

**Voluntary Report** – Voluntary - Public Distribution

**Date:** July 08, 2021

**Report Number:** CA2021-0044

**Report Name:** Wood Pellets for Heat and Power

**Country:** Canada

**Post:** Ottawa

**Report Category:** Biofuels, Wood Products

**Prepared By:** Alexandra Watters

**Approved By:** Philip Hayes

**Report Highlights:**

Canadian wood pellet production is forecast for continued growth in 2021 as plant capacity utilization improves. Production expansion continues to be driven mainly by growth in exports, particularly to the UK and Japan, as increases in domestic consumption for heat and power generation remain limited.

Wood pellets are recycled timber and other forest residues that are converted into renewable biomass fuel. The Canadian wood pellet industry is export-oriented with production capacity currently exceeding domestic demand. Recent export growth is led by the United Kingdom and Japan, as these countries seek to increase their use of renewable energy in heat and power plants. Increased government spending on renewable energy for power generation could stimulate market development in this sector, especially in Eastern Canada, for power generation and residential heating. However, policy amendments are needed to encourage more growth

### Production, Supply, and Demand

Wood Pellets (1,000 MT)										
Calendar Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021f
<b>Beginning Stocks</b>	47	64	87	129	161	129	393	547	760	960
<b>Production</b>	1,521	1,822	1,900	1,900	2,600	2,700	3,100	3,220	3,500	3,800
<b>Imports</b>	45	22	30	30	20	20	20	27	31	27
<b>Exports</b>	1,369	1,640	1,638	1,628	2,373	2,172	2,651	2,634	2,901	3,300
<b>Consumption</b>	180	181	250	270	279	284	315	400	430	450
<b>Ending Stocks</b>	64	87	129	161	129	393	547	760	960	1,037
BalanceCheck	0	0	0	0	0	0	0	0	0	0
<b>Production Capacity</b>										
Number of Plants	42	41	41	39	42	42	45	45	46	47
Nameplate Capacity	2,900	3,175	3,282	3,681	4,282	4,282	4,657	4,657	4,856	5,054
Capacity Use (%)	52.4%	57.4%	57.9%	51.6%	60.7%	63.1%	66.6%	69.1%	72.1%	75.2%

Source: Canadian Biomass and Wood Pellet Association of Canada, Trade Data Monitor LLC, and FAS/Canada estimate. f=forecast

For a detailed map of Canadian wood pellet mills see the following [link](#).

### Consumption

Wood pellet consumption in Canada continues to see growth at an average of 10 percent per year, over the last five years. The growth potential for domestic consumption of wood pellets is far greater than the domestic demand that has materialized to date. Realizing this potential continues to be dependent on Canada's ongoing effort to phase out coal-fired power plants by 2030 and the cost of alternative renewable energies.

### *Residential Use*

Residential use of wood pellets in Canada has seen slow growth in adoption, facing competition from other heat sources such as natural gas, oil, and propane. Adoption in rural areas is typically greater, especially in regions where access to firewood is less available. However, industry notes that growth is stymied by the fact that many residential boiler systems are not approved for import into Canada due to requirements of the Canadian Standards Association. The lack of boiler systems approvals limits consumers' purchase options. In urban areas, infrastructure often means that houses are connected to natural gas pipelines which is the dominant heat source in Canadian homes. Conversion of these homes to wood pellet heated is unlikely at this time.

### *Industrial Use*

As mentioned above, Canada has the potential to greatly increase domestic consumption for industrial use if remaining coal-powered plants are converted to using wood pellets. Ontario, which has completely phased out coal-powered plants, has converted a coal-power plant to use wood pellets. This plant, the largest wood pellet power generating plant in Canada and North America, uses around 100,000 metric tons (MT) in pellets per year generating power for the Ontario grid. In total, Natural Resources Canada states that 1.7 percent of Canada's electricity generation comes from biomass.

### **Production**

Canada's wood pellet production and name plate capacity continues to increase year-over-year with production growth projected at nine percent in 2021. Canada added a new plant in Northern Alberta in 2020, bringing current nameplate capacity estimates to just under 5.1 million metric tons (MMT). Capacity use has also been increasing in recent years. FAS/Canada estimates that 75 percent of nameplate capacity will be utilized in 2021, leading to a production forecast of 3.8 MMT. According to industry, capacity use in Western Canadian plants is greater than Eastern due to resource availability. Western plants run at an estimated 80 percent nameplate capacity while Eastern run at approximately 70 percent. Currently there are six additional pellet production plants proposed across Canada; five in Eastern Canada and one in Northern Canada. These plants could potentially add 900,000 MT of production. However, some of these plants are long standing proposals and only three have proposed opening dates, with two proposed to open in 2022 and the third in 2023. Industry contacts have indicated that these are very optimistic targets.

