

Canadian Wood Pellet Industry Overview

Wood Pellet Association of Canada

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Executive Director

July 19, 2010



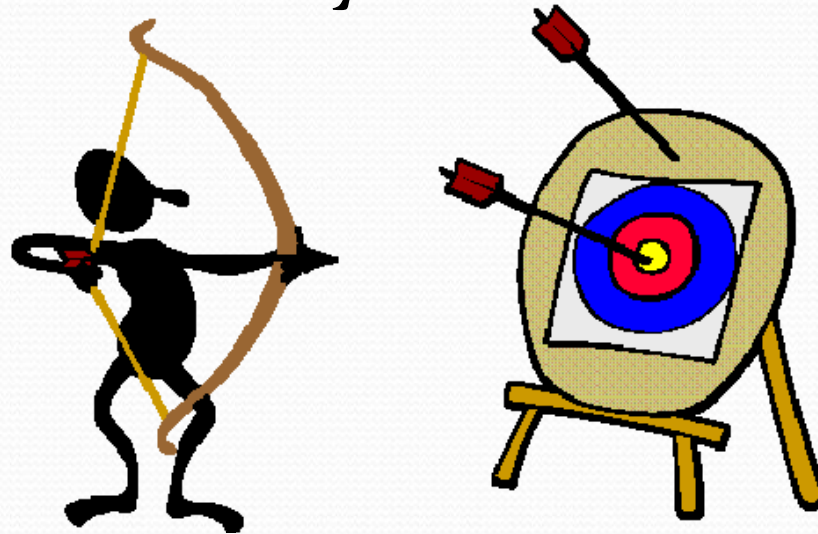


Purpose of Presentation

- Update on Canadian wood pellet production and markets
- Review of WPAC priorities

