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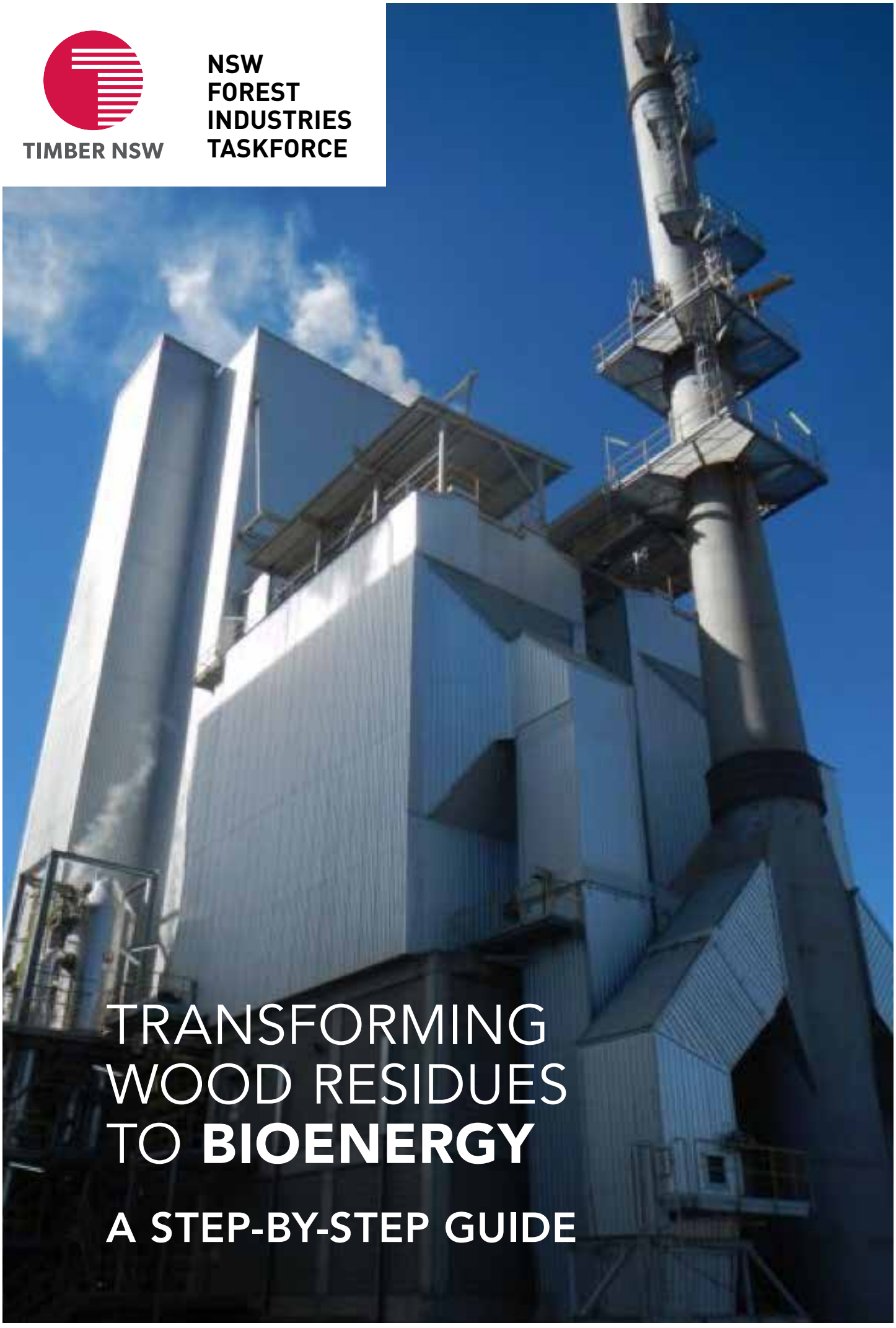

TRANSFORMING WOOD RESIDUES TO **BIOENERGY**

A STEP-BY-STEP GUIDE

About the Authors

Martin Stewardship & Management Strategies P/L (MS2, MS2.com.au)
Russ Martin is the Director of MS2 and Chief Executive Officer of the Global Product Stewardship Council (globalpsc.net). Russ was commissioned to research and resolve the issues presented to the NSW EPA by utilising woody biomass for bioenergy, which has resulted in this complete Guidebook.

Russ has extensive experience in waste management, product stewardship, public policy and sustainability in the U.S., Australia, New Zealand and Middle East. This includes roles in government and as an advisor to governments and industry. In 2015, Russ won the Global Green Future Leadership Award from the World CSR (Corporate Social Responsibility) Congress.

Forestry Technical Review
Nick Cameron is a forestry science graduate from ANU with a Masters Degree in Public Administration and as Forest Landscape Services provides forestry technical assistance to Timber NSW.

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Russ Martin, Nick Cameron, Chris Crump

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- NSW Department of Industry
- NSW Environment Protection Authority
- Timber NSW
- Visy Pulp and Paper
- Weathertex

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INTRODUCTION

This Guide is jointly commissioned by the NSW Department of Industry - Lands & Forestry and Timber NSW, supported through the NSW Forest Industries Task Force.

Forestry and sawmilling residues and uncontaminated wood waste are recognised feedstocks for bioenergy generation in NSW.

The purpose of this Guide is to detail how and why these woody materials are used for bioenergy production and to help navigate the NSW government's regulatory approval process.

Through detailed case studies, this Guide also showcases best practice in sustainable wood supply and bioenergy production within the NSW timber industry.

Remember, demonstrating engagement with, and support of, the local community can assist in gaining approval for your project.

Developing Bioenergy Markets

The Federal Government's *Renewable Energy Target* is designed to reduce emissions of greenhouse gases by encouraging the generation of electricity from sustainable and renewable sources, which includes bioenergy.

In support of the federal policy, the NSW Government's *Renewable Energy Action Plan* is designed to attract renewable energy investment and increase renewable energy generation in NSW.

Bioenergy is a form of renewable energy produced from organic matter, also known as 'biomass'. This Guide addresses the use of woody biomass in the production of bioenergy.

Part One of this Guide outlines how woody biomass is generated as a by-product or residue of timber harvesting and sawmilling processes and by the removal of invasive native scrub.

It also covers Chain of Custody considerations and provides further insight into how bioenergy markets support sustainable forest management and renewable energy generation.

Regulatory Overview

In accordance with the *NSW Environmental Planning & Assessment Act (1979)* Local Council is the authority that approves the biomass to bioenergy production process.

The NSW EPA provides technical review and input to the Local Government Development Consent process to ensure matters specific to the protection of the environment are reflected in Development Consent approvals.

This is why the regulatory requirements addressed within this Guide are detailed as Local Government Development Consent conditions.

Therefore, the use of forestry and sawmilling residues and uncontaminated wood waste, or 'feedstocks', in commercial scale bioenergy generation requires both:

- development consent from Local Government
- formal approval from the NSW Environment Protection Authority (NSW EPA).

The NSW EPA regulates the:

- processing and storage of bioenergy feedstock
- emissions from bioenergy facilities (into the air, water and soil)

This Guide only addresses regulations relating to the use of woody biomass and uncontaminated wood waste in bioenergy generation. No guidance is provided on the regulation of emissions from bioenergy facilities

Federal Government Regulation

At the federal level, the Commonwealth Clean Energy Regulator certifies renewable energy projects towards the Renewable Energy Target for electricity-generating projects or for generating carbon credits for emissions reduction under the Commonwealth's Emissions Reduction Fund.

In addition to compliance with NSW regulation, two of the case studies examined in this Guide (Big River Group and Visy Pulp and Paper) have been approved by the Clean Energy Regulator as 'accredited power stations' for their use of wood waste and related materials in electricity-generating activities.

Boral Timber Murwillumbah is accredited in the same category, although for biomass-based components of municipal solid waste.

This Guide does not address federal regulatory processes that relate to certification of renewable energy processes.

Not All Woody Biomass Can Be Used in Bioenergy Generation

Part Two of this Guide provides an overview of which types of woody biomass can be used in bioenergy generation.

The NSW EPA generally considers certain types of forestry and sawmilling residues to pose a low risk of harm to human health and the environment due to their origin, composition and consistency.

Only woody biomass that falls within the definition of an 'eligible waste fuel' and is sourced from authorised forestry operations may be used in bioenergy production.

The NSW EPA defines 'waste' broadly to better enforce environmental compliance. While the industry may not consider forestry and sawmilling residues as waste, their classification as 'eligible waste fuels' permits exemptions from more stringent regulations that apply to other types of waste.

The Process for Seeking Regulatory Approval

Approval to process and use 'eligible waste fuels' in bioenergy generation is granted by the NSW EPA to generators and processors of eligible waste fuel on a case-by-case basis through Resource Recovery Orders (RROs). Local Councils require the NSW EPA to have issued an RRO before they will issue a development consent.

Bioenergy project proposals for biomass are subject to case-by-case assessment. Applicants are ultimately responsible for determining whether particular approvals are legally required. The NSW EPA does not provide legal advice and reserves the right to take appropriate enforcement action.