### **Trade**

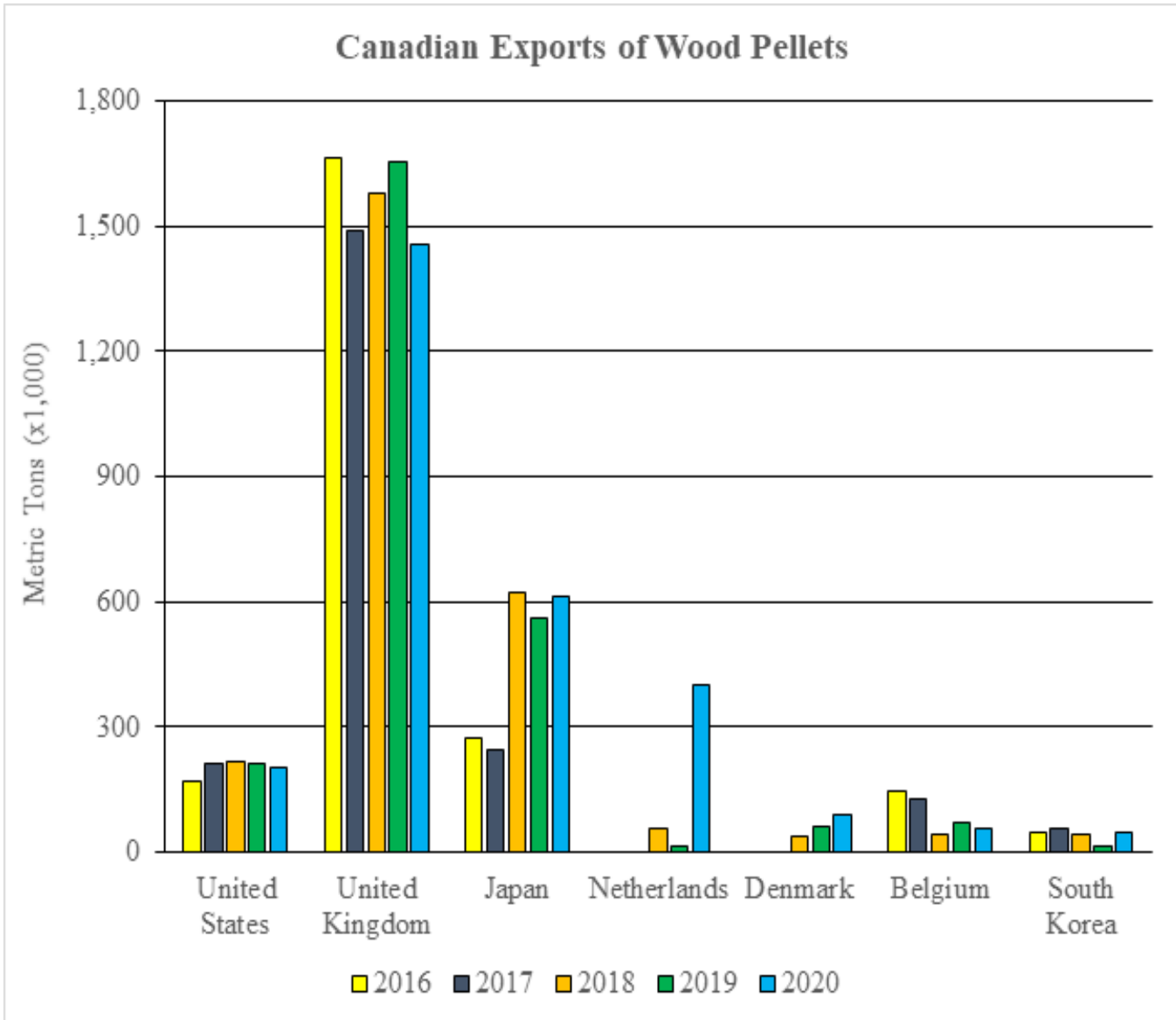
Canada's wood pellet exports are projected to grow 14 percent in 2021 following the 2020 increase and supported by growth in Canadian production. The United Kingdom is the top market for exports followed by Japan and the Netherlands. Continued growth in the EU market will be dependent on EU sustainability requirements and competition from the United States.

