ALLEGANY COUNTY, NY

Bioeconomy Development Opportunity Zone

RATING GRADE: 'A'

Date of Issue: August 6, 2026

A
High Quality

Rating Parameters:

Category	Rated Quantity	Delivered Price	Supply Zone Size
Pulpwood	148,000 bdt/yr	$90-$110/bdt	75-mi drive distance
Forest Residues	152,000 bdt/yr	$90-$110/bdt	from Belmont, NY

BDO ZONE ASSETS

- Approximately 148,000 and 152,000 bdt/yr of pulpwood and forest residues are available at low risk, respectively, with significantly larger quantities potentially available at higher risk.
- Pulpwood and forest residues face limited competition from existing biomass consumers.
- Adequate logging and transportation capacity to support a new commercial-scale project

BDO ZONE LIABILITIES

- Biomass supply depends heavily on lumber and furniture markets—both in steep decline, with housing weakness compounding the pressure.
- The region faces an aging logging workforce.
- Lack of market for dirty chips is leading to a decline of in-woods chipping equipment.

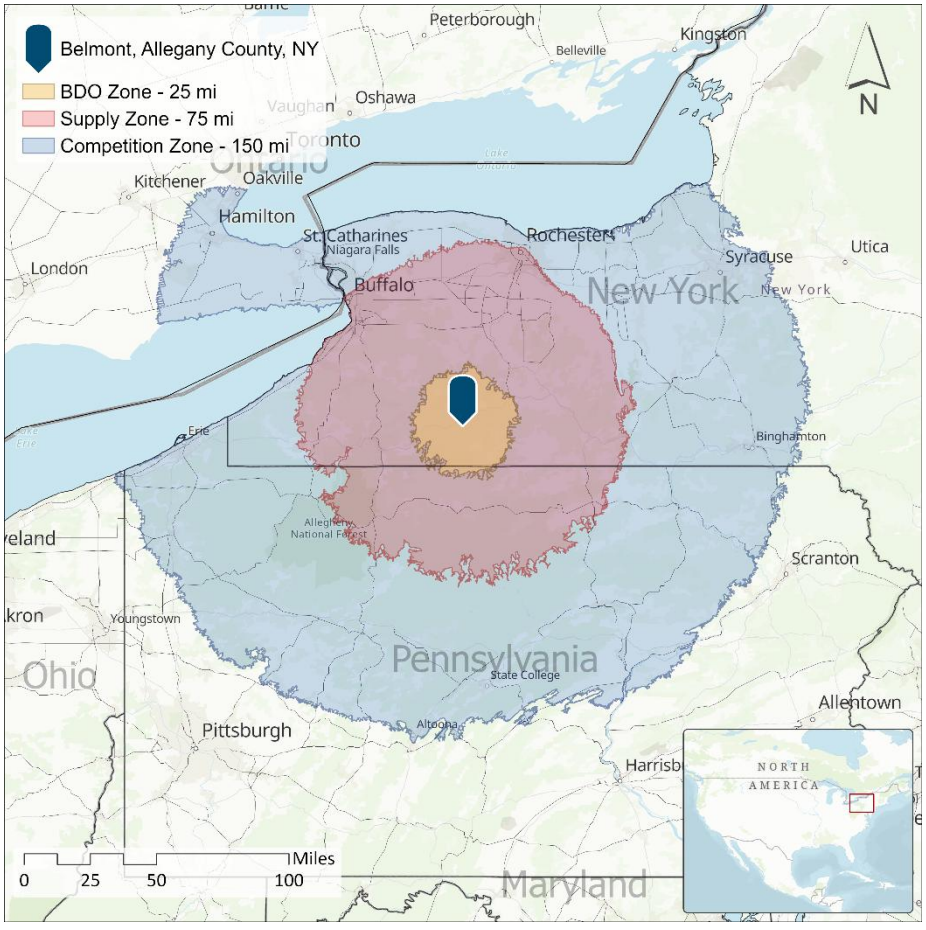
RATING GRADE

The Allegany County, NY, Bioeconomy Development Opportunity Zone, is rated 'A', or 'low' risk.

Risk Rating Grades are defined as follows: AAA (extremely low), AA (very low), A (low), BBB (low-moderate), BB (moderate), B (moderate-high), and C (high).

'A' ratings denote high prospective viability of Feedstock Supply and Infrastructure and low expectations of default risk in the Zone. Capacity to support new biobased plant operations is considered strong. This capacity may, nevertheless, be more vulnerable to adverse weather, supply chain, economic, or infrastructure conditions than is the case for higher ratings.

BELMONT, NEW YORK BDO ZONE



ANALYST NOTES

The Supply Zone is defined as the area within a 75-mile drive distance of Belmont, NY. The Supply Zone spans western New York and north-central Pennsylvania, it is approximately 7.3 million acres, of which 4.4 million is timberland. The timber base in the Supply Zone is predominantly hardwood (89% of standing tree volume), with the prevailing species including maples, oaks, and black cherry. Major softwood species include hemlock and pines.

The feedstock assessment evaluates two forest biomass categories: pulpwood and forest residues. Pulpwood primarily consists of underutilized small-diameter trees and upper-stem material generated during commercial timber harvesting, while forest residues include tops, limbs, and other woody material remaining after harvest operations. Sawmill residues were excluded from the assessment, as they are already committed to existing end users within the regional market.

BDO ZONE ASSETS

This region boasts a strong feedstock base, with a rated quantity of low-risk material estimated at 148,000 bdt/yr, and 152,000 bdt/yr of pulpwood and forest residues, respectively.

The supply chain capacity required for logging and transportation in the region is well-established and sufficient to support a new project with pulpwood logs, with many existing mechanized operators owning spare capacity that is currently underutilized due to a lack of demand.

The primary feedstock opportunity within the Supply Zone is the abundant availability of pulpwood and forest residues, which currently face limited competition from existing biomass consumers. Today, a significant portion of these materials is left in the forest following harvest, representing a substantial underutilized resource for new biomass projects.

BDO ZONE LIABILITIES

Secondary feedstock generation depends almost entirely on the primary hardwood processing sector. Forest residue comes from timber harvesting, and pulpwood harvesting (aside from thinnings) tracks lumber demand—so biomass availability is tied directly to the lumber industry's health. Hardwood's traditional outlet, furniture and cabinetry manufacturing, has been in long-term decline as production moved overseas. Housing adds a second, more cyclical pressure: high interest rates have slowed construction and renovation, driving hardwood lumber production downwards.

The forestry workforce in the region is aging, and recruiting younger workers to replace retiring operators remains a significant challenge. This demographic shift is a widespread issue across the North American forestry sector and could reduce harvesting capacity over time if new workers do not enter the industry. A stable, long-term source of demand from a new biomass facility could help improve employment stability and encourage workforce retention and recruitment, but labor availability will remain an ongoing industry risk.