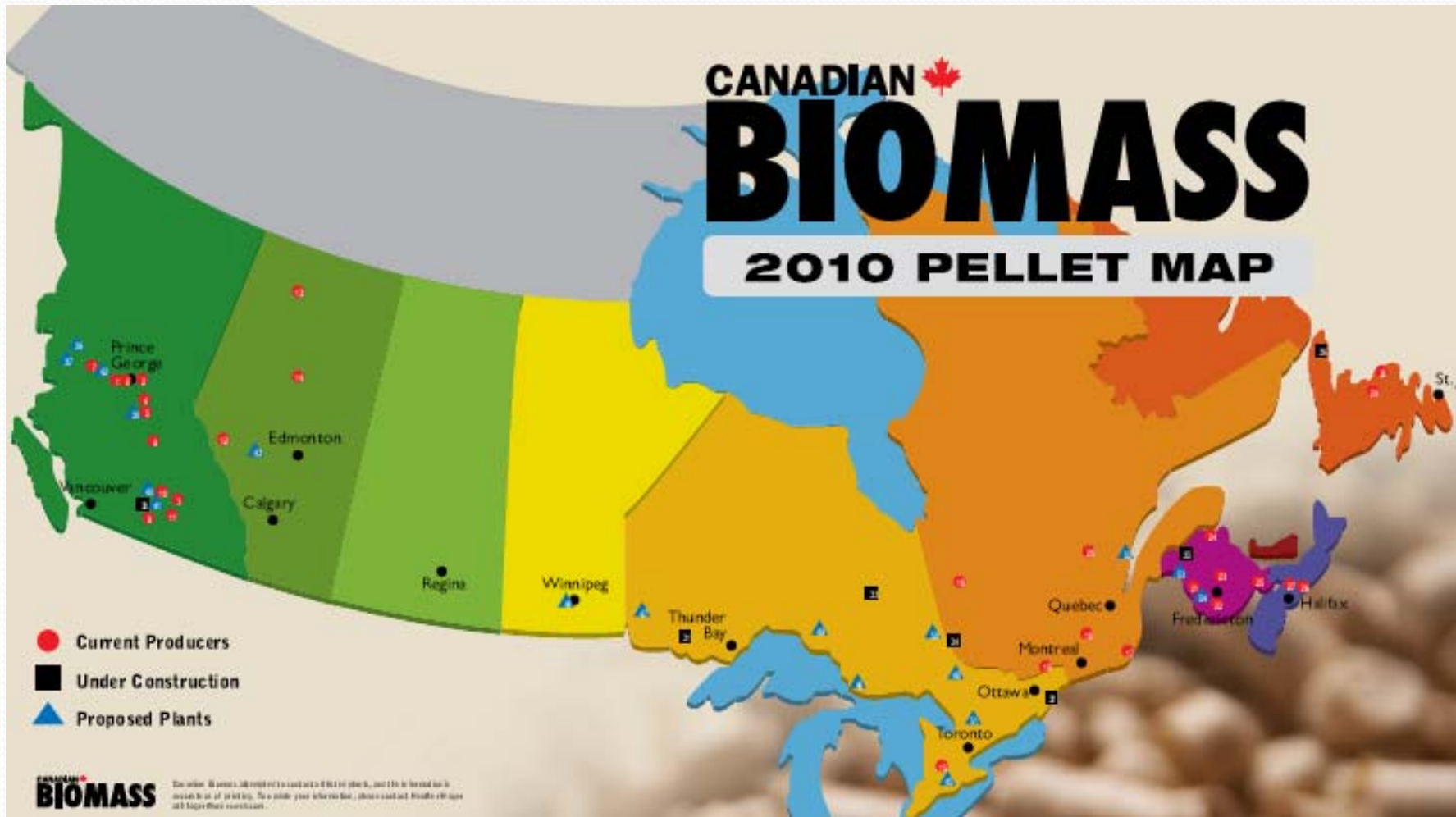
WPAC's Purpose

- **Advocacy** – to stakeholders, markets, governments
- **Research** – safety & technical development



Canadian Wood Pellet Industry

- Canada has 30 pellet plants
- Construction/planning stage: 24 plants
- Capacity ~ 2 million tonnes/yr
- Production in 2009 ~ 1.3 million tonnes/yr



