

Wood heater Emissions

Submission on Regulation Impact statement

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Dear Sirs

Congratulations on your comprehensive and serious study of wood heater emissions.

I have been the principal woodfire operator in my homes with woodfires as the main source of heating for 60 years since the early 1950s. In the 1970s I designed and built solar passive low energy houses and established a chain of retail shops called the Natural Energy Centre. Appalled at the poor quality of the then currently available wood heaters, and with the help of the South Australian Government (SENRA) I developed a range of efficient wood heaters which we branded NECTRE (from **N**atural **E**nergy **C**en**TRE**).

Since that time wood heater sales have steadily fallen along with reduced government support for Research and development. However when electricity prices skyrocketed wood heater sales looked more promising and so Nectre/Pecan recommenced a serious R&D programme, establishing a Nata test laboratory to allow proper measurement of new ideas to improve wood heater emissions.

A detailed submission is being submitted by Pecan however as a now retired but interested party I felt it appropriate to make some generalised comments.

Following your Focus Questions:

#### Chapter 2

Your summary of the industry is reasonable however it should be stressed that whilst overall the industry supports a lot of people it is many small businesses. Pecan Engineering is one of the four major producers but is still just a small family business and so that regulatory solutions that can be applied to large organisations as in the car or gas industry cannot be afforded by the wood heating industry.

Because the businesses are small and because successive governments have cut back on R&D funding there has not been enough R&D over the years. Universities push their R&D potential but in my experience over the past 40 years of innovative development in building, heating and solar, they can provide excellent support facilities but are not the main driver of applied, market orientated research.

The government would do well to provide direct R&D funding to businesses which demonstrate that they have the resources and skilled staff to study low emission wood heaters.

#### Chapter 3

Woodheaters are a contributor to particulate emissions however I believe your assessment of the % contribution is too high. It has been calculated from a set of initial assumptions. The statistics of the number of heaters looks OK and the work by John Todd on real life emissions is well done but the results are very variable. A large error I believe is in the estimate of the amount of wood burnt.

Referring back to my experience of looking after the fire for 60 years in the Adelaide foothills and Adelaide hills I feel sure that the estimated use of 3.43 tons in Sydney and 3.75 tons in Melbourne is

far greater than the actual average use. This then follows through to excess assumptions of final woodsmoke particulate matter.

A 6'x 4'trailer can hold 200 to 300 kg of hardwood. 3.75 tons is a very large truck load or about 14 or 15 trailer loads. This is a trailer load nearly every week. Very few people use this amount of wood in Melbourne or Sydney.

#### Chapter 4

A national approach would be most helpful.

The current regulations by individual States or Local Municipalities is ad hoc and often lacking logic. Councils do not have the resources or technical expertise to properly assess the woodsmoke problem and their resultant rules are likely to be a reaction to a few local "bad operators or installations" and not related to the overall health issues.

They may not understand the difference between emission targets for softwood or hardwood as it is possible to get lower emissions from softwood heaters.

The number of local areas regularly affected by temperature inversions is small compared to the whole of Southern Australia. Care should be taken not to apply rules to the whole of Australia which need only apply in a few select areas.

#### Chapter 5

The Major pollution occurs when people fill their heater with wood and quickly shut it down in the hope of making it burn over night. Modern combustion heaters are quick and easy to light and should be burnt brightly and not left to smoulder over many hours. People should be encouraged to put more insulation in their homes so they retain the heat till the morning.

#### Chapter 6

Policy combination 9 is not unreasonable and will give the best result. However this should be coupled with direct funding for R&D available to manufacturers who can demonstrate that they have appropriate R&D resources and skills.

The Education component should be reassessed as previous efforts have not had great effect. Burning overnight should be discouraged.

#### Chapter 9?

Left Field project

Fund some university Geography/ Meteorology Department to look at the possibility of breaking up local temperature inversions by mechanical means forcing the cold air up or the warm air down.

