

A world map rendered in a light blue, dotted style. Several cities are marked with orange dots and labeled in orange text. The cities shown are Toronto, Ottawa, London, Lyon, Bridgetown, Abuja, Lagos, Kampala, Dar es Salaam, and Johannesburg. The map is centered on the Atlantic Ocean.

# CPCS Supply Chain Review

Eastern Canada Logistics Study

By CPSC – November 2012

# Disclaimers

1. Study was initially presented in July 2013 in Montreal and may be repetitive for some of you.
2. Some of the data is now out of date.
3. Some controversy was created the first time the study was presented.
4. I am not the author of the study or the project manager.
5. Full study is available to WPAC members.
6. Some subjective conclusions have been added.

# Snapshot

- Who: CPCS – Global Consulting Firm focused on transportation sector
- What: Study conducted including questionnaires and analysis
- Where: Across Canada
- When: December 2012 – March 2013
- Why:

*“To analyze supply and export chains for pellets produced in Eastern Canada to help implement an efficient and optimized supply chain.”*

# Scope Map

## Legend

Production capacity of operational pellet plants (in tonnes)

- ▲ <50,000
- ▲ 50,001 - 150,000
- ▲ 150,001 - 250,000
- ▲ 250,001 - 500,000

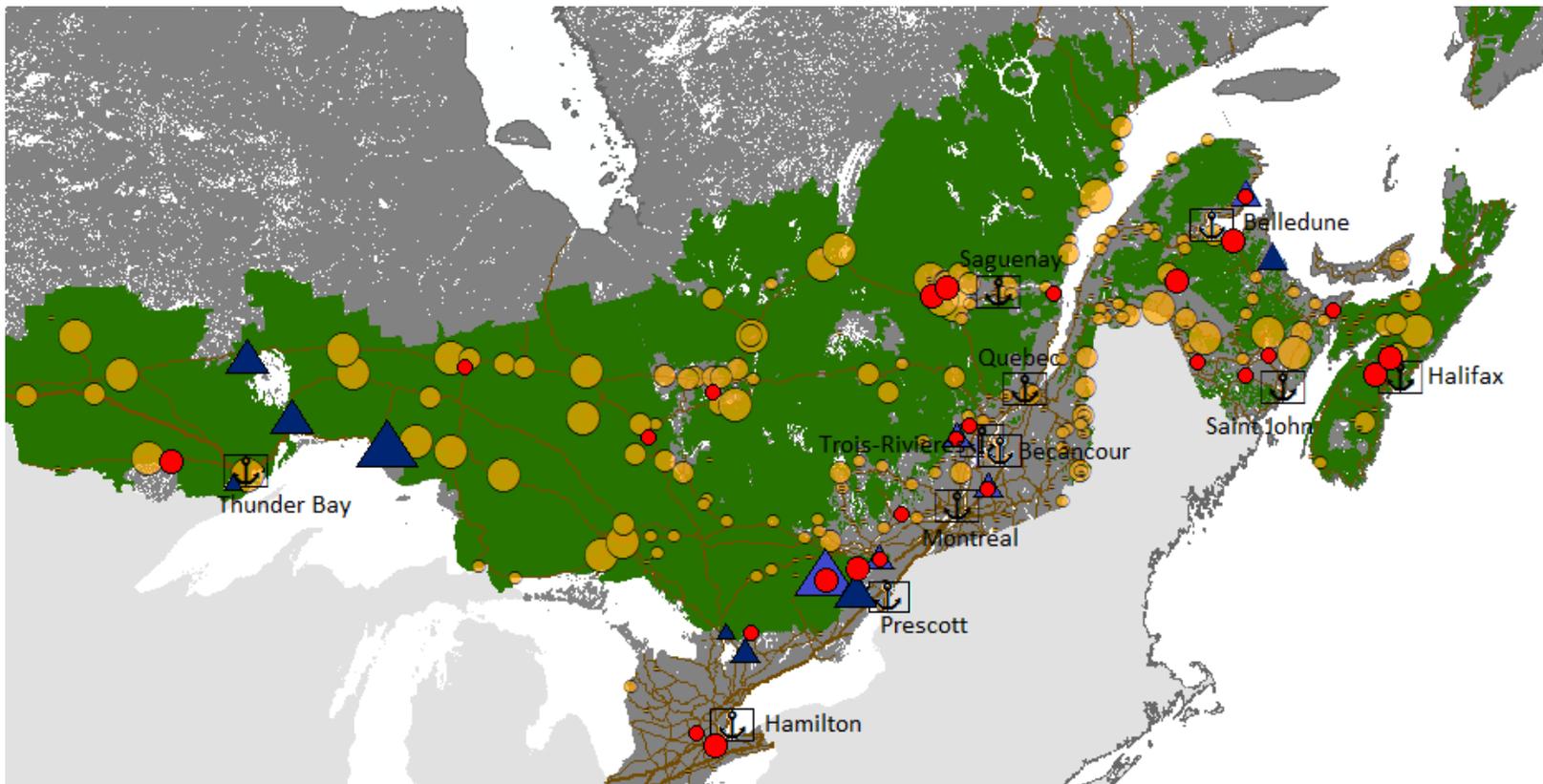
Production capacity of pellet plants under construction (in tonnes)

