



FOREST PRODUCTS: FUELING NORTH CAROLINA'S ECONOMY

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Joint Legislative Energy Policy Commission
February 6, 2018



Wood Pellets 101



- ▣ Industrial (utility scale) vs Heating (residential)
- ▣ Roundwood vs Mill residues
- ▣ Can be softwood or hardwood
- ▣ Low-grade, low-value material
- ▣ No glues, bonding agents, etc.
- ▣ Pelletized for transport purposes
- ▣ Burned in suspension for power generation

*To protect, manage and promote forest resources
for the citizens of North Carolina*





Important to Note...

- ▣ NC has a diverse forest products portfolio
- ▣ Will not see massive land conversion
- ▣ Biomass is integrated as part of a typical timber harvest
- ▣ Hierarchy of forest products
- ▣ Will not displace traditional forest products
- ▣ Roundwood consumption and industrial output was greater 2 decades ago

*To protect, manage and promote forest resources
for the citizens of North Carolina*





1 Tract = Multiple Products



Photos: NC Forest Service

*To protect, manage and promote forest resources
for the citizens of North Carolina*





North Carolina's Timber Industry—Timber Product Output and Use, 2015

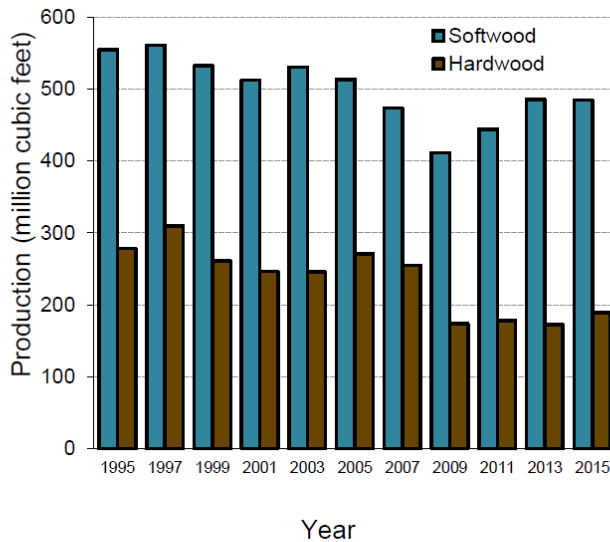


Figure 1—Roundwood production for all products by species group and year, North Carolina.

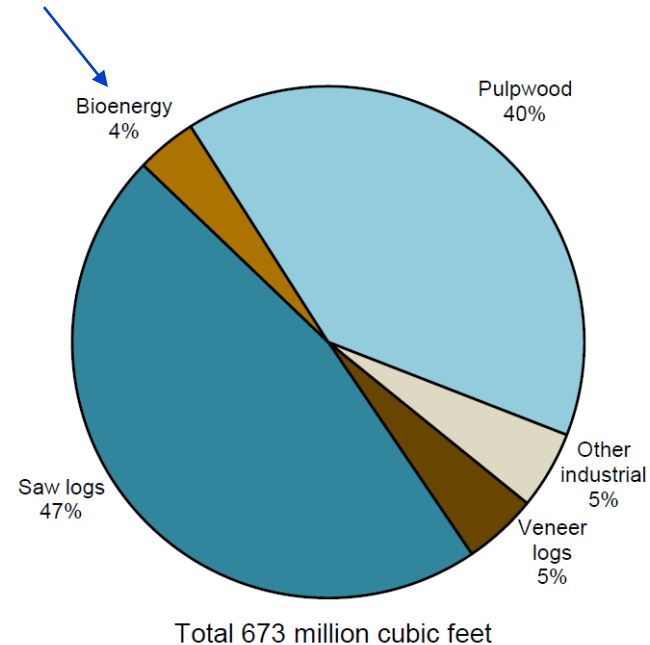


Figure 2—Roundwood production by type of product, North Carolina, 2015.

How to Cite This Publication

Gray, James A.; Bentley, James W.; Cooper, Jason A.; Wall, David J. 2017. North Carolina's timber industry—timber product output and use, 2015. e-Science Update SRS-126. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 5 p.

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FORESTS OF North Carolina, 2015

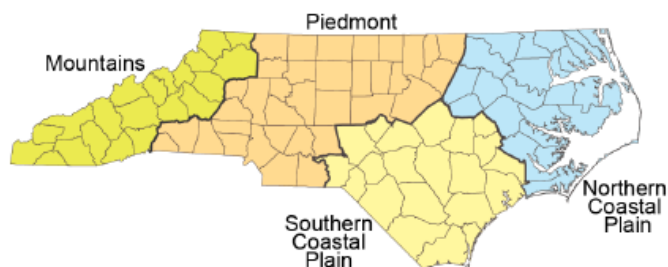


Figure 1—Forest survey regions in North Carolina.