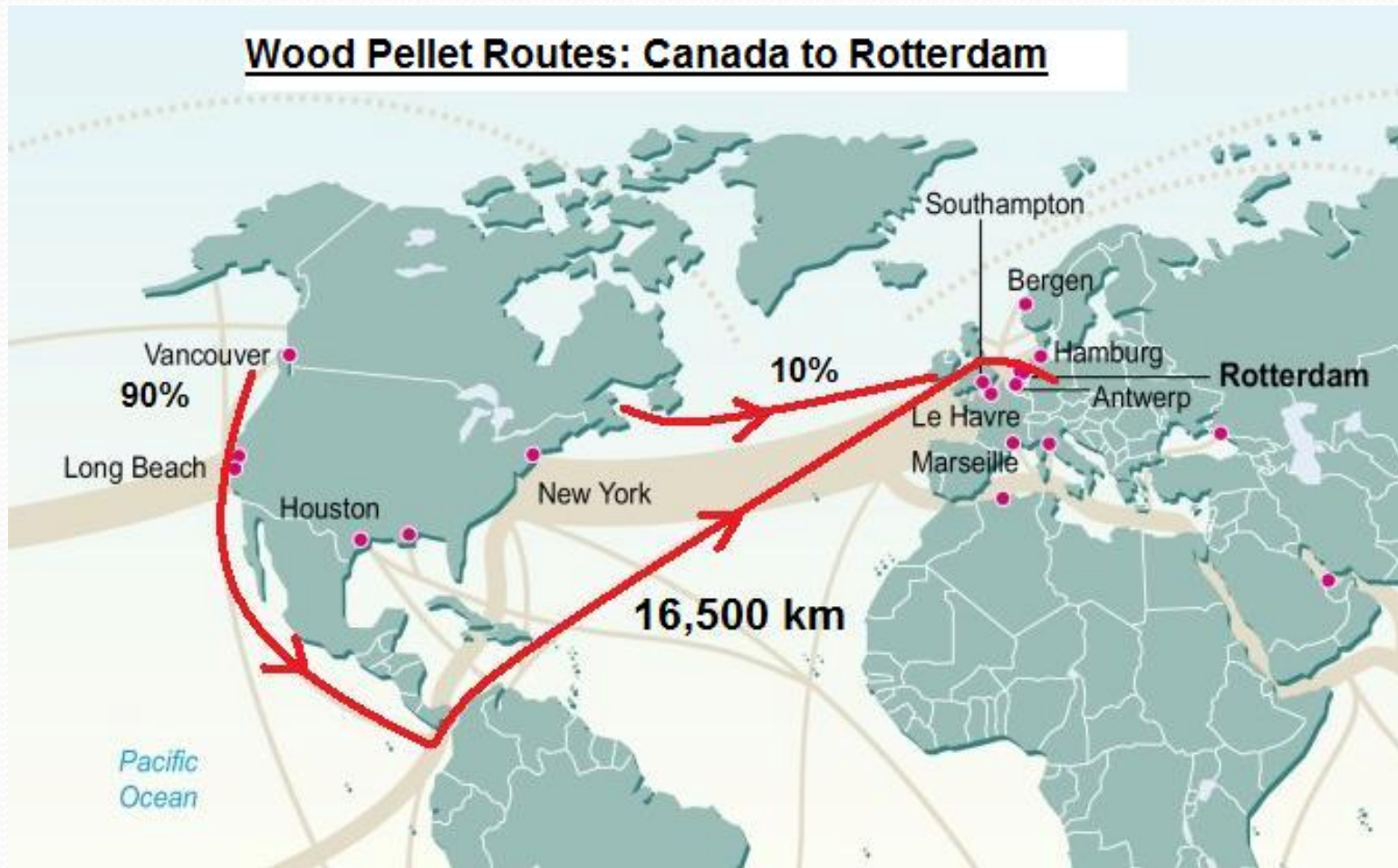
Global Wood Pellet Consumption

- Global consumption 2009 ~ 10 million tonnes
- Europe ~ 8 million tonnes. Projected to be 80 million tonnes by 2020
- Rest of world ~ 2 million tonnes
- Canada - less than 100,000 tonnes = size of one average pellet plant's annual production

Canadian Exports

- Most Canadian production is exported to five EU countries for co-firing with coal in power plants (Belgium, Netherlands, Denmark, Sweden, & UK) ~ 1 million tonnes/yr
- Japan ~ 100,000 tonnes/yr
- BCAP subsidy has made US market inaccessible for Canada

Rotterdam is main export hub



Pellet Market Issues

- Rise of Canadian dollar against USD and Euro
- Low fossil fuel prices
- American subsidies of \$45 per ton on wood pellets through Biomass Crop Assistance Program
- New Southeast USA capacity has temporarily flooded the European power market
- Lack of policy incentives for Canadian coal powered electricity plants to co-fire with wood pellets

European Price Decline

	Price euro	Exchange C\$/euro	Price C\$
Feb 2009	€ 140	1.59	\$223
June 2010	€ 120	1.25	\$150

Comparative Profitability: Feb 2009 & Jun 2010 C\$ per tonne

	Feb 2009	Jun 2010
Price in Rotterdam	\$223	\$150
Costs		
Fibre	\$40	\$40
Conversion	\$55	\$55
Transport to Port	\$35	\$35
Ship to Europe	\$55	\$55
Total Cost	\$185	\$185
Income	\$38	(\$35)

Recent Government of Canada Announcements

- January 30, 2010 – *Canada will reduce GHG emissions by 17% from 2005 level by 2020 (note: not legally binding)*
- June 23, 2010 - *Canada will phase out older coal-fired power plants and introduce strict new emissions standards by 2011*

Proposed New Canadian Coal-Power Standards

- New coal power plant emissions to be equivalent to natural gas combined cycle
- Existing coal-power plants can continue to end of economic life without meeting new standards
- Appears to delay GHG reductions for many years – half of plants will be 2025 or later

Canadian Coal Power

- Canada: ~ 58 million tonnes of coal/year
- Increased by ~ 10 million tonne since 1990
- Canada: 19% of electricity from coal
- Coal power plants produce 13% of Canada's GHG emissions (source : Environment Canada)

Ontario Pellet Opportunity

- Ontario phasing out coal power generation by 2014
- Ontario Power Generation studying pellet use in its four coal-fired power plants = potential new market of ~ 2 million tonnes/year starting in 2012



WPAC Priorities

- Domestic market development, especially co-firing
- Insurance – best practices/plant audits/certification
- Torrifaction – new plant under development
- Research



You've got to know your priorities

Insurance and Safety

- Frequent fires and explosions in Canadian and US pellet plants
- September 2009 - WPAC member plant refused insurance coverage
- October 2009 – Letter from LUA to WPAC putting wood pellet industry on notice

Main issues

- Dust explosions and fires
- Self-heating and spontaneous combustion
- Hazardous emissions (off-gassing)

Concept

- Insurance risk and safety go hand-in-hand
- Prepare best practices handbook
- Develop audit process and train auditors
- Certify pellet plants across Canada
- Communicate program to insurers