While some grinding and chipping equipment remains locally available, the specific capacity for producing in-woods or "dirty" chips is actively declining due to a lack of market for such material.

INFRASTRUCTURE PROFILE

The Wellsville Business Park presents a well-developed infrastructure profile for a new biobased manufacturing facility, anchored by immediately available on-site utilities — municipal water with over 1.5 MGD of excess treatment capacity, recently upgraded wastewater infrastructure rated at a matching 2.5 MGD, and on-site municipal electric service backed by low-cost NYPA hydropower allocations — all of which are material advantages for an energy- and process-water-intensive biofuel operation.

The site's legacy as the former Dresser-Rand heavy industrial campus means that physical plant systems (internal water mains, transformer capacity, gas service, sprinkler networks, and heavy-load road access) are already sized for large industrial users, reducing the capital investment required to bring a new tenant to operational readiness. Multimodal transportation is a further strength: direct heavy-truck road access to I-86 and NYS Routes 19 and 417, a reactivatable Class I-interchange rail spur, and proximity to the Port of Buffalo

collectively support both inbound feedstock logistics and outbound product distribution.

SCORING & RATING METHODOLOGY

In assessing the biomass supply chain risk for the Bioeconomy Development Opportunity (BDO) Zone, 75 Risk Indicators from the US Standards for Biomass Supply Chain Risk (BSCR) were applied. These BDO Zone Risk Indicators are the subset of BSCR Risk Indicators applicable to evaluating feedstock risk within a BDO Zone.

- The BDO Zone is a 25-mile drive distance from the center point, which represents the siting area for future biomass projects and is where the industrial site is located.
- The Supply Zone is a 75-mile drive distance from the center point, where feedstock availability was assessed.
- The Competition Zone is a 150-mile drive from the center point, where consumers can compete for feedstock generated in the Supply Zone.

Feedstock quantities are expressed in bone-dry tons per year (bdt/yr), while feedstock costs are expressed in United States dollars (USD). Maximum transport distance is based on a 75-mile driving distance from the center point (Belmont, NY).

The BDO Zone rating is based on an aggregation of the scores assigned to each BDO Zone Risk Indicator (RI) assessed in this report. First, each BDO Zone Risk Indicator is given a **Raw Risk Likelihood (RRL)** score, which denotes the likelihood of a risk to future BDO Zone projects due to the Risk Indicator. RRL Scores are scaled as either very low (2), low (4), medium (6), high (8), or very high (10).

Each BDO Zone Risk Indicator is given a **Raw Risk Impact (RRI)** score, which denotes the impact on a future BDO Zone project due to the Risk Indicator. RRI scores are scaled as either very low (2), low (4), medium (6), high (8), or very high (10). Impact level scores are based on the impact level of a risk on the successful development and deployment of a BDO Zone project with no mitigation measures.

The **Gross Risk Indicator (GRI)** score is then calculated as the product of the RRL and the RRI scores. For example, if an indicator is scored at an RRL of 2 and an RRI of 8, then the GRI for this risk indicator is 2 X 8 = 16.

If the analyst deems that a typical bio-based project could implement economically reasonable measures or best practices that mitigate the likelihood (RRL), the impact (RRI), or both, then the GRI will be notched accordingly.

The **Loaded RI** score for each Risk Indicator is the product of the GRI score and any notched scores. Loaded RIs are the final score for a Risk Indicator.

Loaded RI scores of 4 or less are deemed very low risk; scores between 5 and 16 are deemed low risk; scores between 17 and 36 are deemed medium risk; scores between 37 and 64 are deemed high risk; and scores of 65 and greater are deemed very high risk.

The total risk rating for the BDO Zone is the average of all Loaded RI scores and Infrastructure Indicators. The BDO Zone score for Belmont, NY is ***17.1 out of 100, resulting in an 'A' designation.***

All scoring and rationale for each Risk Indicator are provided in Section D.



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SECTION A: RISK INDICATOR SUMMARY

