



West Fraser

Industrial Rate Policy Review

April, 2013

West Fraser



Lumber
26 Mills

Panels
6 Mills

Pulp & Paper
5 Mills

SPF 3.7 Bfbm SYP 2.0 Bfbm Total 5.7 Bfbm	Plywood: 830 MMsf3/8” MDF: 300 MMsf3/4” LVL: 3.2 MMcf	NBSK: 590 Mtonnes BCTMP: 640 Mtonnes Newsprint: 135 Mtonnes
--	---	---

**North America’s
largest lumber producer**

**Largest plywood
producer in Canada**

**Third Largest Pulp
Producer in Canada**

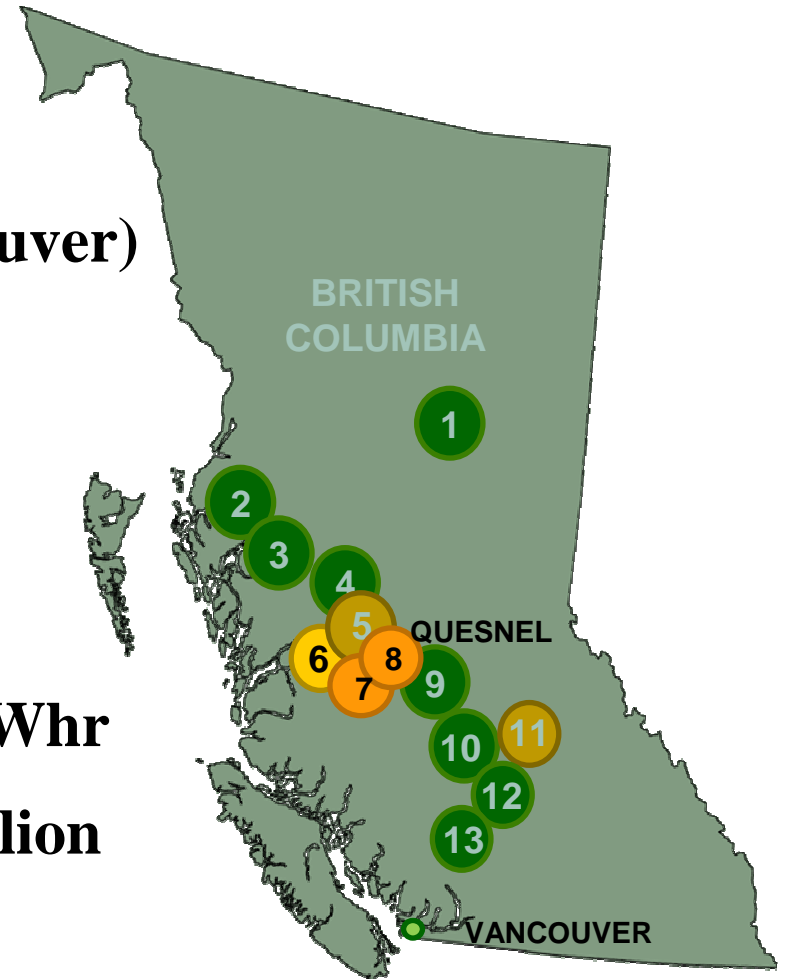


Operating Principles

- **Employees drive success**
 - Dedicated, resourceful, cost conscious culture
- **Unwavering and disciplined attention to cost management**
 - Low-cost producer
 - Efficient use of all resources
- **Reinvesting in our facilities**
 - Modern, safe, efficient, competitive
- **Maintaining a conservative balance sheet**
 - Growth opportunities, confidence

West Fraser BC Operations

- **BC Workforce: 3,300**
- **Headquarters in BC (Quesnel, Vancouver)**
- **In 2012: \$1 Billion in cash cost in BC**
- **Capital invested in BC**
 - 2007 to 2012 : \$241million
 - Most difficult period in Forest Industry History
- **Electricity consumed (2012): 1,232 GWhr**
- **Natural gas consumed (2012): 2.5 Million Gjs**
- **Generation Capacity 84 MW:**
 - Cariboo Pulp 60 MW
 - Fraser Lake Sawmill 12 MW (2014)
 - Chetwynd Sawmill 12 MW (2014)



- 8 lumber mills
- 2 pulp mills
- 2 plywood plants
- 1 MDF plant

Our Electricity Requirements

- **Low cost:**
 - Can't flow cost through to market
 - Offsets other inherent disadvantages in BC – labour, transportation to market, declining interior wood basket
- **Dependable:**
 - Reliability important but what are we paying for it?
 - Is there more cost efficient alternatives?
- **Predictable:**
 - Certainty for investment - essential for capital planning

