islander peoples, low socio-economic communities, migrants, older adults, and those with underlying health conditions. You can read more on the [WHO website](#).

Climate action can have huge health benefits. *The Lancet* has stated that the response to climate change is 'the greatest global health opportunity of the 21st century'. <sup>(9)</sup>

### Overview of climate-sensitive health risks, their exposure pathways and vulnerability factors



Source: WHO (6)

## The carbon footprint of general practice

The RACGP recognises GPs play a key role in identifying, reducing and managing the adverse health effects of climate change. <sup>(7)</sup>

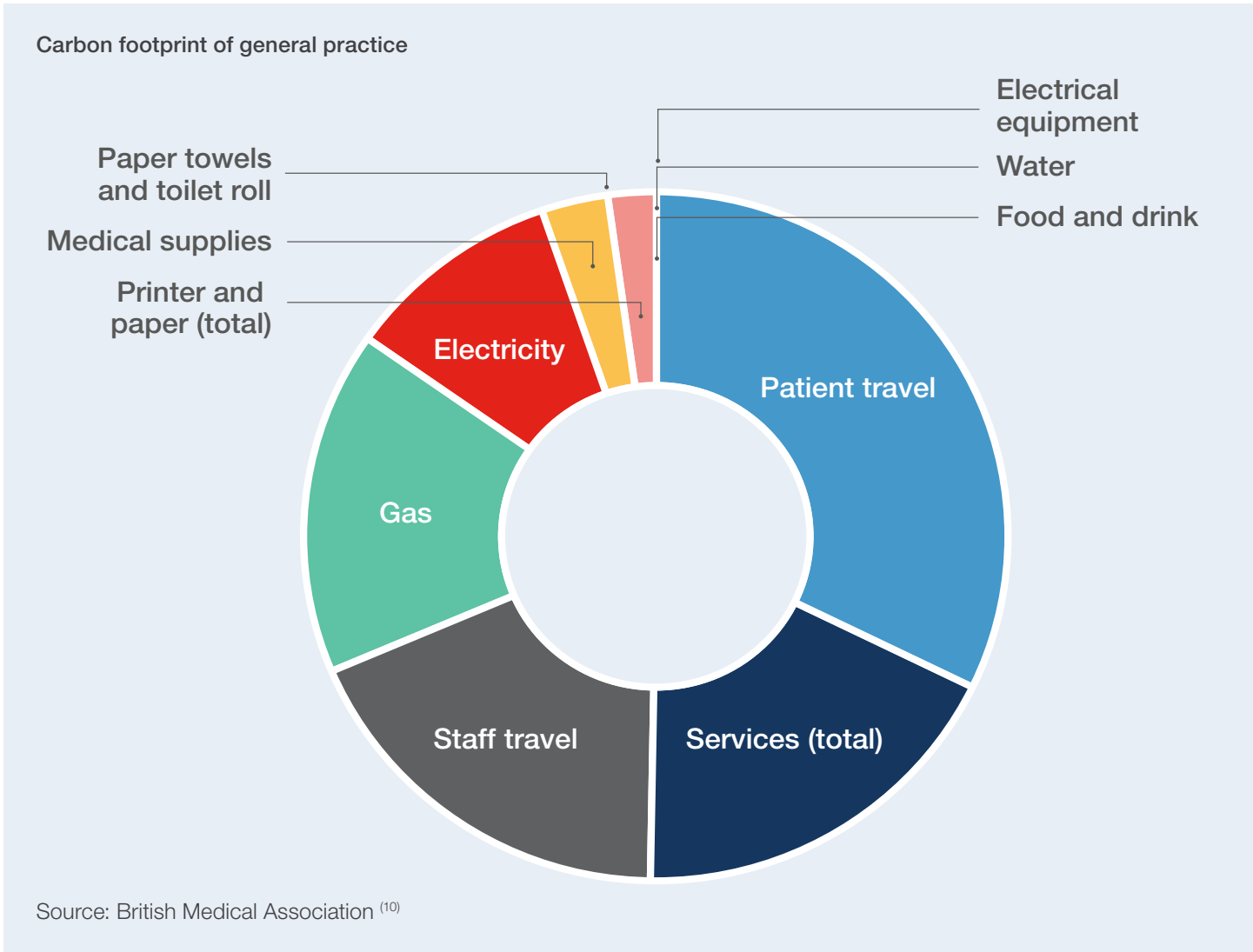
We lack data on the current carbon footprint of Australian general practice. Estimates of general practice's carbon footprint in the UK suggest that between 65% and 90% of it is associated with pharmaceutical prescribing <sup>(8)</sup>; pathology testing and diagnostic imaging together contribute 9%. <sup>(9)</sup>

