National Guides

Energy Efficiency Conservation Authority (EECA) – Guides

These can be accessed via the Bioenergy Association publications and resources webpage here

- **Technical Guide 8.0: Process Heat** - This is a guide to best practice in improving energy efficiency in boilers, steam systems, hot water systems and process heating. Topics covered include:
    - What are the basic components of industrial steam, hot water and process heating systems?
    - How can I tell if the system is functioning efficiently?
    - What are the areas where systems can be improved to operate more efficiently?
    - What other source should I use?
- **Technical Guide 9.0: Production of wood fuel from forest landings** - Wood fuel is a clean and renewable energy source. Burning wood fuel has a low net greenhouse effect as the C02 given off is absorbed by the growth of the next crop. Wood fuel is playing an increasingly important role in generating energy.

  Wood fuel includes any woody biomass suitable for energy production, such as branches, bark and stem wood. The focus of these guidelines is on residues from landings - currently the largest unused source of woody biomass. Aimed at experienced forestry contractors, this guide outlines proven methods for extracting wood fuel from forest landings.
- **Wood energy: Using wood as a renewable energy sources** - This guide outlines the potential of wood energy within the New Zealand business environment. It outlines the strong environmental and economic benefits, as well as the emerging opportunities.
- **Best practice boiler tuning procedure guidelines** - In 2010 EECA reviewed the potential for improving efficiency of boilers operating in New Zealand. The potential for improvement is vast and this boiler tuning procedure is one of the main recommendations from EECA's review. The procedure is aimed at achieving three key objectives:
    - Increase the frequency at which boilers are tuned in New Zealand
    - Create a tuning procedure aimed specifically at increasing the efficiency of boilers
    - Unify the standard to which boilers are tuned.
- **Transport guidelines for wood residue for biofuels** - In any system for delivering wood residue as biofuels from forests or wood processing sites, transport is a key factor and contributes significant cost. Transport cost as a percentage of delivered cost can vary from ~12% (5 km haul) to ~60% (150 km haul) depending on the transport distance. Optimising transport systems on medium (50 km) to long (100 km) haul transport is therefore critical to minimising costs.

New Zealand Forestry Owners Association (NZFOA) – Guides

- Facts and Figures: New Zealand plantation forestry industry (2011/12 edition) - This Guide from NZFO presents all you need to know on the plantation forestry sector in New Zealand. The Guide is produced by the Forest Owners Association in co-operation with the Ministry for Primary Industries, presents a compelling summary of this important industry. It portrays a

sector that contributes around three per cent of New Zealand's GDP, and generates export earnings of $4.7 billion per year.

New Zealand Home Heating Association (NZHHA) – Guides

The NZ Home Heating Association provides advice to the residential sector on the use of wood fuel and wood fuel appliances.

- A guide to good wood - A number of things should be considered when using wood for heating. It's important to understand the type of fuel wood that is available, its advantages and limitations, and to be aware of the various types of heating appliances in order to select the best fuel for that application. It is also essential to know how to light a good fire.

Ministry for the Environment (MfE) - Guides

- The Ministry for the Environment (MfE) takes a lead role in air quality advice and guidance. The use of efficient clean burning wood fuel appliances has the potential to make a big difference to the air quality in several regions in New Zealand. The combination of good quality fuel and efficient appliances is the best combination for minimal air quality impact. The Ministry has the lead on the development of the National Air Quality Standards.

  1. National List of Authorised Wood Burning Appliances.
  2. Frequently Asked Questions on Wood Burners.

International Guides

- A Guide to utilising combined heat and power in the wood resources industry (2012) - This guide aims to educate members of the forestry products industry on how to use a source of woody biomass in a combined heat and power system, and provides resources for the development 3123234322of potential projects. In addition to a thorough overview of CHP concepts, this guide also contains technical information for woody biomass fuels – (US Publication).
- Wood chip heating systems (a guide for institutional and commercial biomass installations), Timothy M Maker - Different readers will use this guide differently. For example, a school board member whose school is considering a wood-chip heating system may want only a brief overview of automated wood systems and related issues, while a mechanical engineer who has been hired to specify and oversee a system's installation might want to read the guide cover to cover.
- Resources and guides on woody biomass utilisation, University of California
- Woody Biomass Feedstock Yard Business Development Guide - A resource and business guide to developing a woody biomass collection yard. USDA Forest Service, 2010
- Woody Biomass Utilisation Desk Guide - USDA Forest Service, August 2007
- A Planning Guide for Small and Medium Size Wood Products Companies - USDA Forest Service NE Area, 2nd Edition, July 2005
- Introduction to Woody Biomass - Woody Biomass Utilisation - Draft introduction to woody biomass as a feedstock
- 2008 Farm Bill Renewable Energy Provisions - USDA fact sheet on Title IX of the 2008 Farm Bill which focuses on the Renewable Energy Provisions
- Wood Heat Solutions (low res for on screen - 2MB) - A Community Guide to Biomass Thermal Projects: produced by Resource Innovation at the University of Oregon.
- Wood Heat Solutions (high res for printing - 13MB) - A Community Guide to Biomass Thermal Projects: produced by Resource Innovation at the University of Oregon.

- IG003 - Woody Biomass Definitions and Conversions Factors - A simple glossary of terms, units used and conversion factors relating to woody biomass
- IG002 - Use of Wood as a Media for Odor Control - The results of a brief literature and internet search for information relating to the use of wood chips as an air filtration media
- IG001 - Formaldehyde Use in Wood Based Panels - A look at the new formaldehyde standards adopted by the California Air Resource Board (CARB) in April 2007 and their potential impacts on the panel board industry

If you are aware of other Guides and Resources please contact us