



**Camden Council**

37 John Street, Camden NSW 2570 DX 25807  
PO Box 183, Camden 2570 ABN: 31 117 341 764  
Telephone: 02 4654 7777 Fax: 02 4654 7829  
Email: [mail@camden.nsw.gov.au](mailto:mail@camden.nsw.gov.au)

10 July 2013

Standing Council on Environment and Water Secretariat  
GPO Box 787  
Parliament House  
Canberra ACT 2601

By email: [scew.secretariat@environment.gov.au](mailto:scew.secretariat@environment.gov.au)

Dear Sir/Madam,

**Submission – Consultation RIS for reducing emissions from wood heaters**

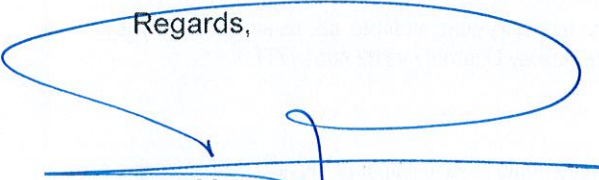
Thankyou for this opportunity to make a submission on this important matter.

Attached to this letter is Council's submission.

The submission focuses on aspects of wood heater use that Camden Council view as important. In addition, we make comments on those questions asked in the Regulation Impact Statement we believe we have something valuable to say. We have not made comments on those questions that are outside our sphere of experience or knowledge.

Should you have any further questions please do not hesitate to contact Council's Manager of Environment & Health, Geoff Green on (02) 4654 7777.

Regards,



Ron Moore  
General Manager

## 1. Background

- 1.1. Camden Council is located in the southwest corner of the Sydney Basin in NSW.
- 1.2. Camden Council is currently undergoing significant population growth as part of the rollout of the South West Growth Centres plan. The population of the Camden local government area (LGA) is predicted to increase from the current level of approximately 60,000 residents to approximately 300,000 residents by the year 2040.
- 1.3. It has been well documented over a number of decades that due to the geography and meteorology of the Sydney Basin, South-West Sydney experiences higher levels of air pollution compared to the remainder of the Sydney Basin. The prevailing wind flow patterns cause pollution from the rest of Sydney to be collected from the eastern and central parts of the basin and concentrated in the south-west and west.
- 1.4. During winter, the key factors contributing to the concentration of emissions in the south-west are exacerbated by temperature inversions and calm wind conditions. Temperature inversions trap pollutants close to the ground surface and the calm wind conditions inhibit the dispersal of pollutants.

## 2. Actions by Camden Council to Improve Air quality

- 2.1. Camden has a long history of trying to improve the air quality of the local environment. This is despite Camden being a small part of the larger Sydney Basin airshed, where actions taken in our LGA can be largely negated by the inaction of other authorities within the Sydney Basin.
- 2.2. Part of this history relates to the inclusion of controls that prohibited the installation of wood heater into various Development Control Plans (DCPs). However, changes to the planning legislation in NSW have resulted in Council not being able to legally enforce this prohibition.
- 2.3. In response, Council on 24 July 2012 resolved to restrict the installation of wood heaters to those models that have a maximum emissions rate of 1g/kg of fuel burnt and a minimum efficiency rate of 65%. These criteria represent a significantly higher standard than the 4g/kg and no minimum efficiency that is currently in place in NSW.
- 2.4. However, the planning legislation in NSW makes it hard for Council to absolutely restrict the installation of wood heaters to those heaters that meet the stricter standards. In an effort to ensure as many residents as possible comply with our 1g/kg and 65% performance standards, Council resolved on 11 June 2013, to exhibit an amended Local Environmental Plan (LEP) that contains the following exempt development criteria:
  - to be installed in a single detached dwelling only;
  - must comply with Council's 1 gram per kilogram emission and 65% efficiency rating (Note: The current Australian Standard is 4g/1Kg Emission);
  - the flue height is at least 1m above any structure within a 15m radius; and

- should otherwise be installed in accordance with the Building Code of Australia (BCA) and Australian Standard 2918:2001 – Domestic Solid Fuel Burning Appliances - Installation.

- 2.5. If a resident wishes to install a wood heater that does not comply with the above criteria they will need to submit a development application. For a wood heater installation the cost of a development application and associated advertising, archiving and inspection fees varies from approximately \$750 – \$1,000 depending on the purchase price of the heater and installation costs.
- 2.6. The hope is that the additional financial cost will influence those residents that want to install a wood heater to choose a model that meets Council's performance criteria, or alternatively, choose another form of heating.