More isn't always best in healthcare. Choosing required treatments wisely and reducing the amount of unnecessary tests and procedures are also essential steps in reducing your carbon footprint.

Good clinical practice can be both high quality and low carbon.

You can read more in the [Choosing Wisely in General Practice resource](#).

Outside of prescribing and other medical treatments, travel and energy use are the main components of the general practice footprint.



## Reducing the carbon footprint of inhalers: Climate and clinical implications

Inhaled therapies are necessary components of treating asthma and chronic obstructive pulmonary disease, but their contribution to greenhouse gas emissions, and hence global warming, is clear. They can use propellants 3000 times more potent as greenhouses gases than carbon dioxide.

The three main types of inhalers are:

- pressurised metered-dose inhalers (pMDIs) – used with or without holding chambers or spacers; some are breath-actuated
- dry-powder inhalers (DPIs) – reservoir, multi-dose and single-dose rechargeable
- soft-mist inhalers (SMIs).

For all these device types, the carbon footprint can be calculated throughout the life cycle of the product, including raw materials, production, transport, use and waste disposal. <sup>(11)</sup>

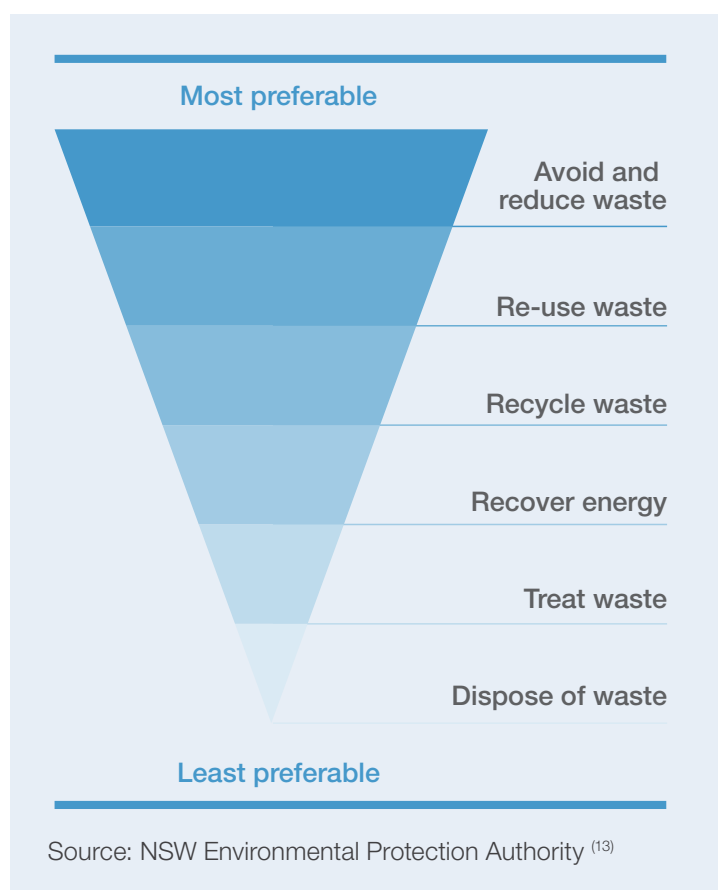
pMDIs rely on the driving force of propellants to atomise droplets containing drugs for deposition in the lungs. The propellants used in pMDIs are hydrofluorocarbons, which are greenhouse gases, and for this reason the carbon footprint of pMDIs is higher than a DPI or SMI, with the use and disposal phases providing the larger contribution. <sup>(11)</sup>

Switching from a pMDI to a DPI may be an effective option for many patients, managed by their GP, and can greatly reduce the carbon footprint without loss of asthma control. <sup>(12)</sup> Check the [Australian Asthma Handbook](#) to ensure this option is appropriate for your patient.