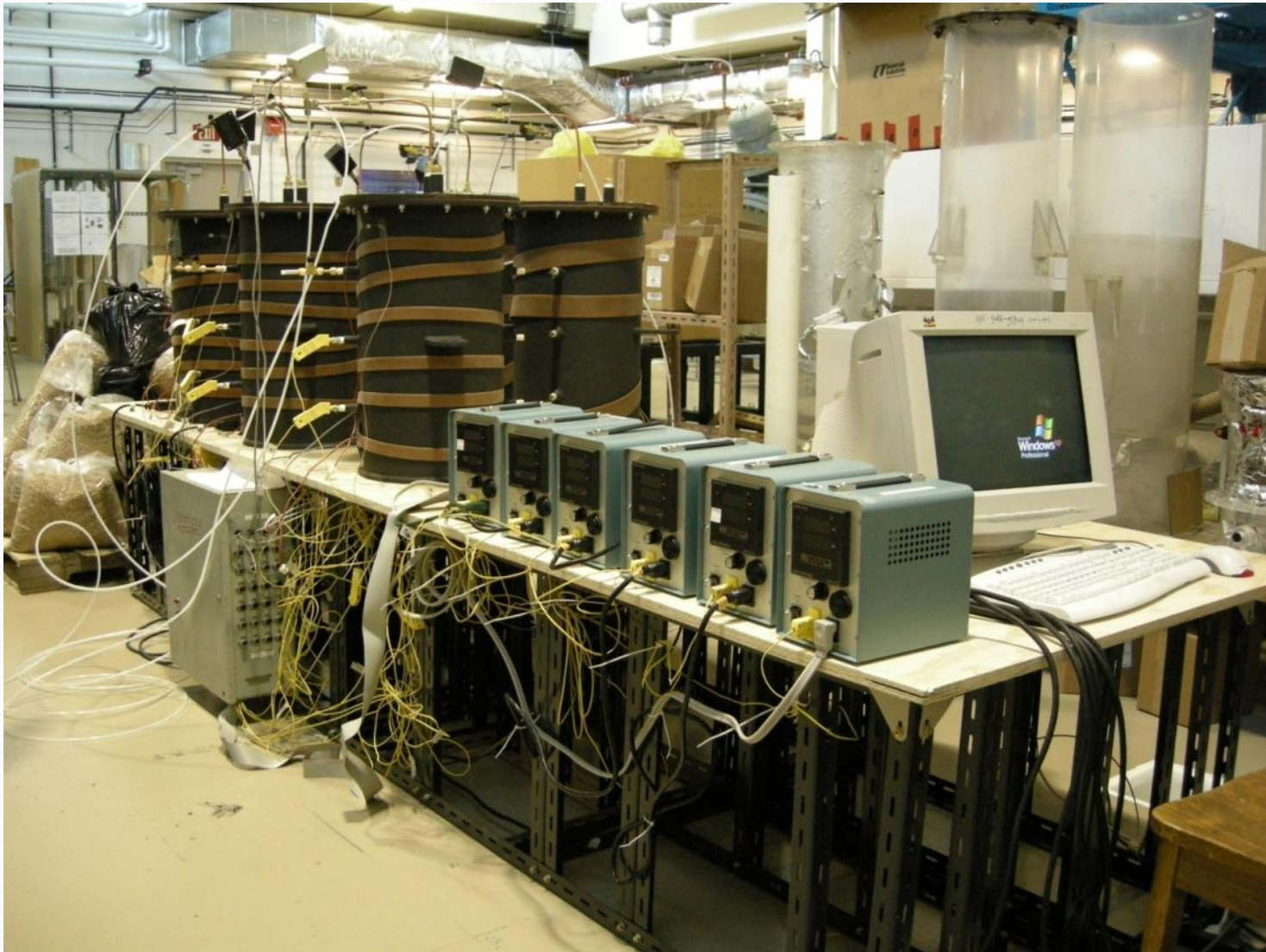
Concept cont...

- Certified companies eligible for WCB rebates
- Result = reduced insurance incidents, safer plants

Torrifaction Project

- Jointly funded by WPAC, Natural Resources Canada, FPInnovations, BC Ministry of Forests and BC Bioenergy Network
- Evaluating top 4 to 5 leading global technologies
- Preliminary engineering and business plan due September 30, 2010
- Will build torrifaction plant with a single pellet press to produce 5 tonnes per hour
- Location will be near Prince George BC

Research Facilities at University of BC



Research at UBC



UBC Research Topics

- Self heating kinetics
- Off gassing kinetics
- Silo storage modelling
 - Temperature control (ventilation)
 - Gas stratification
 - Trace gas identifiers (early warning)
- Explosion pulping kinetics
- Super-heated steam treatment kinetics
- Dust electrification (explosability)

Questions?

