

Wood Heater Emissions: Novel Solutions

**IP4.02.03 Air quality: Update on wood heater
research**



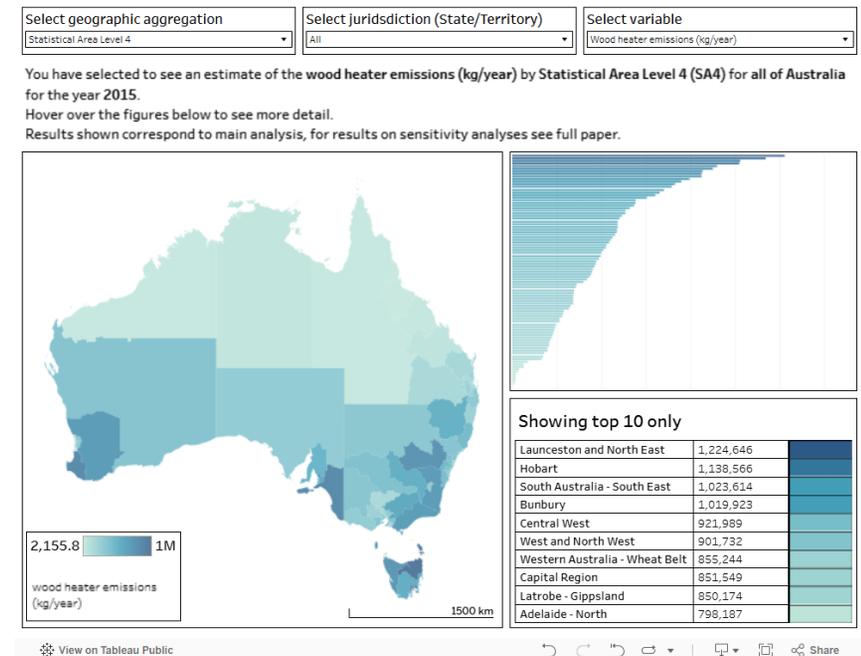
**Sustainable
Communities
and Waste**

National Environmental Science Program

Project overview



- Wood heater emissions responsible for an estimated 700+ deaths per year (modelled for 2015) (Borchers-Arriagada 2025)
- 60% of national road toll
 - 83% in Tas (29/35)
 - 68% in SA (69/102)
- Reduce PM_{2.5} emissions from wood heaters → improved community health

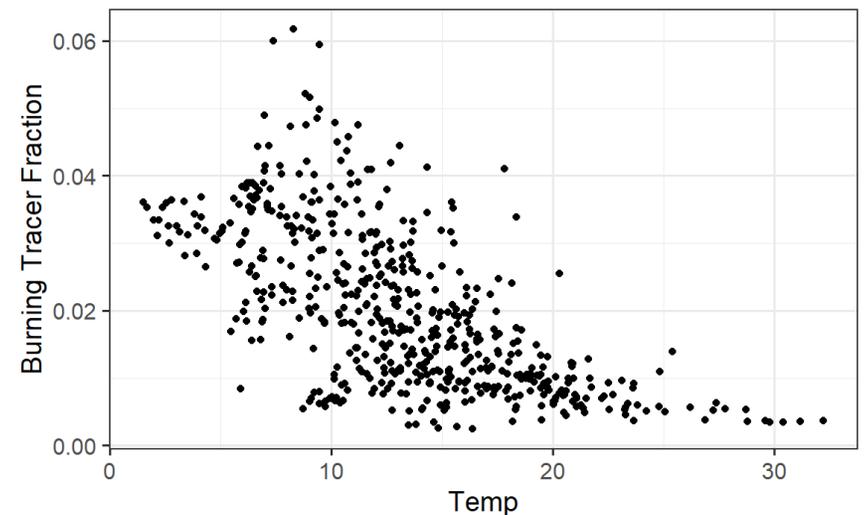
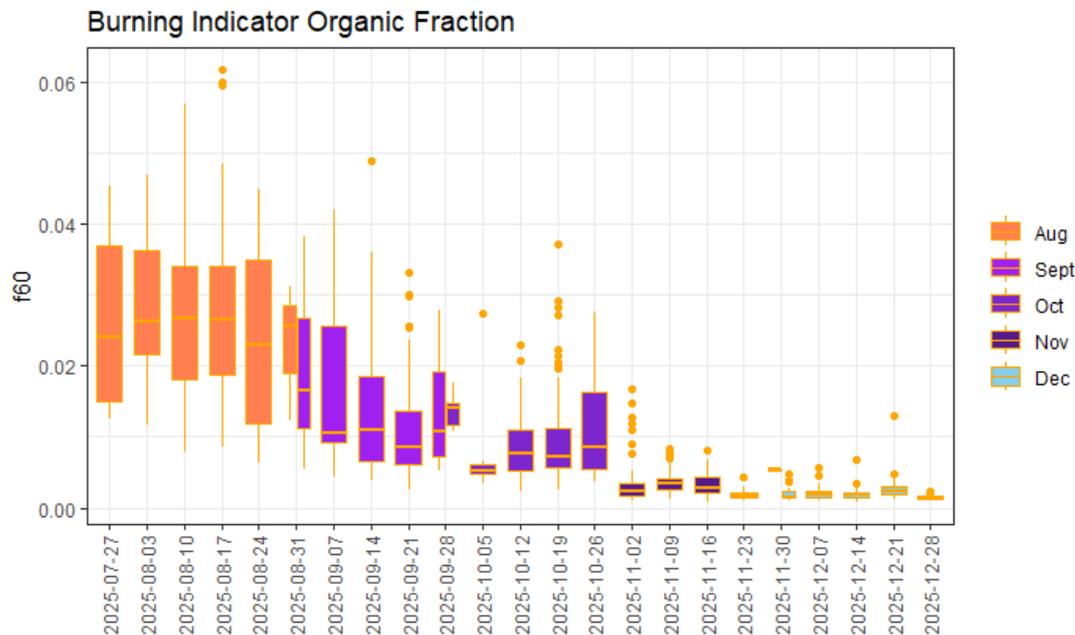