Issue

- **Rapidly increasing costs borne by rate payers:**
 - Environmental, social & economic development agendas
 - Cost control mandate for BC Hydro
 - Lower load – fewer customers, less revenue, higher unit cost
 - Government take – Water tax, ROE, PST
 - High cost electricity procurement
 - High cost programs (i.e. smart meters – cost / benefit?)
 - Deferral account management
 - Upgrades to aging infrastructure
 - Infrastructure build in anticipation of load

Impact

- **Rate shock - large cost increase over short period:**
 - Some load won't be able to absorb costs resulting in shutdown or curtailment
 - Newsprint, Market Mechanical Pulp & Electrochemical most exposed
 - Redistribution of costs to remaining load
 - Further increases costs that impacts other marginal businesses
 - More cost distributed over less load
 - Stranded asset costs are distributed to remaining load
 - New load requires interconnection and this cost is passed on to remaining load
 - Fewer fibre consumers results in less revenue for sawmills
 - BC Forest Industry less competitive, fewer jobs directly and indirectly

Lower Cost

- **Reduce BC Hydro Spending**
 - Implement Cost Control Mandate within BC Hydro – Recommendations 2011 Review
 - Shift social and environmental mandates to Government
- **Develop rigorous cost benchmarking program and efficiency metrics**
 - Hold management accountable to cost performance
 - Shift culture from risk aversion to managed risk
 - Replace “Gold Standard” with acceptable cost/benefit approach
 - Serve load on least cost basis
- **Reduce revenue to Gov’t from 2012 \$1.2 billion**
 - Water tax, PST, ROE

Lower Cost cont'd

- **Procure lower cost electricity**
 - Integrate generation with existing load to avoid transmission
 - Natural Gas has relatively short lead time to meet pending new load
 - Competitive process or standing offer
 - Carbon Tax: \$15/MWh at 10GJ/MWh
 - Evaluate all sources of low cost power - including out of province
- **Manage short term electricity shortfalls & surpluses**
 - Fair and open opportunity for all load and generation
 - Auction load and generation curtailment in blocks – explore opportunities
 - Manage to net benefit of rate payers
- **Economic Development**
 - Should load bear the cost of major economic expansion?
 - Can Government support alternative funding for significant initiatives?

Reduce Impact of Rate Shock-Maximize Value from Load

- **Peak Shaving – avoided capital & operating costs**
 - Requires incorporation into **Long Term Planning**
 - Value load at cost of adding incremental Gen + Trans
 - Opportunity to aggregate and shape load and maintain output
 - Hasn't been reviewed objectively or transparently

- **System Security**
 - System support –voltage, etc -
 - Reserves

- **Integrated generation**
 - Value at cost of Gen + Trans
 - Maximize energy efficiency – Nat Gas combined heat & power

Past Successful Participation By Load

- **Conservation Programs**
 - low cost power
 - environmentally friendly
 - improve competitiveness of load
- **Demand Side Management DSM Projects**
 - Power Smart Incentives
 - Energy manager funding
- **Stepped Rates**
 - reduced load by 10%
 - opportunity to encourage next level of conservation
- **Negotiated Tariff Settlements**
 - DSM policy changes
 - CBL/GBL Harmonization

Mechanical Pulp Future

- Today Mechanical Pulp 5- 10% of BC electricity consumption
- Key part of integrated forest economy
- High Yield from fibre use in BC's declining interior wood basket
- Growing markets: Asia has largest most modern paper machines
- Flexible product line: packaging, sanitary products
- Potential higher value cellulose bioproducts
- Potential for significant energy reduction
- **Extract value from load response capabilities**
- **Integrated natural gas high efficiency power generation**

Quesnel River Pulp

- Operating over 30 years
- World's Largest Market BCTMP Mill
- Cost, efficiency & quality focused

Today

- Capacity 400,000 ADMT/yr
- Wood 440,000 ODT/yr
- Electricity 750,000 MWh/yr
- Natural Gas 1,000,000 GJ/yr
- People 135

