U.S. Department of Commerce

Renewable Energy and Energy Efficiency Advisory Committee

Charter 6, 2020-2022 ● Recommendation Fact Sheet

Recommendation #7 [Approved February 17, 2022] on building awareness on the sustainable and renewable qualities of Woody Biomass, whether it is used for power generation, thermal heating, hydrogen production, or transportation fuels.

We recommend that the Department of Commerce help increase awareness among Commercial Services' Global Energy and Environmental Technologies Teams and network partners about the sustainable and renewable benefits of Woody Biomass (whether it is used for power generation, thermal heating, hydrogen production, or transportation fuels) by encouraging a series of webinars, U.S. Embassy trade promotion events, and workshops specifically for Commercial Services teams and trade partners.

We also recommend that the Secretary encourage the U.S. Department of Agriculture and U.S. Forest Service to develop a program for the collection of non-merchantable Woody Biomass from western forests, which contributes fuel to excessive wildfires, for use as a biomass fuels' feedstock to be exported into Asian markets.

Sub-Committee(s):
Trade Promotion & Market Access

Background Information:

Export Markets

In 2020, just in the densified biomass sector, the U.S. industry exported 6.95 million tons of wood pellets worth $1.157 billon, primarily to Europe. This does not include the non-densified biomass sector. The manufacturing facilities that produced this fuel are in rural areas, paying living wages and pumping more than $400 million into the local forestry sectors.

There is an emerging and expanding market developing for biomass fuels, mostly densified wood pellets, in Asia, Japan and South Korea being the predominant importers. The effects of the Tsunami on Japan's nuclear industry were a factor in Japan's increase in wood pellet fuel imports.

Logistics is the major factor for exporting this fuel. Before the Southern U.S. pellet industry developed, most European imports were handled from Western Canada. When the Southern U.S. players got into the market, they grabbed market from the Canadians as their fuel required passage through the Panama Canal to go to Europe. Western Canadian producers gravitated toward Asian markets, while Southern US and Eastern Canadian producers favorited Europe. Vietnam has become a major supplier in Asian markets.

Figure 1: Current USA Export Markets
Source: Global trade data, FocusMetrics Analysis