Figure A-1. All Risk Indicators Sorted by Risk Level

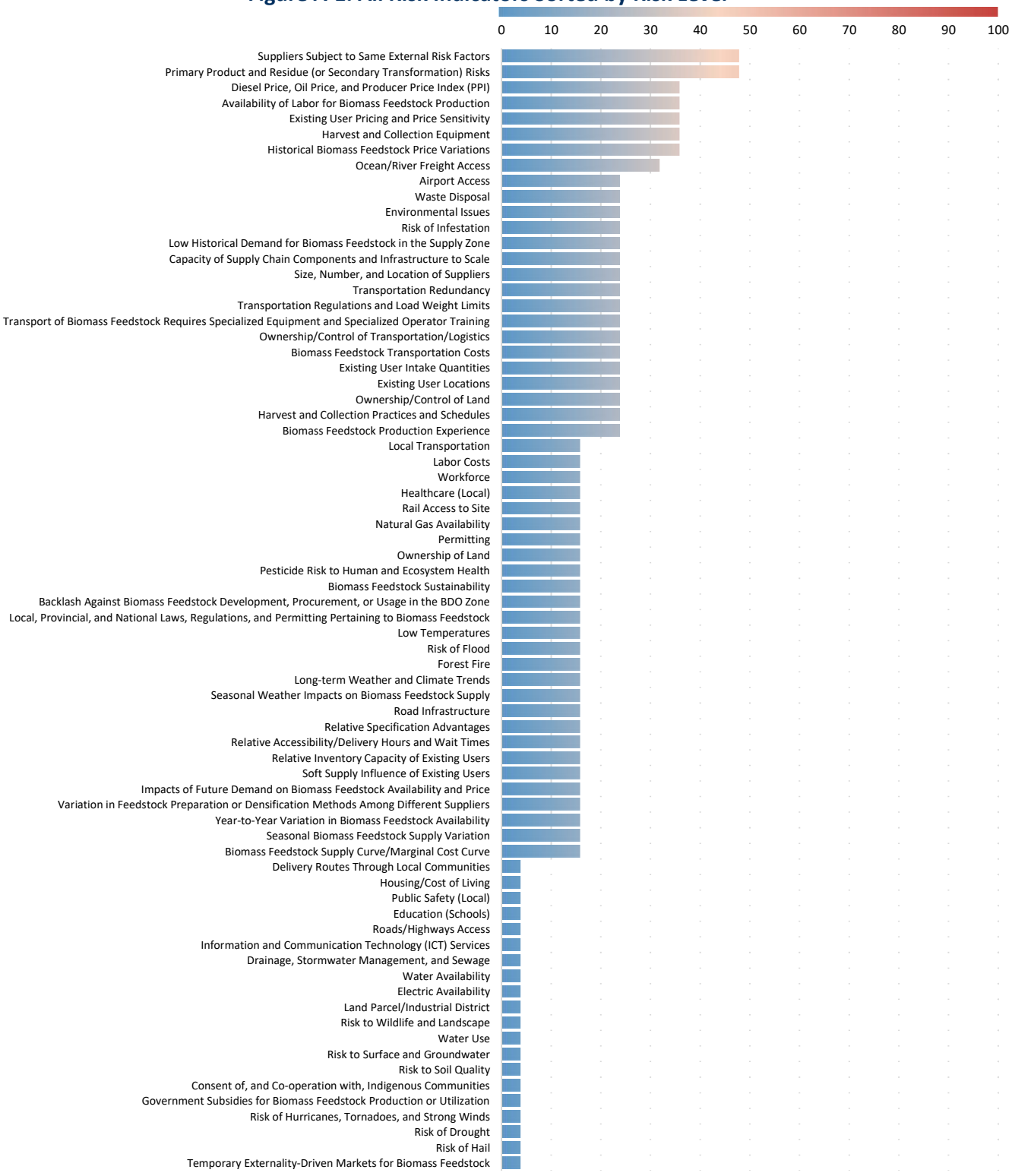


Table A-1. Risk Indicators and Associated Scores

Feedstock Supply Chain Risk Indicators	Raw Risk Likelihood	Raw Risk Impact	Gross Risk Indicator	Mitigation /Notching	Loaded RI Score
Category 1.0: Supply Chain Risk					
1.1 Risk Factor: Quantity and Delivered Cost of Available Biomass Feedstock					
1.1.1 Biomass Feedstock Supply Curve/Marginal Cost Curve	4	4	16	NN	16
1.1.2 Seasonal Biomass Feedstock Supply Variation	4	4	16	NN	16
1.1.3 Year-to-Year Variation in Biomass Feedstock Availability	4	4	16	NN	16
1.1.4 Historical Biomass Feedstock Price Variations	6	6	36	NN	36
1.2 Risk Factor: Harvest and Collection Risk					
1.2.1 Biomass Feedstock Production Experience	4	6	24	NN	24
1.2.2 Primary Product and Residue (or Secondary Transformation) Risks	6	8	48	NN	48
1.2.3 Harvest and Collection Practices and Schedules	4	6	24	NN	24
1.2.4 Harvest and Collection Equipment	6	6	36	NN	36
1.2.5 Ownership/Control of Land	4	6	24	NN	24
1.2.6 Variation in Feedstock Preparation or Densification Methods Among Different Suppliers	4	4	16	NN	16
1.3 Risk Factor: Existing Users					
1.3.1 Existing User Locations	4	6	24	NN	24
1.3.2 Existing User Intake Quantities	6	4	24	NN	24
1.3.3 Existing User Pricing and Price Sensitivity	6	6	36	NN	36
1.3.4 Impacts of Future Demand on Biomass Feedstock Availability and Price	4	4	16	NN	16
1.3.5 Soft Supply Influence of Existing Users	4	4	16	NN	16
1.3.6 Temporary Externality-Driven Markets for Biomass Feedstock	2	2	4	NN	4
1.3.7 Relative Inventory Capacity of Existing Users	4	4	16	NN	16
1.3.8 Relative Accessibility/Delivery Hours and Wait Times	4	4	16	NN	16
1.3.9 Relative Specification Advantages	4	4	16	NN	16
1.4 Risk Factor: Transportation					
1.4.1 Biomass Feedstock Transportation Costs	4	6	24	NN	24
1.4.2 Ownership/Control of Transportation/Logistics	4	6	24	NN	24
1.4.3 Transport of Biomass Feedstock Requires Specialized Equipment and Specialized Operator Training	6	4	24	NN	24
1.4.4 Delivery Routes Through Local Communities	2	2	4	NN	4
1.4.5 Transportation Regulations and Load Weight Limits	6	4	24	NN	24
1.4.6 Road Infrastructure	4	4	16	NN	16
1.4.7 Transportation Redundancy	6	4	24	NN	24
1.5 Risk Factor: Risks Related to Supply Chain Resiliency					
1.5.1 Size, Number, and Location of Suppliers	6	4	24	NN	24
1.5.2 Suppliers Subject to Same External Risk Factors	6	8	48	NN	48
1.6 Risk Factor: Biomass Feedstock Scale-up					
1.6.1 Capacity of Supply Chain Components and Infrastructure to Scale	6	4	24	NN	24
1.6.2 Availability of Labor for Biomass Feedstock Production	6	6	36	NN	36
1.6.3 Low Historical Demand for Biomass Feedstock in the Supply Zone	6	4	24	NN	24
1.7 Risk Factor: Climate and Natural Risks					
1.7.1 Seasonal Weather Impacts on Biomass Feedstock Supply	4	4	16	NN	16
1.7.2 Long-term Weather and Climate Trends	4	4	16	NN	16
1.7.3 Forest Fire	4	4	16	NN	16
1.7.4 Risk of Infestation	4	6	24	NN	24
1.7.5 Risk of Hail	2	2	4	NN	4
1.7.6 Risk of Flood	4	4	16	NN	16
1.7.7 Risk of Drought	2	2	4	NN	4
1.7.8 Risk of Hurricanes, Tornadoes, and Strong Winds	2	2	4	NN	4
1.7.9 Low Temperatures	4	4	16	NN	16
1.8 Risk Factor: Non-Weather Based Externalities					
1.8.1 Diesel Price, Oil Price, and Producer Price Index (PPI)	6	6	36	NN	36
1.8.2 Currency Risk	NR	NR	NR	NR	NR
1.8.3 Border Risk	NR	NR	NR	NR	NR
1.9 Risk Factor: Political and Social					
1.9.1 Government Subsidies for Biomass Feedstock Production or Utilization	2	2	4	NN	4
1.9.2 Local, Provincial, and National Laws, Regulations, and Permitting Pertaining to Biomass Feedstock	4	4	16	NN	16
1.9.3 Backlash Against Biomass Feedstock Development, Procurement, or Usage in the BDO Zone	4	4	16	NN	16
1.9.4 Consent of, and Co-operation with, Indigenous Communities	2	2	4	NN	4
1.9.5 Food Security Concerns	NR	NR	NR	NR	NR
1.10 Risk Factor: Sustainability and Environmental Concern					
1.10.1 Biomass Feedstock Sustainability	4	4	16	NN	16