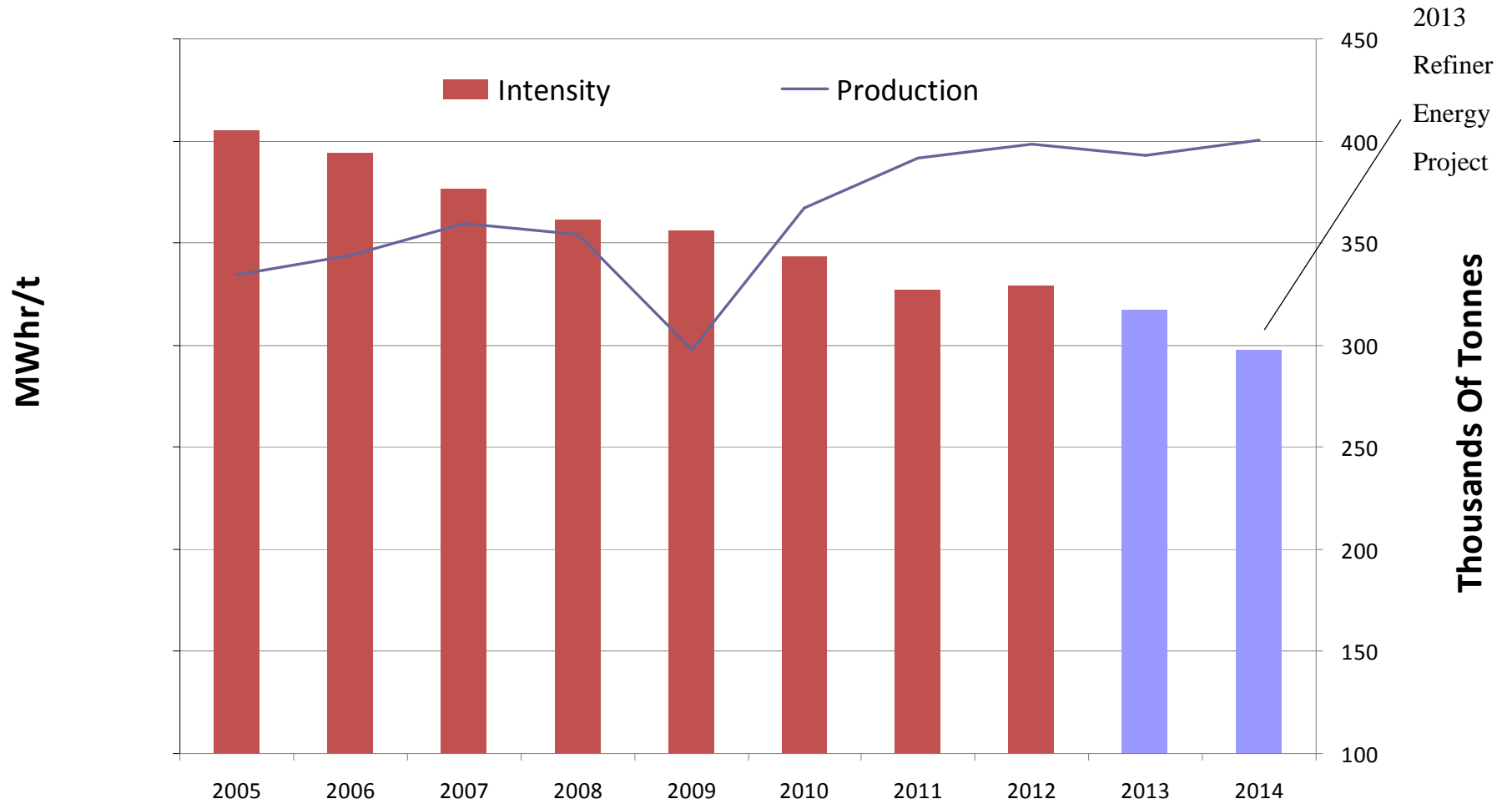


Quesnel River Pulp – Energy Reduction Activity

- **Goal of 15% energy reduction from present day**
- **DSM Projects:**
 - Savings to date 30,790 MWh/yr
 - Future planned 31,400 MWh/yr
- **Capital Expenditures:**
 - Low Consistency Refining Phase I – underway
 - Fiber Fractionation
 - Low Consistency Refining Phase II
- **Other Energy Projects:**
 - Heat exchanger replacement in 2010 – saved 100,000 GJ of Nat Gas.
- **Significant Investment / Ownership with the following:**
 - FP Innovations – Product development and energy reduction
 - UBC Mechanical Pulp Consortium – energy reduction strategies

