Canadian Wood Pellet Update

Presentation for Natural Resources Canada
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Wood pellets 101

- Renewable fuel
- Made from compressed wood fibre.
- Lignin binds the fibre. No adhesives needed.
Wood pellet uses

- Power generation
  Efficiency ~ 35%

- Heat, & hot water
  Residential/commercial/institutional
  Efficiency ~ 90%

- Animal bedding & oil patch absorbent
Raw material: a by-product of Canada’s lumber industry

Sawmill residues

Logging residues

Low grade logs
Bush grinding harvest residuals
Unloading ground residuals at the pellet plant
An ongoing source of aggravation

Useable pellet fibre is still being burned and wasted by BC’s primary forest industry.
The pellet sector within Canada’s forest industry

- Annual log harvest ~ 130 million tonnes
- Fibre used for pellets ~ 6 million tonnes (4%)
- Annual forest products revenue: $65 bn
- Annual revenue from pellets: $0.6 bn (0.1%)
Canada’s wood pellet plants

- 40 pellet plants in Canada
- Export focus, therefore concentrated near coasts
- 4 million tonnes annual capacity
# Canadian pellet plant profile - 2018

<table>
<thead>
<tr>
<th>Region</th>
<th>Plants #</th>
<th>Plants %</th>
<th>Regional Capacity t</th>
<th>Regional Capacity %</th>
<th>Average Capacity t</th>
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<tbody>
<tr>
<td>West</td>
<td>19</td>
<td>48%</td>
<td>3,140,000</td>
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<tr>
<td>Central</td>
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<tr>
<td>Atlantic</td>
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<tr>
<td>Canada</td>
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<td>100%</td>
<td>4,101,000</td>
<td>100%</td>
<td>103,000</td>
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New plants in 2018

Entwistle Alberta
400,000 TPY

Smithers British Columbia
125,000 TPY
Project pipeline: 2019-2020

- Skeena – 75,000 TPY, British Columbia
- La Granudiere – 200,000 TPY, Quebec
- Barrette – 200,000 TPY, Quebec
- Groupe Lebel - 100,000 TPY, Quebec.
- JD Irving St. - 100,000 TYP, New Brunswick
- Northern Energy Solutions 250,000 TYP, New Brunswick
Global wood pellet production

Average 14% growth for past 10 years
Figures are in millions of tonnes
Presently $C6 billion per year

Source: REN 21 Renewables 2018

Wood Pellet Association of Canada
Production by world region - 2017

- **Europe**: 56%
- **USA**: 25%
- **Canada**: 9%
- **Asia**: 8%
- **Rest of World**: 2%

**Canada** – 2.7 mn tonnes
**USA** – 7.6 mn tonnes

**Sources:**
REN 21 2018 & IEA Bioenergy Task 40 Global Wood Pellet Study 2017
Canadian production and exports

Source: Global Trade Atlas export and import data & WPAC analysis
Canadian pellet shipping routes

- **Asia** to **Europe** - 8,000 km
- **Europe** to **Asia** - 16,000 km
- **Europe** to **North America** - 5,000 km
Canada’s exports - 2018

Figures are expressed in thousands of tonnes

Source: Global Trade Atlas export and import data & WPAC analysis
Japanese wood pellet imports from all countries

2018: Canada has 70% market share

Source: Argus Media
Canadian pellet exports to Japan

Canadian Exports to Japan (1,000 Tonnes)

Sources: Global Trade Atlas, WPAC research
Canada’s domestic wood pellet market

- Estimated market is 250-300 Kt annually.
- Pellets used for power generation in Ontario, and for residential and commercial heating, mainly in areas off the natural gas grid.
- Stoves dominate, but boiler installations are increasing slowly, especially in NWT and Atlantic Canada.