

A Story of Sustainability from the Coal Face (!)

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Grants from ANZCA, MRFF, NHMRC

Doctors for the Environment (DEA)

Thanks to Western Health!



2007. Thinking sustainably? the Royal Flying Doctor
Service

Raising Awareness of the Bigger Carbon Picture of Healthcare

The carbon footprint of Australian health care

Arunima Malik, Manfred Lenzen, Scott McAlister, Forbes McGain



Lancet Planet Health 2018;
2: e27-35

See [Comment](#) page e8

Summary

Background Carbon footprints stemming from health care have been found to be variable, from 3% of the total national CO₂ equivalent (CO₂e) emissions in England to 10% of the national CO₂e emissions in the USA. We aimed to measure the carbon footprint of Australia's health-care system.

- There is a CO₂-e associated with each \$ spent
- Australian Healthcare = 7% of Australia's CO₂-e

The Environmental Effects of One Doctor



Work Matters MORE than Home...

My Environmental Story

- Anaesthetist and ICU Physician
- Focussed on hospital areas with *intensive* resource use
- Began to consider how to make real change from within
- **Life cycle assessment** to measure environmental footprints
- Reducing/Reusing/Recycling programs in the operating theatres
- Avoiding low value care
- Broadening and **Translating** my/our efforts

• **Systematizing (measuring, reporting, improving) the Lot!**

Life Cycle Assessment= From “Cradle to Grave”



A life cycle assessment of common surgical equip. (including disinfection and sterilisation)



Reusable



Single use

An LCA



British Journal of Anaesthesia, 118 (6): 862–9 (2017)

doi: 10.1093/bja/aex098

Advance Access Publication Date: 15 May 2017

Clinical Practice

**A comparison between
Western Health and the
Austin
(Victoria)**

**Financial and environmental costs of reusable and
single-use anaesthetic equipment**

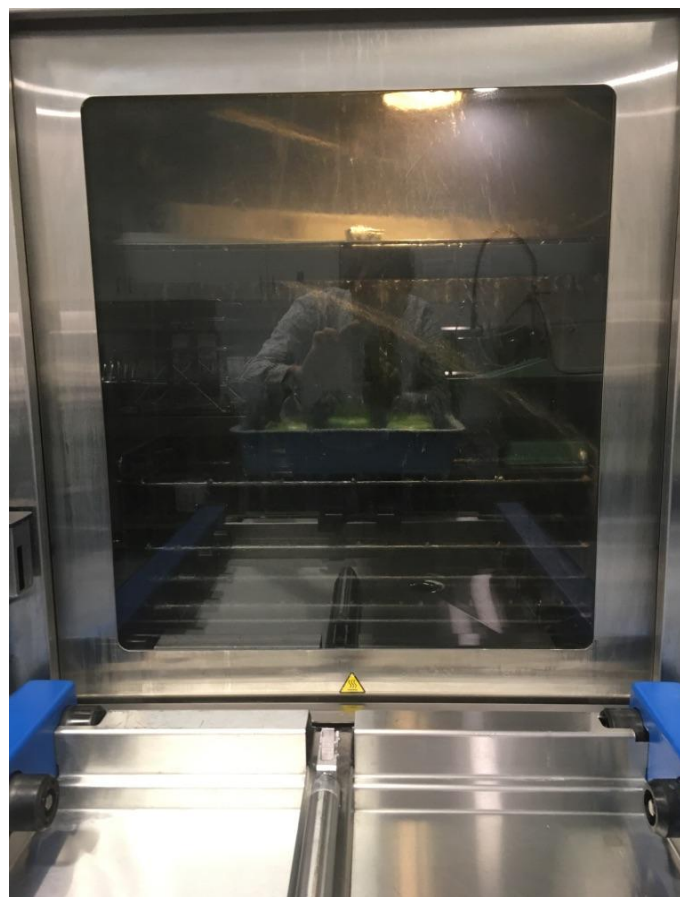
F. McGain^{1,2,*}, D. Story³, T. Lim¹ and S. McAlister⁴

Behind the Scenes in LCA Studies...