Quesnel River Pulp – Electricity Intensity

Annualized Energy Savings 172,000 MWh/yr 2014 vs 2005



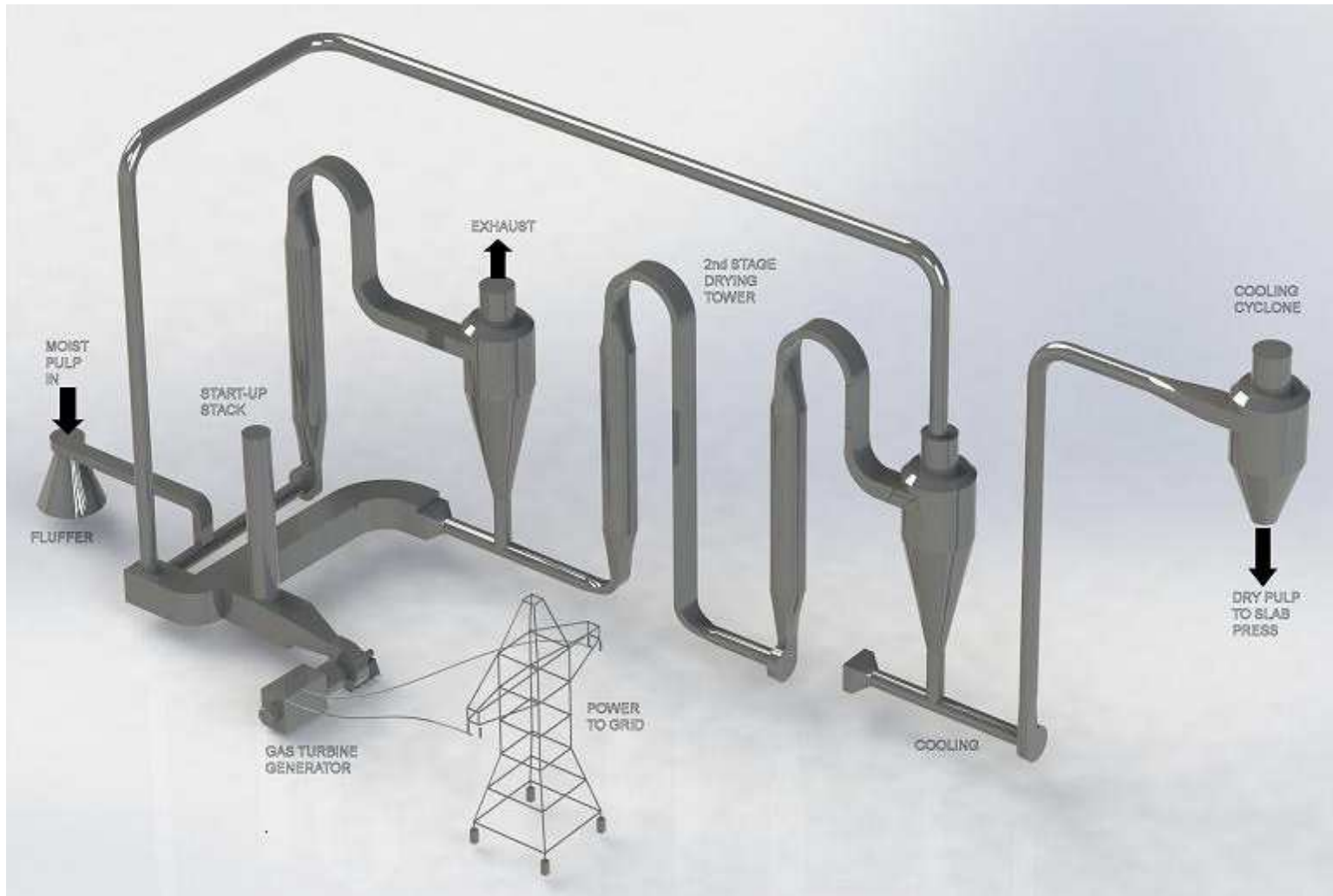
Quesnel River Pulp – Load response

- **Benefits of incorporating load response into long term planning –**
 - Incremental generation may not be required
 - Transmission system not stressed
 - System reliability improved
 - System Capacity can be optimized for seasonal requirements
- **Need to understand BCH planning peaks –**
 - Duration of load spike that system capacity is required
 - Offer flexible solutions for load to provide capacity
- **Value to rate payer –**
 - Capital avoidance, lower rates
 - System reliability, unnecessary redundancies

High Efficiency Combined Heat and Power

- **How natural gas can integrate**
 - Generation near load reduces transmission losses and capacity needs
 - Waste heat offsets combustion of gas and other sources
 - Low land base impact
 - Low lead times
- **Benefits to tax payers carbon tax, etc**
 - Provincial Royalties on Gas
 - PST on gas and transmission costs
 - Carbon tax on GHG emissions
- **Shared long term gas cost risk and benefit?**
 - Potential to mitigate risk of thermal load customer and BC Hydro
- **Value to rate payer?**
 - Lower transmission costs
 - Higher tax base
 - Minimal land base impact

QRP Combined Heat & Power System



Summary

- **Rapidly Increasing Costs cannot be absorbed by all load**
- **Load can provide value to reduce cost of all ratepayers**
- **Electrical Intensive Industries vulnerable to rate increases**
- **Huge deferral account needs to be dealt with, but large increases in rates will severely hurt energy intensive industry that can't pass on costs.**
- **Conservation programs are effective at reducing consumption**
- **High Efficiency Combined Heat and Power can be part of the solution**