



## 2016 Top Markets Report **Renewable Fuels** Country Case Study

### European Union

Ethanol exports to the European Union (EU), which used to account for one-third of all U.S. ethanol exports, have been chilled for three years as a result of antidumping duties. However, in 2016 the U.S. ethanol trade associations won their court case against the EU's imposition of antidumping duties on U.S. ethanol. In the short term, until the appeals process is completed, any gains in this market will be based solely on U.S. ethanol price competitiveness. The impact of "Brexit" on ethanol tariffs remains to be seen, although the UK will continue to depend heavily on ethanol imports. In the long run, EU policy makers are favoring advanced biofuels, which may also constrain EU-U.S. trade. Given the uncertainty in the ethanol market for U.S. exporters, this case study continues to focus its in-depth analysis on the individual wood pellet markets of the EU, where opportunity is stronger. Each has its own characteristics, although U.S. exports are mainly in demand for the public utility power sector rather than the home heating market. A patchwork of sustainability regulations has begun to develop, thus requiring closer examination of each market's regulatory process.

Consumption of ethanol in the EU is expected to remain roughly the same or decline slightly in the near term, but the U.S. share of imports remains stymied by antidumping duties imposed by the European Commission on U.S. ethanol. Furthermore, sustainability certification requirements under the EU's Renewable Energy Directive (RED) are difficult to meet for most suppliers of corn-based ethanol, as all biofuels used to meet renewable energy goals must provide evidence that they have reduced greenhouse gas emissions by at least 35 percent compared to fossil fuels. This threshold increases after 2017, requiring a verified reduction of at least 50 percent and at least 60 percent for new installations. Several EU member states have developed national voluntary systems, in addition to the 20 voluntary schemes adopted by the European Commission.

In 2015, the EC Parliament enacted legislation modifying the existing RED by imposing a 7 percent cap on total field crop biofuels by 2020. Given the double counting system in the RED that incentivizes

waste-stream biofuels and the fact that diesel use is growing while gasoline use is shrinking, biodiesel use will likely increase further while little growth if any is expected for ethanol in the long term.

Although the current mandate calls for 10 percent of the transport fuel of every member state come from renewable sources such as biofuels by 2020, discussions are underway for the 2020-2030 plan ("RED II") to ultimately remove the specific subtarget for the transportation sector. Such uncertainty over how the EU will meet its own renewable energy goals is also a concern for European producers.

A few EU member states (mainly the Netherlands and the UK) have been importing U.S. ethanol in the first half of 2016. However, there is no anticipated upsurge during the 2016-2017 timeframe unless the EU chooses not to appeal the EU court's decision against the EU's imposition of antidumping duties on U.S. ethanol. And even if this were to happen, U.S. companies will have to weigh the costs of compliance with sustainability requirements and verification schemes compared to pursuing sales in

other markets. Some of the recent imports from the United States have been attributed to the temporary discontinuation of production at certain facilities in Spain, the Netherlands and the UK. Thus, they do not represent stable opportunity.

U.S. ethanol exports to the UK were particularly strongly impacted by the imposition of the antidumping duties. While U.S. ethanol accounted for 58 percent of all UK imports of ethanol in 2012, the U.S. market share dropped to under 1 percent in 2015 despite the UK's continued dependence on imported ethanol to meet its blending requirements. The UK now gets most of its ethanol imports from the Netherlands and France. The impact of "Brexit" on ethanol trade (and whether the UK's biofuels policies will diverge from the EC) remains to be seen.

In contrast to fuel ethanol, the EU will remain by far the largest market for American wood pellets. Demand for wood pellets is increasing as its member states seek alternatives to coal for electricity and heat production. One of the driving factors for the use of wood pellets instead of natural gas is the EU-wide RED, under which renewable energy is to account for at least 20 percent of all energy consumed by 2020.