## The waste hierarchy

It's also useful to consider the waste hierarchy when creating an environmentally sustainable practice. The waste hierarchy is a set of priorities for the efficient use of resources and waste management used in Australian policymaking. These include (in order of preference):

- **avoidance**, including action to reduce the amount of waste generated by households, industry and all levels of government
- **resource recovery**, including re-using, recycling, reprocessing and energy recovery consistent with the most efficient use of the recovered resources
- **disposal**, including management of all disposal options in the most environmentally responsible manner. <sup>(13)</sup>



## Roles of the practice team

### The role of GPs

As highly trusted professionals, GPs are well placed to effectively communicate the health risks of climate change to their patients, the public and policymakers. <sup>(14)</sup> Through leading by example and advocacy, general practice can promote healthy, sustainable living and reduce carbon emissions. <sup>(15)</sup> Advocacy is needed for **adaptation** (ie healthcare support for the physical and mental effects of climate change) and **mitigation** (ie through government policies to reduce emissions), promoting urgent action to mitigate climate change through individual, practice-based, and social and population-based initiatives. <sup>(15)</sup>

### Key actions for GPs

Level of influence	Action
Individual	<ul style="list-style-type: none"> <li>• Use alternative transport.</li> <li>• Minimise air travel.</li> <li>• Reduce highly processed food consumption.</li> <li>• Reduce meat consumption.</li> <li>• Encourage use of smaller or electric vehicles; driven less often. <sup>(16)</sup></li> <li>• Lead, support and participate in new or existing sustainability measures in your practice; ie becoming a 'climate champion', recycling waste correctly, using alternative/active transport, meat-free Mondays.</li> <li>• Start a conversation with your practice team about its importance for you and your patients and sharing this resource with them.</li> </ul>
Clinical	<ul style="list-style-type: none"> <li>• Identify patients who are particularly vulnerable to heat, ensuring they have a plan, take precautions and are monitored during heatwaves.</li> <li>• Ensure patients and the local community understand public health advice, such as disaster and weather warnings from health departments and emergency services.</li> <li>• Identify co-benefits of action to reduce climate change in clinical consultations; eg encouraging alternative/active transport, promoting low-energy diets (including less meat and processed food consumption when appropriate, depending on the patient) and promoting energy-efficient homes.</li> <li>• Adopt the use of social prescribing to support patients with improved wellbeing and lifestyle changes, such as increased physical activity.</li> <li>• Consider the impact of prescribing and referring decisions – approximately two-thirds of general practice's carbon footprint comes from prescribing; eg metered-dose inhalers account for a large part <sup>(10)</sup> – and reduce unnecessary prescribing also has co-benefits for patients, such as by reducing problematic polypharmacy.</li> <li>• Use telehealth appropriately may support better patient outcomes through improved follow-up and self-management, as well as reducing carbon output from unnecessary patient travel.</li> </ul>
Population	<ul style="list-style-type: none"> <li>• Keep abreast of the issues and raise awareness with other health professionals, patients and the wider community about climate change and its impact on individual and population health.</li> <li>• Support public health measures and institute systems to deal with the increase in climate-induced diseases (such as malaria and Japanese encephalitis) when they arise.</li> <li>• Lead the response to the burden of non-communicable diseases that are the main cause of morbidity and mortality in Australia today, such as mental illness, and that may be exacerbated by climate-related disasters, extreme weather conditions etc.</li> <li>• Recognise that climate change exacerbates health inequities (eg through the unequal impacts of extreme weather events) and seek opportunities to promote health and social equality. <sup>(1)</sup></li> <li>• Support community action; eg community gardens for local food production, public open space for outdoor recreation and physical activity, safe walking and cycle ways, high-quality public transport systems, and the need for disaster management plans. <sup>(10)</sup></li> <li>• Use your general practice expertise and professional position as a trusted community leader to advocate on behalf of patients for effective climate-change policy and action <sup>(16)</sup>; eg write/talk to politicians, counsellors and mayors, write to newspapers (op-eds, letters to the editor) and other businesses.</li> </ul>

We discuss other key **organisational and non-clinical dimensions** in more detail below, such as reducing energy usage.