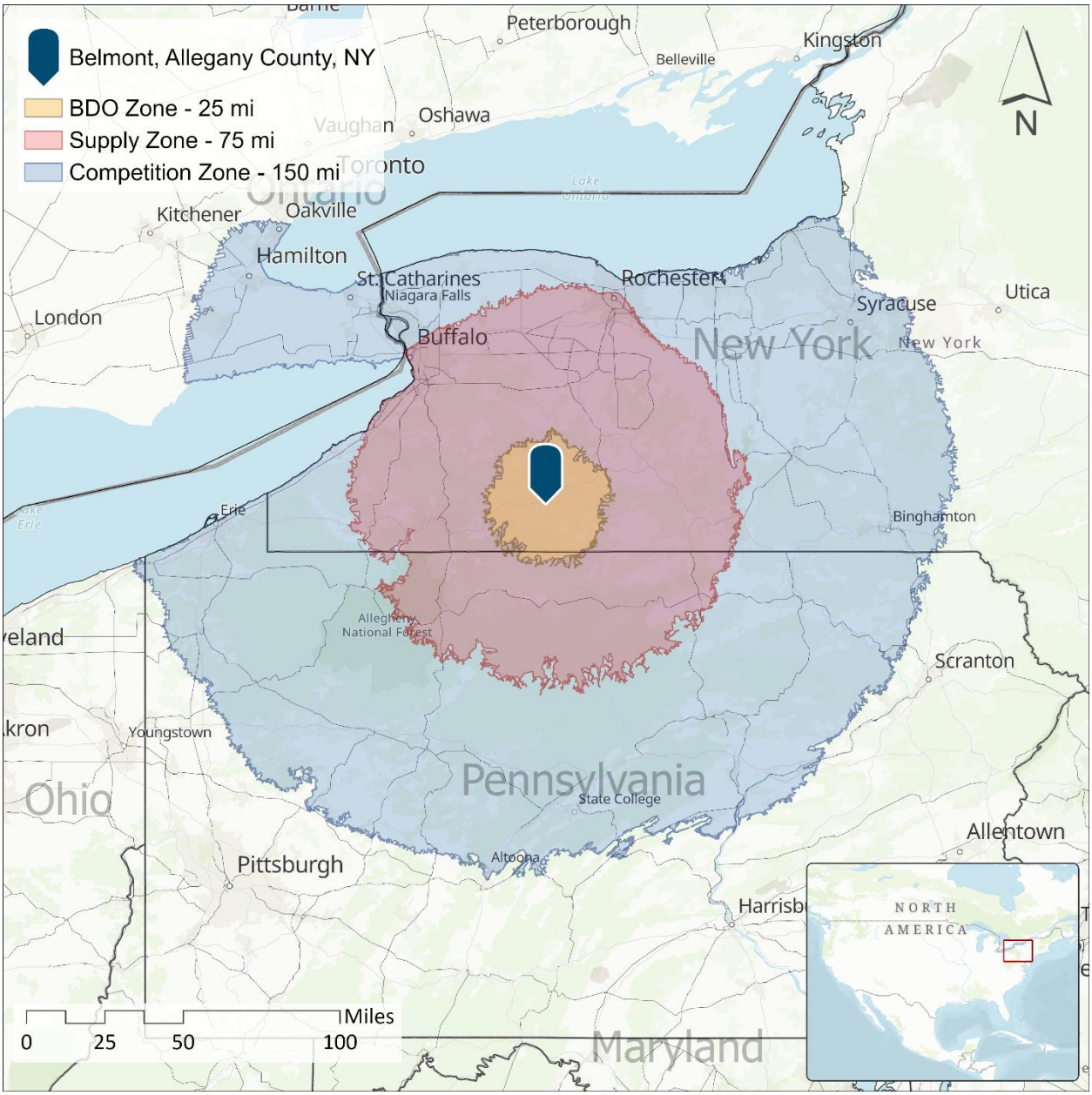
1.10.2 Risk to Soil Quality	2	2	4	NN	4
1.10.3 Risk to Surface and Groundwater	2	2	4	NN	4
1.10.4 Water Use	2	2	4	NN	4
1.10.5 Pesticide Risk to Human and Ecosystem Health	4	4	16	NN	16
1.10.6 Risk to Wildlife and Landscape	2	2	4	NN	4
Category 2.0: Infrastructure					
2.1 Risk Factor: Physical Infrastructure					
2.1.1 Land Parcel/Industrial District	2	2	4	NN	4
2.1.2 Ownership of Land	4	4	16	NN	16
2.1.3 Permitting	4	4	16	NN	16
2.1.4 Environmental Issues	6	4	24	NN	24
2.2 Risk Factor: Utilities					
2.2.1 Natural Gas Availability	4	4	16	NN	16
2.2.2 Electric Availability	2	2	4	NN	4
2.2.3 Water Availability	2	2	4	NN	4
2.2.4 Drainage, Stormwater Management, and Sewage	2	2	4	NN	4
2.2.5 Waste Disposal	4	6	24	NN	24
2.2.6 Information and Communication Technology (ICT) Services	2	2	4	NN	4
2.3 Risk Factor: Transportation/Logistics					
2.3.1 Roads/Highways Access	2	2	4	NN	4
2.3.2 Rail Access to Site	4	4	16	NN	16
2.3.3 Airport Access	6	4	24	NN	24
2.3.4 Ocean/River Freight Access	8	4	32	NN	32
2.4 Risk Factor: Social Infrastructure					
2.4.1 Healthcare (Local)	4	4	16	NN	16
2.4.2 Education (Schools)	2	2	4	NN	4
2.4.3 Local Transportation	4	4	16	NN	16
2.4.4 Public Safety (Local)	2	2	4	NN	4
2.4.5 Housing/Cost of Living	2	2	4	NN	4
2.5 Risk Factor: Labor					
2.5.1 Workforce	4	4	16	NN	16
2.5.2 Labor Costs	4	4	16	NN	16
				Average	**17.1**

SECTION B: BIOMASS AVAILABILITY AND PRICING

OVERVIEW

The assessment of available forest biomass for a prospective project in Belmont, New York incorporates three distinct zones (Map B-1). The BDO Zone represents the area defined by a 25-mile drive distance from Belmont, wherein a new biomass project could be positioned to access the rated quantities of biomass. The Supply Zone encompasses the area within a 75-mile drive distance from Belmont, from where biomass will be sourced. The Competition Zone is defined by a 150-mile drive distance from Belmont, where biomass consumers/competitors are situated that impact biomass availability within the BDO Zone.

Map B-1. BDO Zone, Supply Zone, and Competition Zone



The Supply Zone spreads over two states, New York and Pennsylvania. Of approximately 7.3 million acres of land within the Supply Zone, 4.4 million acres comprise timberland. The standing tree volume in the Supply Zone is predominantly hardwood (89%). The predominant hardwood species include maples (38%), oaks (13%), and black cherry (10%). The softwood species consist of eastern hemlock (5%), pines (4%), spruce (1%), and larch (1%).[1] Forestry represents a primary economic contributor within the Supply Zone with eight operational sawmills. The total sawmilling capacity in the Supply Zone has remained relatively constant in the past decade, with 17 forest products facilities located in the Competition Zone.