Chemistry of Particulate Pollution in Melbourne

Emily Franklin, CSIRO Environment (EMCR)

What is driving the organic contribution to particulate matter?

Ongoing activities will model the % contribution of wood heater emissions to Melbourne particulates



Winter: Biomass burning from wood heaters

PRELIMINARY DATA

Project overview



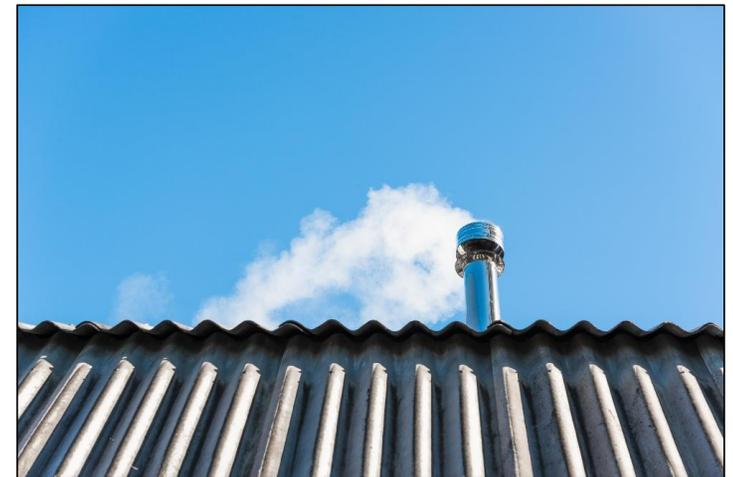
- Three community-based wood heater interventions
 - Let's Talk About Smoke (Mt Barker, SA)
 - Stay Snug, Breathe Easy (Snug, Tas)
 - Making the Switch (Armidale, NSW)
- Close collaboration with
 - local councils
 - community champions
 - community members
- Across multiple public health intervention scales





Pathway to impact

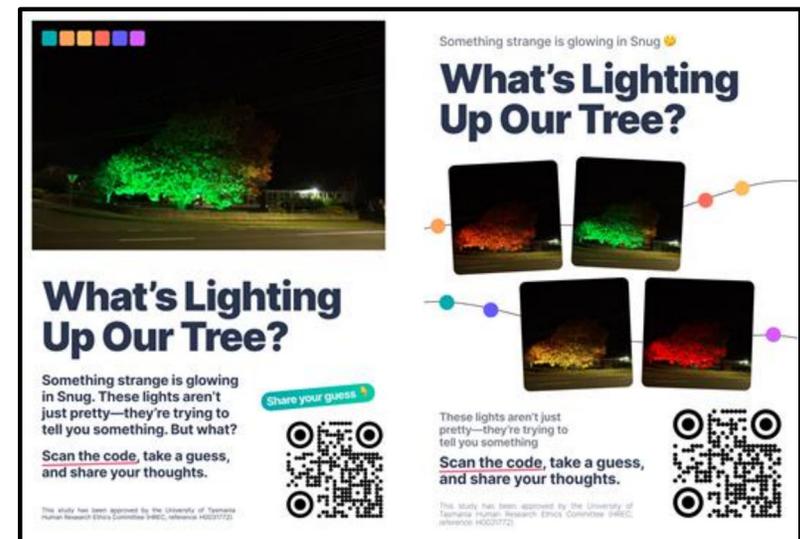
- Activities
 - workshops, focus groups, stakeholder engagement
- Outputs
 - Interventions piloted with councils and communities
- Outcomes
 - Increased awareness, council engagement
- Pathway to impact
 - Cleaner air in Australia
 - Reduced health burden from PM_{2.5} exposure