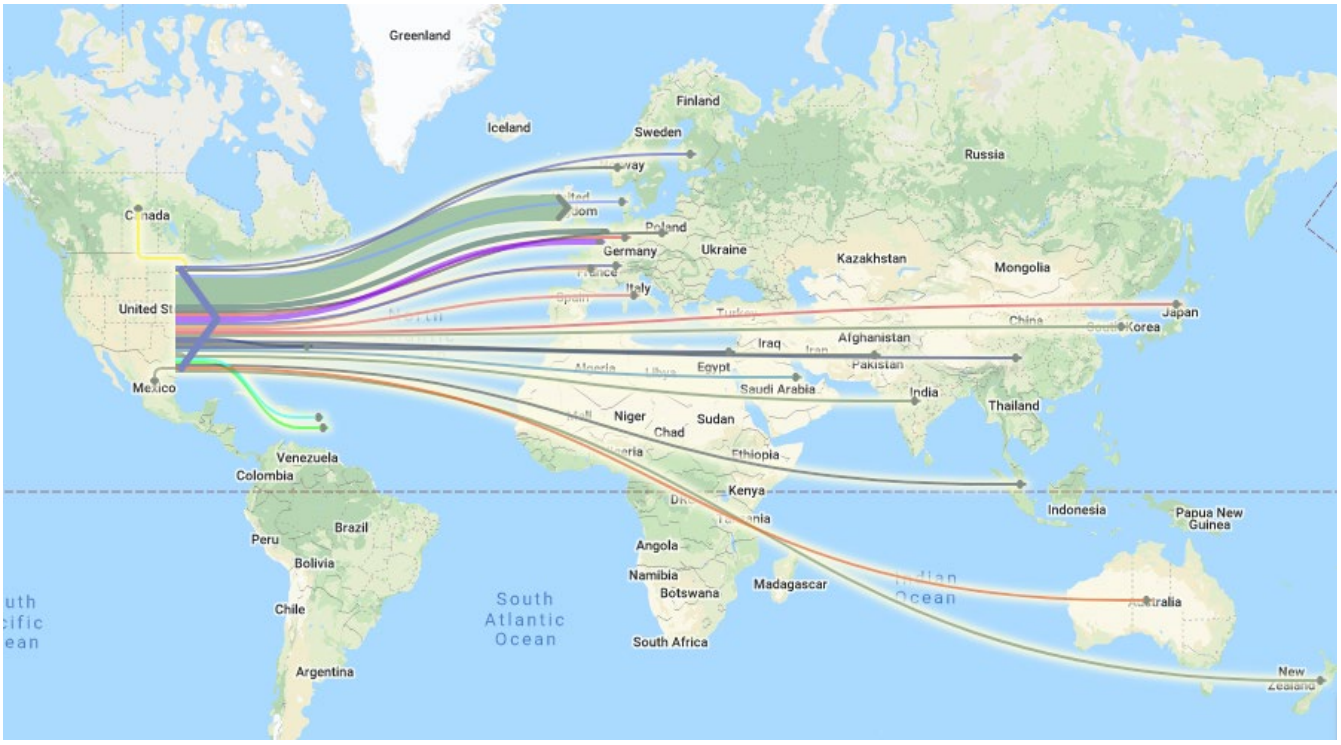


Figure 2: Current Canadian Export Markets
Source: Global trade data, FocusMetrics Analysis

Figure 3: Sources of Imports to Japan and South Korea
Source: Global trade data, FutureMetrics Analysis

Figure 4: Global Pellet Imports
Source: Global trade data, FutureMetrics Analysis

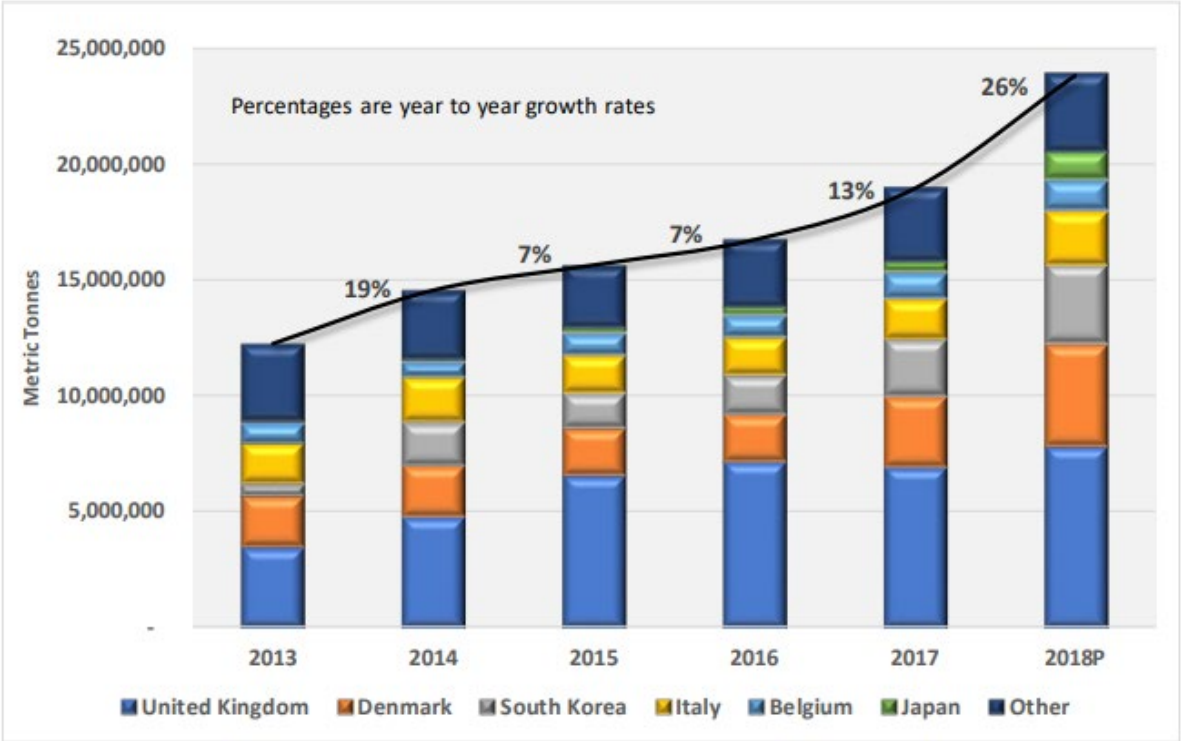
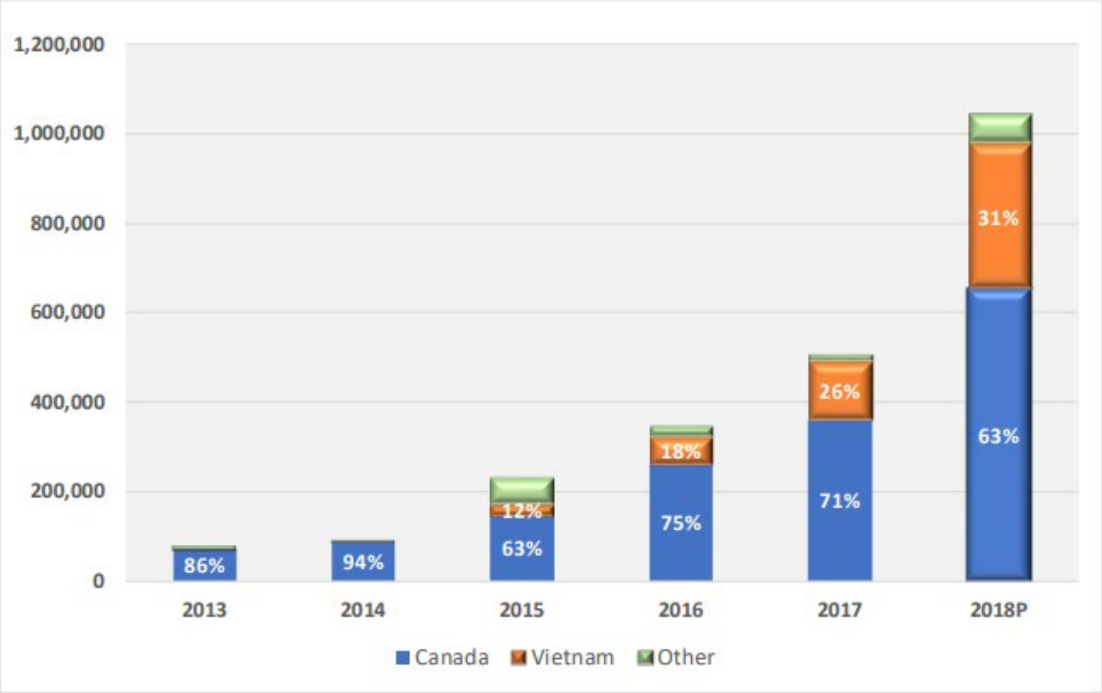


