Use of Wood or Coal as a Source of Home Heating

BACKGROUND

Home heating through the use of wood or coal fires is a major source of air pollution in most towns and cities of New Zealand, with emissions considered to be as toxic as other sources of air pollution (Naeher et al 2007). Wood and coal fires emit carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter and other organic compounds, including polycyclic aromatic hydrocarbons (Fisher et al 2007). Studies have shown that coal fires emit 58–75% more PM10 pollution than wood burners (Ministry for the Environment 2005).

In New Zealand, air pollution from wood-burning domestic fires mostly occurs in winter and in particular locations such as Nelson, Alexandra and Christchurch (Fisher et al 2007). In Christchurch, conditions such as low-level temperature inversions, calm weather, and the burning of wood as the main heat source can result in a number of elevated air pollution days, particularly during winter (Scoggins 2004). The Health and Air Pollution in New Zealand (HAPiNZ) study estimated there was an increase of 4.8% in the national average mortality rate associated with air pollution (Fisher et al 2007). Using wood or coal fires as a source of fuel for heating can also lead to poor air quality within the dwelling.

The data were sourced from Statistics New Zealand Censuses for the years 1996, 2001 and 2006. Data were collected on the fuel types used to heat occupied private dwellings, and multiple fuel types could be selected (e.g., electricity, gas, coal and wood). Data are presented for the proportion of dwellings in each TA that reported using wood and/or coal as a fuel for heating their dwelling. Results for wood and coal are presented separately.

References

- Fisher G, Kjellström T, Kingham S, et al. 2007. Health and Air Pollution in New Zealand (HAPiNZ): Main report. Auckland: Health Research Council of New Zealand, Ministry for the Environment, Ministry of Transport.
- Ministry for the Environment. 2005. Warm Homes Technical Report: Detailed study of heating options in New Zealand: Phase 1 report. Wellington: Ministry for the Environment.
- Naeher L, Brauer M, Lipsett M, et al. 2007. Woodsmoke health effects: a review. Inhalation Toxicology 19: 67–106.
- Scoggins A. 2004. Does air pollution pose a public health problem for New Zealand? Australian and New Zealand Journal of Public Health 28: 16–19.