The Supply Zone has experienced relatively stable standing merchantable timber inventories (Figure E-1). However, a decrease of approximately 5.6 million bdt (6%) in small-diameter/pulpwood standing timber was recorded between 2015 and 2024 (Figure E-2). The majority of standing timber (72%) is located on privately owned forests (Figure E-3), and most harvests (81%) also occur on these privately owned forest lands (Figure E-4).[2]

EVALUATED FEEDSTOCKS

The analysis focuses on two biomass resources in the Supply Zone: pulpwood and forest residues. Sawmill residues, including wood chips, sawdust, shavings, and bark were excluded from this rating as they are fully committed to other industries (see Competition section).

Pulpwood: Consists of underutilized roundwood logs processed from small diameter trees and the upper stem sections of larger diameter trees during conventional logging operations.

Forest residues: Stem tops, branches, and other woody materials generated during timber harvesting operations. These materials are typically piled and burned, or scattered across harvest areas.

The rated feedstock quantities presented herein were determined through estimation of potentially harvestable amounts of each biomass type in the Supply Zone, with consideration of anticipated demand for biomass in the Competition Zone. A Biomass Availability Multiple (BAM) has been applied to account for the overarching assumptions, uncertainties in underlying data, models, and future operating conditions. The resulting rated quantities represent conservative estimates of biomass availability for new bio-projects. Once supply chains are developed, additional quantities of biomass are expected. Price ranges were established through market analysis and outreach in the Competition Zone and represent current expected delivered prices that a new project will need to pay to secure the rated quantities.

SUPPLY ANALYSIS

The Supply Zone produces mostly hardwood sawlogs which are transported to eight sawmills located within a 75-mile drive distance from Belmont. In a typical whole-tree harvesting operation in this region, trees are felled and skidded to a landing area, where they are then delimbed and bucked (cut) into smaller target lengths—generally 8 to 16 feet for sawlogs—before being transported to the sawmill.

[1] apps.fs.usda.gov/fiadb-api/evalidator
[2] Ibid.

Figure B-1. Average Net Growth, Average Annual Removals, and Growth to Drain Ratios in the Supply Zone (2015-2024)[3]

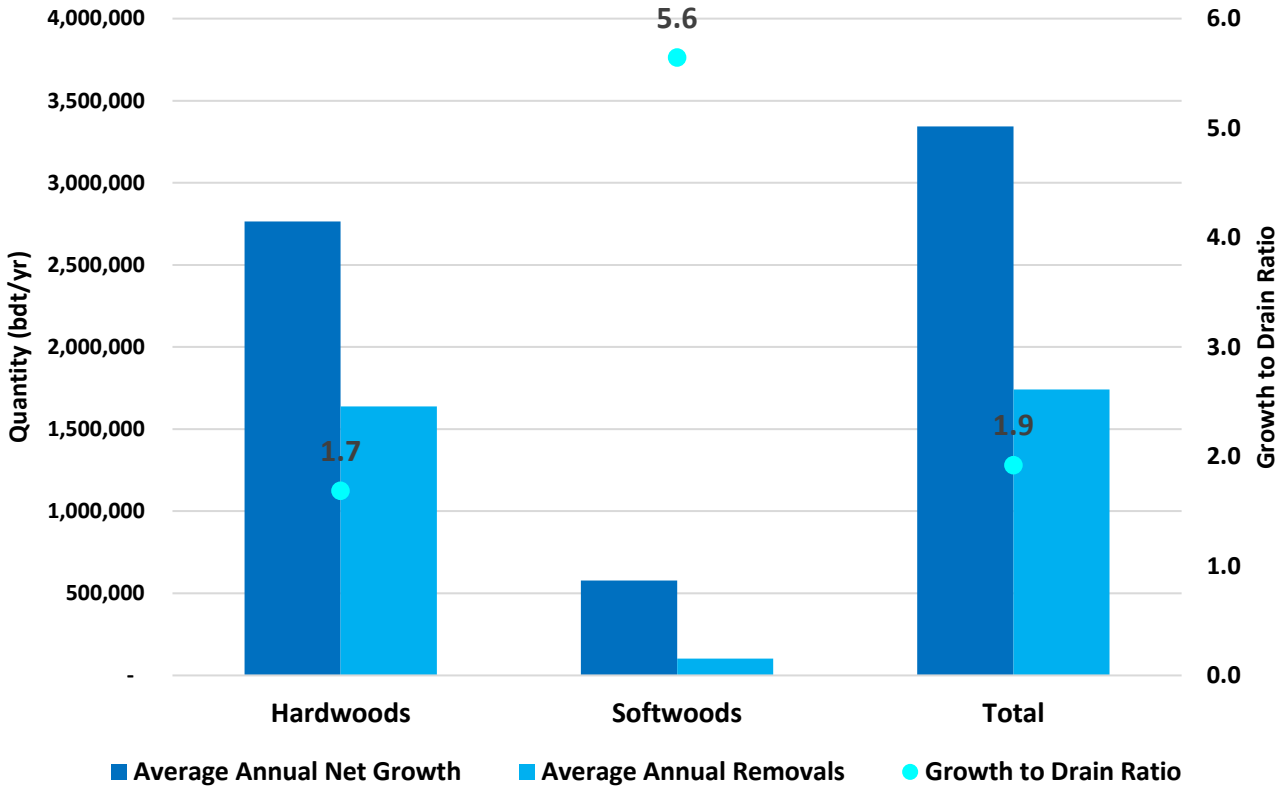


Figure B-1 illustrates the average net growth and removals per major species categories (hardwoods and softwoods). Overall, the forest stands in the Supply Zone exhibit an annual net growth of 3.3 million bdt/yr, of which 52% (1.7 million bdt/yr) is harvested, resulting in a growth-to-drain (GTD) ratio[4] of 1.9. In other words, each year there is 1.9 times as much merchantable fiber added to the fiber basket in the Supply Zone as it is taken out, providing for sustainable harvesting levels and plenty of room for additional harvest. The FIA data estimates that approximately 261,000 bdt/yr of pulpwood-size trees and 166,000 bdt/yr of pulpwood logs[5] are harvested on average. In total, approximately 427,000 bdt/yr of pulpwood are generated in the Supply Zone.

[3] apps.fs.usda.gov/fiadb-api/evalidator. Variables: 574007 Average annual net growth of merchantable bole bark and wood biomass of growing-stock trees (at least 5 inches d.b.h.), in dry short tons, on timberland; 574049 Average annual removals of merchantable bole bark and wood biomass of growing-stock trees (at least 5 inches d.b.h.), in dry short tons, on timberland.
[4] The ratio between the annual net growth and removals. A GTD of 1.1 indicates sustainable removals below the net growth measured in a forest area.
[5] apps.fs.usda.gov/fiadb-api/evalidator, Variable 574054: Average annual removals of merchantable bole bark and wood biomass above the sawlog of sawtimber trees, in dry short tons, on timberland.