Holding trays for the washer



The washer in action



A steriliser load

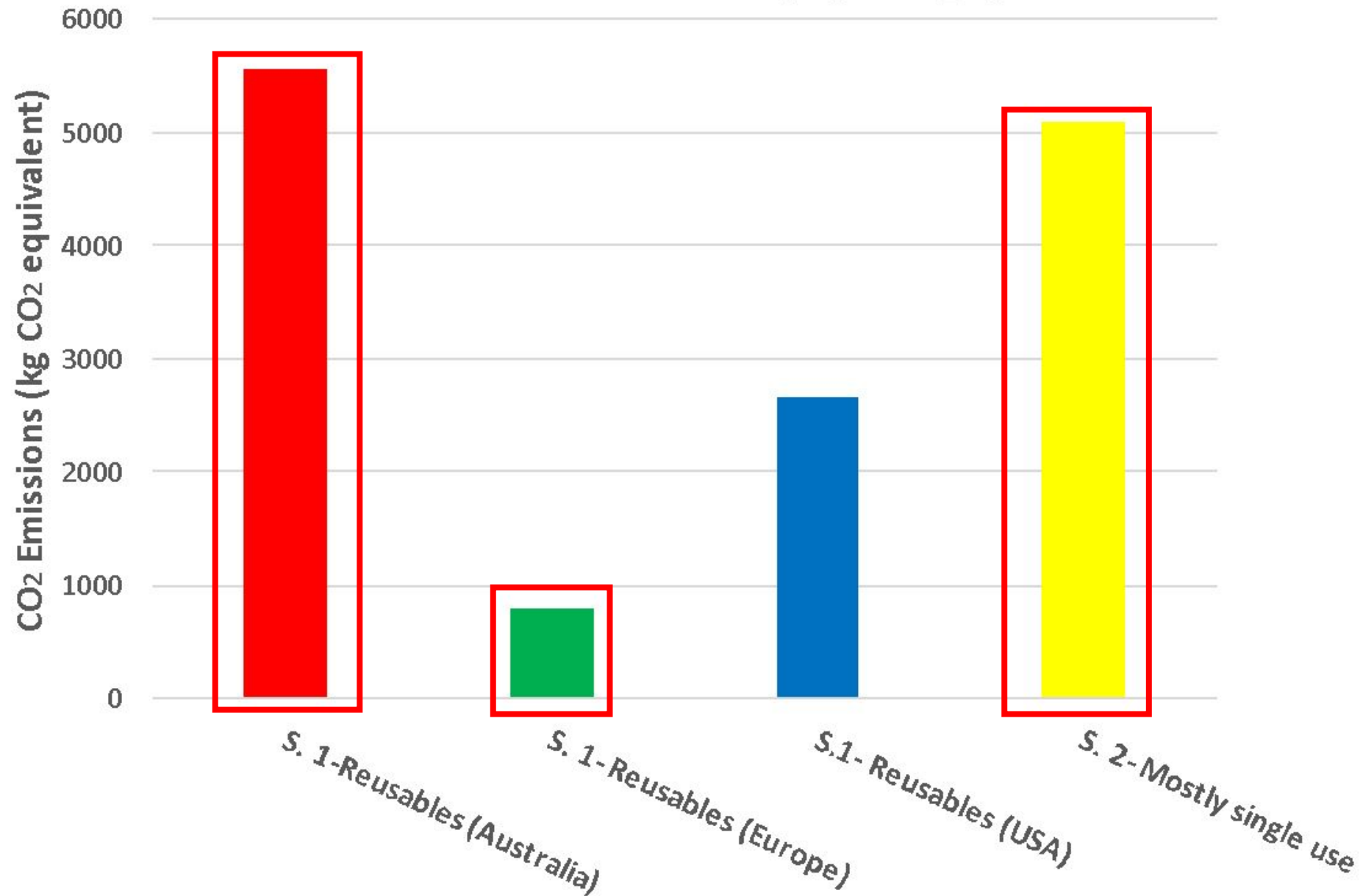


Steriliser Electricity Consumption (Sunshine Hospital)



OUTCOME:
10 houses of
electricity and
water savings every
day due to more
efficient steam
steriliser use

Anaesthetic Equipment GHG Emissions (kg CO₂e)



\$ Outcome: Reusable Anaesthetic Equipment

- For every operating theatre, for every year
- Using reusable anaesthetic equipment
- Saves \$5,000...
- So, by keeping our reusables Western Health
- Saves about \$100,000 per annum
- Environmental benefit, no carbon benefit
- yet...

