



# PEACE RIVER PULP DIVISION BIOENERGY – RENEWABLE ENERGY

Sustainable. By Design.





## PEACE RIVER PULP DIVISION



**88** Construction

**89** Production

**90** First FMA

**98** Elemental Chlorine-Free pulp

**2001** Daishowa is Nippon

**2002** Production Increase

**2004** Portable Chipping

**2011** Condensing Turbine

# DMI STRUCTURE



## Marubeni Corporation

One of the largest general trading companies in Japan

## Nippon Paper Industries

One of the largest paper manufacturers in Japan

## West Fraser Mills Ltd.

## Daishowa-Marubeni International Ltd.

## Peace River Pulp Division

## Cariboo Pulp & Paper Company

## Peace River Logging Limited Partnership

## Woodland Cree First Nation

50%

50%

50%

50%

50%

50%





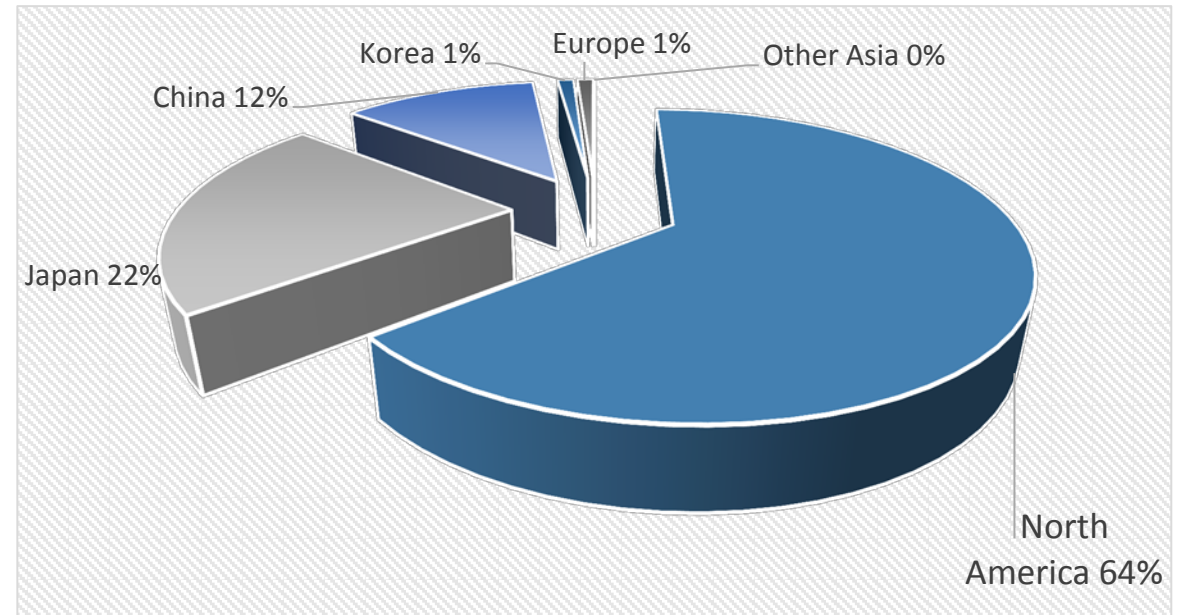
# DMI SALES



Kimberly-Clark



Adult Care



Peace River 462,000MT (2015)

Our Customers. Our Business.



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## Peace River Pulp Division

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**Manage**

**2.67 million hectares**

**Requiring**

**1.6 million m<sup>3</sup> deciduous +  
800,000 m<sup>3</sup> conifer +**

**275,000 tonnes biomass**

A large, modern sign for the Peace River Pulp Division. It features a tall, vertical wooden post with a horizontal wooden beam across the middle. The beam is black with the words 'Peace River Pulp Division' in white, bold, sans-serif font. Above the beam, on the post, is a smaller version of the DMI logo. The background shows a misty, forested landscape with a small evergreen tree in the foreground.