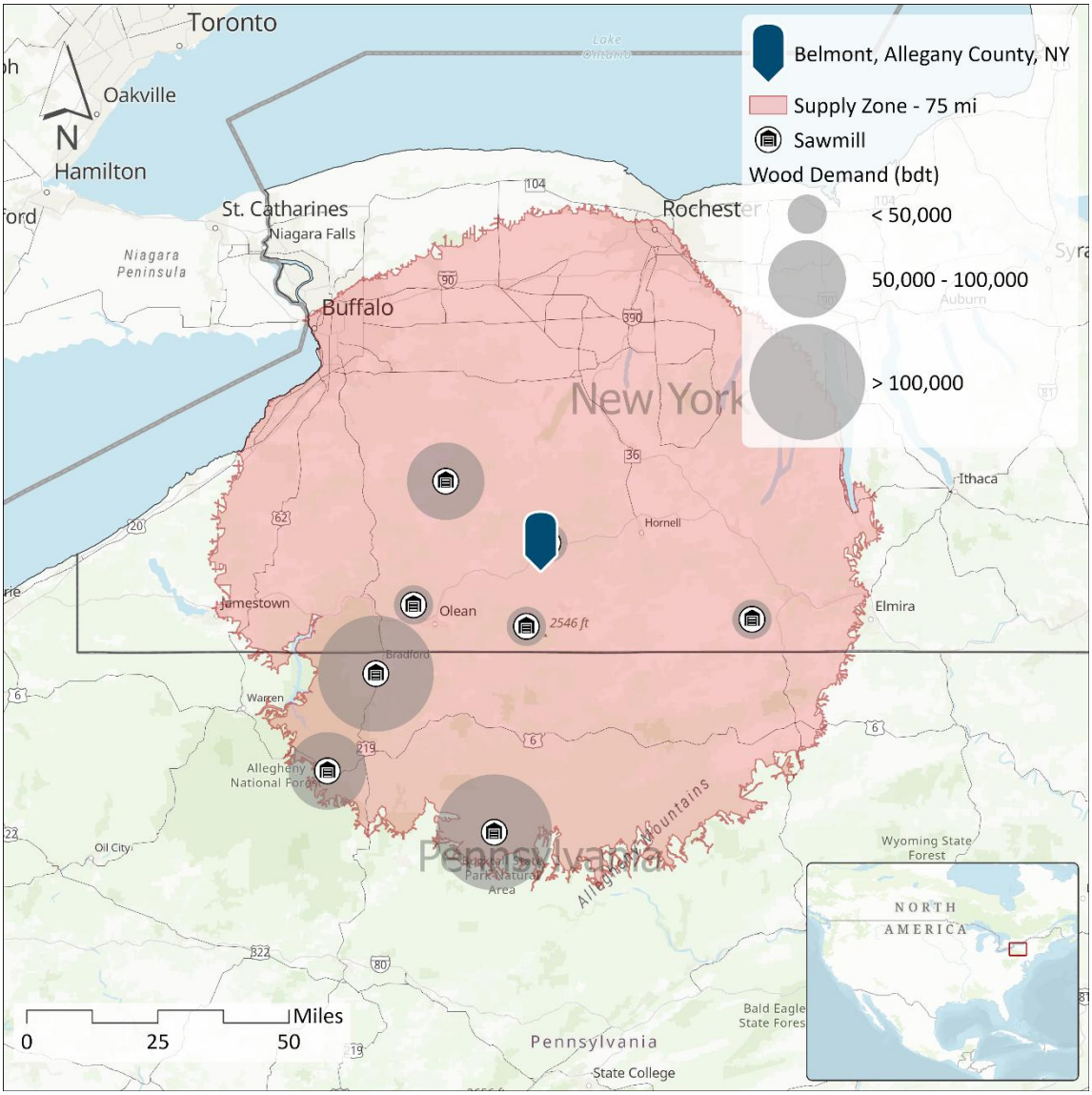
FOREST RESIDUES

The FIA data estimates that, on average, approximately 612,000 bdt/yr of forest residues[6] are generated in the Supply Zone from harvesting operations. Outreach in the region indicates due to the absence of consistent, reliable markets for low-grade material, in-woods chipping operations are on the decline due to a lack of demand. In addition, equipment costs are high and rising, posing a barrier to new entrants.

SAWMILL RESIDUES

Eight sawmills exist in the Supply Zone (Map B-2), of which one is softwood, and two are mixed hardwood/softwood mills, the remaining being pure hardwood mills.

Map B-2. Operational Sawmilling Facilities in the Supply Zone



[6] apps.fs.usda.gov/fiadb-api/evalidator, Variables: 574065 - Average annual removals of top and limb bark and wood biomass of growing-stock trees (at least 5 inches d.b.h.), in dry short tons, on timberland. Value rounded to the nearest 1,000 bdt.

Sawmill residues generated by the identified sawmills include wood chips, sawdust, shavings, and bark. Overall, the sawmills in the Supply Zone consume approximately 586,000 bdt of sawlogs each year to support their full-scale operations[7]. Table B-1 outlines the estimated quantity of sawmill residues generated annually. The supply and demand analysis, vetted by outreach to local mills and experts, indicated that the sawmills' residues produced in the Supply Zone are committed to existing markets and were thus not rated.

Table B-1. Sawmill Residue Production and Availability Estimates in the Supply Zone

Sawmill Residue	Chips	Sawdust	Shavings	Bark	TOTAL
Generated Quantity (bdt/yr) *	193,400	29,300	41,000	67,400	331,100