### Key actions for practice owners to create an environmentally sustainable general practice

Your practice team can support existing sustainability measures and actively contribute to minimising the environmental footprint of your practice. Sustainability and personal agency must be embedded within relevant aspects of the practice and clearly communicated to promote the workplace culture. Practice change occurs when the whole practice buys in and changes are understood and easily implemented.

Many options, tools and resources are available for you to start your journey towards more sustainable clinical practice. The important thing is to pick an area that resonates and make a start. <sup>(17)</sup>

As general energy use makes up the largest component of the non-clinical carbon footprint of general practice, we have some suggestions for how your practice might avoid unnecessary energy use and increase efficiency. These actions can save both carbon and money. The key areas of focus are heating/cooling, appliances and lighting. You can also find general energy management advice for Australian businesses on the [Energy management for business webpage](#).


Other areas that offer potential to boost environmental sustainability in your practice include:

- travel (including use of hybrid/electric vehicles)
- professional services
- reduced paper usage
- recycling practices
- water
- food waste
- business management
- disaster management
- workplace culture.



## Key non-clinical actions for an environmentally sustainable general practice

Green component	Action
<b>Energy:</b> <b>Heating, ventilation and cooling (HVAC)</b>	<ul style="list-style-type: none"> <li>Adjust your thermostat for the season – changing the space temperature set point by 1°C can affect the energy consumption of associated cooling or heating equipment by around 10%.</li> <li>Recommended HVAC settings for maintaining acceptable comfort conditions with reasonable energy efficiency; ie for winter 20–22°C and for summer 24–26°C. <sup>(18)</sup></li> <li>Consider optimal start and stop times to ensure appropriate temperatures are reached when employees and patients arrive and leave the practice; this will vary between seasons and should be modified accordingly.</li> <li>Schedule regular maintenance of your HVAC to ensure maximum efficiency.</li> <li>Consider methods for reducing demand of HVAC, including: <ul style="list-style-type: none"> <li>improved building insulation</li> <li>high-performance window glazing</li> <li>natural ventilation</li> <li>external window shading</li> <li>appropriate window coverings</li> </ul> </li> <li>Consider an upgrade if your HVAC system is more than 10 years old – new heating and cooling systems can be 20–40% more efficient than older ones. <sup>(19)</sup></li> </ul>
<b>Energy:</b> <b>Appliances and lighting</b>	<ul style="list-style-type: none"> <li>Review the energy rating of all appliances and prioritise energy efficiency when purchasing appliances (such as refrigerators and dishwashers) – plugged in appliances can account for a significant component of a practices energy use. <sup>(20)</sup></li> <li>Install timers or motion sensors for lighting and other power outlets (such as instant hot water in the kitchen), where possible and safe to do so.</li> <li>Turn off computers and screens when not in use; turn off standby power at the end of each day by turning off all appliances at the wall or power board.</li> <li>Consider using standard laptops when possible because they consume up to 90% less energy than desktop computers and offer greater work flexibility.</li> <li>Embed energy-saving processes either manually through work protocols or via building management systems. Change globes to LEDs because these use up to 75% less energy than halogen globes (fluorescent globes are intermediate in energy usage but contain toxic mercury in small amounts and should be phased out due to environmental concerns).</li> <li>Get more information on lighting and appliances can be found on the <a href="#">Implement energy savings webpage</a>.</li> </ul>
<b>Energy:</b> <b>Sourcing renewables</b>	<ul style="list-style-type: none"> <li>Consider changing your energy source to 100% renewables, which is relatively easy and immediately reduces your practice’s emissions and sends a strong message to the energy sector. Find a green-energy provider on the <a href="#">GreenPower website</a> (note: if cost is an issue, elect to only have a percentage of your electricity as renewable).</li> <li>Install rooftop solar, a highly cost-effective strategy if you own your premises. Pay-back periods on panels can be as short as 3–4 years on a product designed to last 25 years. Explore some of the considerations before installing solar panels on the <a href="#">Energy made easy website</a>.</li> <li>Negotiate with your landlord to install solar panels if you don’t own your premises. Find more information can be found on the <a href="#">Sustainable Australia Fund website</a>.</li> </ul>

 **Energy audit**

[Benalla Church Street Surgery](#) conducted an energy audit and implemented changes to reduce energy and costs over a 12-month period.