Figure 5: Japanese Wood Pellet Imports – Metric Tonnes
Source: Global trade data, FutureMetrics Analysis



Sustainable & Renewable

Forest harvesting is performed under various international certification agencies including:

- SBP, the Sustainable Biomass Program - sbp-cert.org;
- FSC, the Forest Stewardship Council - us.fsc.org; and
- SFI, The Sustainable Forestry Initiative - forests.org.

Each year the amount of wood harvested from U.S. forests is much less than annual forest growth. Land covered by forests in the United States increased by 4.5 percent between 1997 and 2012, even as suburban development expanded.[1] Biomass could be sourced from federal lands as part of forest management, but there is currently no program in place to do so, despite the international demand for biomass.

[1] "Is the paper industry getting greener? 5 questions answered" April 26, 2017 https://theconversation.com/is-the-paper-industry-getting-greener-5-questions-answered-76274

The definition of Biomass as it relates to Biomass Energy of transportation fuels, electricity generation and thermal energy:

1. BIOMASS — The term 'biomass' means:
   (A) any organic material grown for the purpose of being converted to energy;
   (B) any organic byproduct of agriculture (including wastes from food production and processing) that can be converted into energy; or
   (C) any waste material that can be converted to energy, is segregated from other waste materials, and is derived from—
      (i) any of the following forest-related resources: mill residues, precommercial thinning, slash, brush, or otherwise nonmerchantable material;
      (ii) wood waste materials, including waste pallets, crates, dunnage, manufacturing, and construction wood wastes (other than pressure-treated, chemically treated, or painted wood wastes), and landscape or right-of-way tree trimmings, but not including municipal solid waste, gas derived from the biodegradation of municipal solid waste, or paper that is commonly recycled; or
      (iii) solids derived from waste water treatment processes.

2. LIGNOCELLULOSIC FEEDSTOCK.—The term 'lignocellulosic feedstock' means any portion of a plant or coproduct from conversion, including crops, trees, forest residues, grasses, and agricultural residues not specifically grown for food, including from barley grain, grapeseed, rice bran, rice hulls, rice straw, soybean matter, corn stover, and sugarcane bagasse.