### **3. Particulate Matter Emission Sources**

- 3.1. Review of the NSW Environment Protection Authorities Air Emissions Inventory (2008) shows that the biggest contributor to PM2.5 is domestic solid fuel combustion (i.e. use of wood heaters). PM2.5 emissions from wood heaters account for 50.64% of the total PM2.5 emissions for the Sydney Region. This is a significant increase on the 34.3% reported in the 2003 Air Emissions Inventory.
- 3.2. When allowing for the fact that wood heaters are predominantly used during winter, a more accurate picture of the impact of wood heater use can be gained. Examining the NSW EPA Air Emissions Inventory data from 2003, it can be seen that on a typical July weekend day, the use of wood heaters accounts for 71.7% of PM2.5 emissions.
- 3.3. Further evidence of the disproportionate impact that wood heater use has on PM2.5 emissions relates to the number of households that use wood heaters as a source of heating. In the Sydney region it has been estimated that only 4.3% of households use wood heaters as their primary source of heat. An additional few percentage of households use wood heaters as a secondary source.
- 3.4. In view of the above, Council believes that the significant impact that results from the activities of so few warrants further attention and action by Governments at all levels.

### **4. Health Effects of Wood Heater Emissions**

- 4.1. Without going into great detail, many studies over a long period of time have shown that exposure to emissions associated with wood heaters (including PM2.5 and PAH) have serious health impacts. PM2.5 is now considered the most dangerous of air pollutants, with no safe level of exposure by the NSW EPA.
- 4.2. Another point of concerns relates to the composition of PM2.5 emitted by wood heaters. Typically the smoke from wood heaters is composed of tiny droplets of organic compounds that have condensed after combustion. These droplets include various types of PAH and have similar characteristics to cigarette smoke.

- 4.3. A significant body of peer reviewed scientific evidence has shown the health impacts associated with exposure to wood smoke include:
- Increased mortality from cardiovascular disease;
  - Inflammation of the lungs;
  - Increased respiratory illnesses such as asthma and bronchitis;
  - Increased use of medication and hospitalization;
  - Increased risk of stroke.
- 4.4. In addition there is an emerging body of evidence that is showing health impacts caused by pollutants associated with wood heater emissions including:
- Increased cognitive decline due to PM entering the brain;
  - Genetic damage in babies and young children;
  - Reduction in children's IQ; and
  - Increased risk of ADHD and anxiety in young children.
- 4.5. A useful comparison of the amount of pollution, and its associated health impacts can be gained by comparing wood heaters from wood heaters with cigarette smoke. The PAH emissions from the average wood heater in Sydney burning 2 tonnes of wood are equivalent to the PAH from 32 million cigarettes. A smoker would need to consume 1753 cigarettes per day, every day, for 50 years to achieve this, whilst a wood heater will do the same in just one winter.

## 5. Existing Regulation

- 5.1. The regulation of wood heaters and wood smoke in NSW is problematic. The planning system makes the prohibition of wood heaters in an area difficult and open to legal challenge.
- 5.2. Further, given the nature of the Sydney Basin air-shed, pollution generated in other parts of Sydney will impact on the residents of the Camden LGA, diluting the best efforts of Camden Council to improve air quality.
- 5.3. The current provisions of the Protection of the Environment Operations Act 1997 whilst providing Council officers with some regulatory response for dealing with households that have excessively smoky wood heaters, they do not solve the problem of emissions from heaters that are operated in a more satisfactory manner.
- 5.4. With the significant population growth that Camden will experience over the next 25 years, it is imperative that a better system for regulating the installation and use of wood heaters is devised. This system needs to be a government mandated position, rather than something left up to individual Councils to respond to. This is particularly important in airsheds that cover more than one LGA.

## 6. Future Regulation

Any future regulatory and policy frame works needs to ensure that:

- Puts the health of the population as a primary concern and acts to protect and improve health generally;



- It is fair and equitable for all residents, particularly where an airshed covers a number of local government areas;
- Deals with new wood heaters and their installation, and includes capability for the prohibition of new wood heater installations where appropriate;
- Provides mechanisms for the retirement existing in-service wood heaters, particularly the older more polluting models;
- Facilitates the continuous improvement of wood heater performance; and
- Ensures that Councils and other local authorities are given sufficient financial and other support.

## 7. RIS Questions

Questions that Camden Council would specifically like to make a response to are below.

**Question 1 – What is your view of the wood heater industry in Australia? Are there specific aspects of the industry the require attentions? Please provide details.**

Response – More research and development works needs to be done as a matter of urgency on new wood heater models that meet higher performance standards such as those adopted by Camden Council. The current Australian Home Heating Association (AHHA) proposal to change the relevant Australian Standards to require a maximum emissions rate of 2.5g/kg and a minimum efficiency of 55% is inadequate. As stated on page 18 of the Consultation RIS, work done by Walter Turnbull shows that based on 2010 data from the AHHA, the average design efficiency was 59.6% and the average emissions level was 2.6g/kg. This is not too different to the AHHA proposal and does not represent a significant improvement in performance.

