

Build Back Smarter Info Sheet

Extract ventilation

The opportunity to build back smarter

Disaster repairs: Replacement of ceiling linings. Work and disruption in ceilings, bathrooms, kitchens and laundries.

Opportunity to upgrade: Install externally vented extract fans in bathrooms and range hoods in kitchens to get rid of moisture from the home. Duct clothes dryers to the outside.

Why extract ventilation is important

A home that is both warm and dry is essential for good health. Damp houses with condensation and cold are the perfect conditions for mould which thrives in humidity greater than 70%.

Mould, with its tiny spores, is at the root of many respiratory illnesses and asthma as well as some forms of gastroenteritis. Fungi growth affects about 40% of New Zealand homes and can cause adverse health effects such as respiratory illnesses, asthma and allergies. Dust mites also thrive in humid environments, exacerbating asthma and allergies.

Considerable moisture is generated by simple household activities. A shower, for example, can produce 1.5 litres each time it is used, and cooking 3 litres per day. This moisture evaporates into the air and, if it is not removed, can contribute to mould and condensation.

Good extract ventilation

The most significant sources of moisture in your home are in the kitchen, bathroom and laundry. All these rooms should have mechanical extract ventilation (extractor fans or range hoods and clothes dryers directly ducted to the outside) to remove moisture.

A critical part of extract ventilation is making sure you vent to the outside and not into the roof space as that will allow moisture to accumulate and damage the insulation and internal roof structures.

Equally, a range hood should extract to the exterior, rather than recycling air – this simply removes food smells but not the moisture from cooking.

Tips for effective extractor fans and range hoods:

- Choose the right-sized fan for the job. A fan that's too small won't remove enough moist air to keep the home dry. A fan that's too large can create draughts. Minimum requirements for extractor fan performance are set down under the Building Code. 25 litres/second is usually sufficient, but larger fans may be needed for big bathrooms.



- Choose models with automatic controls, such as a timer which runs for ten minutes after it is turned off.
- Combined light/extract units are often not very effective extractors – select separate units.
- Locate the extract inlet as close as possible to the moisture source – for example, close to the shower if it's in a bathroom.
- Locate the outlet away from windows – otherwise the moist air will just blow back in if the window is open.
- Pay attention to the ducting – straight ducting is much more effective than ducting which has kinks or goes around a corner.
- Ensure the weather grill shuts properly so that you don't lose heat when the fan's not in use.
- Range hoods should cover the whole stove and not be too far away from the elements to work effectively.



An example of ineffective ventilation – too far from the stove and not covering the full area. These types of ventilation are also often draughty when not in use.



A range hood which covers the stove area is much more effective

Build Back Smarter recommendations

If you have no mechanical extract ventilation (a range hood in the kitchen or extractor fan in bathrooms), consider installing these and ensuring they are vented to the outside. Clothes dryers should be ducted to the outside as well.

If you have existing but ineffective extract ventilation, consider replacing this. In particular, inefficient (too long) ducting or an inadequate fan may mean your extract ventilation will not effectively remove moisture. Shorter duct runs or a larger fan may be recommended.

If your extract ventilation vents into your roof space, it may be causing moisture problems with roof structures and insulation. Install a duct to remove the moist air to the outside.

