

# Replace wood heaters with alternatives to reduce Woodsmoke & Health Problems \*

\*Australian Lung Foundation (ALF) & American Lung Association (ALA) advice

## The Australian Lung Foundation recommends:

“alternative methods (instead of wood heaters) for climate control, including insulating and improving the energy efficiency, flued gas & electric heaters and energy efficient house design.”

## \$1000 reward to replace wood heaters

Armidale Dumaresq Council wants to make our air safer to breathe, so offers \$1000 to replace wood heaters with clean heating – details: [woodsmoke.3sc.net](http://woodsmoke.3sc.net) Non-polluting heating plus insulation should cost less than buying firewood, protect our health, reduce global warming and help the city meet National Air Quality standards by 2020.

## No safe level of PM2.5 pollution...

Research shows that PM2.5 – tiny particles less than 2.5 microns (millionths of a metre) in diameter are the most health hazardous pollutant.

PM2.5 penetrate the deepest recesses of our lungs where they cause inflammation leading to heart and lung diseases.

PM2.5 are so small they behave like gases. We can't keep them out of our houses, except by making them airtight – then we die from lack of oxygen!

The average wood heater in Armidale produces more PM2.5 per year than 300 passenger cars – about 50 kilograms per woodheater per year.

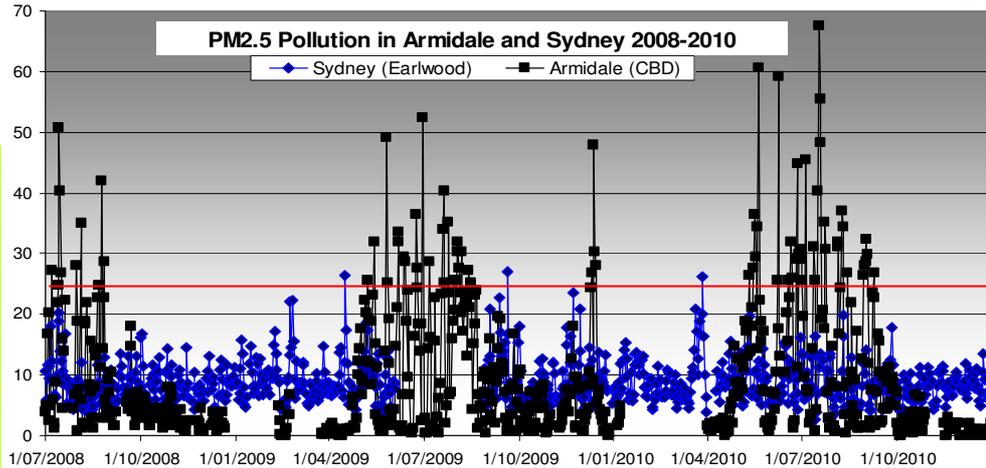


The American Lung Association say “Burning wood emits harmful toxins and fine particles in the air that can worsen breathing problems and lead to heart and lung disease and even early death.” They “strongly recommend using cleaner, less toxic sources of heat.”



Woodsmoke pollution, Armidale, 27 May 2011

## Armidale, not Sydney, is the “Big Smoke” in winter!



Although Sydney (blue line) has higher pollution in summer, it normally meets the National PM2.5 air quality standard (red line). In winter, Armidale's CBD has many days that fail to meet the standard. A mobile pollution monitor showed that residential areas can be more than twice as polluted as the CBD.

## Health effects of woodsmoke

Woodsmoke contains the same and very similar chemicals as tobacco smoke and is associated with the same health problems – heart and lung diseases, middle ear infections, bronchiolitis in babies, cancers and increased risk of respiratory infections.

When mice were exposed to a respiratory bug after breathing woodsmoke for 6 hours, 21% got sick and died, compared to 5% of mice breathing clean air or oil furnace fumes.

The latest research also shows that chemicals called PAH (polycyclic aromatic hydrocarbons) – the main toxins in both cigarette and woodsmoke – cause genetic damage in babies and reduced IQ when children start school.

A study of babies born in New York found a 5 point reduction in IQ when starting school if their mothers were exposed during the third trimester of pregnancy to just over a quarter of Armidale's measured wintertime PAH levels.

Health authorities, e.g. the ALF and ALA, recommend not using wood heaters – see quotes at top of page.



Modern pellet heaters emit 10% of a log heater's pollution. Switching to pellets will improve health and the environment

## Christchurch: 68% more respiratory deaths in areas with highest wood smoke

In Christchurch, NZ, 76% of all particle pollution is from domestic wood heating. Researchers compared death rates in the cleanest vs dirtiest areas. The smokiest areas had:

- 68% more respiratory deaths
- 22% more circulatory deaths
- 16% more deaths in total

Christchurch now has strict policies to reduce the health damage from woodsmoke, including not allowing wood heaters in new houses & houses that don't already have them. Existing wood heaters must be replaced after 15 years service with non-polluting heating or woodheaters rated 1 g/kg or less.

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