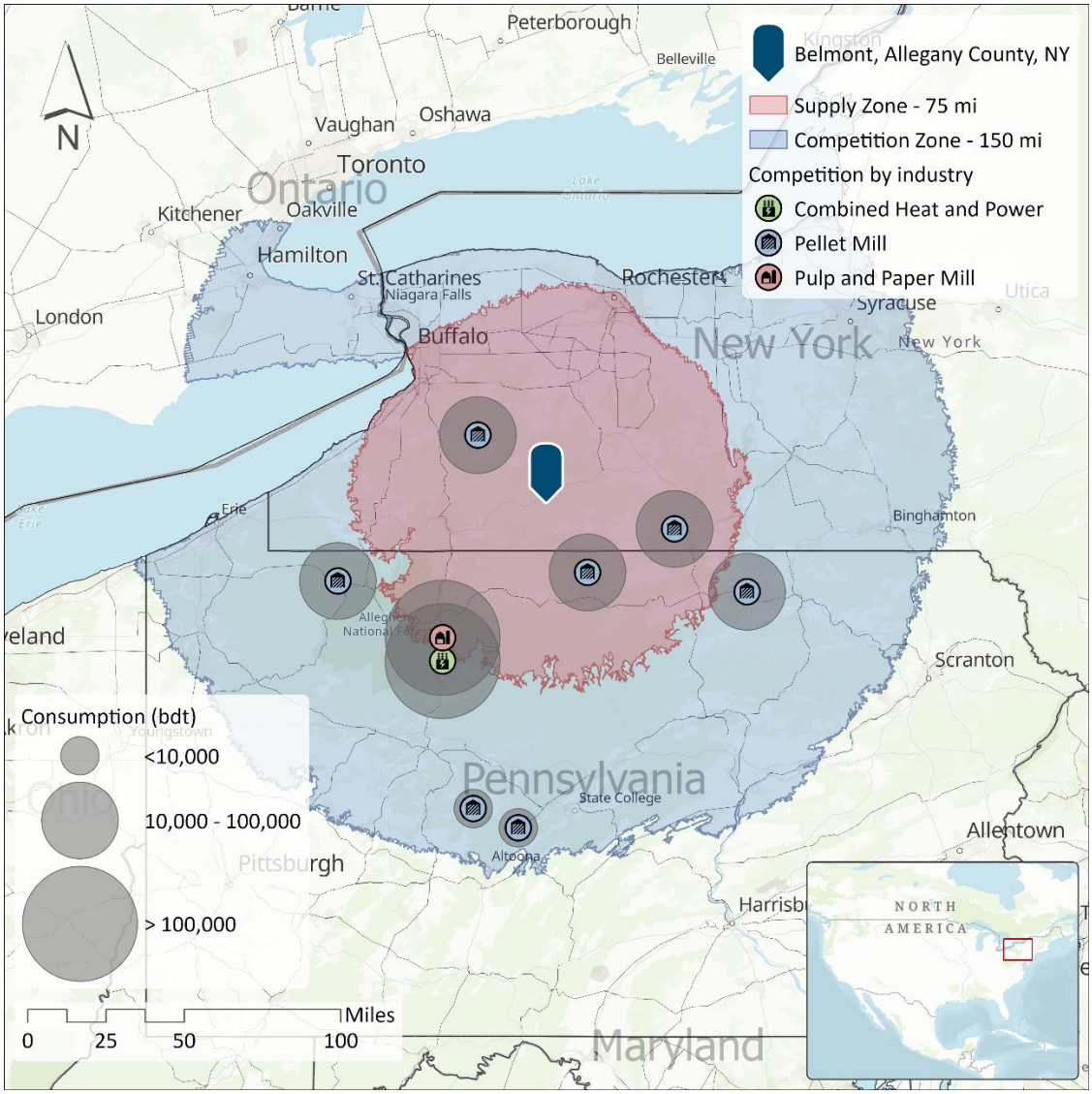
*Estimated based on mill capacities

COMPETITION ANALYSIS

Nine biomass competitors exist within the Competition Zone (Map B-3): seven pellet mills and one pulp and paper mill with an on-site CHP unit. There are two additional paper mills in the Competition Zone, but they use 100% recycled materials and therefore do not compete for woody biomass generated in the Supply Zone. The competitive landscape over the past decade has been largely stable in terms of the number of active facilities competing for feedstock and the overall wood intake among competitors (Figure B-2). These competitors currently consume an estimated 1.0 million bdt/yr of woody biomass, of which around 460,500 bdt/yr are estimated to be sourced from the Supply Zone.

[7] www.foriskmilldata.com (Q1 2026).

Map B-3. Map of Biomass Competitors in the Competition Zone[8]



[8] forisk.com/product/north-american-forest-industry-capacity-database

Figure B-2. Historical Total Woody Biomass Intake and Number of Facilities in the Competition Zone[9]

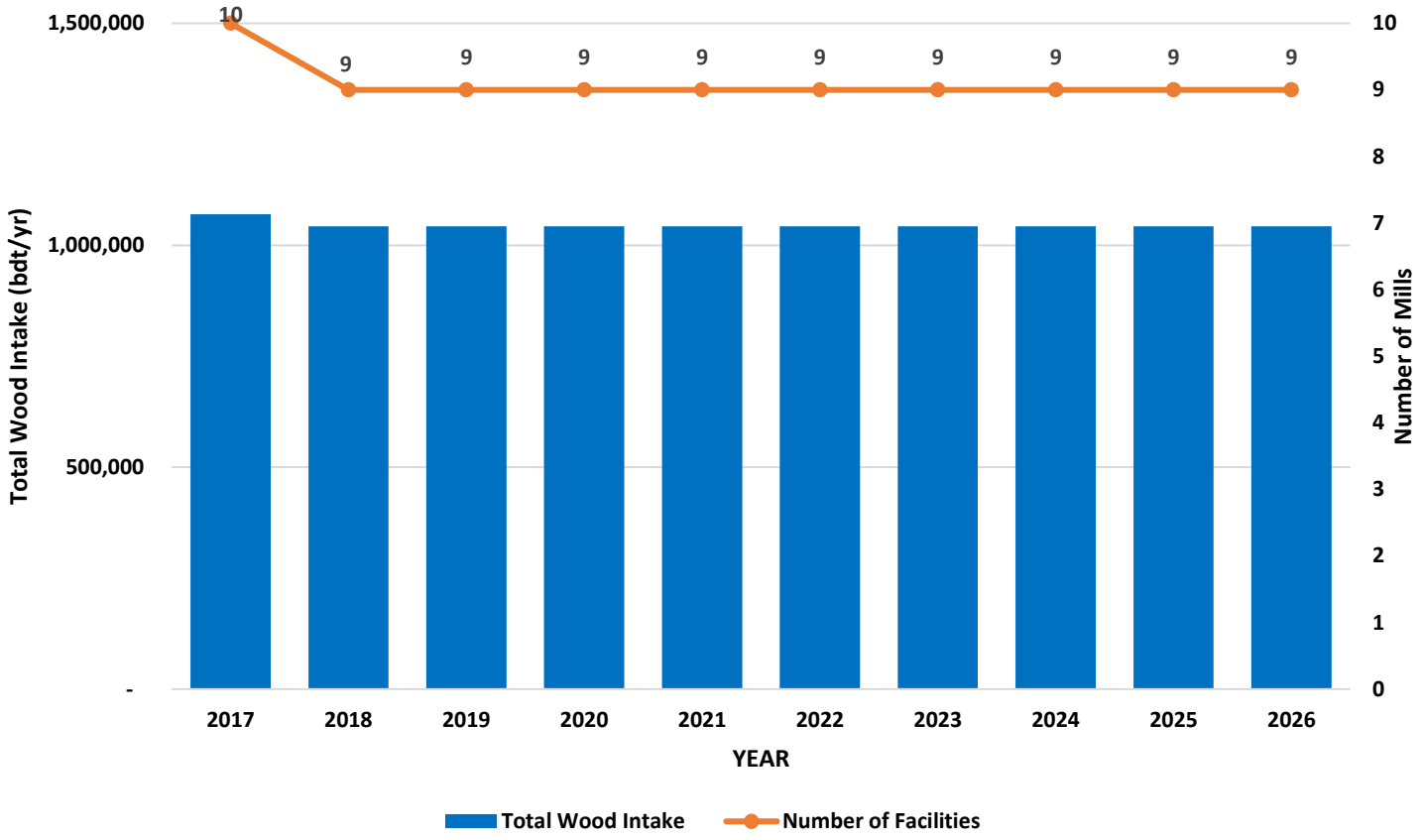


Table B-2. Woody Biomass Demand by Competitor Category

Competitor Category	Biomass Demand (bdt/yr)	% Total Demand	Biomass Demand from Supply Zone* (bdt/yr)	Feedstock Type
Pulp and Paper Mill	404,200	39%	163,900	80% Pulpwood & 20% Sawmill Residues
CHP	267,300	26%	108,400	Sawmill Residues
Pellet Mill	371,100	36%	188,200	Sawmill Residues
Total	**1,042,600**		**460,500**	