Green component	Action
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### Travel

- Consider switching to hybrid or electric small vehicles when purchasing/leasing a shared vehicle for your practice, if possible.
- Encourage staff and patients (when appropriate) to use methods of transport other than cars, such as walking, public transport or cycling.
- Encourage cycling by providing bike racks and change facilities.
- Ask staff to consider alternative/active transport and explore car-pooling.
- Be a role model by using alternative/active transport.
- Have a dedicated 'green team' to promote active and alternative transport.
- Offer telehealth to reduce patient-transport impacts, if appropriate.
- Lobby local governments to provide electric vehicle charging stations.



#### Bike racks

You could consider installing bike racks at your practice to encourage staff and patients to cycle to your practice rather than driving, thereby reducing carbon emissions.

### Professional services\*

- Choose services with a smaller environmental footprint – you can research to compare and ask the service directly, if needed.
- Consider choosing banks and investment schemes that include environmental-impact criteria in their investment profiles, such as worldwide fossil fuel divestment. Market Forces, an advocacy group that analyses the environmental impacts of financial institutions, offer a [bank comparison chart](#) to can find out which banks have a history of funding the fossil fuel industry and a similar chart for [superannuation funds](#).

### Minimise e-waste\*\*

- Avoid purchasing new electronic products that can't be reused or recycled.
- Reduce your consumption of electronic devices by repairing broken equipment before purchasing new items.
- Re-use your electronic devices by donating items to charity, friends or family.
- Discard e-waste responsibly, including by engaging a recycling company to collect various types of e-waste for recycling or dropping off your e-waste at organisations that offer recycling free of charge – see [Tech Collect](#), [Recycling Near You](#), [Mobile Muster](#) or [Clean Up](#).
- Develop an e-waste recycling policy using the [RACGP template](#).

**Note:** Before discarding any electronic equipment, make sure all data have been removed from the device.



#### Privacy and security

Failing to properly delete data before disposing of any electronic device breaches patient information privacy and security requirements. Simply deleting your files doesn't fully and permanently delete information from your storage device's hard drive. Before disposing of any equipment, make sure all data have been properly scrubbed from the device.