## Canada: Exports of wood pellets (MT)

	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>World</b>	<b>1,369,181</b>	<b>1,640,347</b>	<b>1,637,589</b>	<b>1,627,784</b>	<b>2,373,110</b>	<b>2,171,528</b>	<b>2,651,441</b>	<b>2,634,241</b>	<b>2,900,687</b>
United States	86,665	152,271	218,903	205,743	169,930	210,069	217,166	210,536	204,591
United Kingdom	794,379	1,026,527	982,809	1,205,928	1,664,145	1,489,578	1,577,562	1,656,401	1,456,317
Japan	105,640	76,018	61,807	80,203	272,376	245,179	621,928	560,817	611,245
Netherlands	253,481	0	0	0	0	0	57,250	15,650	398,859
Denmark	11,464	13,635	17,197	0	0	0	38,859	59,213	90,930
Belgium	5,800	132	306	0	144,000	126,758	40,604	72,480	57,096
South Korea	2,084	113,077	150,004	49,029	48,915	55,483	40,657	11,804	48,553
All other countries	109,668	258,687	206,563	86,881	73,744	44,461	57,415	47,340	33,096
<b>Market Share:</b>									
United States	6%	9%	13%	13%	7%	10%	8%	8%	7%
United Kingdom	58%	63%	60%	74%	70%	69%	59%	63%	50%
Japan	8%	5%	4%	5%	11%	11%	23%	21%	21%
Netherlands	19%	0%	0%	0%	0%	0%	2%	1%	14%
Denmark	1%	1%	1%	0%	0%	0%	1%	2%	3%
Belgium	0%	0%	0%	0%	6%	6%	2%	3%	2%
South Korea	0%	7%	9%	3%	2%	3%	2%	0%	2%
All other countries	8%	16%	13%	5%	3%	2%	2%	2%	1%

Source: Trade Data Monitor, LLC

The acquisition of British Columbia-based Pinnacle Renewable Energy by the British energy company Drax was finalized in April 2021. Pinnacle operates ten wood pellet plants in Western Canada as well as one U.S. plant in Alabama. The acquisition by Drax should aid in export potential for these plants. Pinnacle also has improved export logistics to Japan through the lease of a bulk carrier which delivered its first load to Japan in March 2021. The ship loads in Port Rupert, British Columbia, with a transport duration of 17 days to delivery in Japan, and dead weight tonnage of 39,000.



Source: Trade Data Monitor, LLC

## Canada: Imports of wood pellets (MT)

	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>World</b>	<b>44,545</b>	<b>22,615</b>	<b>30,108</b>	<b>29,938</b>	<b>20,257</b>	<b>19,612</b>	<b>19,938</b>	<b>27,211</b>	<b>30,789</b>
United States	44,518	21,510	22,718	20,934	11,383	16,577	17,623	26,982	30,437
<i>Market share:</i>	<i>100%</i>	<i>95%</i>	<i>75%</i>	<i>70%</i>	<i>56%</i>	<i>85%</i>	<i>88%</i>	<i>99%</i>	<i>99%</i>
China	3	15	6	17	11	26	231	158	201
Germany	0	89	12	23	28	46	75	64	133
Norway	0	917	7,362	8,946	8,831	2,950	2,003	0	0
All other countries	24	84	10	18	4	13	6	7	18

Source: Trade Data Monitor, LLC

### Certification

Voluntary standards for grading of wood pellets are maintained by the [Canadian Standards Association](#) under CAN/CSA-ISO 17225 Part 2 Standard. Residential use wood pellets in Canada can be certified under a third party verification program, [CANplus](#), with the Wood Pellet Association of Canada as the owner of the trademark as a national licensor under ENplus. CANplus follows the ENplus standards.

### Policy

#### *Clean Fuel Standard*

In December 2020 the Government of Canada published the proposed [Clean Fuel Standard \(CFS\)](#) with the goal to reduce greenhouse gas (GHG) emissions. While gaseous and solid fuels were included in the original 2016 discussions on developing a standard, the 2020 proposal focuses on liquid fuels. The wood pellet industry has previously indicated that they feel that the proposed CFS is lacking policy to promote the adoption of lower emission solid fuels. Final regulations are expected in 2022.

#### *Agricultural Clean Technology Program*

As part of the Adoption Stream of the CAD 165.7 million [program](#), CAD 50 million is allocated for the purchase of more efficient grain dryers and CAD 10 million for farms to move to cleaner energy for power. This will include biomass powered if the biomass meaningfully reduces GHG generation.

*Clean Fuels Fund*

The CAD 1.5 billion [fund](#) will support new investments and expansions of existing clean fuel production facilities. This will include projects which will help establish biomass supply chains, including forest biomass feedstocks. Calls for funding proposals related to the biomass supply chain portion of the fund are anticipated in Summer 2021.

**Attachments:**

No Attachments.