- <50,000
- 50,001 - 150,000
- 150,001 - 250,000
- 250,001 - 500,000

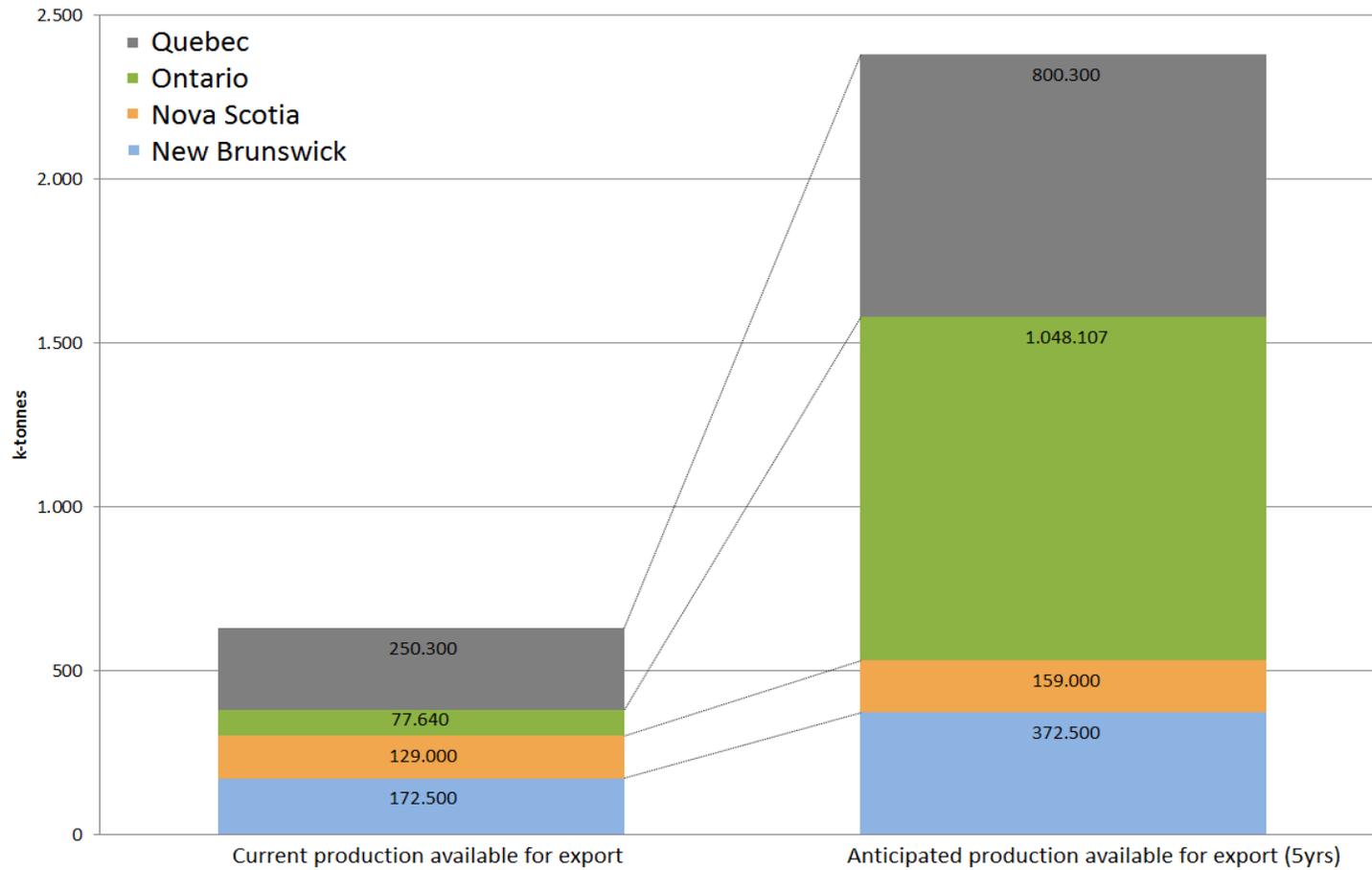
Production capacity of sawmills (in thousand cubic meters)