Green component	Action
<b>Reducing paper usage</b>	<ul style="list-style-type: none"> <li>• Move to fully electronic records and electronic communications. Refer to the RACGP's <a href="#">Information security in general practice</a> guidelines to ensure protection and preservation of your practice data.</li> <li>• Move to <a href="#">e-prescribing</a>.</li> <li>• Use recycled paper.</li> <li>• Reduce junk mail by putting a 'No junk mail' sticker on your mailbox.</li> <li>• Limit the amount of printed material distributed by your practice.</li> <li>• Subscribe to online editions of journals rather than ordering printed copies.</li> </ul>
<b>Recycling</b>	<ul style="list-style-type: none"> <li>• Place recycling bins in the practice, including for food waste, either in each room or in a common area.</li> <li>• Make sure recycling bins aren't contaminated with non-recyclable waste, perhaps by displaying informational posters from your local council.</li> <li>• Use recycled products, such as paper, toilet tissue and toner cartridges, as much as possible.</li> <li>• Ensure your practice doesn't fill medical waste bins with materials that could be recycled or disposed of in regular waste because disposing of medical waste is costly and resource intensive.</li> <li>• Consider recycling other things in your practice, such as batteries, light globes and soft plastic via <a href="#">REDcycle</a>.</li> </ul>
<b>Carbon offsets</b>	<ul style="list-style-type: none"> <li>• After reducing all possible emissions from your practice, consider purchasing carbon offsets to achieve net-zero emissions – many companies <a href="#">offer carbon offsets with a range of validation and verification standards</a>. Purchasing offsets also puts a price on carbon, placing it clearly on the balance sheet and incorporating sustainability into your business plan. As your practice progressively decarbonises, this should also be reflected in a reduced need for offsets.</li> </ul>
<b>Water efficiency</b>	<ul style="list-style-type: none"> <li>• Use products (such as dishwashers and fridges) with a high water-efficiency rating.</li> <li>• Only run the dishwasher when it's full.</li> <li>• If your practice has a garden, plant sustainable and drought-resistant plants.</li> <li>• Install rainwater tanks or grey-water systems.</li> <li>• Install low-water-use toilets.</li> <li>• Ensure water leaks are repaired rapidly.</li> </ul>
<b>Reduce food waste</b>	<ul style="list-style-type: none"> <li>• Promote <a href="#">reduction of food waste</a> for both practice staff and patients (and the financial benefits) by encouraging: <ul style="list-style-type: none"> <li>- meal planning</li> <li>- storing food correctly</li> <li>- avoiding packaged food, when possible</li> <li>- shopping locally, where possible. <sup>(21)</sup></li> </ul> </li> </ul>
<b>Business planning</b>	<ul style="list-style-type: none"> <li>• Embed sustainability in your business plan and incorporate sustainability goals in your financial objectives.</li> <li>• Perform an audit of your energy/carbon emissions to set a benchmark and establish a framework to reduce emissions based on data. You could use a <a href="#">free online carbon-footprint calculator</a>. Professional audits can be expensive and are unlikely to be cost effective for smaller practices.</li> <li>• Include sustainability as a standing item at practice meetings.</li> </ul>
<b>Disaster management</b>	<ul style="list-style-type: none"> <li>• Prepare your practice for potential disasters by assessing and planning for threats related to climate change, such as extreme heat, flooding or bushfires. The RACGP has <a href="#">resources and guides</a> to help you manage, prevent, prepare for, response to and recovery from emergencies and pandemics.</li> </ul>

## Green component    Action

### Workplace culture

- Ensure effective leadership on sustainability and encourage behavioural change by appointing ‘climate champions’ or a ‘green team’ to bring colleagues, staff, and patients on a journey. Implement regular reviews of interim targets and goals.
- Become an [RACGP parkrun practice](#) to promote the health and wellbeing of staff and patients through increased physical activity, skill development, socialising and personal empowerment.
- Encourage staff to bring lunch in reusable containers; avoid plastic wrappers and clingwrap; bring reusable drink bottles, coffee cups and cutlery; or purchase food from local businesses with certified sustainable compostable packaging. <sup>(22)</sup> Learn more about compostable plastic on [The Conversation website](#).
- Educate and support your patients using the RACGP’s [print-ready posters](#) for your waiting room, which help alert patients to the effects of climate change on their physical and mental health.
- Be patient – establishing new habits takes time, so start with small steps like encouraging staff to consider one car-free day a week, if possible.

\* ‘Professional services’ are all the businesses and services your practice uses, such as phones, computers, general IT support, finance, accountancy, payroll, insurance and many others. Each has a carbon footprint.

\*\* ‘E-waste’ is discarded electrical and electronic technologies. Electronic technology is made up of toxic material that is often not disposed of efficiently or safely. E-waste contains many components that can be recycled and reused.

### Resources

- [Climate change and human health: Position statement](#) (RACGP)
- [Climate change and health: Practice posters](#) (RACGP)
- [Information security in general practice](#) (RACGP)
- [A guide to information backup in general practice](#) (RACGP)
- [Declaration calling for family doctors of the world to act on planetary health](#) (WONCA)
- [Australian Government National Waste Policy](#) (Department of Agriculture, Water and the Environment)
- [Australian Government National Television and Computer Recycling Scheme](#) (Department of Agriculture, Water and the Environment)
- [The Green Clinic Guide](#) (Australian Conservation Foundation and Doctors for the Environment Australia)
- [Benalla Church Street Surgery Energy Audit 2016](#) (North East Sustainability & Health Group)
- [The 2021 report of the \*Lancet\* countdown on health and climate change](#) (*The Lancet*)
- [Choosing Wisely in General Practice](#) (Choosing Wisely Australia)

### Disclaimer

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*We acknowledge the Traditional Custodians of the lands and seas on which we work and live, and pay our respects to Elders, past, present and future.*

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