

BANZ Technical Guide 04

Tender Guidelines for Wood Energy Plant

This is a sample of text from the document. The full document can be found [here](#) on the BANZ website.

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1. Introduction

CAVEAT - BANZ recommends that any party undertaking a project to upgrade or replace an existing boiler should undertake a full evaluation of all heating options prior to fixing on a specific new project solution. It’s important as a decision maker to understand the pro’s and cons of each option and have them set out in a way where they are easily comparable by a non-heating/energy expert. Too often a client rushes into a solution without properly evaluating the options. However these Guidelines start from the premise that such an evaluation has been conducted and the choice made has been for a wood fuel solution.

This Technical Guide has been developed by the Bioenergy Association of New Zealand (BANZ) for those seeking to upgrade an existing coal fired boiler or install a new wood fuelled boiler and who have limited experience in such works. It presents guidelines for the specification, supply and installation of wood energy plant and specifically targets organisations going out to tender for the supply and installation of appropriate equipment. .

The use of the guidelines should not substitute for the engagement of professional engineering advice.

The Guidelines set out the key elements that must be taken into account prior to the specification, selection and installation of a new wood fuel boiler and associated site works. They have been written such that both engineers likely to tender for wood fuel boiler installations or conversions, and those likely to be seeking such services (as non-experts), for example, school staff or school/hospital boards, can understand what is required. I.e., a concerted effort has been made to ensure that this Guide is accessible to both the client and the service provider.

2. Background

There is an increasing interest by owners or administrators of schools, hospitals, swimming pools, and other commercial buildings and manufacturing operations for the installation of wood chip or wood pellet boilers for the supply of heat. Many of those considering using wood fuel for production of heat from their boilers are outside the bioenergy industry and have little experience in sourcing new heat plant, or in managing the engineering to modify an existing boiler from using coal to wood fuel.

In addition, there are several examples in recent years where even though wood energy may have provided the most cost effective heating solution, it was never considered as an option. As noted, BANZ recommends that a full evaluation of all options (including wood) is made prior to making a decision on a heating solution.

This document provides anyone who is considering installing a new wood fuel boiler with a Guide to what issues to consider when choosing a new plant supplier and/or installer, or someone to modify an existing boiler. This Guide recommends/assumes the boiler supplier to undertake much of the plant specification as the scale of these projects generally do not allow for extensive costs for consulting engineers. Often package equipment is supplied and the supplier undertakes the design engineering as part of the tender.

Essentially this document presents pre-tendering information (“a Guidance Document”) for the client or heat plant owner so as to ensure that they understand what information should be sought through the tender and why it may be important. This will then assist adjudication between tender offers being on the basis of important aspects of the desired outcome. In larger projects the client often engages the services of an appropriately experienced Project Manager to undertake this work and see through the tender process, the installation, and the subsequent successful commissioning of the new heating system. In this latter situation this Guide should provide useful information to the client when entering into discussions with the project manager.

Regardless of whether the client manages the work themselves or engages a Project Manager this Guide will enable the recipient of the boiler (and associated infrastructure) to ensure that the plant arising from their decision is amongst other things:

- a. fit for purpose with respect to design and compatible with existing heating system,
- b. is based on an appropriate technology for the application,
- c. includes all ancillary components necessary for the plant to work efficiently and safely,
- d. is cost effective,
- e. will be able to be installed correctly,
- f. can be operated efficiently, effectively and safely without additional cost or excessive training,
- g. will be easily maintained to an appropriate standard,
- h. has clear performance expectations,

- i. is appropriate taking into consideration existing conditions and facilities/technologies at the site, and
- j. is covered by clearly specified terms on customer support and service as required.

The Guidelines cover a series of issues that should be taken into consideration as part of the process to appoint a contractor to undertake the work as follows:

- The Tender Process (and what it should cover):
 - a) Instructions to Tenderers
 - b) Tender evaluation
 - c) Project implementation
 - d) Project commissioning and hand over

- The Tender Document (and what it should cover):
 - a) A Heating Needs Assessment
 - b) Evaluation of current heating arrangements
 - c) Evaluation of possible boiler types and solutions
 - d) Evaluation of boiler specification and justification
 - e) Full description of any new system components proposed
 - f) Boiler and heat system performance (efficiency, fuel use etc) and emissions
 - g) Description of proposed operation
 - h) Evaluation of contract conditions and cost breakdown
 - i) Management of the resource consent application process
 - j) Supplier/Installer's Experience/Suitability
 - k) Health and Safety Management Plan
 - l) Warranty and user support.

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