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Regulation of Europe-Bound US Wood Pellets

Given that the U.S. is exporting a vast majority of wood pellets manufactured in the country, concerns arise as to whether the production and manufacturing process meets the statutory or regulatory requirements of those foreign markets.

By Mark Aspinall and Virginia E. Worthy | June 22, 2015

Table 1 Threshold values of the most important pellet parameters. More parameters can be found in EN 14961-2.

Property	Unit	ENplus-A1	ENplus-A2	EN-B	Testing standard
Diameter	mm	6 or 8			EN 16127
Length	mm	3.15 ≤ L ≤ 40 [3]			EN 16127
Moisture Content	w-% [1]	≤ 10			EN 14774-1
Ash Content	w-% [2]	≤ 0.7	≤ 1.5	≤ 3.0	EN 14775 (550 °C)
Mechanical Durability	w-% [1]	≥ 97.5 [4]		≥ 96.5 [4]	EN 15210-1
Fines (< 3.15 mm)	w-% [1]	<1			EN 15210-1
Net Calorific Value	MJ/kg [1]	16.5≤Q≤19	16.3≤Q≤19	16.0≤Q≤19	EN 14918
Bulk Density	kg/m³	≥ 600			EN 15103
Nitrogen Content	w-% [2]	≤ 0.3	≤ 0.5	≤ 1.0	EN 15104
Sulfur Content	w-% [2]	≤ 0.03		≤ 0.04	EN 15289
Chlorine Content	w-% [2]	≤ 0.02		≤ 0.03	EN 15289
Ash Melting Behavior [4]	°C	≥ 1200	≥ 1100		EN 15370

1) As received 2) Dry basis 3) A maximum of 1 w-% of the pellets may be longer than 40 mm, no pellets > 45 mm allowed
4) Deformation temperature, sample preparation at 815 °C

SOURCE: European Pellet Council

Across Europe, sustainable energy policies have been driving massive demand for a new energy commodity. Europe has found this new commodity in the manufacture and production of wood pellets. Wood pellets are created from those portions of trees that have been traditionally discarded as waste. In the manufacturing process, chips, bark, branches, and stems are compacted into small pellets, anywhere from one-fourth to one-third inch in diameter and one to one and a half inches in length. Generally, these pellets will then be burned as fuel for massive municipal boilers across Europe and the United Kingdom thereby replacing coal and similar fossil fuels as a primary means of electricity.

Over 75 percent of wood pellet production capacity is located in the southeastern U.S. with Georgia, Florida, Alabama and Virginia producing the vast majority of American pellets. Approximately 98 percent of wood pellet exports ship from southeastern U.S. ports. In 2014, the U.S. exported 73 percent of its wood pellets to the U.K., according to U.S. EIA data, which indicates that, after the U.K., the three largest importers of American wood pellets in 2013 were Belgium (12 percent) and the Netherlands (7 percent).

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arise as to whether the production and manufacturing process meets the statutory or regulatory requirements of those foreign markets.

Concerns for Exporting to EU

Wood pellets are a popular form of sustainable energy within the European Union because they are regarded as having a smaller carbon footprint than traditional fossil fuels and coal. With the introduction of the EU's Renewable Energy Directive in 2009, demand for wood pellets has increased exponentially. With RED, the EU created 20/20/20 targets for the year 2020 which has objectives to: reduce greenhouse gas emissions by 20 percent compared to emission levels in the year 1990, increase renewable energy use to 20 percent, and improve energy efficiency by 20 percent. Each EU country will have its own individualized target.

While many countries have their own certification schemes, the EU has been developing a multinational certification standard for wood pellets known as ENplus. The ENplus system creates three categories of pellets: EN-B pellets for industrial buyers and ENplus-A1 and ENplus-A2 for residential buyers. A break-down of important requirements for each type of pellet can be seen in Table 1.

The certification process involves close inspection of all elements of the wood pellets' production chain. According to the European Pellet Council Handbook for the Certification of Wood Pellets for Heating Purposes, for the certification of wood pellets, EN-B pellets can only come from forest, plantation, and other virgin wood and cannot be chemically treated. The relevant inspectors will also analyze the production plant and that plant's internal quality testing methods. In addition to production inspections, there is a certification scheme for pellet traders that confirms that all entities between the supplier and the consumer blends and stores wood pellets in accordance with disclosed standards. The handbook demonstrates how carefully each step of the production process is scrutinized before wood pellets obtain ENplus certification.

In addition to developing ENplus in order to regulate the quality of wood pellets, the EU and major European utility companies are developing certification schemes to ensure the sustainability of wood pellets. In 2013, the EU promulgated the EU Timber Regulation to prohibit illegal timber from entering the EU markets. That same year, many of the major European utility companies formed the Sustainable Biomass Partnership to harmonize national sustainability standards and develop one universal standard. In furtherance of that goal, SBP has released six standards, each governing a different element of the supply chain.

Standard 1 harmonizes various EU forestry and timber production regulations for producers of wood pellets, those that oversee the production of woody feedstock into wood pellets. Standard 2 similarly provides producers with additional requirements for ensuring the sustainability of feedstock. Standard 3 offers guidance to certification bodies, third parties that investigate wood pellets and verify their sustainability, and provides a consistent certification procedure. Standard 4 explains that chain-of-

custody requirements so that entities throughout the supply chain, including traders and processors, can ensure the sustainability of wood pellets as they move down the supply chain. Standard 5 details the requirements for collecting the data that accompanies the sustainable wood pellets as they move through the supply chain. Standard 6 provides the generator with the requirements for calculating energy and carbon balances.

UK Exporting Concerns

The largest concern for American wood pellet producers exporting to the U.K. is the U.K.'s certification requirements. Regulations require business receiving government incentives under the Renewables Obligation, Contract for Difference, or Renewable Heat Incentive scheme (which includes consumers of American exports), to obtain at least 70 percent of their wood pellets from suppliers that comply with the UK. definition of "legal and sustainable."

Suppliers can demonstrate legal and sustainable status with two types of evidence: category A certification or category B bespoke certification. Whereas category A evidence demonstrates that wood pellets have been certified as complying with relevant at every point of the production chain by an approved third party, the category B checklist shows what claims or materials suppliers must produce to demonstrate that there is a low risk that their wood pellets do not comply with the relevant laws.

With category B bespoke evidence, the supplier verifies the sustainability of its wood pellets by following The Risk-Based Regional Assessment: A Checklist Approach.The checklist presents many of the U.K.'s major timber laws and provides examples of evidence that can satisfy those specific requirements. The checklist is organized into three parts, each of which examines a different aspect of the production process. For example, the checklist analyzes the systems and practices put in place by forest management to minimize harmful consequences to the source forest. The checklist also inquires as to the labor practices employed at each level of production.

Companies seeking to enter the U.K. market for wood pellets will need to be well-versed in both the Woodfuel Advice Note and the Risk Based Regional Assessment: A Checklist Approach, both published by the U.K. DECC and available online.

Opportunity Ahead

Europe's demand for wood pellets keeps increasing. According to U.K. DECC data, in 2013, the EU imported nearly 3.2 million metric tons of wood pellets, and in 2014, the U.S. exported 4.4 million metric tons to Europe accounting for nearly $500 million. These figures demonstrate that suppliers can expect continued and exponential growth in demand for American wood pellets in the years to come. To capitalize on this demand, American wood pellet suppliers need to ensure compliance with the import country's wood pellet certification guidelines, which may include consulting those parties with experience in analyzing and adhering to such guidelines.

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