In 2015, the EU consumed 21 billion kilograms of wood pellets, which amounted to 75 percent of the global market.<sup>i</sup> That year the United States sent \$683 million worth of wood pellets to the EU, capturing about 64 percent of the market share there.<sup>ii</sup> The UK, the Netherlands and Belgium use the wood pellets predominantly for electricity production, and these countries have been the primary EU importers of American wood pellets, although imports to the Netherlands have dropped significantly.<sup>iii</sup> Sweden and Denmark use wood pellets for large cogeneration plants and in heating appliances. However, both countries have recently imported most of their wood pellets from the Baltic Region and Russia.<sup>iv</sup> The increase in wood pellet production in Germany, Italy, Austria and France is largely driven by increased demand for residential heating and industrial boilers.<sup>v</sup> As these countries are net exporters, this demand relies mostly on domestic production and other EU sources to meet their demand.<sup>vi</sup>

The large volume of intra-European trade in wood pellets is another distinguishing feature of this

market overall. As the table in Figure 1 shows, the U.S. and Canadian wood pellet exporters are competing primarily with exporters in Latvia, Russia, Estonia, Portugal and Germany. Among the largest pellet exporters in Asia (Malaysia, Vietnam and China), only Vietnam exports pellets at levels similar

**Figure 1: Global Export Statistics, 2015**  
Commodity Code: 440131 (Wood Pellets)

Reporting Country	Quantity Exported (kg)
United States	4,668,774,792
Canada	1,627,783,724
Latvia	1,617,260,000
Vietnam (estimate)	1,022,808,842
Russia	934,863,788
Estonia	883,293,000
Portugal	693,692,000
Germany	688,745,000
Austria	555,466,000
Romania	323,325,000
Lithuania	311,539,000
Sweden	244,585,000
Czech Republic	230,062,000
Poland	215,611,000
Croatia	200,415,000
France	198,703,000

to those in Europe.

### Challenges and Barriers

With regards to ethanol, prospects for U.S. exports are poor in both the short term and the long term. As previously noted, there are antidumping duties that handicap U.S. ethanol; costs to meeting EU sustainability requirements and verification schemes and other less regulated markets that offer opportunity; current and evolving policies that incentivize the use of biodiesel at the expense of ethanol; and the possibility that biofuel use may decline after 2020. As a result, most U.S. ethanol producers will be looking at other markets, particularly Asia. The remainder of this case study will therefore focus on wood pellet exports.

The biggest challenge for American exporters of wood pellets will be regulation. The EC, the primary regulatory body in the EU, has stated that it is not planning on instituting any Europe-wide regulations on sustainability criteria for biomass before 2020.<sup>vii</sup> In anticipation of EU and member state legislation on sustainability requirements for wood pellets, the industry has created standards like ENplus (created by the European Pellet Council) and the Sustainable Biomass Partnership (SBP) to encourage sustainable practices along the supply chain. In 2015, 7.7 billion kg of wood pellets were ENplus certified.<sup>viii</sup> In March 2015, the Netherlands announced plans to require all imported wood pellets to come from sustainable sources.<sup>ix</sup> It remains to be seen if those sustainability requirements will exclude some American companies from exporting to the Netherlands and whether other EU member states will follow the Netherlands' lead. The UK's vote for "Brexit" may add additional regulatory implications for U.S. exporters, although not in the immediate future. Later in 2016 or perhaps in early 2017, the EU is expected to present its "RED II" proposal in conjunction with an initiative outlining a bioenergy sustainability policy for 2030.<sup>x</sup>

Another potential challenge for American exporters of wood pellets will be the relatively low price of oil (for heating) combined with the strength of the U.S. Dollar. The President of the European Pellet Association noted these factors when observing that sales of pellet stoves and boilers decreased in the EU during 2014 and noted that pellets from the United States were also approximately 33 dollars per metric ton more expensive in February 2015 than the previous year. These trends are anticipated to affect large wood pellet sales in the UK and Belgium.<sup>xi</sup> The strong Dollar has also been attributed to adversely affecting exports to Italy, Denmark and Sweden.

### Opportunities for U.S. Companies

#### Wood Pellet Market Overviews

The EU will be the largest market for American wood pellets over the next two years. The EU expects demand for wood pellets in heat and power production to be 22 billion kg in 2016 and 22.5 billion in 2017.<sup>xii</sup> The United States can supply wood pellets to meet at least half of this demand. Below are brief snapshots of the markets within the EU that were ranked for potential U.S. exports in this report.