As such, Part Three of this Guide details the decision-making processes in deciding whether regulatory approval is necessary and how to work with the NSW EPA in the initial stages of the process of applying for an RRO.

There is no set form for RRO applications. In December 2016, the NSW EPA released the *Eligible Waste Fuels Guidelines* to assist with regulatory approval applications and ongoing compliance. To assist further, Part Three of this Guide sets out the issues that should be addressed in written applications seeking a RRO. In addition to this Guide, applicants are strongly advised to read the *Eligible Waste Fuels Guidelines* in preparing their application.

By granting an RRO, the NSW EPA designates low risk wastes or waste-derived materials that can be thermally treated in NSW. RROs also contain conditions that generators and processors of waste must meet to use this material as fuel, or in connection with a process of thermal treatment. Conditions can include specifications, testing, record keeping, reporting and processing requirements to ensure the 'eligible waste fuel' remains clean and uncontaminated and that its use remains low risk.

Once granted, RROs are usually valid for several years, but they can be regularly renewed as long as the conditions continue to be met.

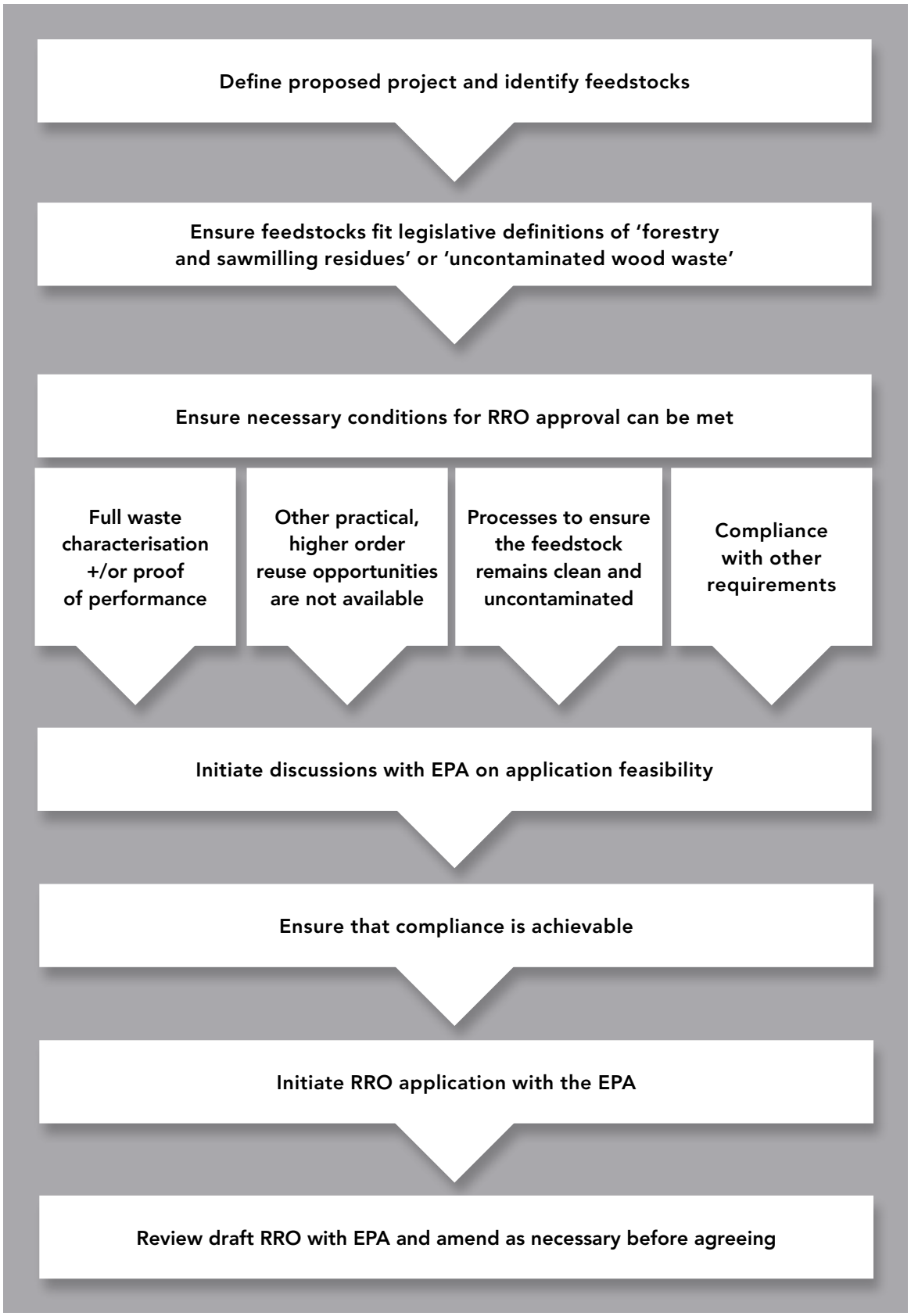
Industry Case Studies

There are a number of successful bioenergy projects operating across NSW. Part Four of this Guide details the scope and arrangements of these projects to provide insight for potential applicants.

RRO Application Checklist

Part Five of this Guide provides an RRO application Checklist which can be photocopied and completed to assist with the application process.

OVERVIEW OF THE REGULATORY APPROVAL PROCESS



1 PART ONE

THE POTENTIAL OF BIOENERGY MARKETS

The creation of markets for bioenergy has the potential to further both economic and ecological aims.

Good economic outcomes are achieved when the woody component of harvested trees is fully utilised[1]. Bioenergy markets support the economics of timber harvesting by enabling utilisation of the more defective, lower value components of the harvested tree.

With the loss of traditional Aboriginal burning practices, forests have become thicker and more prone to wildfire. Thinning of forests and removing invasive native scrub can promote forest health and mitigate wildfires[2] that are a major threat to biodiversity.

The markets for high value wood products are well established and deliver the greatest return to the forest grower and wood processor. Finding markets for lower value wood products is often more difficult, but also vitally important.

Bioenergy markets create demand for lower value wood products, ensure good overall asset utilisation, minimise residues and contribute directly to enhancing forest health and biodiversity.

Below is an outline of the harvesting and sawmilling process, detailing the different types of by-products and residues. This part also covers Chain of Custody considerations and how bioenergy markets support sustainable forest management and renewable energy generation.

Specific examples of successful bioenergy projects are detailed in the case studies in Part Five of this Guide.

Forestry By-Products and Residues

Harvested trees undergo extensive grading and tracking to ensure optimal end use. Forestry Corporation NSW strictly controls and tracks all aspects of their timber harvesting activities.

The assessment of wood value initially occurs in the forest. Further grading takes place along the timber supply chain in an ongoing feedback loop.

When commercial tree species are harvested, the merchantable portion of the tree is separated from the non-merchantable portion.

This involves taking measurements of the size (diameter and length) and shape (straightness) of the useable sections of assessed trees and estimating the presence of internal and length defects such as rot, decay, knots and spiral grain. These attributes determine the proportion of useable wood and its likely value in the marketplace.

In the forest, felled trees are commonly serviced at the stump, with their branches and head/crown trimmed. The useable portion of the tree bole and sometimes the larger branches are then extracted in log form to a landing (or 'log dump') where they are further serviced and graded into log products.

1 Note full utilisation refers to roundwood. Leaves/needles and branches are typically left behind in the forest to aid nutrient recycling

2 The majority of wildfires arise from unplanned human ignition sources (e.g. sparks from electricity poles, arson, escaped campfires, ignited stolen cars)

Log Products

The most valuable log products are the most tightly specified. Trees that produce large, long and straight logs with low levels of defect are the best suited to the production of high value wood products. In contrast, smaller, poorer-formed trees with higher defect are typically only suitable for use as low value by-products.

Higher value logs are graded, measured and marked onsite before being loaded for transport.

Commodity Products

Lower value by-products are typically commodity products with generic specifications. Pulpwood and fuelwood are examples of low value wood that are a common by-product of sawlog harvesting. They are sourced from a broad range of tree species, sizes and qualities.

Some operations also chip on-site to maximise product recovery and optimise transportation.

In-truck weighing systems are frequently used, including for the lower grade products such as firewood.

On-site measuring, grading and marking

In-truck weighing systems allow sale by weight

Low value by-products

On-site chipping

Forest Management & Low Value Wood Products

Markets for low-value wood provide forest managers with a valuable silvicultural tool, enabling forests to be thinned so that they are maintained in a healthy condition.

Thinning is a form of selective timber harvesting where the principal aim is to reduce the stocking density (stems per hectare) of the forest.

Thinning of dense regrowth benefits the health of the forest by providing more space and light for retained trees to grow and mature. Thinning of dense, even-aged regrowth can also promote biodiversity (NRC 2014).

Thinning tends to generate a high proportion of small and lower value wood products, as it commonly targets the removal of suppressed, poorly-formed and weaker trees.