Table 5—All-live volume of net growth, removals, and total inventory for softwoods and hardwoods by survey unit, North Carolina, 2015

Category	Southern Coastal Plain	Northern Coastal Plain	Pied- mont	Moun- tains	State
<i>million cubic feet</i>					
Softwood					
Net growth	336.0	249.8	233.3	38.6	857.8
Removals	182.8	200.5	132.1	33.7	549.0
G/R ratio ^a	1.8	1.2	1.8	1.1	1.6
Total inventory	5,046.8	3,505.8	4,109.5	1,732.2	14,394.3
Hardwood					
Net growth	128.6	102.6	316.6	228.8	776.7
Removals	84.6	66.2	147.4	50.3	348.6
G/R ratio ^a	1.5	1.5	2.1	4.5	2.2
Total inventory	3,608.1	3,371.0	8,852.4	10,070.2	25,901.7
All species					
Net growth	464.7	352.4	550.0	267.4	1,634.4
Removals	267.4	266.7	279.5	84.0	897.6
G/R ratio ^a	1.7	1.3	2.0	3.2	1.8
Total inventory	8,654.9	6,876.7	12,961.9	11,802.4	40,295.9

^a Net growth/removals ratio.

How to Cite This Publication

Brown, M.J. 2017. Forests of North Carolina, 2015. Resource Update FS-133. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