- 10 - 29.99
- 30 - 99.99
- 100 - 299.99
- 300 - 999.99

- ▲ Planned expansion of production capacity
- Commercial forest area (tenures)
- ⚓ Strategic seaports
- Railway



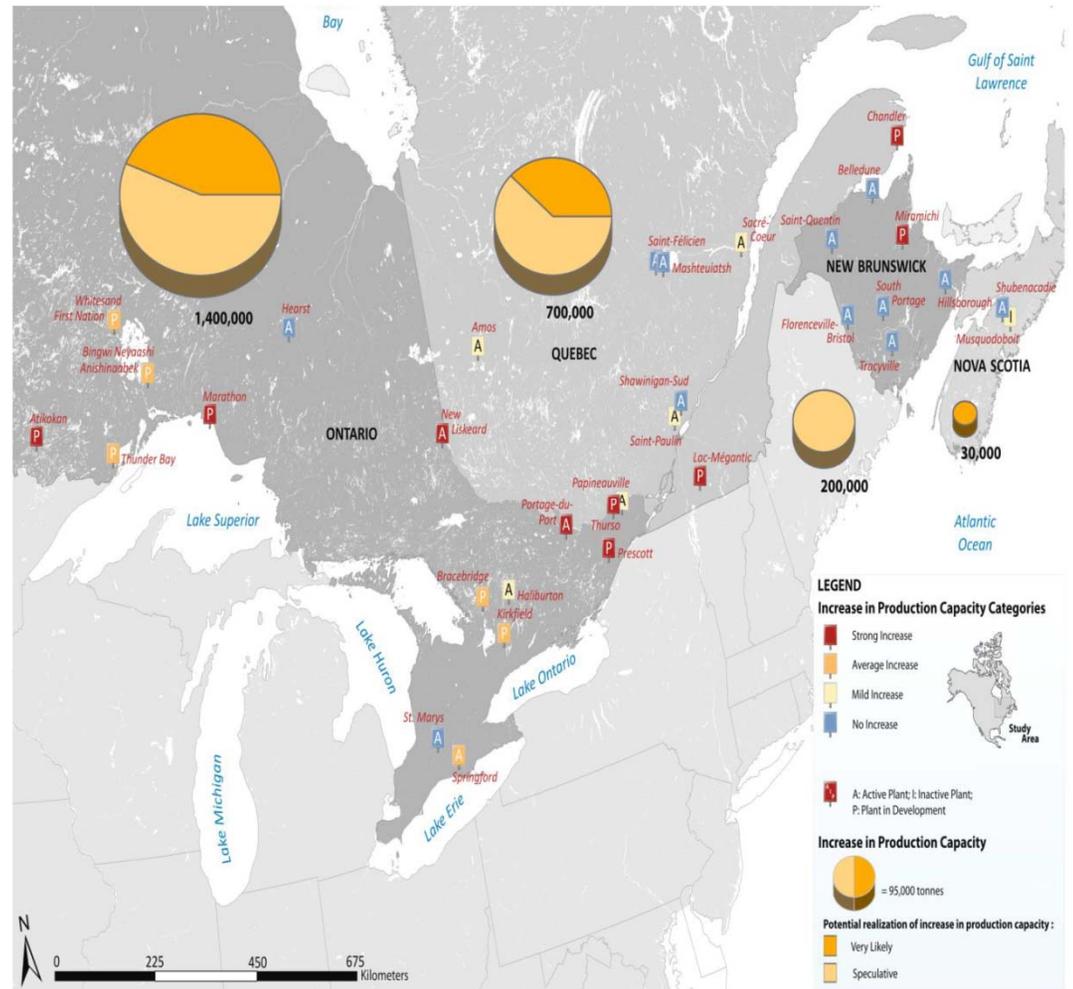
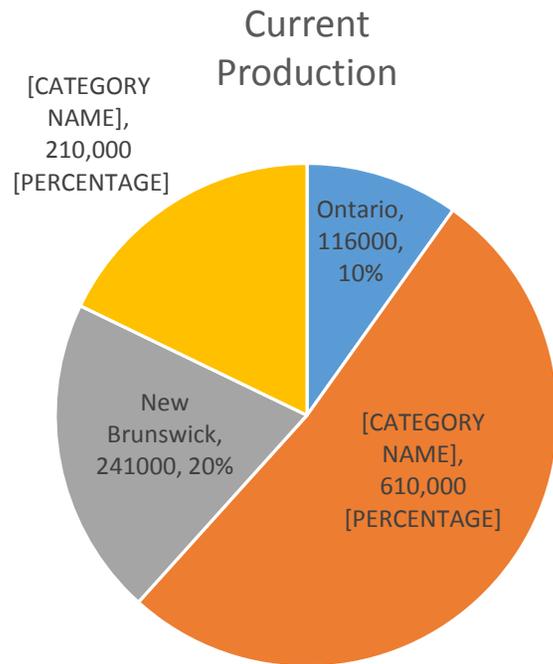
# Current & Planned Production by Province