As such, thinning provides forest managers with a multi-purpose mechanism, one which promotes forest health and productivity while also providing valuable supplies to bioenergy markets.

Thinnings left on-site

Bark left on-site

Residual Biomass & Wildfire Risk

When timber is harvested all useable wood is utilised, with only leaves, bark and small branches remaining in the forest for nutrient recycling and to ensure sustainable management.

For example, topmost 'heads' and bark are not usually merchantable. Following log removal, they are either left on-site where they contribute to nutrient recycling or removed to reduce the risk of fire.

Under certain market conditions the cost of utilising all useable wood from a tree exceeds the income that may be generated from it. In this case the tree will either be left standing until the market improves, or harvested solely for its higher value products. If the latter, a large amount of harvesting residue may be generated and left on the forest floor.

Disposal costs mean that forestry residues are not sent to landfill. Residual biomass from harvested native trees is generally either burnt or left to decay naturally in the forest.

From an industry perspective, residual biomass is not 'waste' material, as it is no different to the material that arises when trees die from natural events such as wildfires, droughts, temperature extremes and wind storms.

Residual biomass can pose a significant wildfire risk, so it is prudent to limit the amount that accumulates on the forest floor.

Supplying markets for low value wood with residual biomass is a highly cost-effective mechanism, both for managing fire risks through harvesting residues and for maintaining forest health through thinning.

Sawmilling By-Products and Residues

Log products are transported from the forest directly to primary wood processing mills where they are either sawn, peeled, sliced, treated, split or chipped, depending on their grade.

The milling process generates a range of by-products, including sawn timber offcuts, woodchips, chip fines, residual bark, shavings and sawdust.

The by-products supply a broad suite of downstream markets that include secondary wood processors, bioenergy generators, domestic heating, landscape and garden industry, horticultural industry, equine industry and the poultry industry.

Many buyers make use of the material and then on-sell it. For example, the poultry and equine industries buy sawdust for use as animal bedding and then on-sell it to the garden and horticultural industry after it has become soiled.

Similarly, the bioenergy industry may on-sell its ash (a by-product of burning woodchips) to the garden industry to be used in potting mix.

Market demand for sawmilling by-products fluctuates over time and varies from site to site. Primary wood processing mills can vary their prices to optimise use.

However, under certain circumstances a mill may be unable to sell all of its by-products. This scenario is more likely for mills that are located far away from by-product markets.

In the absence of a market, useable by-products become residues. Mill residues are typically stored onsite until the market improves or burnt under controlled conditions.

Sawdust

Shavings and offcuts

Woodchips for energy production

Residual bark

Tagged 'quota' logs at sawmill

End user confirming Chain of Custody with handheld device

Whole of Supply Chain and Chain of Custody Considerations

Given the requirements of the existing regulatory framework, it is standard practice for mills and other end users not to accept any timber loads unless they can be traced back through the supply chain to specific lots that have approved harvesting plans.

The Big River plywood and flooring manufacturing plant in Grafton has full Chain of Custody certification under AS4707. It was the first plywood operation in Australia to be accredited under this program[3].

Through these systems it is possible to track truckloads of timber, via the transporter and harvester, back to lots reflected in approved harvesting plans held on file.

Full Chain of Custody certifications can also be observed directly from point of harvest through to final finished products.

In addition to ensuring sustainable harvesting practices and maintaining AFS / PEFC certifications, these processes help to ensure that timber products remain clean and uncontaminated.

3 See http://bigrivergroup.com.au/sustainability/, accessed November 2016.

Bioenergy Opportunities and Sustainability

The development of bioenergy markets is having a direct impact on forest biodiversity, the management of invasive native scrub and the creation of on-site renewable energy usage.

In 2014 the NSW Natural Resources Commission (NRC) undertook a detailed assessment of the regrowth White Cypress in the Brigalow-Nandewar State Conservation Area. The Commission found that 15 per cent of the assessment area (30,000 ha) contained stands of high-density cypress and bulloak where ecological thinning would result in enhanced biodiversity.

Utilisation and removal of thinnings is preferred wherever practicable, as it limits the accumulation of forest fuel loads on the forest floor that can pose a serious fire hazard. While thinnings are often too small to produce sawlogs, they are well suited for sale as fuelwood for a range of bioenergy products.

The development of bioenergy markets has also been recognised as a critical tool for enabling more effective management of invasive native scrub. On private and leasehold land, native trees and shrubs that are thickening and spreading are classified as woody weeds or invasive native scrub.

Vast areas of the rangelands of western NSW are suffering from increasing invasive native scrub (NSW DPI, 2009). In the central west and western regions of NSW, invasive native scrub can have a serious adverse impact on habitats, wider landscape health, communities and farming operations (LLS website, 2016).

In March 2014, when the NSW Government announced changes to *Protection of the Environment Operations (General) Regulations*, the media release from the Minister for Resources and Energy stated that the additional biomaterials to be used for bioenergy are *"invasive native species and the tree heads and offcuts of trees cut for sawlogs and trees that might otherwise be made in pulp for paper production"*.

The current version of the NSW Department of Industry (Resources and Energy) website states that the NSW Government is fully supportive of investors exploring renewable energy technologies that include invasive native scrub.

The emergence of a bioenergy market in the Western Region has created demand for the woody component of invasive native scrub, along with Cypress forest thinnings too small or too irregularly shaped to be processed into higher value products.

A working example of this market may be found in the Narrandera district where mechanical thinning equipment produces woody biomass that is utilised for boiler fuel by a large softwood processing mill.

In addition to the whole of supply chain practices that are in place to help ensure that biomass feedstocks remain clean and uncontaminated, the NSW native timber industry has a long history of bioenergy usage under local government development consents.

For example, Big River Group plywood and flooring manufacturing plant in Grafton has been using biomass as boiler fuel for over 50 years. Big River has also installed an industry-leading co-generation electricity plant, where manufacturing wood waste is used to create renewable energy on-site. This power plant is officially registered with the Office of Renewable Energy and qualifies for Renewable Energy Certificates (as is the Visy Pulp and Paper plant in Tumut).

Weathertex in Heatherbrae has been using a blend of chipped reject hardboard and coal as boiler fuel for engineered timber products since 1974. Each of these projects is detailed in the case studies in Part Five of this Guide.

In November 2016, the NSW Department of Industry convened a series of biomass workshops in Grafton, Kempsey and Maitland to present information on woody biomass resource availability on the NSW North Coast.

The workshops brought together biomass producers, technology providers, end users, financiers and other interested parties to facilitate their discussions and explore opportunities to use residues for bioenergy.

A consensus view was that a range of additional bioenergy projects are on the cusp of being commercially viable.

2 PART TWO

WOODY BIOMASS ELIGIBILITY FOR USE IN BIOENERGY PROJECTS

This part of the Guide addresses the requirements which must be satisfied for woody biomass to be eligible for use in bioenergy production.

Woody biomass may be generated from a broad suite of timber harvesting activities, including those which target sawlogs, veneer logs, poles, piles, girders and/or fencing timber and as a by-product of milling operations.

Woody biomass feedstocks also result from thinning and timber stand improvement operations and from the removal of invasive native scrub.

However, only woody biomass that falls within the definition of an 'eligible waste fuel' and is sourced from authorised forestry operations may be used in bioenergy production.

EPA Regulation of Native Timber Harvesting

Public Lands
Wood resources on publicly owned State forests and other Crown-timber lands are managed by the Forestry Corporation of NSW (FCNSW) under the *Forestry Act 2012*.

Management of State forests is regulated by NSW Forest Agreements and/or by Integrated Forestry Operations Approvals (IFOAs) under the *Protection of the Environment Operations Act 1997*.

Forest Agreements: There are four NSW Forest Agreements detailing appropriate management, environmental protection and species conservation. The Forest Agreements for the Upper North East, Lower North East and Eden regions were made in 1999, while the Forest Agreement for the Southern Region was made in 2002.

IFOAs: IFOAs are designed to strictly regulate timber harvesting. There are currently seven regionally based IFOAs administered by the NSW EPA under the *Protection of the Environment Act 1997*. A 'Coastal IFOA Remake' is planned that will reduce the number of IFOAs to three.

Private Land
On private property, landholders seeking to practice commercial native forestry must have an approved Property Vegetation Plan (PVP) and comply with the relevant Forest Practices Code. Private native forestry is currently regulated under the *Native Vegetation Act 2003*.

In the second half of 2017, this Act is scheduled to be repealed and replaced by the *Biodiversity Conservation Act*. Regulation of private native forestry may temporarily reside within the *Forestry Act 2012* until a new regulatory instrument is made.

Authorised Forestry Operations

Woody biomass for bioenergy generation can only be sourced from:

1. hardwood/softwood plantation forestry operations
2. authorised native forestry operations
3. authorised clearance of invasive native species.

In NSW, native forestry and plantation forestry are regulated by different legislation and different NSW Government Departments.

Plantation Forestry: NSW Department of Industry-Lands
Plantation forestry is regulated by the NSW Department of Industry - Lands & Forestry in accordance with the *Plantations & Reafforestation Act 1999*. This Act details general regulations regarding the establishment and harvesting of plantation timber.