#### Wood Pellet Ranking

2

#### Belgium

Wood pellet consumption in Belgium is dominated by large scale power plants that are attempting to meet the EU's renewable energy goals. In 2015, Belgium imported 989 million kg of wood pellets of which 66 percent were from the United States. This made Belgium the second largest market for American pellets in 2015.<sup>xiii</sup>

**Challenges and Barriers:** From March to July 2014, the Flemish power sector temporarily stopped combustion of wood pellets because the Belgian wood sector argued that pellet production cannibalized its raw material. In August 2014, generation of electricity from wood pellets resumed, as a new Belgian decree requires the wood sector to prove the threat to its inputs prior to limiting its use for pellets. This event showed the uncertainty that still exists in the biomass industry around whether or not wood pellets are the most sustainable and business-friendly alternative to other fuels. In 2016, plans for a large new biomass facility in Ghent put on hold, raising doubts about continued demand and public support for wood pellets in the country.<sup>xiv</sup>

**Opportunities for U.S. Companies:** A stable market is foreseen for wood pellets in the 2016-2017 time frame. Current Belgian industrial use of biomass wood pellets is estimated at about 1 - 1.3 million MT per year.<sup>xv</sup> Any increase in Belgian demand in 2018 and beyond could depend largely on financing for a new plant in Langerlo.<sup>xvi</sup>

#### Wood Pellet Ranking

4

#### Denmark

Denmark imported 2.1 billion kilograms of wood pellets in 2015. 28 million kilograms of those wood pellet imports were from the United States, down from 121 million kilograms in 2014.<sup>xvii</sup> The wood pellet market is substantial in Denmark, but so far United States companies have not been able to capture a large share of it due to competition from Latvia, Estonia and Russia. U.S. exporters have also been challenged by the strong Dollar, which makes their imports more expensive than those coming from other countries.

**Challenges and Barriers:** Although biomass is more reliable for base load or backup power, it competes in Denmark with wind power, which is increasing its

share of electricity. Biomass power in Denmark is also highly dependent on government funding and the price of the pellets versus coal. In December 2014, the energy sector came to a voluntary agreement with the Danish Energy Agency that biomass will be sourced from fiber that is certified at the forest-level or that is certified under the industry's SBP standard. Voluntary agreements like this are very common in Denmark and are considered equal to legislation or law.

**Opportunities for U.S. Companies:** Large power plants using biomass are now supported by subsidies in the form of feed-in tariffs of about 22 dollars per megawatt hour (MWh) (this is approximately 104 dollars per metric ton of wood pellets).<sup>xxix</sup> The Danish Government has a goal of phasing out coal by 2030, and that could support a further increase in the use of wood pellets. In March 2015, Denmark announced it would convert a coal power plant to wood pellets, becoming the first plant in the nation to use 100 percent wood pellets over coal or gas. The plant is expected to be fully converted by autumn 2016.<sup>xxx</sup> This signaled Denmark's continued desire to pursue power production using wood pellets. Denmark will remain one of the EU's largest importers of wood pellets for the short to medium term.

**Wood Pellet Ranking**

**3**

**France**

France was one of the few EU member states, along with the UK and Belgium, to increase U.S. wood pellet imports in 2015,

despite low oil prices and a strong dollar. It decreased its total imports to 156 million kg but increased its imports from the United States to 13 million kilograms, a 3800 percent rise.<sup>xxxi</sup> The share of industry and of collective residential heating has increased since 2005, and it will keep increasing in the future as a result of national incentive policies.

**Challenges and Barriers:** In the long run, the potential for U.S. wood pellets in France is limited because local wood is favored in subsidized heat facilities. It is considered as more environmentally friendly than imported pellets. The potential for U.S. wood pellets in the future will largely depend on whether the French Government recognizes that ocean freight is substantially more carbon and energy efficient on a per ton basis than trucking. Imported wood used in subsidized heat facilities also

must be certified (by the Programme for the Endorsement of Forest Certification or Forest Stewardship Council certifications).<sup>xxii</sup>

**Opportunities for U.S. Companies:** Electricity and heat production from biomass has grown fast in the last five years, and it is more and more difficult for energy companies to source local wood.<sup>xxiii</sup> However, imported pellets are only seen as a temporary solution; in the long run, the objective is to use domestic wood. Thus, the market for wood pellets is expected to grow over the next few years but it could decline afterwards. A single contract for a district heating system in Paris led to a dramatic rise in imports from the U.S. starting in 2015.<sup>xxiv</sup> However, the objective of the company that runs this system is to reduce the share of imported pellets in the future and to only use domestic pellets in the long run.

**Wood Pellet Ranking**

**9**

**Germany**

Germany is the third largest producer of wood pellets in the world after the United States and Canada. It has about 70

production facilities and an annual wood pellet production capacity of 3.5 billion kilograms.<sup>xxv</sup> It has a huge market for wood pellets, especially for wood pellet companies operating domestically.