**Peace River Pulp Division**

# THE CHALLENGES



# THE OPPORTUNITIES





## THE SOLUTIONS



**01**

**Looking for Efficiencies**

**02**

**Investing in Technology**

**03**

**Diversity in Focus**

**04**

**Partnering for Progress**

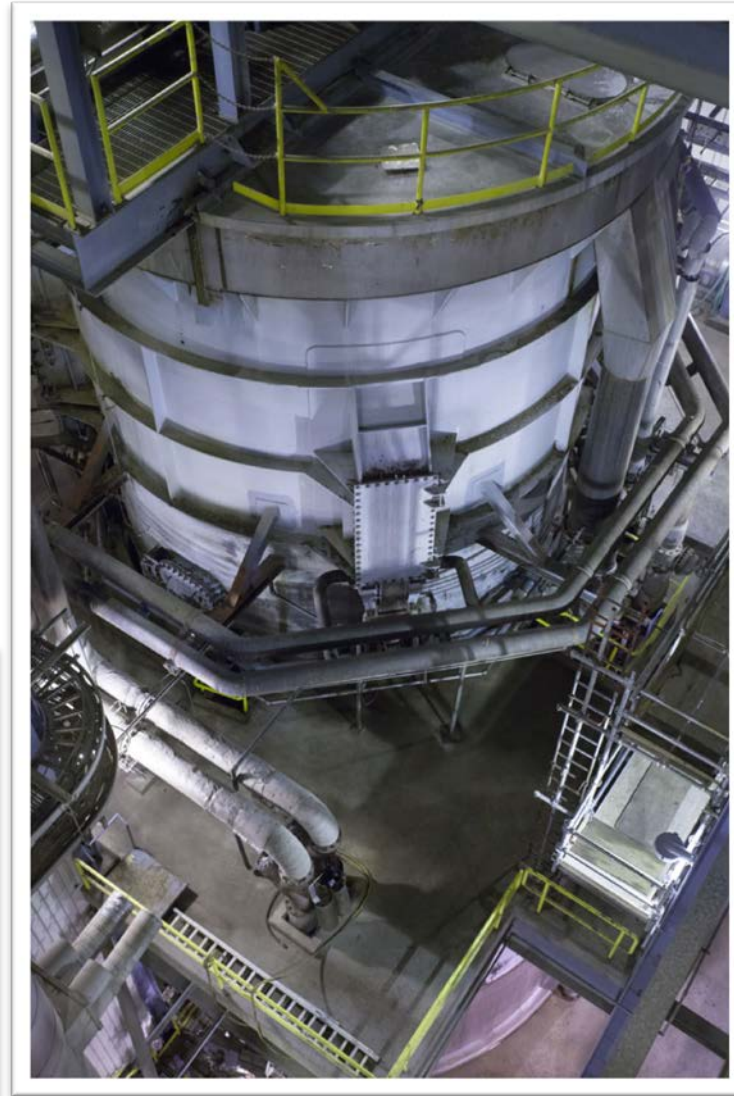


# LOOKING FOR EFFICIENCIES THROUGH WASTE



Innovation in Bio-energy

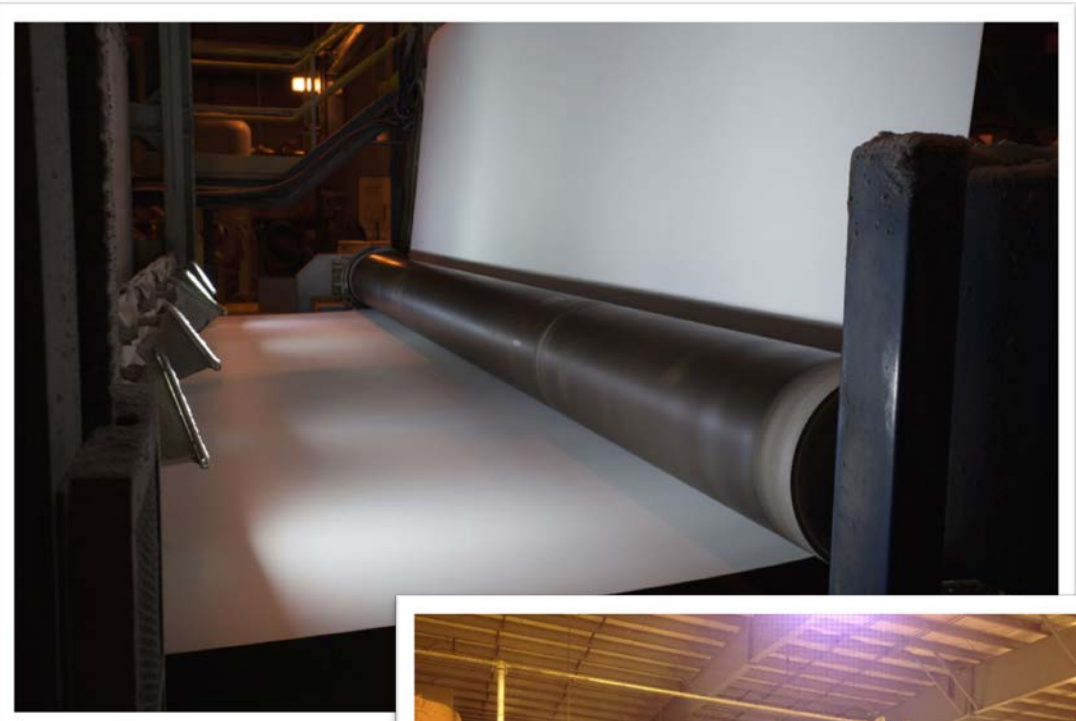
# INVESTING IN TECHNOLOGY



Innovation in Bio-energy



# DIVERSIFY IN FOCUS



Innovation in Bio-energy

# PARTNERING FOR PROGRESS



Innovation in Bio-energy



# WHAT IS THE BUSINESS CASE FOR BIOENERGY?



## 1. Why would we?

1. Increase revenue or decrease expenses