The *Plantations & Reafforestation Act* has no specific regulations applying to the use of woody biomass for bioenergy. The NSW EPA regulates the use of plantation woody biomass for bioenergy through its NSW Energy from Waste Policy Statement ('EfW Policy'). Details of this policy are provided in the section below titled 'Creating Energy from Waste'.

Native Forestry & Clearance of Invasive Native Species: NSW Environmental Protection Agency
The NSW EPA currently regulates native timber harvesting operations on **publicly** owned State forest[4] and other Crown-timber lands through Forest Agreements and Integrated Forestry Operations Approvals (IFOAs) and on **privately** owned lands through Property Vegetation Plans (PVPs).

Prior to 2013, s.97 of the Protection *of the Environment Operations (General) Regulation 2009* prohibited the burning of *"native forest bio-material … in any electricity generating work"*.

In 2013, this regulation was amended to remove this prohibition, bringing NSW into line with other Australian states. The NSW government cited the change as *"a long-overdue and common-sense approach to sustainable forest management"* [5].

Under the amended regulation, native forest material sourced from forestry or clearing operations that have been authorised by a private native forestry PVP, an IFOA or an Invasive Native Species (INS) Order may now be classified as eligible bioenergy resources.

Creating Energy from Waste

The NSW EPA classifies native forestry and sawmill residues as waste, even though they never go to landfill.

Regardless of whether they would be considered waste by the industry, all native forest residues to be used as fuel must meet the waste regulatory requirements explained below.

In January 2015, the *NSW EPA released the NSW Energy from Waste Policy Statement* ('EfW Policy'). Section 3 of the *EfW Policy* provides clarity and outlines the regulatory process for using residues. In 2016 the NSW EPA published *Eligible Waste Fuels Guidelines*, which are a helpful resource for applicants.

The EfW Policy states:

Eligible waste fuels may be thermally treated using a range of treatment technologies, provided a resource recovery order and exemption has been granted by the EPA. The origin, composition and consistency of these wastes must ensure that emissions from thermal treatment will be known and consistent over time.

Facilities proposing to use eligible waste fuels must meet the following criteria:

- *ability to demonstrate to the EPA that the proposed waste consistently meets the definition of an EPA-approved eligible waste fuel*
- *confirm there are no practical, higher order reuse opportunities for the waste*
- *fully characterise the waste and/or undertake proof of performance*
- *meet the relevant emission standards as set out in the Protection of the Environment Operations (Clean Air) Regulation 2010.*

4 See http://www.forestrycorporation.com.au/management/sustainable-forest-management/harvest-plans, accessed November 2016.
5 https://members.nsw.liberal.org.au/news/state-news/biomass-—-renewable-energy-nsw, accessed January 2017.

What is an Eligible Waste Fuel?

Showing that proposed feedstocks are 'eligible waste fuel' is a prerequisite for approval to use woody biomass for bioenergy production.

The *Eligible Waste Fuels Guidelines* define an 'eligible waste fuel' as:

Waste or waste-derived materials considered by the EPA to pose a low risk of harm to the environment and human health due to their origin, low levels of contaminants and consistency over time.

The *EfW Policy* categorises the following wastes as eligible waste fuels:

1. *biomass from agriculture*
2. ***forestry & sawmilling residues***
3. ***uncontaminated wood waste***
4. *recovered waste oil*
5. *organic residues from virgin paper pulp activities*
6. *landfill gas and biogas*
7. *source-separated green waste (used only in processes to produce char)*
8. *tyres (used only in approved cement kilns).*

What are Forestry & Sawmilling Residues?

The Eligible Waste Fuels Guidelines define forestry and sawmilling residues as:

Uncontaminated, organic fibrous wood residues and natural wood wastes that result from forestry and sawmilling operations such as, heads, tree thinnings, sawmill sawdust, shavings, chips, bark and other offcuts.

The Guidelines specify that forestry and sawmill residue materials must be demonstrated to have no risk of contamination. There must be no presence of treated, preserved, lacquered, glued, laminated or coated timber or wood products.

Effective management control of forestry and sawmill residues through supply agreements and 'whole of chain' approaches (Chain of Custody) helps to ensure clean and uncontaminated feedstocks.

When Eligible Waste Fuels Are Standard Fuels

In some cases, eligible waste fuels may also fall within the definition of standard fuels. The *Eligible Waste Fuels Guidelines* define 'standard fuels' as:

*Any **unused and uncontaminated solid, liquid or gaseous fuel that is:***

a. a coal or coal-derived fuel (other than any tar or tar residues), or

b. a liquid or gaseous petroleum-derived fuel, or

*c. **a wood or wood-derived fuel**, or*

d. bagasse.

Eligible waste fuels that are also standard fuels still require appropriate approvals and are assessed by the NSW EPA on a case-by-case basis.

Not all eligible waste fuels are considered to be standard fuels. Tyres, for example, are an eligible waste fuel only when used as fuel in an approved cement kiln that has development consent for use of a non-standard fuel and an environment protection licence with conditions that allow the use of tyres as a fuel source.

Uncontaminated Wood Waste

Untreated, uncontaminated wood wastes and some engineered wood products can also gain approval as an eligible waste fuel. As with other eligible waste fuels, there must be demonstrated processes to ensure that feedstocks remain clean and uncontaminated.

The *Eligible Waste Fuels Guidelines* define 'uncontaminated wood waste' as:

Wood waste that is generated in primary and secondary manufacturing processes at facilities with demonstrated quality control over the uncontaminated wood waste stream.

The *Eligible Waste Fuels Guidelines* also state:

Uncontaminated wood waste includes pre-consumer manufacturing and processing waste materials such as off-cuts, saw dust, wood shavings, untreated packaging crates, untreated pallets and engineered timbers made with urea formaldehyde or phenol formaldehyde resins only.

'Demonstrated quality control' refers to both the generation and collection of the waste material. The facility must have robust quality assurance and/or quality control (QA/QC) procedures, a well-controlled Chain of Custody for the raw materials, generation of waste and collection systems.

Facilities with control of their waste stream must also have comprehensive knowledge and control of the sources of waste and the original input materials, as well as knowledge and control of potential contaminants.

Uncontaminated wood waste excludes:

- post-consumer waste
- wood waste extracted from mixed waste streams, such as construction and demolition waste
- anything defined as a source separated green waste
- treated timber
- painted or coated wood and most engineered wood products.

3 PART THREE

SEEKING REGULATORY APPROVAL FOR BIOENERGY PRODUCTION

In NSW, regulatory approval is required for the usage of an eligible waste fuel in bioenergy production. The generator and/or processor of the eligible waste fuel seeks approval by applying for a Resource Recovery Order (RRO) from the NSW EPA.

RROs include conditions that the applicant must meet to supply the waste as a fuel or use in a process of thermal treatment. Orders may include specifications such as testing, record-keeping, reporting and other requirements for the exempt waste.

An approved RRO is effectively an exemption from certain waste requirements that would otherwise apply to the project, such as the need to hold an Environment Protection Licence or pay the waste levy.

It is important to note that being an eligible waste fuel type does not constitute approval to use a given material at a particular facility. Approval must be provided by the EPA through an RRO.

However, demonstrating that feedstocks are clean and uncontaminated is integral to maintaining the RROs and exemption.

This part of the Guide details the RRO application process.

Applying for Resource Recovery Orders

Other than for certain land application uses[6], there are no set guidelines for applying for RROs.