**Challenges and Barriers:** Beginning in 2013, consumption of wood pellets stagnated in Germany. Two years later, imports from Russia and Poland increased and imports from the United States decreased to less than 2 million kg.<sup>xxvi</sup> At the International Pellet Conference in February 2015, the decrease in oil price and a mild winter were cited as reasons for this decrease in demand.<sup>xxvii</sup> The German Government also removed a tax deduction for energy renovations that makes it more expensive for businesses to convert to using wood pellets for heat.<sup>xxviii</sup> These factors, along with Germany's domestic production capability, will make it difficult for U.S.-based companies to significantly increase their market share.

**Opportunities for U.S. Companies:** The market for wood pellets is expected to grow in Germany as it increases its use of renewable energy sources. The large amount of wood pellet consumption in Germany will make it a viable option for American

wood pellet exporters for at least the short term, even if market share does not increase.

**Wood Pellet Ranking**

**10**

**Italy**

Italy decreased its wood pellet imports to 1.6 billion kilograms in 2015. The United States exported 48 million kilograms of wood

pellets to Italy in 2015, capturing about 3 percent of the market, down from 9 percent in 2014. About 15 percent of the total biomass installations use wood pellets in Italy, and the residential heating industry is the largest source of demand for the pellets,<sup>xxxix</sup> estimated at 96 percent of total consumption.<sup>xxx</sup>

*Challenges and Barriers:* At the end of 2014, Italy increased the value added tax (VAT) on wood pellets from 10 percent to 22 percent. The change is not expected to decrease demand for pellets in the short term, though it may exacerbate the price difference between pellets made in the United States and pellets made elsewhere.<sup>xxxi</sup> The Italian wood pellet market also is fragmented. Pellets are sold in many different types of stores and in different quantities. Italy also is increasing the proportion of ENplus certified pellets that it uses, indicating that sustainability of the supply chain will be important in the future.<sup>xxxii</sup> U.S. imports have fallen significantly since 2013, due in part to a warm winter and the higher price of U.S. wood pellets over European competitors. Since the strong Dollar is expected to continue for the short term, Italy has been given a lower ranking in this year's report.

*Opportunities for U.S. Companies:* Italy has a very large market for wood pellets, and there has been a recent increase in purchases of pellet boilers. The government has tax deductions in place to encourage buying pellet stoves and a scheme to support small-scale efficiency improvements using ENplus certified biomass.<sup>xxxiii</sup> If U.S. pellets become cost competitive again, it is likely that exports to Italy will return to their previous levels.

**Wood Pellet Ranking**

**5**

**Netherlands**

In 2015, the Netherlands imported 131 million kg of wood pellets, which made it the ninth largest importer in the EU.<sup>xxxiv</sup> The United

States exported 38 million kg of wood pellets to the Netherlands, down from 272 million in 2014,

capturing approximately 29 percent of the market, compared to 60 percent of the market in 2014.<sup>xxxv</sup>

*Challenges and Barriers:* *Challenges and Barriers:* In March 2015, the Dutch government announced plans to require all large (>500 hectares) wood pellet producers for the Netherlands to certify their pellets at the forest level. It plans to gradually require that 100 percent of the forest acreage from which Dutch wood pellets are sourced be sustainable, demonstrated by forest level certification. It remains to be seen if those sustainability requirements will exclude some American companies from exporting to the Netherlands, but long term contracts will be more difficult to secure and other countries in the EU may follow the Netherlands' lead. Currently, the Dutch Government is in the process of determining which certification programs are valid to demonstrate sustainability; in transition and as alternative, a Verification Protocol is being prepared.

*Opportunities for U.S. Companies:* Uncertainty about Dutch regulations has impeded U.S. exports, although they are expected to resume in mid-2017. Legislation requiring 100 percent sustainability of wood pellet sources will not be fully implemented until 2020, after which the prospect for U.S. exports is uncertain.

**Wood Pellet Ranking**

**7**

**Sweden**

Sweden is the second largest producer of wood pellets in the EU. However, production has stagnated since 2011 as

competitive imports from the Baltic countries and Russia have increased.<sup>xxxvi</sup> U.S. companies had 0.01 percent of the market share of imports in Sweden in 2015, accounting for 49 thousand kg, falling off from 6 percent of the market share in 2014.<sup>xxxvii</sup>

*Challenges and Barriers:* American companies wishing to export to Sweden will have to compete with cheap wood pellets that are being imported from Russia and the Baltic states. Production in those areas is increasing, and the value of the dollar along with transportation costs will make it difficult for U.S.-based companies to compete.