Impact story: Stay Snug, Breathe Easy



- Small town just south of Hobart, persistent wood heater problem in winter
- Aim: spark curiosity, drive engagement, raise awareness
- Output:
 - LED lighting on prominent tree
 - Colour change based on real-time PM_{2.5} levels
 - YouTube videos, webpage, social media
 - www.snug2025.com
- Led by local community champion
 - Tailored, hyper local, credible
- High engagement, ongoing grant applications
- Second project in SA





Impact story: Making the Switch

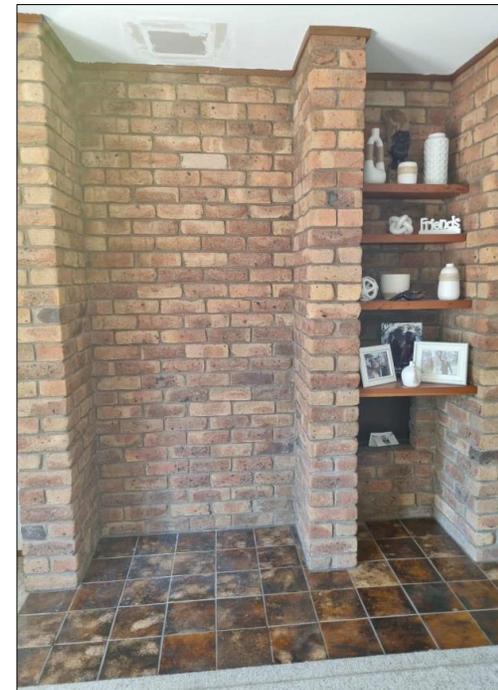
- Diverse regional centre in Northern Tablelands, NSW
- Persistent wood heater problem in winter
- Engaged local council
- Wood heater switch out
 - replace with reverse cycle AC
- 16 households recruited, follow for 18 mo
- 3 x interviews (household + council staff)
- Blueprint for other councils
- Large consumers of wood, older heaters
- Scope for supporting energy efficiency





What's next

- Expand Snug project to other areas
- Continue to work with Armidale households and council
- Findings to be framed as advice for local councils as “how to”
- Online wood heater symposium (May/June 2026)





Impact of EMCRs on project

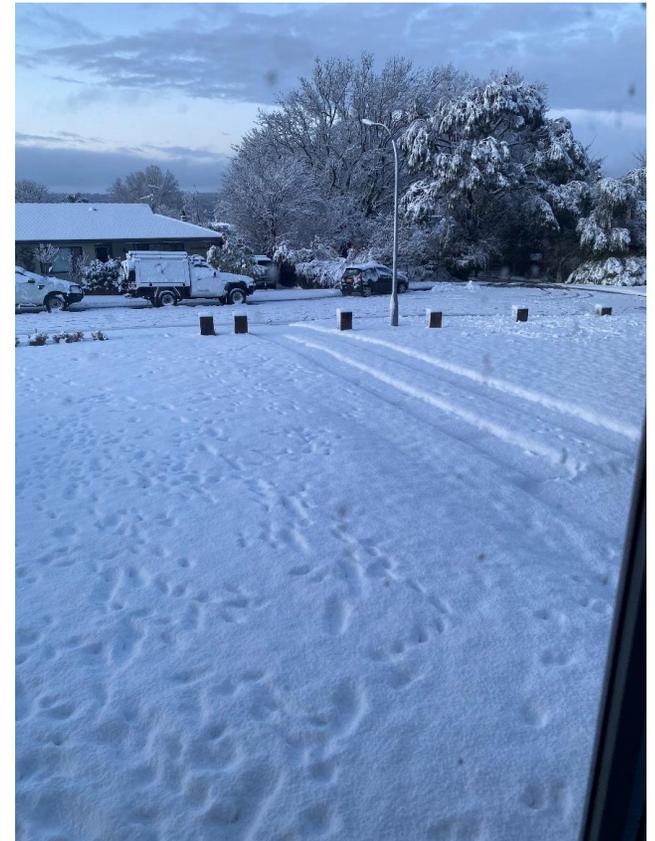
- Multiple EMCRs and PhD students related to these projects
 - Dr Penny Jones (maternity leave)
 - Dr Sharon Campbell
 - Dr Anna-Marie Gjedrem
 - Dr Emily Franklin
 - Juliet Nwachukwu
 - Kristian Mikhel
- Bringing
 - Project mangement
 - Stakeholder management
 - Public engagement and comms expertise (e.g. media)
 - Creative insights
 - Analysis expertise

EMCR Impact: Making the Switch



- Engagement with multiple stakeholders
 - Council
 - Households
 - Contractors
 - Energy auditor
 - Media
- Raised awareness of issue
 - ...and potential solution
- Lots of community conversations

“Thank you so much for all of your help in getting us our air-conditioner...it has been absolutely amazing and so helpful in ensuring our little one is the right temperature!”





EMCR career impact

- Stakeholder engagement
- Public engagement
- Project management
- Expectations management
- Media engagement

Key skills for new project developing
National Health and Air Quality Strategy through
Centre for Safe Air

Thank you for listening!



Any questions?

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