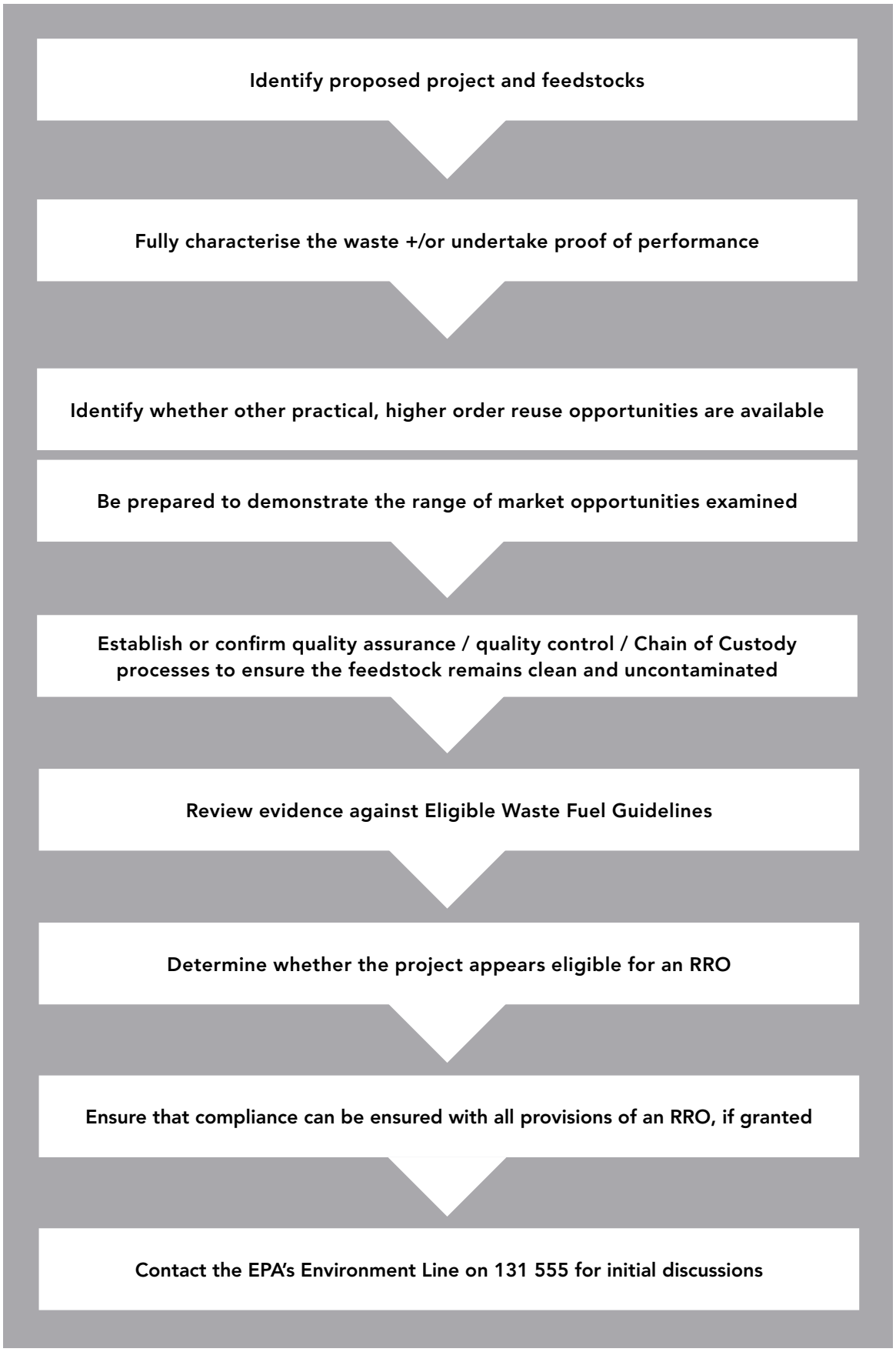
However, the EfW Policy sets out the following criteria against which each application is assessed by the NSW EPA. Failure to satisfy these criteria can result in the application being rejected by the NSW EPA.

"Facilities proposing to use eligible waste fuels must meet the following criteria:

- **ability to demonstrate to the EPA that the proposed waste consistently meets the definition of an EPA-approved eligible waste fuel**
- **confirm there are no practical, higher order reuse opportunities for the waste**
- **fully characterise the waste and/or undertake proof of performance**
- **meet the relevant emission standards as set out in the Protection of the Environment Operations (Clean Air) Regulation 2010"**

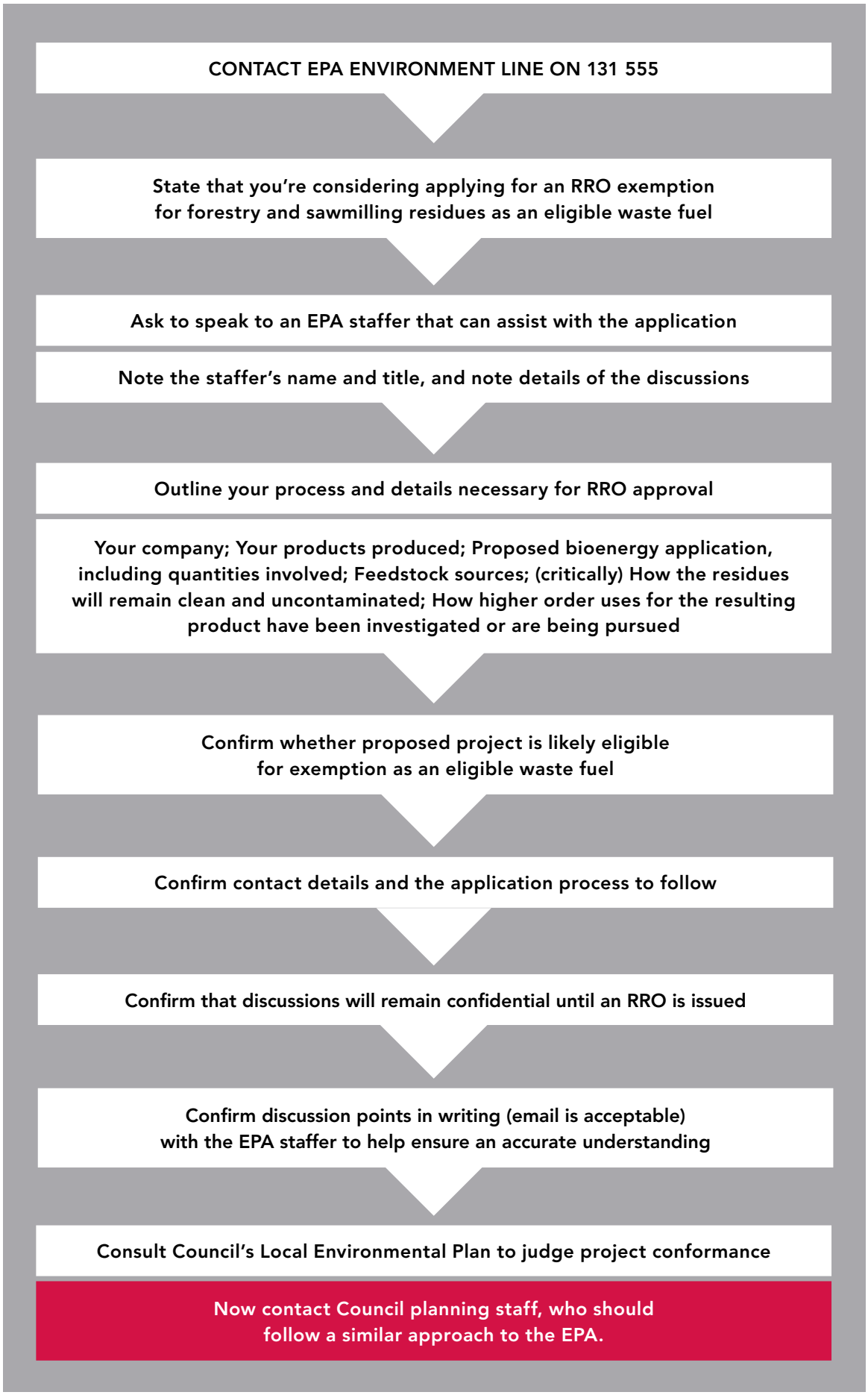
6 Available at http://www.epa.nsw.gov.au/resources/wasteregulation/110032-rre-exempt-fertiliser.pdf.

SHOULD I SUBMIT AN RRO APPLICATION?



Initial evidence and rationale for pursuing an RRO application should be reviewed with appropriate NSW EPA personnel to help determine whether to proceed with the application.

INITIAL DISCUSSIONS WITH THE NSW EPA AND LOCAL COUNCIL



Preparing an RRO Application

To proceed with an RRO application, applicants must prepare a submission to the NSW EPA seeking approval.

The Form of the RRO Submission

The RRO application should be in the form of a written submission to the NSW EPA that explains how the proposed project fits within the regulatory framework and monitoring regimes, including references to appropriate policies or development application considerations.

The application should include the following:

OVERVIEW

Provide an overview of:

- your company
- your products
- your proposed bioenergy application, including quantities involved
- how your biomass material is produced and document whether it is generated as a by-product of sawlog harvesting, thinning and/or milling.

'FORESTRY & SAWMILLING RESIDUES'

Demonstrate how your feedstock meets the definition of 'forestry and sawmilling residues' contained in the EPA's Eligible Waste Fuel Guidelines.

QUALITY ASSURANCE PROCESSES

Detail:

- feedstock sources
- how the feedstock will remain clean and uncontaminated, including:
  - › supply agreements
  - › product characterisation (including product characterisation and other testing results, if any, and factors such as species mix, density, moisture content, calorific value and physical form, e.g. chip, sawdust, shavings or offcuts)
  - › segregation from contaminants
  - › other considerations including QA/QC policies and practices, product or process certifications and Chain of Custody practices (including certifications where appropriate).

HIGHER ORDER USAGE ANALYSIS

Detail how higher order uses for the resulting product have been investigated or are being pursued, including local market initiatives, possible end users and commercial considerations on whether to pursue these alternative approaches as well as how these factors may have changed over time.

Detail alternative uses and whether any of these uses are higher order (value). If higher order uses do exist, detail why they were not considered commercially viable in the current market.

ENVIRONMENTAL CONSIDERATIONS

Specify the environmental benefits of the proposed approach, including wildfire mitigation, habitat enhancement and reduced need for standard fuels such as coal.