*Opportunities for U.S. Companies:* Sweden is targeting 100 percent renewable energy use by 2020, so it is expected to continue to utilize large amounts of wood pellets for heat production.<sup>xxxviii</sup>

Despite competition from Baltic countries and Russia, American companies have an opportunity to increase exports to this large wood pellet consumer market.

### Wood Pellet Ranking

1

#### United Kingdom

The United Kingdom will continue to be the largest market for wood pellets within the EU for the foreseeable future. In 2015, the UK consumed 6.7 billion kilograms of wood pellets.<sup>xxxix</sup> Nearly 4 billion kg of that consumption came from the United States. Consumption is expected to increase to 7.2 billion kilograms in 2016.

In the UK, the use of wood pellets in power plants is driven by the interaction of three policies:

- The Renewables Obligation (RO), which requires until 2027 that licensed UK electricity suppliers source a specified proportion, which is set at the beginning of each year and increased annually, of the electricity they provide to customers from eligible renewable sources;
- The EU's Industrial Emissions Directive, which created a legally binding standard for sulfur dioxide emissions, among other things, and is set to be implemented on January 1, 2016; and
- The Carbon Price Floor, which disincentivizes the use of coal in coal-fired power plants.

On August 22, 2013, the UK's Department of Energy and Climate Change (DECC) announced the release of its final guidelines, which stakeholders within the United States viewed as achievable based on current practices. The UK announced that the guidelines' sustainability criteria will be enforced starting in April 2015 and that it would not revise them until 2027 at the earliest. Drax, which provides electricity

for 7 percent of the UK, is continuing its conversion to wood pellets. It has signed contracts with U.S. suppliers and is expanding its own pellet production in the United States.<sup>xl</sup>

Challenges and Barriers: The UK's Renewables Obligation program states that utilities are required to assess the sustainability of the fuels that they use and publish an annual report.<sup>xli</sup> Thus far, this obligation has not prevented American wood pellet producers from being able to supply in the UK market. The EU investigated Lynemouth Power Station, one of the UK's largest power producers, on whether or not UK subsidies for the conversion of the coal-fired power plant to biomass violated EU State Aid laws. This case was concluded in December 2015 and the facility was found to be in compliance.<sup>xlii</sup> However, shortly thereafter another case was opened against a Drax power plant converted to biomass.<sup>xliii</sup> A decision is expected by the end of 2016.

Opportunities for U.S. Companies: The largest consumer of wood pellets in the UK, Drax, has a coal plant that provides 7 percent of the UK's electricity. Drax has converted its third generating unit out of six at this facility into a biomass fueled unit and is looking to convert a fourth in the future. This project and similar ones across the UK will drive demand higher in the short term. The market share of wood pellets from companies based in the U.S. compared to all other foreign suppliers increased every year between 2011 and 2014 but decreased from 61 percent to 54 percent in 2015 despite an overall rise in imports.<sup>xliiv</sup> The UK import market itself will continue to be more than six times as big as Belgium, the next biggest importer of U.S. wood pellets. It is clear that the UK is the most important market for American pellet exporters by a large margin. However, it is anticipated that the market could plateau in 2017.

<sup>i</sup> USDA Foreign Agricultural Service. (2016, June 29). *2016 GAIN Report*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_6-29-2016.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_6-29-2016.pdf)

<sup>ii</sup> Ibid.

<sup>iii</sup> Ibid.

<sup>iv</sup> Ibid.

<sup>v</sup> EurObserv'ER. (2015, January). *Solid Mass Barometer*. Retrieved from [http://www.energies-renouvelables.org/observ-er/stat\\_baro/observ/baro225\\_en.pdf](http://www.energies-renouvelables.org/observ-er/stat_baro/observ/baro225_en.pdf).

<sup>vi</sup> USDA Foreign Agricultural Service. (2016, June 29). *2016 GAIN Report*.

<sup>vii</sup> Ibid.

