



Environmental Health Indicators for New Zealand

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USE OF WOOD AS A SOURCE OF HOME HEATING

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 following update from the EHI project presents data on the percentage of dwellings using wood as a source of heating, by territorial authority (TA) in 2006.

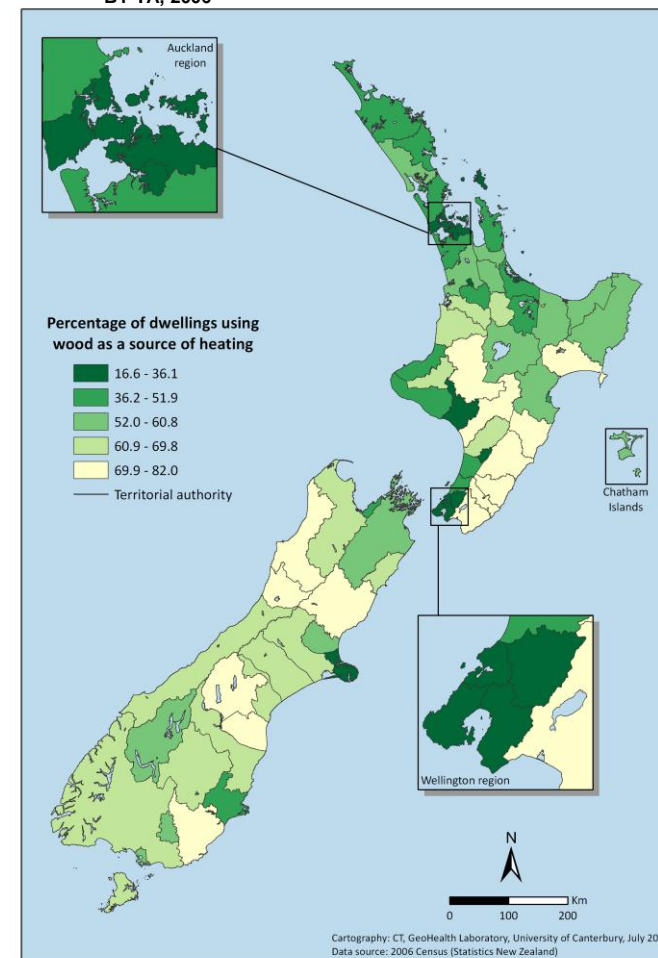
Generally, TAs in rural areas had the highest proportions of dwellings using wood as a source of heating (Figure 1). At least 70% of households in Wairoa, Central Hawke's Bay, Ruapehu, Rangitikei, Tararua, Masterton, Carterton, South Wairarapa, Buller, Grey, Hurunui, Mackenzie, Waimate and Clutha used wood as a source of heating.

TAs in urban areas generally had the lowest proportions of wood-burning dwellings. The lowest proportion was in Hamilton City (16.6%). The following TAs had less than 30% of households using wood as a source of heating: North Shore City, Auckland City, Manukau City, Hamilton City, Tauranga City, Palmerston North City, Lower Hutt City and Wellington City. In Christchurch City, 31.6% of the dwellings used wood as a fuel source for heating, compared with 44.0% in Nelson City.

From 1996 to 2006, the proportion of dwellings using wood as a fuel source for home heating declined nationally from 46.9% to 39.0%. However, in nine TAs there were increases: New Plymouth, Stratford, South Taranaki, Whanganui, Manawatu, Palmerston North City, Horowhenua, Carterton and South Wairarapa.

Overall, 63 TAs had a decrease in the proportion of houses using wood as a source of heating. The greatest decreases were in: North Shore City, Waitakere City, Auckland City, Manukau City, Waipa, Tauranga City, Kaikoura, Waimakariri, Christchurch City and Selwyn. This indicator will be updated when new data becomes available.

Figure 1: PERCENTAGE OF DWELLINGS USING WOOD AS A SOURCE OF HEATING, BY TA, 2006



References

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