2. Licence, legislation or policy requirement

## 2. What is the potential for a bioenergy program in our mill?

1. Reduce costs
2. Enhance process

## 3. How can this potential energy solution be achieved?



Innovation in  
Bio-energy

# WHERE IS PRPD AT IN TERMS OF BIOENERGY?



95% of our energy is from biomass

Wastewood (hog)

260,000 GT/yr

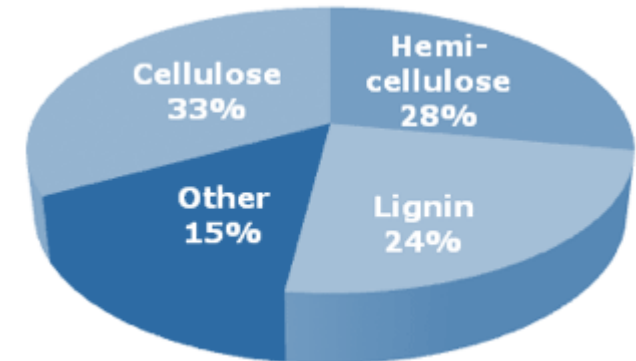
- 2/3 saw/board mills

- 1/3 PRPD

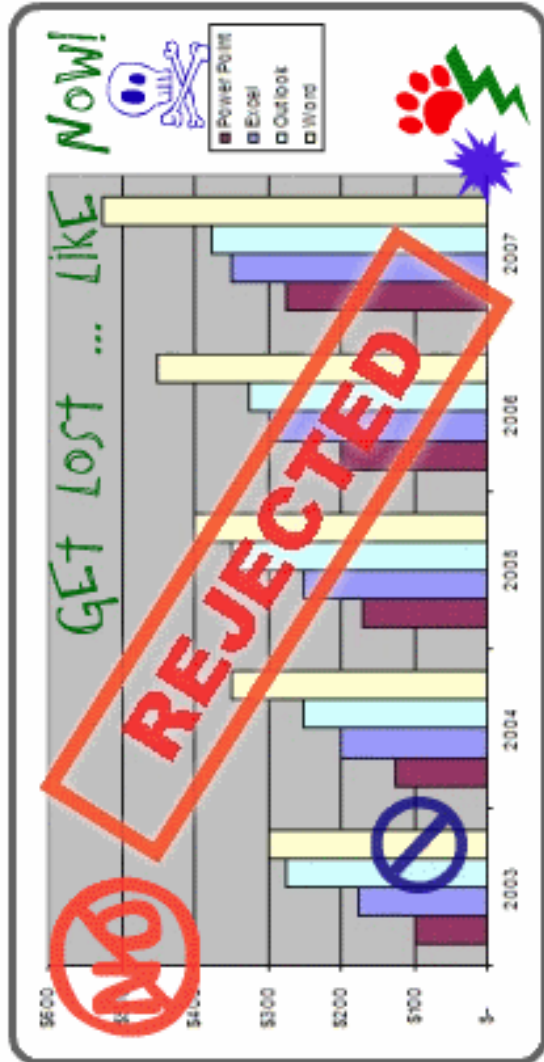


Black Liquor

Recover and burn to produce steam and recover chemicals to reduce water emissions, and be energy efficient.



