



## **Policies to overcome barriers to wood burning 2<sup>nd</sup> draft,**

**Molly Melhuish, 21 May 2016**

Wood supplied 45% of useful space and water heat in New Zealand's houses in 2005 according to the BRANZ research, the Household Energy End-Use Project. Ten years later, MBIE told the International Energy Agency that an estimated 12% of household heat energy came from wood burning

This decline has had many causes, not the least being the extensive advertising of heat pumps, the regulated removal of wood burners in polluted airsheds especially Christchurch, and the refusal of the electricity industry to offer residential tariffs that reward using alternative fuels during the months, weeks, and hours when electricity is costly to supply.

To enable genuine consumer choice between the convenience of heat pumps and ability of wood burning to provide high heat levels at low cost and near-zero carbon emissions, policies are needed in the following areas:

### **1. Control the smoke, don't ban the wood burner.**

- Change the national environmental standard on air quality to focus on cumulative exposure to PM2.5, instead of sporadic exposure to PM10 which is much less correlated to mortality from air pollution.
- Adopt a test method for flue gas emissions that reliably characterises the quantity and toxicity of the particles and gases emitted.
- Or better, simply adopt the more stringent of today's European air quality standards, all of which are far less restrictive than New Zealand's.
- Withdraw the bans (which some regions have) on wood burners more than 15 years old whether or not they meet emissions and efficiency standards.
- Allow pilot trials of appropriate numbers of wood burners in both homes and larger-scale facilities to give real data on emissions and not artificial laboratory test results.
- Measure air quality in a range of sites, not just (for example) two sites over the entire Christchurch airshed.

### **2. Require availability of time-of-use power tariffs that encourage fuel switching from electricity to wood at times when it could assist reduction of coal- and gas-fired generation.**

- Critical peak pricing – notifies consumers when the typically 100 hours per year of true electricity system stress are likely, and appropriately rewards their response in sharply cutting their demand.
- Price-responsive demand – targets normal high-price periods with a tariff which reflects actual supply costs. See [http://blog.rmi.org/blog\\_2016\\_05\\_17\\_moving\\_to\\_better\\_rate\\_design](http://blog.rmi.org/blog_2016_05_17_moving_to_better_rate_design)
- The case for such tariffs needs to be supported by modeling of the effect on peak electricity demands, and therefore on greenhouse gas emissions, of significant increases in wood burning, (MBIE was requested to do this a year ago, without success to date.)



**3. Fund development, commercialisation and research on wood burning.**

- Assist commercialisation of advanced gasifier burners which ensure smoke is gasified and the clean gases burnt before reaching any heat exchanger – these are widely used in Europe.
- Research and development on fuel preparation, including pellets, from various feedstocks for wood heating.
- Research on wood combustion which could reduce or eliminate formation of NO<sub>2</sub> and other toxic gases and enable improved automation.
- Social research on barriers to domestic wood burning
- Trials of multiple-use firewood forestry with amenity values for near-urban area planting, including restoring native trees and fauna.

**4 Encourage the widespread uptake of wood pellet and chip for commercial and industrial heating applications by:**

- Overhauling the resource consent requirements in the light of point 1 to make the installation and operation of wood energy plant simple and bureaucracy free.
- Remove the annual “compliance” fees on commercial and industrial plant.

**5 Adopt standards and procedures for wood burning and wood burning equipment which are in harmony with “best practice” countries, i.e. most of Europe. By so doing we:**

- Enable our people to purchase from the massive range of European plant and equipment from the small domestic to the large commercial.
- Remove a major “non-trade barrier” to the widespread use of wood burning and related equipment (by recognising equipment that has been tested elsewhere as being accepted in NZ)
- By putting our own manufacturer’s on the same footing as Europe enabling them to compete more easily in the European market, driving jobs in NZ.