

Switch from log to Pellet Heaters to Reduce Climate Change*

*World Meteorological Organization (WMO) & United Nations Environment Program (UNEP) advice

- Methane, black carbon and ground-level (tropospheric) ozone cause about *half of current global warming*.
- Glaciers, polar icecaps, methane in permafrost & under the sea are melting because of *current warming*.
- If we don't reduce *current warming* by reducing methane and black carbon emissions (e.g. follow UNEP/WMO recommendations for developed countries to phase out wood heaters & open burning of agricultural waste) glaciers, icecaps and frozen methane will continue to melt.
- Smaller icecaps reflect less radiation back into space, causing even more global warming. As explained below, melting methane could create a "ticking time bomb" point of no return from which our climate might not recover for thousands of years.

Smoke (which contains black carbon) is created by inefficient burning, as is methane. The average new Australian log-burning wood heater will cause up to 12 times as much global warming over the next 20 years from its methane, BC & other emissions as heating the same home with gas or a reverse cycle heat pump. Pellet heaters burn more efficiently - much less smoke, methane and black carbon, so are a much better option for the climate.



Modern pellet heater

Current warming - a "Ticking Time Bomb" for the Climate

- Methane causes at least 25 times as much warming as the same amount of carbon dioxide. There are vast stores of methane in permafrost and under the sea. *Current warming* is melting these stores, releasing methane gas into the atmosphere where it causes more warming, melting even more methane and causing even more warming, and so on and so on until the climate reaches a "tipping point" - a point of no return - which cannot be reversed.
- By adopting the UNEP & WMO recommendations for methane and black carbon we can halve current warming, reducing global temperatures in 2050 by nearly 0.5 C, allowing time needed to replace fossil fuel with renewables such as concentrated solar power with molten salt storage. More info: woodsmoke.3sc.net/greenhouse RIRDC & ADC funding for the Pellet Project is gratefully acknowledged.

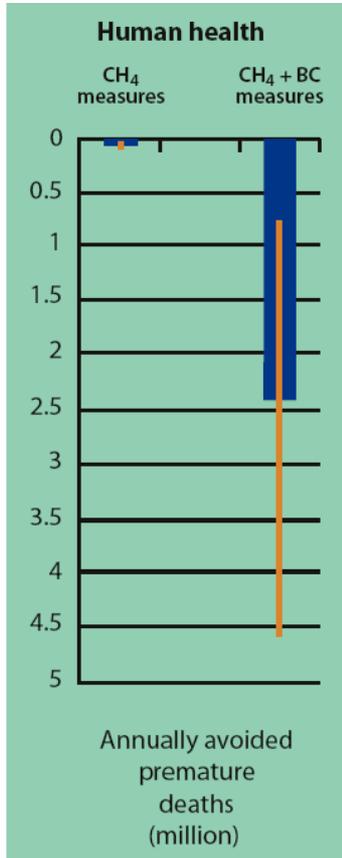
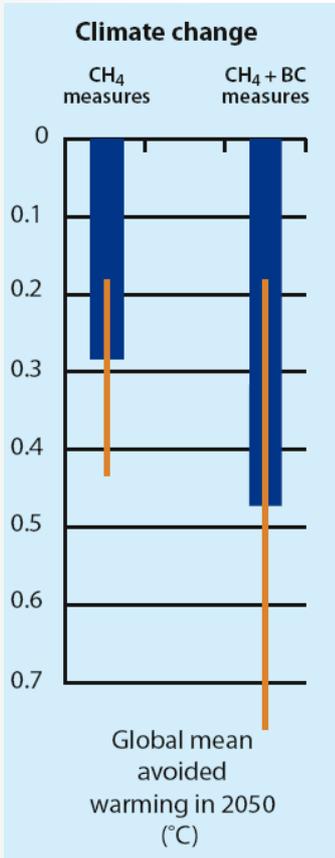


Integrated Assessment of Black Carbon and Tropospheric Ozone Summary for Decision Makers



The UNEP & WMO recommended a package of measures to reduce methane (CH₄) and black carbon (BC) emissions, including phasing out log-burning heaters in developed countries and banning open burning of agricultural waste.

As shown in the graphs below, these measures are predicted to reduce global temperatures by almost 0.5 degrees by 2050. About 0.3 degrees is due to the reduction in CH₄ emissions. The reduction in black carbon (smoke) emissions will also avoid nearly 2.5 million premature deaths.



UNEP/WMO estimates of the effects of their recommended measures to reduce methane (CH₄) and black carbon (BC)

