



SUSTAINABLE FROM THE BEGINNING

3 FACTS ABOUT WOOD PELLET
MANUFACTURING AND USE



RENEWABLE FROM THE START

WOOD PELLET MANUFACTURING MIGHT BE THE MOST UNDERCELEBRATED, UNHERALDED RENEWABLE ENERGY TECHNOLOGY COMMERCIALY AVAILABLE TODAY.

Wood pellet production is made possible by the smart utilization of wood residues generated by the manufacturing of other higher value forest products upstream. The waste materials from these upstream manufacturing process flow to waiting wood pellet manufacturers who **extend the value and lifespan of these materials** by converting them into a high-quality engineered heating product which displaces the use of fossil-derived heating oil and propane as well as their carbon consequences.

For rural areas not connected to natural gas infrastructure wood pellets introduce another option to the home heating fuel landscape, offering consumers a cost-competitive, low-carbon and renewable option.

As the world confronts the threat of global climate change head-on, our top priority is intentionally driving carbon out of our vast energy production network. Those technologies that can deliver our electricity, transportation fuels and thermal energy needs with reduced, or no carbon emissions will be asked to contribute an ever-increasing share of overall demand.

While low carbon technologies like solar and wind abound and are rapidly scaling to expand the share of low carbon electrons powering our grid, there are limited options for meeting thermal energy demand in a carbon-reduced way.

Wood pellets manufactured from carbon-neutral wood fiber stand alone as a **renewable, low-carbon heating solution** commercially available for homes and businesses today.



A WIN-WIN SITUATION

WOOD PELLET MANUFACTURING FOR HOME HEATING AND COOKING EXTENDS THE VALUE OF OUR FOREST RESOURCES BY CREATING A ROBUST MARKET FOR WOOD FIBER (SAWDUST, SHAVINGS AND CHIPS) GENERATED BY OTHER WOOD PRODUCT MANUFACTURING AND FOREST MANAGEMENT PRACTICES.

A large pile of wood chips in a warehouse.

8.8 MILLION TONS

OF WOOD PRODUCT MANUFACTURING RESIDUE WAS PURCHASED BY PELLET PRODUCERS FROM UPSTREAM FOREST PRODUCT MANUFACTURING SITES IN 2020

FACT
NUMBER 1

\$300 MILLION

OF VITAL REVENUE WAS BROUGHT TO THOSE OPERATIONS IN ADDITION TO SOLVING WHAT WOULD OTHERWISE BE A MASSIVE WASTE MANAGEMENT CHALLENGE.

Every day across the wood products manufacturing sector, wood waste is generated in staggering quantities. The production of lumber from sawlogs generates sawdust, wood chips and wood shavings. As dimensional lumber is further refined into flooring, cabinetry, millwork and furniture, those same by-products are generated once again. Finally, trees felled in forestry operations that are not marketable as saw logs that are chipped in place generate by-product streams as well. Some observers call those by-products "waste streams" - but not wood pellet manufacturers. Pellet manufacturers see these materials as valuable feedstocks for the production of wood pellets, a fuel used for space heating and increasingly, food preparation via grilling and smoking.

BREAKING THE CYCLE

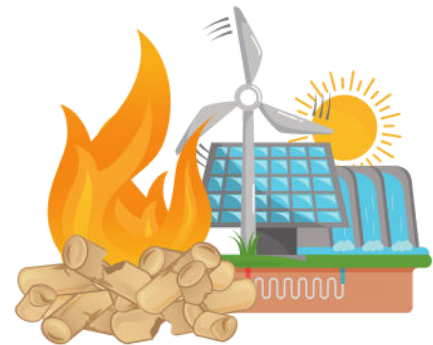
IN A WORLD INCREASINGLY CONCERNED WITH THE CARBON-INTENSITY OF OUR LIVES AND HOW WE LIVE THEM, WOOD PELLETS OFFER A LOW-CARBON HOME HEATING TECHNOLOGY AVAILABLE TO CONSUMERS TODAY.



Using fossil-derived fuels to power our cars, trucks, airplanes or to heat our homes and businesses contributes to rising levels of carbon dioxide in the atmosphere.

Wood pellet fuel interrupts this cycle by recycling the carbon dioxide emitted during combustion in the regeneration of the forests grown to meet the demand from the forest products industry on which it relies for fiber.

THE USE OF WOOD PELLETS FOR HOME HEATING **DISPLACES THE DEMAND FOR FOSSIL-BASED FUELS** WITH FAR HIGHER CARBON INTENSITY

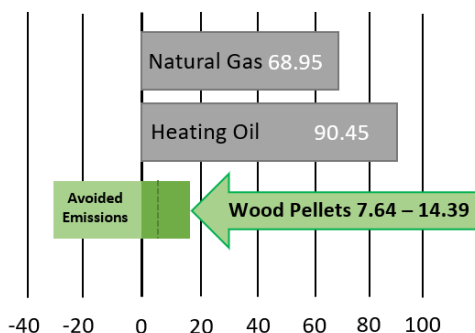


FACT NUMBER 2

A Life Cycle Associates report published in June of 2021 examined the carbon impact of multiple home heating fuel scenarios. The report looked at natural gas, #2 heating oil and wood pellets manufactured from several different fiber residue sources. Wood pellets manufactured from residues from forest product manufacturing sites, urban wood waste and fire hazard reduction

efforts all showed a significant carbon benefit when compared to common fossil-derived fuel sources, with each production scenario **delivering at least a 65% reduction in carbon intensity.**

Greenhouse Gas Impact of common home heating fuels (grams of carbon dioxide equivalent/megajoule)



(Unnasch, Buchan 2021)

The report also examined the carbon intensity of the alternative fates of wood residues that were converted into heating pellets. Alternative fates included wood residues decomposing in a landfill or composting operation, open burning and wildfires. By utilizing these residues for a heating fuel, the carbon impact of these alternative fates is avoided. These avoided emissions enhance the carbon benefit of manufacturing wood pellets from these residues streams and utilizing them as a home heating fuel.

CONTRIBUTING TO A CIRCULAR, LOCALIZED ENERGY ECONOMY

Wood pellet manufacturing sites play an important role in generating vital economic activity in rural places. Wood pellet manufacturers not only create wage paying jobs in their facilities, but they also generate additional jobs in trucking, logging and maintenance.

All too often energy products are produced at great distances away from where they are used, often halfway around the world. The lifecycle of a wood pellet, both its manufacture and use, is highly localized. While wood pellets are available across the country, markets are overwhelmingly served by manufacturers within the region. The economic activity generated by the manufacture and sale of wood pellets recirculates within their economies of origin, providing opportunity for manufacturers and retailers operating in the local economy.

FACT
NUMBER 3

**\$500
MILLION**

OF WOOD PELLET SALES
FOR RESIDENTIAL HEATING
WERE GENERATED IN 2020
OFTEN FOR INDEPENDENTLY
OWNED SMALL BUSINESSES.