COMPLIANCE TRACK RECORD

Provide the compliance history of any existing requirements for your current operations.

SUSTAINABILITY TRACK RECORD

Provide an overview of other sustainability initiatives within your organisation, as context for your practices.

THE ECONOMIC CASE

Specify the potential economic benefits of the proposed approach, including capital investment and construction, in addition to ongoing operational needs.

TECHNICAL & SUPPORTING DOCUMENTS

Technical documents or supporting information should be referred to and included as attachments.

MAINTAINING CONFIDENTIALITY

If you provide commercially sensitive information to support your application, protect its confidentiality by providing this information in a separate document marked throughout as CONFIDENTIAL and referencing the document in the submission (e.g. "Details are provided in Attachment X, which is to remain confidential").

Prior to submitting your application, it is often helpful to review the draft application with Council planning staff, who can provide guidance regarding local compliance and decision-making.

Once submitted, it may take several months for the NSW EPA to review and reach a decision. The more detail provided in the application, the less time may be required to review the application.

Upon Approval: Reviewing Your Draft RRO

If your application is approved, you will be provided with a draft RRO prepared by the NSW EPA on the basis of your submission.

Review the draft RRO to ensure that it accurately reflects the proposed project while protecting commercially sensitive information. Discuss potential concerns and specific language with the NSW EPA before finalising.

Ensure that the conditions and practices stated in the RRO are appropriate and that compliance is achievable. Do not accept the draft RRO until you are satisfied that compliance is achievable, as non-compliance could have legal and financial impacts.

If approved, the RRO will be publicly available and contain information on the project and proposed uses.

Supporting information necessary for the EPA to make its determination will be kept confidential.

4 PART FOUR

TIMBER INDUSTRY CASE STUDIES

CASE STUDY:
GRANTS SAWMILLING CO

Grants Sawmilling Co (Grants) is a family-owned business established in 1965 in Southern NSW. With operations at Narrandera and Condobolin, Grants focuses on Australian cypress to produce a range of interior and exterior applications including flooring, structural timber, flooring systems, cladding, furniture, feature fencing, decking, glue laminated products and a range of landscape products.

As with comparable milling operations at the time, sawmilling residues used to be burned at Grants. However, with the development of alternative markets for residues, Grants stopped burning residues in the late-'80s.

Whilst sharing many features with other sawmills ("we try to do traditional sawmilling better"), Grants places particular emphasis on managing all harvesting (rather than contracting out) and on market development by seeing the forest as a whole range of potential products. In addition, Grants' sustainability initiatives include placement of solar photovoltaic cells for hot water heating on one kiln.

Grants is active in industry initiatives including Timber NSW, the ATIC quality assurance programme, the NSW Cypress Industry Strategic Plan and working with Forestry Corporation of NSW and the Australian Forestry Standard (AS4708).

GRANTS SAWMILLING CO CASE STUDY KEY CONSIDERATIONS

- **Practical, higher order reuse opportunities for timber products are consistently sought by harvesting and milling operations.**
- **Development of alternative markets for residues has led to commercial advancement while eliminating burning of 'waste' materials.**
- **Grading and processing can produce a wide range of marketable products derived from residues, including for soil amendment and biomass for energy generation.**
- **Market development is an ongoing process involving regular interaction with existing and potential end users.**

1. Richard, Bob and Matthew Grant (Grant's Sawmilling Co.)

5. Residues for additional processing

2. Grants Sawmilling Co Narrandera site

6. Graded finished products

3. Solar photovoltaic cells on kiln hot water heating

4. Warehousing of Grants' finished products

7. Wood chips for market and obsolete (and unused) smokestack

CASE STUDY: MARA SEEDS

Mara Seeds is a family-owned business established in 1967 at Mallanganee NSW (50 km west of Casino) on the site known as "Sandilands", providing grass seed, oilseed, cereal grain, stock feeds and organic yearling beef that is grass fed or grain finished. In 1996, Mara Seeds changed its approach to an all-organic farming system to allow for the development of specialised niche products. In 2014, SOFT Agriculture Pty Ltd (Sustainable Organic Farming Techniques) was established as Mara Seeds' marketing and processing arm, with a focus on "carbon smart" farming.

SOFT Agriculture uses a unique blend of activated carbon 'biochar' in a range of organic fertilisers, livestock feeds and additives. The biochar is a form of stable carbon, made from a blend of recycled organic matter including locally produced wood chip specially sourced from hardwood milling operations (not a by-product or offcuts). The biochar has high carbon and silica content especially suited for soil water and nutrient retention.

Biochar was sought in 2014 for use in trial work conducted with the Central Queensland University and CSIRO on introducing biochar as an animal feed additive with clean timber residues.

Outside contractors were employed with some success to introduce a rotary kiln but after a trial period Mara Seeds decided a more efficient process was required to supply an end product with more features than just producing biochar.

Mara Seeds' experience highlights some of the difficulty in gaining clear confirmation that particular processes are in conformance with EPA and Council licensing provisions.

Mara Seeds and their consultants met with technical staff at Kyogle Council in mid-2015 to discuss development application (DA) requirements. Council was generally comfortable with technical materials provided and supportive of the proposal but wanted clarification on how the facility would be defined. Neither the Kyogle Council Local *Environmental Plan nor the Environmental Planning and Assessment Regulation 2000* provided an appropriate definition for the development.

In September 2015, Mara Seeds' planning consultants sought clarification from the EPA on the best definition of the proposed biochar facility under the *Environmental Planning and Assessment Act 1979*. A particular concern was whether the biochar facility would be classified as a 'waste management facility or works' under the planning and assessment regulations. Clarification on whether the biochar feedstock was classed as a waste was critical to deciding on DA/licencing requirements.

The EPA responded in November 2015 that they did not provide legal advice and that it was up to projects' proponents to determine whether a licence was legally required.

MARA SEEDS CASE STUDY KEY CONSIDERATIONS

- **Demand exists for a broad range of niche products derived from harvesting and milling operations.**
- **Conformance with EPA and Council planning provisions can prove difficult as they do not provide legal advice and consider applications on a case-by-case basis.**
- **Burden of proof for conformance ultimately rests with project proponents, but is assisted by evidence and productive interaction with authorities.**
- **Successful operations require integrated features capable of producing a diverse range of high standard, industry-affordable products that are environmentally friendly.**

1. Eirich high speed coating granulation and mixing plant for biochar applications

2. Stuart Larsson examining biochar

3. Packaged organic compost and biochar

4. Inspecting stockfeed end products with biochar added

5. Biochar production in a wood fired retort with chambers (an initial pilot plant that is now not functional)

CASE STUDY:
KOPPERS WOOD PRODUCTS PTY LTD

Koppers Wood Products Pty Ltd (Koppers) is Australia's largest producer of treated wooden poles and has provided the electricity industry with poles for over 50 years.

About 60% of the treated hardwood poles produced by Koppers at their Trenayr NSW site (outside Grafton) are harvested from native regrowth forests and plantations on State Forest managed by Forestry Corporation of NSW. Poles are supplied to Utilities across most of Australia and near Pacific nations. The Forestry Corporation was the first body in Australia to be certified to the Australian Forestry Standard (AFS) for sustainable forest management. The balance of hardwood poles procured in NSW by Koppers are sourced from private land with approved Property Vegetation Plans for timber harvesting in accordance with the Private Native Forests and Plantation Codes of Practice.

All Koppers sites are certified to ISO 9001 quality, ISO 14001 environmental management systems and AS 4707 Chain of Custody for forest products. Koppers' other timber treatment sites include Takura (Queensland), Longford (Tasmania) and Bunbury (Western Australia). External recertification audits for each of these business centres occur annually.

Koppers represents the high end of grading requirements due to their strict needs, and reinforce the importance of Chain of Custody and tracking considerations. Koppers began barcoding all poles received for stock control in 2011 and this system ultimately became the basis for their Chain of Custody approach.

Koppers' process is independently audited under the Australian Forestry Standard (AFS) Chain of Custody certification AS 4707:2014. All Utility tenders currently include Chain of Custody in tender assessment.

All Koppers poles are treated with a Copper Chrome Arsenic (CCA) preservative to protect timber in service against fungal decay, wood boring insects and termite damage. This treatment includes applying a high pressure and vacuum treatment charge in an autoclave. Following CCA treatment, treated poles are maintained in a bunded fixation shed for seven days. Core sample testing helps ensure that the treatment has penetrated the full sapwood depth surrounding each pole and that chemical uptake meets minimum treatment standards for timber preservation contained in AS 1604.1. Piles for marine application may also be treated with pigment emulsified creosote (PEC) to protect against marine borer.

Koppers' by-products (prior to treatment) include some firewood (which is sold to a commercial firewood contractor) and a small amount of sawdust that is sold to chicken farms and nurseries.

Koppers' Wood Products Pty Ltd has an outstanding chain of custody process for its operations.

Note, timber treated with chemicals such as CCA and PEC is currently not classified as an eligible waste fuel.