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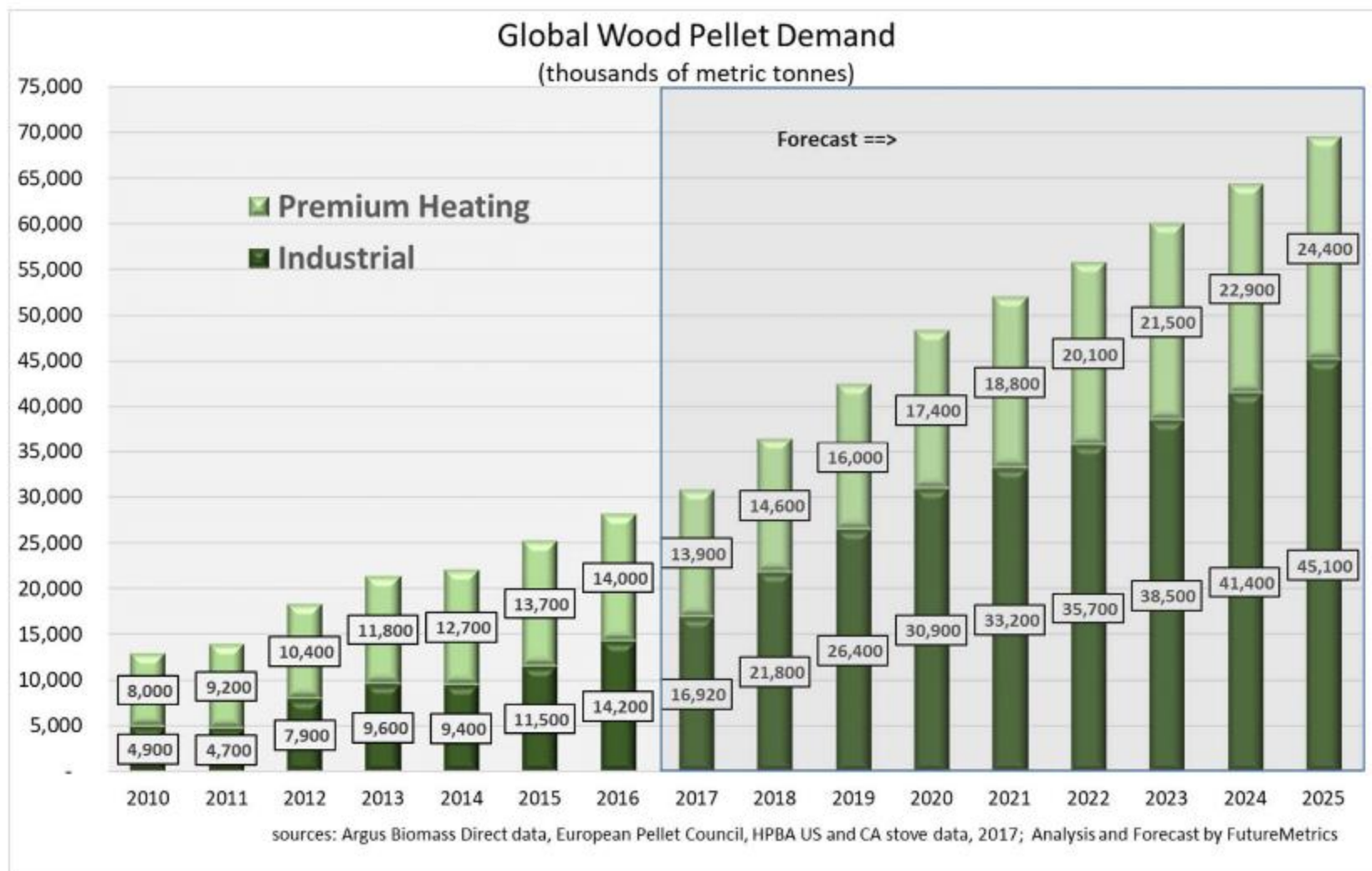
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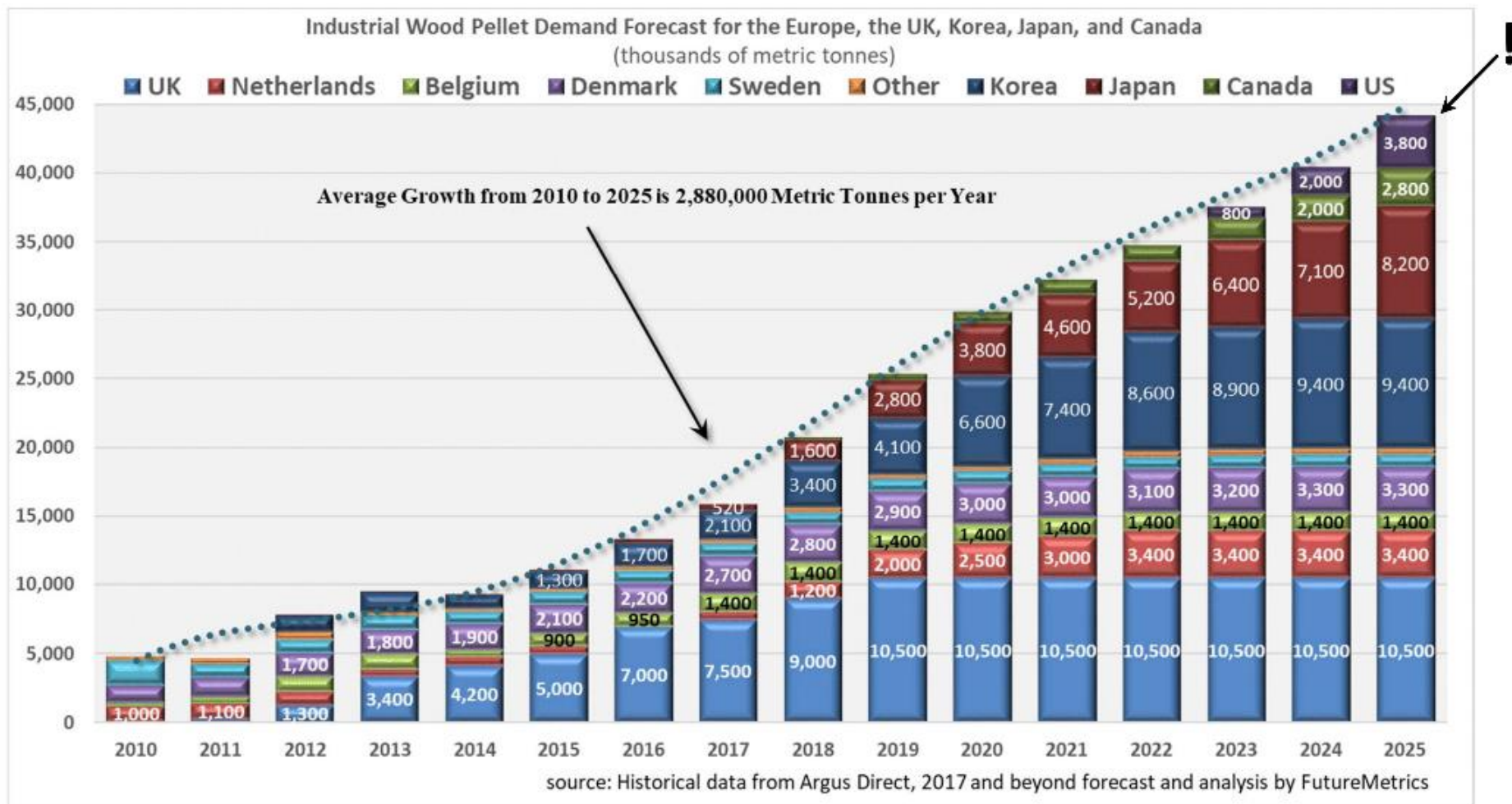
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*US South is primed for additional pellet expansion in Netherlands and Asia: abundant fiber supply and good transportation networks.