# WHAT PROCESS DID WE CONSIDER TO IMPLEMENT BIOENERGY?



We looked at whether it was feasible and viable economically, in conjunction with the ability to compete on a global scale with local resources.

- a) Is there a market?
  - a) The power market and prices when we started were excellent. In the future, as coal becomes less prevalent, there will be an increase in prices, we anticipate.
- b) What are our production costs?
- c) Viable? Trials or pilot plan?
- d) Full scale implementation of project
- e) If we cannot continue, we put on hold and revisit pending business decision

We have shareholders. They expect a cost return on their investment. As a global pulp producer, diversification and options are necessary to survive.



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## Green Transformation Program

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**2009 – 2011 – 1 Billion \$**

The government wanted something to counter the American subsidies. The US could do whatever they wanted with their subsidies – 10s of billions of dollars and could put in shareholder pockets; but the GTP was to develop capital projects that would 'green' the economy in pulp mills.

The mills had to invest the monies received into 'green' projects. Our \$60+ million project was the recovery boiler upgrade to increase its steam capacity and installation of a 2<sup>nd</sup> generator (condensing turbine) to produce an extra 25 megawatts.

We currently run at 3 or 4 megawatts due to low energy prices.



# GREEN MEANS NOT BURNING FOSSIL FUELS

**Produce**



**Consume**

NOTE  
**OUR LIME KILN DOES USE  
NATURAL GAS.**

**Full Capacity**



**Export**





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### Bioenergy Producer Program

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Intended to support bioenergy production to reduce GHG emissions and create opportunities with economic benefits.

As a grant recipient, it was a requirement that we produce biofuels, electricity, or heat or wood pellets that help make GHG reductions in Alberta.

We produce electricity.

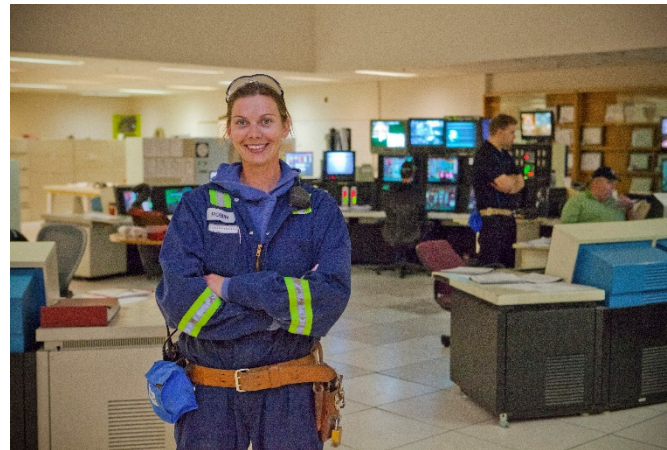
The grants are production-based, meaning money is provided based on how much bioenergy each company generates. All types of bioenergy are funded at the same rate.

PRPD is able to confirm our acceptance into the program with a grant of \$4.8 Million

# WHAT BPP MEANS TO US



The monies will be utilized through mill projects; however, the whole facility will benefit from the funding. It will go into general revenue, which will help to maintain our equipment and pay wages that help us lower our GHG emissions – to produce more green power – which helps the Province fulfill its mandates. At PRPD, we do buy wastewood from sawmills, which helps the local sawmills by them not having to handle this waste disposal. They sell to us, we use the waste (hog) for energy, which ends up being of value to both industries. In rural areas – this equates to jobs (loading, unloading, hauling, etc.).



# 10 LESSONS WE'VE LEARNED



1. Your challenges are your opportunities
2. The future is changing now
3. Learn from others and their mistakes
4. Benchmark for potential
5. Don't wait . . . Too long
6. ROI is not enough. Gov't support is needed.
7. Connect and Collaborate
8. Diversify and Invest
9. Leverage what you have – infrastructure and people.
10. Explore technology





# BIOENERGY OVERVIEW



1. The implementation of an bioenergy program requires a change in culture.
2. Cultural changes must start with senior management.
3. They must be committed to the process, develop a sound plan of action, provide the leadership, and secure the resources.
4. The benefits can be large, but they will be derived from a number of smaller gains.
5. Thus, continuous effort is required to retain the benefits long after the projects are implemented.



# SUSTAINABLE. BY DESIGN.

Our Boreal Forest. Our Backyard.



We RESPECT the past. We RESPOND in the present. We PREPARE for the future.



For more information pertaining to  
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