**Question 2 – Can you provide evidence of new or different operational or marketing paradigms that would affect the stated view?**

Response – The NZ experience shows that where governments acted by imposing stricter performance standards to address poor air quality, and the associated health impacts, caused through wood heater use, the industry responded and adapted to those changes. Notwithstanding the argument the AHHA makes that you can't compare NZ with Australia because wood heaters in NZ are designed to burn softwood and wood heaters in Australia are designed to burn hardwood, the fact remains that the industry will respond to any changes and wood heater performance can improve.

**Question 3 – Do you consider wood heater emissions to be a significant issue relative to other forms of air pollution?**

Response – Examination of the 2008 Air Emissions Inventory prepared by the NSW Environment Protection Authority shows that in the Sydney region, wood heater use is responsible for 50.64% of PM2.5 emissions, approximately 70% of which is emitted from June to August. The next highest source of PM2.5 is "all non-exhaust particulate matter" from "on-road mobile" sources at only 5.54%, followed by "heavy-duty commercial diesel – exhaust" emissions at 5.33%. The 2008 Air Emissions Inventory also states that wood heater ownership in the Sydney regions is only 12.73% of households. Only potentially 12% of households cause 10 times the



PM2.5 pollution than all the non-exhaust particulate matter from the hundreds of thousands of registered vehicles.

Review of the 2008 Air Emissions Inventory also shows that wood heater use contributes significant amounts of other pollutants such as PM10 and polycyclic aromatic hydrocarbons to name a couple.

**Question 5 – Are there other variables that have not been considered or not been attributed sufficient weight in the discussion?**

Response – Areas undergoing significant urban growth require a different consideration. It is imperative that any new regulatory and policy framework ensure that any gains made from improved heater design and in-service operation are not offset by new installations. To this end, developing areas such as Camden need any changes to incorporate capability and flexibility to prohibit wood heaters in critical areas.

**Question 6 – Do you agree that the current policy measures for the abatement of wood heater emissions are not successful in realizing the policy objectives. Can you provide other evidence to support this?**

Response – The current planning system and associated laws within NSW make the prohibition of new wood heater installations particularly problematic, and difficult to enforce legally.

Camden Council has previously used controls that prohibit the installation of wood heaters in Development Control Plans. Controls in DCPs are meant to be a guide to development. They can not be strictly enforced, and should Council pursue a strict application of a prohibition control, we could be challenged legally.

This approach has also been taken by the NSW Department of Planning and Infrastructure. As an example the Oran Park Development Control Plan 2007 Section 8.2 Sustainable Building Design, control 5 states “Open fire places and slow combustion stove are prohibited”. A similar control is included in the Turner Road Precinct DCP 2007.

However, DCPs for new precincts do not contain any controls on the installation of wood heaters.

When it comes to the the in-service operation of existing wood heaters, the Protection of the Environment Operations Act 1997 restricts Council to taking action only in those instances where a wood heater is causing “excessive smoke”, which is defined in the Act. Council does not have any options for dealing with emissions from wood heaters that may be operated in a more satisfactory manner, yet still release a significant amount of pollution.

**Question 7 – Which policy delivery method do you believe should be adopted by government and why?**

Response – A national regulatory approach is the policy delivery model that should be adopted. In any approach that is implemented, it is important to ensure there are no loopholes that would allow a person or business to circumvent the new policy and regulatory framework.



For any new approach to wood heater control to be effective it is imperative that sufficient financial and other resources are provided to Councils and other relevant agencies where they are responsible for actions.

**Question 8 – Do you agree that the policy measures listed for the abatement of wood heater emissions will be successful in realizing the objectives? If not, please provide your reasons, including supporting evidence.**

Response – We generally agree that the measures listed will be successful.

However, the final paragraph of this section of the RIS which states “...local governments may still introduce bans in situations where wood heaters were demonstrably major contributors to poor air quality.” is incorrect. Under the current planning laws in NSW, Councils can not ban the installation of wood heaters. See the information provided in response to question 6 above.

In addition, as stated in the RIS, older wood heaters are responsible for higher levels of emissions than newer heaters. Having a mechanism that allows agencies to effectively remove these heaters from designated areas is critical.

**Question 9 – Do you believe that “nudge” programs will be helpful in reducing wood heater emissions?**

Response – Any program that is targeted at changing the behaviour of residents is critical to the improvement and effective control of wood heater emissions. If “nudge” programs are based on well founded research and theory and are more effective than the usual community education campaigns, then Council would be supportive of the approach.