The Circular Economy of Wooden Pallets

Consider this. On any given day, there are roughly **1.8 billion pallets in** circulation in the USA. With an estimated **90% of all products shipped on** pallets and **90% of those pallets made from wood**¹ - a 100% renewable resource - the industry plays a vital role in the circular economy.

Wood pallets and sustainability go hand-in-hand with eco-friendly warehouses, green logistics, and other emissions-reducing technologies to create a more environmentally friendly and efficient supply chain.



ENVIRONMENT Forest Sustainability

<u>FORESTS ARE HEALTHY & GROWING</u>: One-third of the U.S. is forested, and there are 20 percent more trees than there were nearly 50 years ago – totaling 766 million acres. According to the U.S. Forest Service, more than one billion trees are planted in the U.S. each year. That is roughly more than five trees for every man, woman, and child in America. And, those forests are sustainably managed.

EMISSIONS Potential Net Positive Carbon Impact

<u>BETTER FOR THE ENVIRONMENT</u>: When considering its life cycle, wooden pallets can have a potential net carbon positive impact. Through the unique properties of wood, carbon offsets may be achieved by reusing pallet materials and substituting wood fuel from pallet waste (e.g., unusable pallets) for natural gas.³

<u>LOW CARBON FOOTPRINT</u>: An independent study conducted by Pennsylvania State University shows wooden pallets have a significantly lower carbon footprint than plastic pallets during their life cycle based on ozone layer depletion, global warming, non-renewable energy, and more⁴.

<u>THINK WOOD</u>: Every cubic meter of wood used as a substitute for other building materials reduces CO2 emissions to the atmosphere by an average of 1.1-ton CO2 (CEI-BOIS).^{\circ}

ECONOMY Transportation, Manufacturing and Job Growth

<u>AMERICAN JOBS & THE ECONOMY</u>: Research completed in 2018 found that the wooden pallet and container manufacturing industry generates a total economic impact of U.S. \$31 billion in economic activity and directly or indirectly impacts more than 173,000 jobs.⁶

END-OF-LIFE Recyclability

<u>HIGHEST RECYCLING RATE</u>: Nearly 95% of wooden pallets are recovered, repaired and recycled. A 2018 study by Virginia Tech and the USDA Forest Service estimate that 508 million new pallets were manufactured and 25 million pallets were landfilled, resulting in a recycling rate of 95% into usable materials.⁷

ALTERNATIVE PACKAGING MATERIALS, SUCH AS PLASTIC, HAVE A RECYCLING RATE AT A LITTLE OVER 10 PERCENT, ACCORDING TO THE SAME STUDY.

What's the Deal with an Environmental Product Declaration for Wooden Pallets?

The Environmental Product Declaration (EPD) establishes wooden pallets as a leader of environmental stewardship and provides an independent, verified tool for pallet users to measure their impacts. Quite simply, the EPD is a nutritional label for the wooden pallet.

KEY MESSAGES



<u>ENVIRONMENTAL LEADERSHIP</u>: The foundation of the EPD for wooden pallets is a life cycle assessment (LCA), which measures the impacts of a wooden pallet's product stages of gathering, transporting, and manufacturing use and repair and its end-of-life usage.



<u>FIRST OF ITS KIND</u>: The EPD for Wooden Pallets is a 'first' for the distribution packaging space. The EPD helps all those in the supply chain better understand the sustainable qualities and positive economic and environmental benefits when using wooden pallets.



<u>OFFERS CREDIBILITY</u>: The EPD for Wooden Pallets is verified information to validate wooden pallets as the sustainable choice. The U.S. Forest Products Lab collected the data and performed the calculations for the Life Cycle Assessment (LCA).



<u>THIRD-PARTY CERTIFIED</u>: Underwriters Laboratories (UL) is a recognized global leader in 3rd party EPD certification. The results of their exacting scientific processes and highest ethical principles offer credibility to all the products that UL environment certifies.



<u>ALL-INCLUSIVE</u>: This is a "Sector EPD" that averages the attributes of different aspects of wooden pallets, i.e., this represents both hardwood and softwood, block and stringer, and new and recycled pallets.

LEARN MORE AT PALLETCENTRAL.COM/EPD

REFERENCES

- 1. Bridget McCrea. 2020. "Annual Pallet Report: 2020 market evaluation." Modern Materials Handling. https:// www.mmh.com/article/annual_pallet_report_2020s_market_evaluation 2. Oswalt, Sonja N.; Brad W. Smith, Patrick D. Miles, and Scott A. Pugh. 2017. Forest Resources of the United States: a technical document supporting the Forest Service 2020 RPA
- Assessment. US Dept. of Agriculture, Forest Service, 223. https://doi.org/10.2737/WO-GTR-97.
- 3. Alanya-Rosenbaum, S., and R. Bergman. 2020. Cradle-to-grave life-cycle assessment of wooden pallet production in the United States. Madison: US Forest Service, Forest Products Lab. https://www.fpl.fs.fed.us/ documnts/fplrp/fpl_rp707.pdf.
- 4. Anil, Sebastian K., Junfeng Ma, Gul E., Ray, Charles D. Kremer, and Shirin M. Shahidi. 2020. "Life cycle assessment comparison of wooden and plastic pallets in the grocery industry." Journal of Industrial Ecology 24 (4): 871-886. https://doi.org/10.1111/jiec.12974.
- 5. "The Role of the Harvested Wood Products in the post-2020 EU Climate Change Policy Framework." CEI-Bois, the European Confederation of Woodworking Industries. https://europanels.org/wp-content/uploads/2018/08/ Position-Paper-on-the-role.pdf.
- 6. NAM. 2018. An Economic Analysis of the U.S. Wooden Pallet and Container Industry, 2018. NAM Center for Manufacturing Research. Technical Report, Washington, DC: National Association of Manufacturers, Inforum. http://palletcentral.uberflip.com/i/1050251-economic-analysis-of-the-us-wooden-pallet-container-industry/0?m4=.
- 7. Gerber, Nathan, Laszlo Horvath, Phil Araman, and Brad Gething. 2020. "Investigation of New and Recovered Wood Shipping Platforms in the United States." Bioresources 15 (2).
- https://ojs.cnr.ncsu.edu/index.php/BioRes/ article/view/BioRes_15_2_2818_Gerber_Investigation_New_Recovered_Wood_Shipping.



National Wooden Pallet & Container Association Pallets Move the World®

1421 PRINCE STREET, SUITE 340, ALEXANDRIA, VA 22314 | 703-519-6104 | PALLETCENTRAL.COM