KOPPERS CASE STUDY KEY CONSIDERATIONS

- **Pole production is the pinnacle of grading for timber and has significant flow-on effects from harvesting practices through to availability of residues.**
- **Grading, testing and tracking of individual logs are integral throughout.**
- **Chain of Custody processes enable tracking back to individual lots in approved forestry management plans.**

1. Michael Combe (Resource Manager, Koppers Wood Products) and log identification tag

2. Handheld device, unique log identification tag and other markings

3. Pretreatment seasoning of logs in racks

4. Verification of grading

5. Handheld verification of log history

6. CCA treatment facility

7. Post treatment drying

8. Curing

9. Final product labeling to customer

CASE STUDY: WEATHERTEX

Weathertex in Heatherbrae NSW is a specialist exterior wall panels supplier and weatherboard company. Weathertex has been using a blend of chipped reject hardboard and coal as boiler fuel for engineered timber products since 1974.

Unlike traditional engineered timbers that use various glues and resins, Weathertex has used a Masonite process since 1939. A paraffin wax addition comprises less than 3% of total product weight, with hardwood timber comprising the remainder; no other glues or resins are used.

Weathertex produces exterior grade wet processed fibreboard as defined in AS/NZS 1859.4 and ISO/DIS 27769. Weathertex purchases logs with known provenance that are already debarked and trimmed, then chips the logs on-site. Steam and pressure are used to soften the natural lignin in the timber fibre, which is then pressed into a sheet without the need for binders. Some Weathertex products have a thin coating of an acrylic primer.

Being in close proximity to coal supply makes the use of biomass for energy harder to justify, but the relatively low price for coal is not the only consideration for Weathertex; boiler design is also an important factor. Weathertex uses boilers with unique designs and the business case for bioenergy over coal has not been evident for both boilers.

Weathertex reinforces the value of working cooperatively with the EPA to demonstrate how existing practices fit within existing regulatory frameworks, while raising additional questions or concerns and seeking clarification.

In initial discussions with the EPA in May 2016, the EPA indicated that most engineered timber products would not fall under the category of "uncontaminated wood waste" in the Policy and the Guidelines under development due to the variety of potential treatments and contaminants. The EPA had, however, been considering counting engineered timbers treated with urea formaldehyde or phenol formaldehyde as uncontaminated wood waste.

MS2, on behalf of Timber NSW, coordinated with Weathertex to provide technical data and Material Safety Data Sheets to demonstrate how the Weathertex approach helped to ensure uncontaminated wood waste and how it was believed the Weathertex process represented low risk to human health and the environment. These discussions also reinforced how it was believed the Weathertex process represented even lower risks than the formaldehyde-based products being considered for exemption by the EPA.

As a result of these efforts, the EPA provided written confirmation in October 2016 that it would likely issue an exemption for this material to be used as an eligible waste fuel once an application for an RRO exemption was formally assessed.

WEATHERTEX CASE STUDY KEY CONSIDERATIONS

- **Use of woody biomass for bioenergy production in NSW goes back to at least 1974.**
- **It is possible to demonstrate the low risks to human health and the environment of certain engineered timber products to the EPA's satisfaction.**
- **Processes that guarantee feedstocks will be clean and uncontaminated are essential.**
- **A strong evidence base and cooperative approach with the EPA help to demonstrate how existing practices fit within existing regulatory frameworks.**
- **The EPA always considers projects and RRO applications on a case-by-case basis. Upfront discussions with the EPA about specific practices and proposed projects help provide appropriate context for EPA consideration.**

1. Woodchip feedstock (left) and weighbridge (right)

2. Woodchip feedstock

3. Woodchip feedstock (left) and coal (right)

4. Chipped reject hardboard and acrylic primer

5. Timber feedstocks and paraffin wax

6. Weathertex boilerhouse and initial production

7. Weathertex boilers

8. Conal O'Neill (Process Engineer) inspecting Weathertex boiler

9. Steam exhaust from Masonite gun

10. Initial pressing of wet processed fibreboard

11. Wet processed fibreboard sheets

12. Wet processed fibreboard sheets

CASE STUDY: BIG RIVER

Big River Group, outside Grafton NSW, makes engineered timber panels in a process that uses residues as boiler fuel and for cogeneration. Their products are certified under the Engineered Wood Products Association of Australasia (EWPAA) for product quality and are certified under Chain of Custody by the Australian Forestry Standard (AFS) and the Program Endorsement Forestry Certification (PEFC). Big River Group was the first plywood plant in Australia to become certified under AFS and PEFC.

Certified logs harvested from Forestry Corporation properties in accordance with approved plans are unloaded, grading is confirmed and the logs are segregated by species and diameter. Logs for the next day's production are placed in log steamers for a period of 12 – 18 hours prior to cutting and peeling.

Once the logs have been heated and cut, they are then fed into a pre-rounder in order to remove the rougher exterior surface of the log and any bark. This process also makes the logs (or billets) cylindrical and they are then ready for the peeling process. All residual wood from this process is fed through a chipper for use on-site as boiler fuel.

Billets are then fed into a spindleless lathe and peeled in the required veneer thickness down to a core size of 60mm. All log cores are chipped for boiler fuel.

The boiler is fed with all waste residues from the above processes and some residues from the fabrication section in order to help meet power needs on-site.

Veneer is then fed through a dryer to reduce veneer moisture content to the desired percentage (usually 6 – 10%) and graded as per the Australian Standards. Any veneer above the set moisture content is separated, along with any narrow sheets. The dried veneer packs are then allocated an internal crate docket containing all the product information and Chain of Custody status.

The site's cogeneration unit is driven by steam from the boiler and generates up to 40% of Big River Group's site power requirements.

The adhesive used is Fortified Melamine Urea Formaldehyde or B bond, which is mixed through a continuous glue mixing system and consists of three components comprising Melamine Urea resin, flour and a catalyst. This adhesive meets a Formaldehyde emission rate of Super E0, which is currently the world's best practice. The mixed adhesive is then fed to any one of three glue spreaders. All cross laminates are fed through glue rollers to apply set glue spreads on both sides of the sheets.

Various thickness veneers are used to fabricate the desired plywood thickness. The spread veneers are laid up at right angles with alternating veneers containing the wet adhesive.

When a pack of raw plywood has been assembled, it is then transferred to a pre-press; this process places the plywood under pressure in order to transfer the adhesive from the cross laminates to the dry veneers.

The hot press process entails several functions. Any plywood manufactured for concrete formwork (formply) has a film applied to either side, and the panels are placed between 2mm aluminium sheets and then loaded into the hot-presses. The presses then heat the adhesive up to a curing temperature and as they are under pressure assist in bringing the panel to the required thickness while bonding the film to the surface.

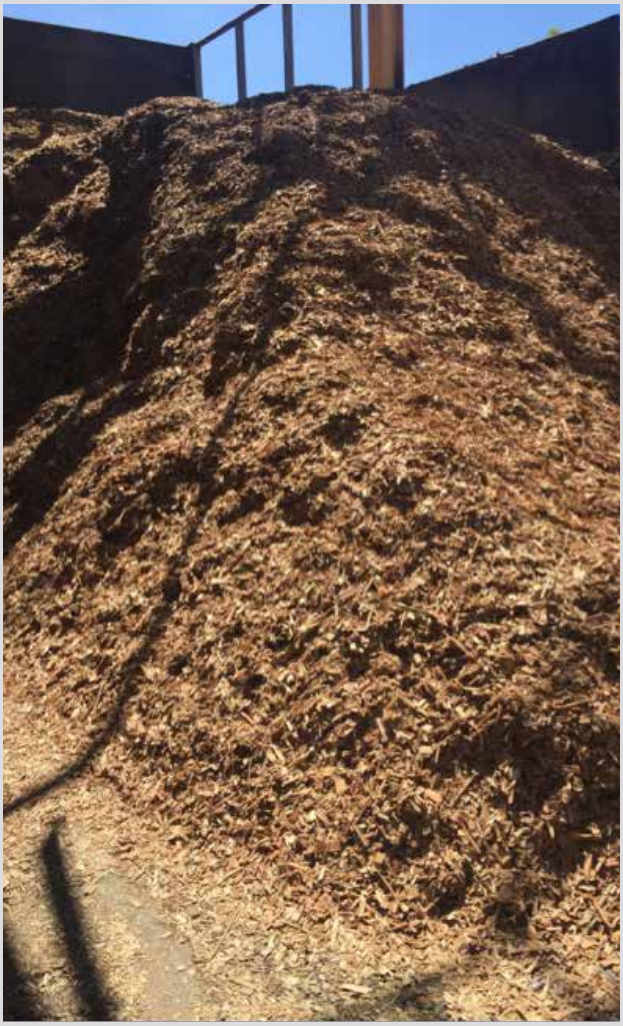
Panels are fed through the long cut saws that cut the edges along the longest axis of the panels, where a panel code is applied to every panel containing the required data under the Australian Standards, and are then transferred to the crosscut saws and cut along the shortest axis. During this process the operator grades the product and can reject any product that is outside the grading specification. These products are re-graded into lower grade products.