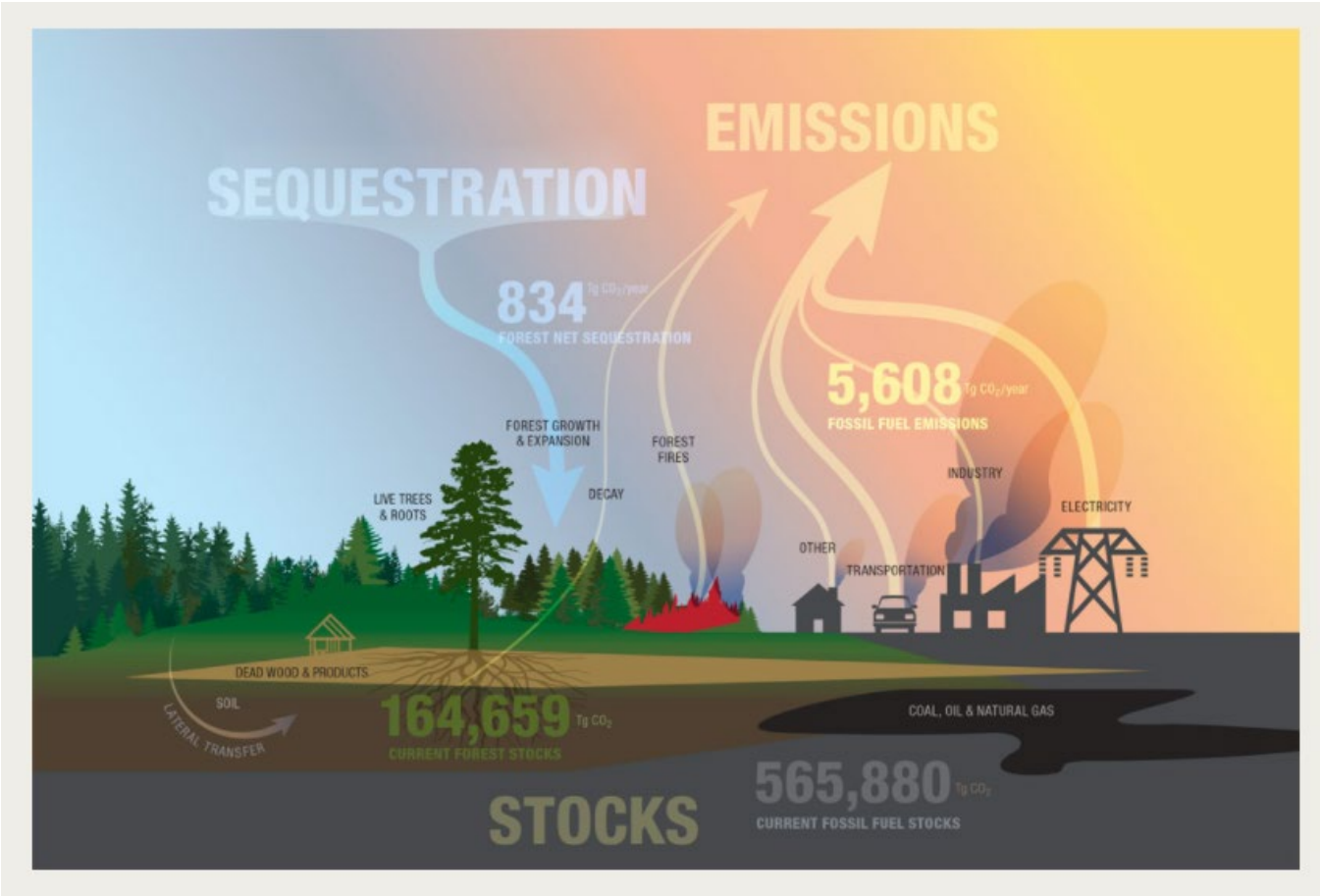
Source: S.2012 - North American Energy Security and Infrastructure Act of 2016

Forest Carbon Stocks and Fluxes with the Atmosphere

Forests alter the amount of carbon dioxide in the atmosphere, removing (otherwise known as sequestering) it as trees grow and returning carbon dioxide to the atmosphere as they decay or burn. Annual forest sequestration currently exceeds emissions from decay and fire combined. Within the United States, this net sequestration offsets approximately 15 percent of annual fossil fuel carbon emissions. This dynamic is expected to continue, but climate change may alter drought and fire frequency, and forest conversion to other land uses may reduce the amount of forest land. These changes may result in forests emitting more carbon than they remove.[2] (See Figure 6)

[2] Source: Forest Atlas of the United States, U.S. Department of Agriculture https://forest-atlas.fs.fed.us/future-carbon-cycle.html

Figure 6: Forest Carbon Stocks and Fluxes with the Atmosphere
Source: Forest Atlas of the United States



Specific Agencies Responsible for Implementation:
U.S. Department of Commerce
U.S. Department of Agriculture
U.S. Forest Service

Measures of Success:

- Commercial scale exports from Western US states to Japan and Korea
- Increased generation of trade leads for Biomass
- Increased ITA market communication (e.g., Webinars, U.S. Embassy trade promotion events, and workshops)
- Working sessions at REEEAC meeting