# Some of the Facts about Eastern Canada

- Producers are small and under-capacity
- Total production in Eastern Canada approximately **600,000 MT**
- Total **production capacity** evaluated at **1.18 million MT**
- Expansion plans of **current producers = 680,000 MT**
- **Projects** under construction or design stage could add to **1.63 million MT**
- Capacity available for export
- 605,000 tonnes in 2012, could reach 1.39 million tonnes.
- Logistical constraints and unfavourable market conditions, however, are preventing this export potential from materializing.

# Production Capacity



# Most Interesting Conclusions

- Rail is much more cost competitive even over very short distances
- The very large majority of existing producers do not have rail spurs
- Virtual consolidation would provide significant savings, minimal cost
- Physical consolidation necessary to generate infrastructure savings



# Major Costs

Road Transportation	\$0.07 to \$0.11 per tonne per km	Depends on distance, equipment
Rail Transportation	\$0.02 to \$0.08 per tonne per km	Depends on distance, market
Port Fees (Wharfage)	\$0.05 to \$1.05 per tonne	
Terminal Handling Fees	\$12 to \$20	Various services including unloading, storage, ship loading
Ocean Freight	\$24 to \$54	Range shows east coast back to Great Lakes, depends on vessel size

# Land Transportation

- Current producers do not have viable rail option (1 non-serviced line)
- Loading equipment and storage at plant may be an issue for current producers, but truck transportation limits needs
- Truck: Super B-Trains (where regulations permit)
  - delays in securing sufficient equipment
- Rail: Hopper rail cars – need to acquire or lease railcars
- Railcars more expensive in Canada than U.S.
- Acquisition around \$90,000, lease around \$400-\$500 per month
- 270,000 MT means 100-175 rails cars
- \$9-15 million or \$45,000-85,000 per month