- 
- viii Ibid.
- ix Ibid.
- x Ibid.
- xi Fordaq. (2015, March 6). Current wood pellet market trends in Europe. Retrieved from [http://www.ihb.de/wood/news/European\\_pellet\\_market\\_Christian\\_Rakos\\_40790.html](http://www.ihb.de/wood/news/European_pellet_market_Christian_Rakos_40790.html)
- xii USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_6-29-2016.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_6-29-2016.pdf)
- xiii Global Trade Information Services. (2016). *Global Trade Atlas*
- xiv EU Bioenergy (2016, June 7). Honeymoon is over for Biomass in Flanders. Retrieved from <https://eubioenergy.com/2016/06/07/honeymoon-is-over-for-biomass-in-flanders/>
- xv USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_6-29-2016.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_6-29-2016.pdf)
- xvi Biomass Magazine (2016, November 11). USIPA wraps in Miami with a positive outlook to 2017. Retrieved from <http://www.biomassmagazine.com/articles/13902/usipa-wraps-in-miami-with-a-positive-outlook-to-2017>
- xvii Global Trade Information Services. (2016). *Global Trade Atlas*.
- xviii Ibid.
- xix USDA Foreign Agricultural Service. (2014, July 3). *EU Biofuels Annual Report 2014*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_7-3-2014.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_7-3-2014.pdf)
- xx CBTR. (2016, June 17). Denmark's Avedore power station gets closer to use wood pellets as fuel. *Clean Technology Business Review*. Retrieved from <http://biopower.cleantechnology-business-review.com/news/denmarks-avedore-power-station-gets-closer-to-use-wood-pellets-as-fuel-170616-4926425>
- xxi Global Trade Information Services. (2016). *Global Trade Atlas*.
- xxii USDA Foreign Agricultural Service. (2015). *Country Survey*.
- xxiii Ibid.
- xxiv Zilkha Biomass Selma. *Zilkha Biomass Energy*. Retrieved from <http://zilkha.com/zbs>
- xxv USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_6-29-2016.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_6-29-2016.pdf)
- xxvi Global Trade Information Services. (2015). *Global Trade Atlas*.
- xxvii Fordaq. (2015, March 13). Pellet market spotlights worldwide. Fordaq: The Timber Network. Retrieved from [http://www.ihb.de/fordaq/news/Pellets\\_Konferenz\\_Wels\\_Marktbericht\\_40903.html](http://www.ihb.de/fordaq/news/Pellets_Konferenz_Wels_Marktbericht_40903.html)
- xxviii Ibid.
- xxix Paniz, A. (2014). Development of the Italian pellet market. Associazione Italiana Energie Agroforestali.
- xxx USDA Foreign Agricultural Service. (2016, August 2). *The Italian Wood Pellet Market*. Retrieved from Global Agricultural Information Network.
- xxxi Fordaq. (2015, March 6). Current wood pellet market trends in Europe. Fordaq: The Timber Network. Retrieved from [http://www.ihb.de/wood/news/European\\_pellet\\_market\\_Christian\\_Rakos\\_40790.html](http://www.ihb.de/wood/news/European_pellet_market_Christian_Rakos_40790.html)
- xxxii Paniz, 2014.
- xxxiii Ibid.
- xxxiv USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*.
- xxxv Global Trade Information Services. (2016). *Global Trade Atlas*.
- xxxvi USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*.
- xxxvii Global Trade Information Services. (2016). *Global Trade Atlas*.
- xxxviii Ukrainian Biofuel Portal. (2014, September 12). Sweden imported around 300 thousand tons of Russian wood pellets in 2013. Retrieved from <http://pellets-wood.com/sweden-imported-around-300-thousand-tons-of-russia-o12492.html>
- xxxix USDA Foreign Agricultural Service. (2016, June 29). *EU Biofuels Annual Report 2016*. Retrieved from [http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual\\_The%20Hague\\_EU-28\\_6-29-2016.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_The%20Hague_EU-28_6-29-2016.pdf)
- xl Simet, Anna. (2014, May 21). Drax plans another Mississippi pellet plant. *Biomass Magazine*. <http://biomassmagazine.com/articles/10423/drax-plans-another-mississippi-pellet-plant>
- xli EUobserv'ER. (2015, January). *Solid Mass Barometer*. Retrieved from [http://www.energies-renouvelables.org/observ-er/stat\\_baro/observ/baro225\\_en.pdf](http://www.energies-renouvelables.org/observ-er/stat_baro/observ/baro225_en.pdf)
- xlii European Commission. State aid: Commission authorises UK support to convert Lynemouth power station to biomass. European Union Press Release. Retrieved from [http://europa.eu/rapid/press-release\\_IP-15-6214\\_en.htm](http://europa.eu/rapid/press-release_IP-15-6214_en.htm)
- xliii European Commission. State aid: Commission opens in-depth investigation into UK public support for Drax power plant. European Union Press Release. Retrieved from [http://europa.eu/rapid/press-release\\_IP-16-2\\_en.htm](http://europa.eu/rapid/press-release_IP-16-2_en.htm)
- xliv Global Trade Information Services. (2016). *Global Trade Atlas*.
-