The fortified melamine urea formaldehyde is classified as non-hazardous and cured adhesive can be safely disposed of to landfill. Engineered timbers made with urea formaldehyde or phenol formaldehyde resins are included in the Eligible Waste Fuel Guidelines as 'uncontaminated wood waste' and therefore potentially exempt through the RRO process as an eligible waste fuel.

In the dispatch section, the packs are strapped and all small veneer voids are filled. The packs then have two coats of edge sealer applied to them. The finished packs are branded with the company details, product type and Chain of Custody certifications and are then ready to be sent to the Big River branches or directly to customers.

BIG RIVER CASE STUDY KEY CONSIDERATIONS

- Residues have long been used as part of process optimisation.
- Robust certifications and Chain of Custody approaches are already well-established for a range of producers for timber products.
- Process improvements elsewhere (e.g., smaller cores left over from spindleless lathe improvements or process changes that reduce wastage) can reduce on-site availability of biomass supply. Big River have had to deal with reduced residue due to installation of the spindleless lathe and save the maximum volume of residue possible, but now have to install a crusher in order to increase the fuel volume by turning untreated pallets into fuel.
- Using biomass for energy can help make energy intensive processes more self-reliant.
- Due diligence and Chain of Custody considerations are applied to all suppliers in order to meet the requirements of AS4707 and the Illegal Logging Prohibition Act.



1. Residues for use in cogeneration

2. Spindleless lathe

3. Cogeneration unit

4. Fabrication

5. Veneer sheets assembled into plywood

6. (Background) Packs of Formply ready for strapping and (Foreground) raw anti-slip plywood being puttied

7. Trimmed plywood packs

8. Painted plywood packs ready for branding

9. Finished flooring boards

CASE STUDY: VISY

Visy Pulp and Paper in Tumut NSW sources Radiata Pine pulplogs from plantations in Southern NSW (under a 60-year supply agreement with Forestry Corporation of NSW as well as major private plantations) and sawmill woodchips to produce high-quality kraft paper for domestic and international markets. The site is Australia's largest exporter of containerised manufactured product, producing an average of 60 containers, or one train-full of product, per day.

The Tumut mill, sitting on 2,100 ha, was built in two stages. Stage 1 was completed in 2001 with an initial investment of $450 million. The mill was sited in Tumut due to access to timber (pulplogs and sawmill woodchips), water supply, a base of engineering services and community acceptance.

Bioenergy production was incorporated from the design stage. Along with mill woodyard bark and screen fines, sawmill and forest residues, for the first three years the mill used 25,000 tonnes p.a. of urban wood residues (primarily from Western Sydney and specifically excluding CCA-treated timber and engineered timber) and by-products of compost manufacturing for boiler fuel. However, compliance costs for managing the materials to EPA requirements (including stockpile quarantining, flue gas and fly ash testing) ultimately proved too expensive.

Despite independent evidence that the mill was in full compliance and rationale for reducing testing requirements, the EPA required that the full testing regime continue. Despite having invested over $1 million in gaining approval for the original process, within a month of EPA's notification the mill stopped using urban wood residues.

Subsequent investment in additional pulp and paper making capacity in 2009 (Stage 2) ultimately took total site investment to over $1.1 billion. This included an additional 8MW of electricity cogeneration.

Visy now generates around 30MW of power from bioenergy sources, enough to supply roughly 40% of the site's electricity demand. Biomass comprises around 220,000 green tonnes p.a. (or 100,000 tonnes p.a. of bone dry fibre) including 160-170,000 green tonnes p.a. of mill woodyard bark and screen fines, 30-40,000 tonnes p.a. of forest residues, and 5-10,000 tonnes p.a. of sawmill residues. 'Black liquor' from the kraft pulp production process is also extracted, evaporated and fired in recovery boilers to produce steam for paper-making and electricity cogeneration.

Forest and sawmill residues are brought in by semi trailers and blended with mill woodyard bark through a 'hogger' and conveyed to a stacker reclaimer. Fines from woodchips screening are fed through separately, prior to blending all materials for use as boiler fuel.

Although the site's switch from urban wood residues to other materials took place well before the 2013 change in NSW bioenergy policy, Visy report not having encountered major permitting or regulatory barriers in switching to use the current feedstocks which are categorised as 'standard fuels not requiring further testing'.

VISY CASE STUDY KEY CONSIDERATIONS

- **Using forestry and sawmilling residues for boiler fuel can be more cost-effective than using urban wood residues due to lower monitoring and compliance costs as well as lower material transport costs due to bulk density of urban wood and longer distances from sources.**
- **Monitoring and compliance costs should be considered in any business case considerations for bioenergy projects.**
- **Finalising licensing conditions and development consent can involve iterative discussions that allow proponents to optimise their ultimate approach while ensuring compliance.**
- **Demonstrating engagement with, and support of, the local community can assist in gaining project approval.**
- **While credits for renewable energy generation should be considered, due to varying policies and pricing, these should not be deciding factors in the business case for bioenergy projects.**

PAPERMAKING PROCESS

1. Visy Pulp and Paper – Tumut Mill

2. Control room for water treatment, energy island and pulp mill

3. 8MW turbine hall

4. Mill woodyard log crane

5. VP9 wet end

6. Jumbo reels at VP10 winder

7. Boiler fuel receiver

8. Kenneth Epp (GM Fibre Resources) and boiler fuel reclaimer

9. Boiler fuel stockpile, lime kilns and recaustising plant (rear)

10. Reject woodpulp from recycled fibre plant for boiler fuel

11. Woodchip screen fines for boiler fuel

12. Boiler fuel feedstock to Power Boiler

13. Oversize woodchips diverted from screens for boiler fuel

14. Boiler fuel feedstock to Power Boiler

15. Power Boiler (left) and Recovery Boiler A

16. Recovery boilers (rear), evaporation and cooling plant

17. Recovery boilers (left), evaporation plant (right)

18. Recovery Boiler B, electrostatic precipitator and stack

5 PART FIVE
CHECKLIST FOR RRO APPLICATION

The following checklist can be copied and completed for each RRO application.

✔	ACTION	NOTES
	Identify proposed project and feedstocks	
	Ensure that feedstocks fit definitions of 'forestry and sawmilling residues' or 'uncontaminated wood waste' under the Eligible Waste Fuel Guidelines	
	Ensure that all necessary conditions for RRO approval can be met:	
	• Full waste characterisation +/or proof of performance	
	• Other practical, higher order reuse opportunities are not available	
	• Establish or confirm quality assurance / quality control / Chain of Custody processes to ensure the feedstock remains clean and uncontaminated	
	• Compliance with other requirements	
	Compile available evidence	
	Review evidence against Eligible Waste Fuel Guidelines	
	Determine whether the project appears eligible for an RRO	
	Ensure that compliance is achievable for all provisions of an RRO, if granted	
	Contact the EPA's Environment Line on 131 555 for initial discussions on application feasibility:	
	• State that you're considering applying for an RRO exemption for forestry and sawmilling residues as an eligible waste fuel	
	• Ask to speak to an EPA staffer that can assist with the application	
	• Note the staffer's name and title, and note details of the discussions	
	• Confirm whether proposed project is likely eligible for exemption as an eligible waste fuel	
	• Confirm contact details and the application process to follow	
	• Confirm that discussions will remain confidential until an RRO is issued	
	• Confirm discussion points in writing with the EPA staffer to help ensure an accurate understanding	
	• Consult Council's Local Environmental Plan to judge project conformance	
	Decide on whether to proceed with an RRO application	

References

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ABOUT TIMBER NSW

History

In 1906 the Association of Country Saw Millers, formally established an organisation to serve the domestic NSW sawmilling industry in a wide range of matters. During its 110 long year history, the Association has assumed a varying role, depending on the particular economic and political climate of the day.

It changed its name to NSW Forest Products Association in 1980.

In October 2014 the name was changed to Timber NSW to reflect the broader interests in timber.

Purpose

Timber NSW promotes the profitable and environmentally sound utilisation of NSW forest resources. The Association seeks to ***achieve for the industry that which an individual company in isolation cannot***, specifically by:

- Facilitating the ability of the industry to speak with one voice on issues affecting its viability and future
- Acquiring and disseminating relevant information to members to ensure current, widespread knowledge of developments and events
- Providing expert and informed advice to government and its agencies to assist in policy-making and resolution of conflict
- Lobbying politically on the industry's behalf
- Mediating between individual members and government and its various agencies
- Promoting the value of the timber industry within the community
- Assisting members in the development of new and profitable markets and the promotion of their products.

www.timbernsw.com.au

About the NSW Forest Industries Taskforce

The NSW Forest Industries Taskforce is a small but influential group representing key sectors of the Forestry Industry with a wealth of experience – including hardwood, softwood, milling, processing, harvest contractors, professional Foresters and policy expertise

The Minister for Primary Industries has set up this forum as part of a commitment to see the forest industries re-establish their vital and legitimate role in our economy, with the intent of industry and government identifying key strategic issues and opportunities.