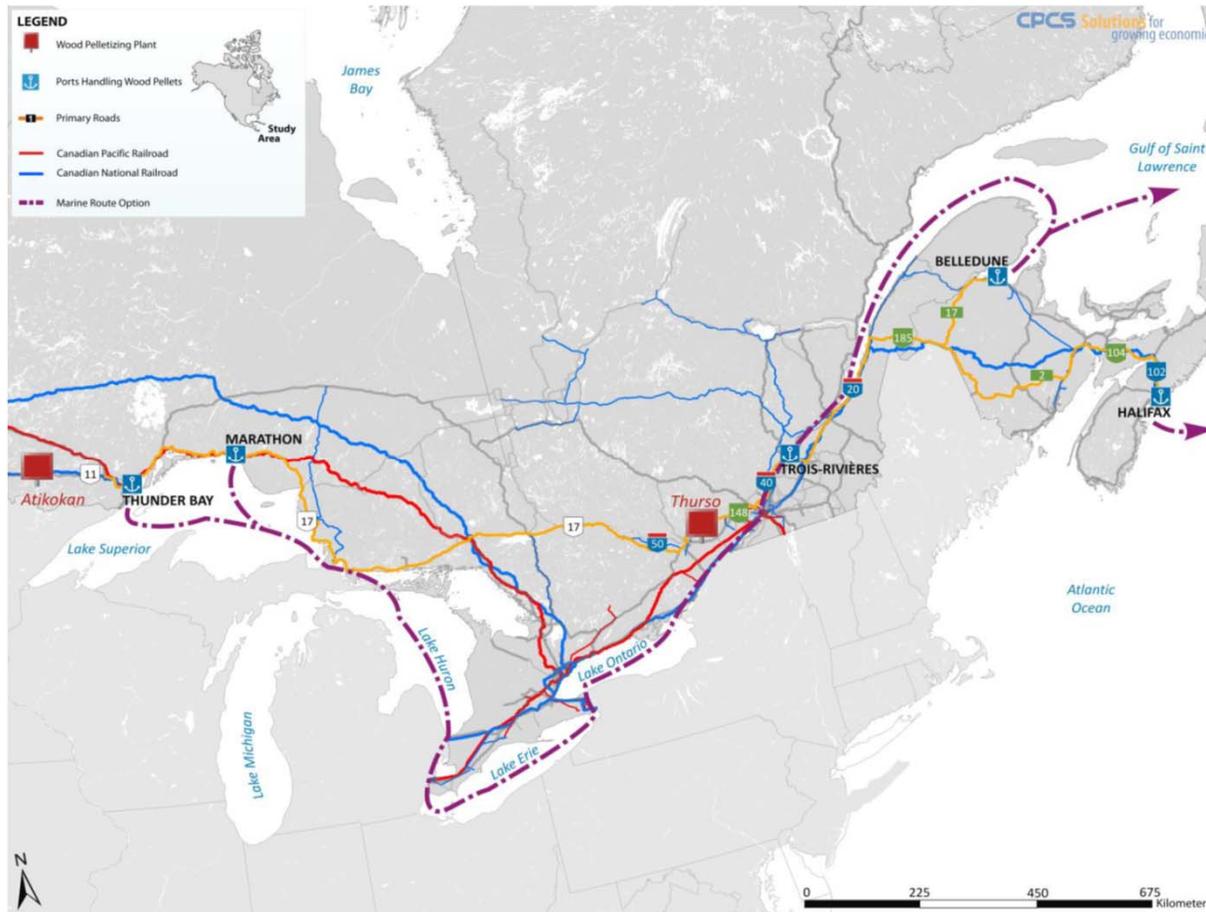


# Terminal and Marine requirements

A pellet consolidation terminal should optimally have:

- Efficient rail access
- Sufficient draft to accommodate volumes
- Year-round accessibility to serve customer needs
- A dedicated pellet terminal to lower costs
- Relative proximity to production sites
- No dedicated pellet terminal in Eastern Canada
  - Not all ports have sufficient land for new facilities,
  - New facilities are costly
  - Well over \$10 million (e.g. \$42 million for 60,000 tonnes capacity in Prince Rupert)
- Many Saint-Lawrence ports are potentially well placed

# Specific Routes were Analyzed



# Summary Findings

- Land transport costs are very significant
- Plant location is important, although input location must also be considered
- Rail is generally more competitive than trucks
- Physical consolidation across Eastern Canada is not economically possible because transport costs to Atlantic provinces are too high
- Virtual consolidation with Atlantic provinces would generate benefits if Ontario-Quebec volumes are not sufficient



# Consolidation generates benefits

- Investments in handling infrastructure could decrease costs by \$7-8 per MT
- Virtual consolidation would limit this benefit by distributing handling revenues through various ports.
- Reduction in ocean freight costs of between \$7 and \$12 per tonne.
- Reduction in certification costs (minimal)
- Reduction in inventory costs, increase in liquidity

But it remains challenging to achieve

- No export-focused producer in Ontario/Quebec to be a leader
- Large distances between producers
- Lack of export expertise

# Consolidation

- Key to success for our industry in general, small producers in particular
- Several players are working on Virtual and Physical consolidation
- Press Release on launch of [Viridis Merchants](#)
- Virtual consolidation:
  - Develop customer demand and contracts
  - Establish freight rates and secure short term commitments
  - Buy and take delivery of capacity
  - Benefits: No need for logistics, sales person, travel costs
- Physical Consolidation:
  - Build infrastructure at port(s) in Quebec
  - Create segregated storage capabilities (Halifax)

# Recommendations

- Consolidation on Saint Lawrence port with strong rail access and land availability to enable terminal investment
- Use of rail transport for any plant beyond 200km
- Virtual consolidation with ports in Atlantic Canada
- Use of private cars (probably leased)
- Minimize intermediaries (e.g. cooperative model)

# Further Recommendations

- Expertise across Canada by promoting connections with Western producers.
- Promote industry to passive investors to facilitate financing.
- Make a case to governments leading to:
  - Better access to funds for development of production facilities and/or logistics
  - Better access to fund to get the logistics of new projects right
  - Better understanding by governments of importance to sync resource allocations with market realities
- Raise producers' awareness of existing funds  
(e.g. MTQ's GHG program funding, among other things, rail spurs)
- Sharing the result of this study
- Promote discussions that could lead to increased cooperation