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UK confirms plan to phase-out unabated coal generation by 2025

By [Erin Voegelé](#) | January 08, 2018

The U.K. Department of Business, Energy and Industrial Strategy has confirmed how it intends to phase-out unabated coal-fired power generation by 2025. In response to the news, the U.K. Renewable Energy Association is calling on the government to support additional coal-to-biomass conversions.

In November 2016, the BEIS opened a public consultation on its proposals to end unabated coal generation in Great Britain by 2025. The consultation closed in February 2017 and resulted in 5,939 responses. In September 2017, the U.K. prime minister confirmed that the government would proceed with action to

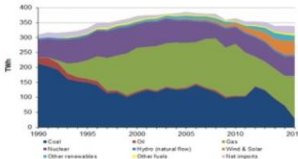



Table 1: Electricity supplied by fuel type, 1950-2016


U.K. Department for Business, Energy & Industrial Strategy

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Source: Biomass Magazine

Europe takes steps in favour of biomass energy

Jan. 17, 2018 - Two important developments took place in Europe today in the U.K. and at the European Parliament.

First, the U.K. government's Renewables Obligation Consultation results were announced, and as a result Drax announced plans to convert a fourth boiler to biomass.

On Sept. 15, the U.K. Department of Energy Business and Industrial Development (BEIS) published a consultation on controlling the cost of biomass conversions and biomass co-firing. BEIS proposed two alternatives: (1) controlling the cost of support for biomass under the Renewable Obligation (RO) scheme through a cap on the amount of renewable obligation certificates (ROCs) which could be earned for 'non-grandfathered' units accredited under the RO scheme, and (2) cutting support levels for 'non-grandfathered' units.

On Jan. 17, BEIS published a report containing the consultation results. The government has decided to implement an amended version of the generator cap. Rather than imposing a cap on ROC support for any future biomass unit conversions, a cap will be applied at the power station level across all ROC units. This will protect existing converted units and limit the amount of incremental ROCs attributable to additional unit conversions to 125,000 per year.

This has resulted in some fantastic news from Drax. On Jan. 17, the very same day as BEIS released its report, Drax has announced that it will convert a fourth unit to biomass during the second half of 2018, and the company expects the unit to be operational by the end of the year.

Source: Wood Pellet Association of Canada

Drax to Convert Fourth Biomass Unit in 2018

Posted by [John Greene](#) on January 30, 2018

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With the United Kingdom's (UK) possible departure from the EU—as the country wades through the red tape associated with the Brexit vote—the future of biomass is uncertain. However, Drax Group Plc, who owns the UK's largest biomass-fired power station (which has three existing biomass-converted units), sees enough regulatory certainty with biomass feedstock on the horizon to prompt its expanded use. The company recently announced that it is moving ahead with plans to convert a fourth power unit from coal to biomass in the second half of 2018.

The UK Department for Business, Energy and Industrial Strategy (BEIS) said it would cap the level of Renewable Obligation Certificates (ROCs) that power stations can receive for biomass conversion and co-firing, but would allow generators to use different units up to the cap.

Drax said that the capital cost for the fourth conversion will be significantly lower compared to its previous conversions, as the fourth unit is intended to be utilized at periods of higher demand. The company added that this will allow the ROCs generated across the other three accredited units to be optimized.

"We welcome the Government's support for further sustainable biomass generation at Drax, which will allow us to accelerate the removal of coal from the electricity system, replacing it with flexible low carbon renewable electricity," said Drax chief executive Will Gardiner.

Despite criticism from some corners, the new ROC reforms were welcomed by the Renewable Energy Association (REA), which said the changes would give biomass operators more flexibility and help support the government's goal to phase out of coal.

Source: Forest2Market

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Assistance...

- ▣ Invest in ports and transportation sectors
- ▣ Support international delegations
- ▣ Certification and branding programs
- ▣ Healthy markets = healthy forests!
 - FDP Program
 - PUV
 - “Right to practice forestry”



Photo: North Carolina State Ports Authority



Photo: NC Forest Service



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