

# Background facts taken from Healthy, wealthy and wise: A health impact assessment of *Future currents: Electricity scenarios for New Zealand 2005-2050* - Parliamentary Commissioner for the Environment, November 2006

### Insulation

- Approx one-quarter of New Zealand homes are not insulated
- A fully insulated house needs about half the amount of energy to heat it as an uninsulated house
- Investing in insulation pays off with lower health costs
- A Wellington School of Medicine study found that households that installed insulation had fewer sick days and doctor visits. The economic benefits were estimated to be twice the value of the initial insulation costs.

### Energy, poverty and health

- The World Health Organisation recommends that houses should be heated to a minimum of 18° Celsius to provide a healthy and comfortable home environment. Possibly up to one-third of New Zealand homes are colder than this
- People on low incomes are more likely to live in poorly insulated and cold, damp houses
- These housing conditions increase the likelihood of children and the elderly experiencing health problems such as colds, asthma and other respiratory illnesses.

### Type of heating

- Unflued gas heaters are widely used in New Zealand. Unflued gas heaters burn gas to produce heat and have no flue or chimney to transfer combustion products outside
- They are cheap to buy, but expensive to run. They also emit water vapour, carbon monoxide and nitrogen dioxide, which contribute to unhealthy air quality, dampness and mould
- There have been many studies on this. A Flinders University (Melbourne) study found that unflued gas heaters in classrooms emitted up to three times the nitrogen dioxide of flued heaters. Asthma attacks and chest tightness in asthmatic children reduced when the unflued gas heaters were removed
- Open fires are also widely used, but they are inefficient. A lot of heat is lost up the chimney and they are a major source of air pollution in some urban areas.

### Lighting

- In commercial buildings, improved lighting design can save businesses money (between 23% and 88% in one study). This includes better use of natural light and shading and the use of high efficiency fixtures and design
  - Improved lighting also improves worker productivity (up to 23% in one study) and workplace health, eg. by reducing glare.
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