Media Release

The Hon James Merlino MP
Acting Premier
Minister for Education
Minister for Mental Health



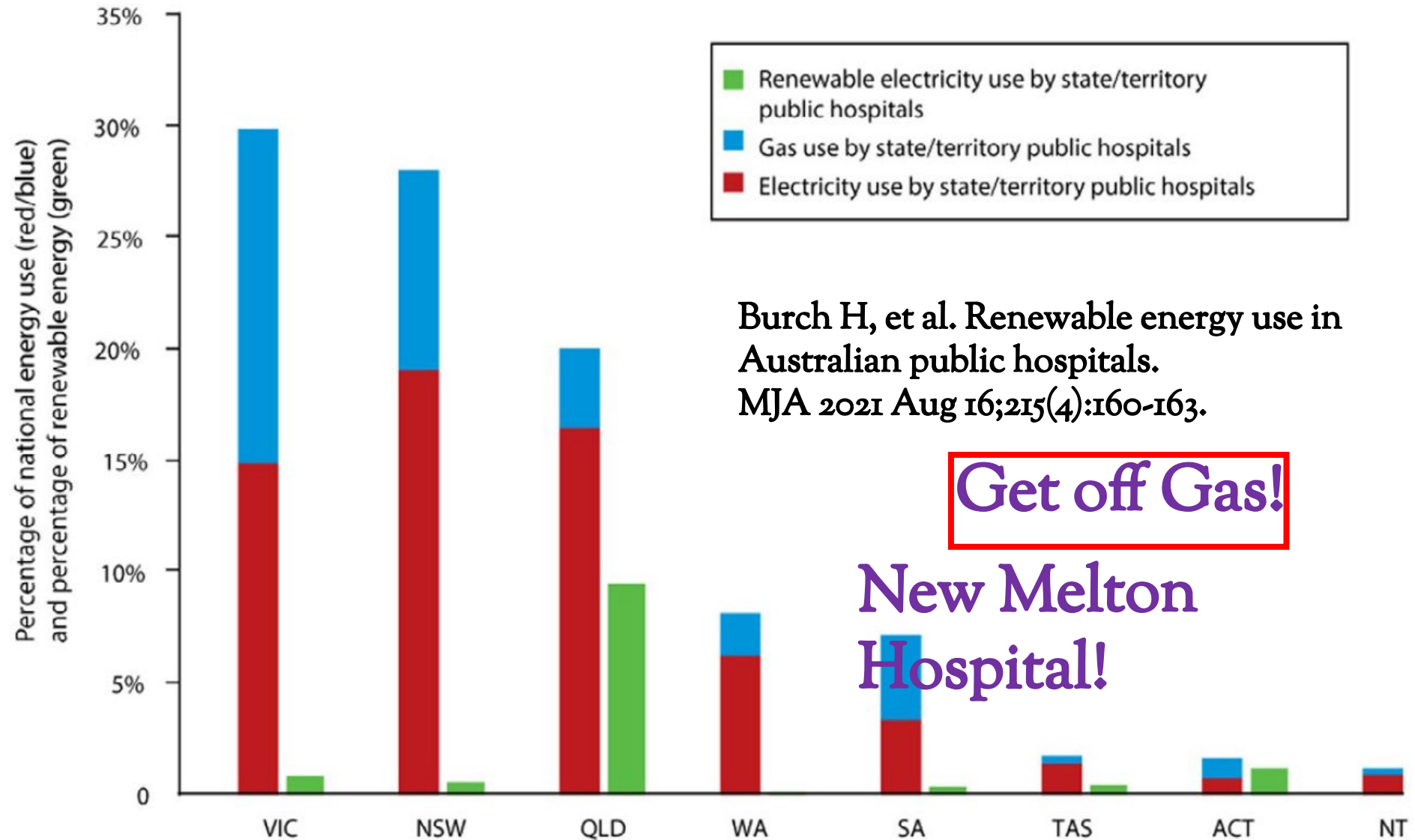
Sunday, 2 May 2021

CLIMATE PLAN TO CUT EMISSIONS AND CREATE JOBS

Government operations, from schools and hospitals to police stations and metro trains, will also be powered with 100 per cent renewable electricity by 2025 – an Australian first.

Renewables make Reusables Better

2 State and territory public hospital total energy consumption as a percentage of the Australian total public hospital energy use and a percentage of state and territory total energy use that was renewable in supply, 2018-19



What about COVID-19 and the Land of Single Use?

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Effects of the COVID-19 pandemic on environmental sustainability in anaesthesia. Response to *Br J Anaesth* 2021;126:e118–e119

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Dr. Kirby White (Bendigo G.P.) (and Sam Bates)



Emulating Dr. White's Efforts at Western Health

What I'm about to show you is really
RARE
In Australia!





Measure, Report, Improve, **Systematize**



Western Health

- **We** are building the scientific foundation of sustainable healthcare
- We need to translate this into practice well beyond islands of hope
- Collaboration is vital
 - All Clinicians
 - Hospital Executive/Boards
 - Colleges/AMA/ANMF
 - Societies, Advocacy Groups
 - Low Value Care/Choosing Wisely
- Healthcare Policy and Govt Commitment
- **Dept Health Sustainable Develop. Units**

