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Submission from the Bioenergy Association

Proposed revised Air Quality Control Bylaw

The Bioenergy Association represents a significant portion of owners of wood fuelled heat plant, fuel producers and suppliers, consultants, researchers and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to emissions to air from both residential and commercial/industrial scale heating applications.

The Association has a Wood Energy Interest Group whose members manage the Association's specific technical matters relating to the wood energy sector, specifically with regard to standards and best practice.

Overview

The Bioenergy Association supports retaining the current bylaw with some amendment.

The Bioenergy Association takes seriously the necessity to reduce emissions to air and supports the adoption of controllable renewable energy based heating that allows achievement of high quality air emission standards.

Burning wood fuel can be done to achieve specified emission limits if the wood fuel has a low enough moisture content, or the wood fuel is burnt in an appropriate controlled manner. Moisture content in wood affects the degree of combustion and thus can result in smoke which is un-combusted material emitting to air. However a high moisture wood can be burnt satisfactory within an appropriately designed boiler which has appropriate combustion controls.

Wood pellet heating appliances have internal controls which makes them ideal for residential heating as the wood pellets are manufactured to have a guaranteed low moisture content. In modern larger commercial scale applications the design of the plant will have appropriate emission controls which will allow the use of a wide range of biomass fuels while meeting the required emission limit.

Wood pellets

If wood pellets are not produced to an appropriate specified standard that could have a wide range of moisture content with consequential effect on combustion and thus emissions. The Association would like to see a specification in the Definitions on the quality of pellets that can be used in pellet burners. It is therefore recommended that the wood pellet used in wood pellet burner be required to meet the international standard ISO 17225-2. The standard has an appropriate moisture content limit of ≤ 10% by weight. The two New Zealand pellet manufacturers produce to this standard. Having such a definition will ensure that any other producer or importer will also have to produce pellet fuel to this standard.

There are several certification schemes that are used internationally to confirm that pellets are manufactured to ISO 17225-2. To this end the Bioenergy Association has established a Wood Fuel Supplier Accreditation Scheme to recognise wood fuel suppliers who have appropriate quality control procedures which will allow them to demonstrate that they can meet specified wood fuel standards. The scheme includes the manufacture of pellets to ISO17225-2. The best practice means of sampling and testing wood pellet fuel is currently the subject of a Technical Guide currently being developed by the Bioenergy Association. Certification of pellet manufacture is a component of obtaining Accreditation

Wood pellet burners

Wood pellet burners sold in New Zealand currently do not have to comply with any specific manufacturing standard and there is no consistency on how the burners are to be installed. The Bioenergy Association is developing a Technical Guide to address these gaps. The Association will consult with Council once a draft is available.

Solid wood burners

The Bioenergy Association is working on what the limit on emissions from solid wood burners should be. We note that the limit is being reduced to 0.5 grams particulates discharges per kilogram of dry wood burnt. This is stricter than the NESAQ requirement. The Association is investigating if this is appropriate and will be preparing a position statement on this matter and will provide it to Council when available. We are concerned that there is a risk of introducing unintended consequences if the emissions level is reduced below the NESAQ requirement without further consideration of this matter or a more comprehensive evaluation of other low emission options.

Other mechanisms

Bioenergy Association encourages the council to also include within the bylaw other policy opportunities for reducing emissions to air. These include:

- Require new subdivisions to evaluate collective clustered geothermal or biomass heating for all dwellings in the subdivision. (This can provide efficiencies and reduce emissions by reducing the number of heating appliances.)
- Require new subdivisions and dwellings to be designed to maximize passive solar heating opportunities so that solar energy is a precursor to the need for any other form of heating

To assist achievement of these bylaws the Bioenergy Association would be pleased to work with Council to:

- Undertake analysis of the benefits and barriers to methods of implementation.
- Develop a programme to assist clusters of heat users to create district heating schemes from bioenergy or geothermal energy along the lines of the incorporated society that created a collective clustered heating using geothermal energy at the Golden Glow Motel.
- Develop guidelines and model designs that could be provided to developers and new dwelling owners in order to avoid unnecessary duplication.
- Create an advisory entity to assist the community to identify opportunities and obtain assistance for action and implementation.

Bioenergy Association wishes to speak to this submission in any hearings or meetings to consider this bylaw.

Brian Cox
Executive Officer