*Adjusted proportionally to the distance from Belmont to each competitor and the estimated inputs of each feedstock type.

Table B-3 shows that, after considering the estimated demand of 331,100 bdt/yr of sawmill residues and 129,400 bdt/yr of pulpwood, 611,000 bdt/yr of forest residues and 297,600 bdt/yr of pulpwood are potentially available to a project in Belmont, NY.

[9] Forisk Database

Table B-3. Woody Biomass Production, Demand, and Availability by Feedstock Type

Feedstock Type	Production (bdt/yr)	Demand (bdt/yr)	Availability (bdt/yr)
Pulpwood	427,000	129,400	297,600
Forest Residues	611,000		611,000
Sawmill Residuals	331,100	331,100	0
Total	**1,369,100**	**460,500**	**908,600**

Currently, one significant proposed facility has been identified that would directly compete for the region's feedstock. This proposed wood-to-gasoline facility will be located in Covington Township, Tioga County, PA, approximately 75-mile drive distance from Belmont. This facility plans to utilize the same low-grade woody biomass assessed in this study and is expected to consume approximately 175,000 bdt/yr of dirty chips, logging residuals, and forest slash. As of March 2026, the developers completed the Front-End-Loading Phase 2 (FEL-2) engineering stage and are currently fundraising for Phase 3 (FEL-3). However, no specific opening date has been publicly announced. Due to the large volumes of available biomass in the region, the risk posed by this proposed facility to a new project in Belmont is low. Furthermore, the development of this facility will help with creating production capacity of sawmill residuals, incentivizing loggers to invest in processing equipment. Consequently, the development of this facility would likely be beneficial to another entrant in Belmont.

RATED QUANTITIES AND PRICING

Table B-4 summarizes the technical, rated quantities, and price ranges of pulpwood and forest residues. The Biomass Availability Multiple (BAM) factors of 2.0 and 4.0 for pulpwood and forest residuals, respectively, account for uncertainty in the accuracy of existing inventory, scale-up readiness, historical harvesting practices and volumes, and sudden changes in supply and demand. However, once supply chains for a new biomass project are established, additional volumes will likely become available. Price ranges were based on outreach to local forestry professionals and corroborated with available literature. Pulpwood prices include stumpage, harvesting, and hauling costs. In addition, forest residue prices include chipping/grinding costs (Tables B-5 and B-6).

Table B-4. Rated Quantities and Delivered Price Ranges of Biomass in the Supply Zone

Biomass Type	Available Quantity (bdt/yr)	Biomass Availability Multiple (BAM)	Rated Quantity (bdt/yr)	Delivered Price Range ($/bdt)
Pulpwood	297,600	2.0	148,000	90-110
Forest residues	611,000	4.0	152,000	90-110
Total	**908,600**		**300,000**	

Table B-5. Pulpwood Price Estimates

Source	Average Delivered Price ($/bdt)
Outreach	$80
Outreach	$100-$120
Outreach	< $100
Outreach	$100
Forisk Northeast Q2 2026 Report (softwood)	$84
Forisk Northeast Q2 2026 Report (hardwood)	$106

Table B-6. Operational Activity Cost Structure of Forest Residues

Biomass Type	Avg Collection Cost ($/bdt)	Avg Chipping/Grinding Cost ($/bdt)	Avg Transport Cost ($/bdt)	Average Delivered Price ($/bdt)
Forest residues	15	65	20	100

OPERATIONAL CONSIDERATIONS

To supply the rated quantity of pulpwood 3 additional logging crews[10] and 12 logging trucks[11] would be necessary. In addition, 3 mobile grinders[12] and 14 chip vans[13] would be necessary to grind and transport the rated quantity of forest residues to the project site. The outreach findings support the conclusion that logging capacity is generally available in the Allegany County wood basket, especially among existing mechanized contractors, but that dedicated grinding and chipping capacity is more constrained. Local experts note that many contractors exited the chipping business after dirty-chip markets weakened, that pulpwood/chip producers are only a subset of the logging workforce, and that participation would likely require stable demand, adequate pricing, and ramp-up time. Therefore, logging capacity appears available; while grinding and chipping capacity should be treated as a key operational constraint.

Consequently, producing pulpwood and forest residues for a biomass project in the Allegany County region will depend firstly on creating a stable market for low-grade roundwood, pulpwood, whole-tree chips, dirty chips, brush, limbs, bark-bearing material, and other in-woods residues. Secondly, the delivered price must be high enough to intentionally mobilize contractors. Interviewees stressed that low-grade material generally requires a delivered price between $80 and $120 per bdt, depending on haul distance, material quality, and whether chipping or additional processing is required. Without pricing at this level, contractors are unlikely to move equipment, dedicate crews, or prioritize pulpwood and residue recovery.

Thirdly, the regional forest products workforce is rapidly aging. To secure a stable, long-term supply chain, a new facility will need to actively engage with regional workforce development initiatives to attract, train, and retain the next generation of highly skilled equipment operators.

Finally, transportation will be another main operating constraint. Low-grade biomass has limited margin, so haul distance must generally stay within a practical 40- to 50-mile radius unless backhauls or other logistics efficiencies are available. Facility siting, procurement planning, and supplier contracting should therefore be built around the nearby wood basket and the ability to minimize empty miles.

[10] Estimates assume an average of 14 truckloads/day/crew, 14 bdt/truckload, 225 work days/year
[11] Estimates assume an average of 4 roundtrips per day
[12] Estimates assume 20 bdt/hr grinder productivity, 225 work days/year
[13] Estimates assume approximately 4 chip vans per grinder, with rounding.

SECTION C: INFRASTRUCTURE



PROPERTY OVERVIEW

Site Name:	Wellsville Business Park
Address:	37 Coats Street
City:	Wellsville
State:	NY
County:	Allegany
Acres:	22
Topography:	Generally Flat
Zoning:	General Industrial

SITE CONTACTS

Economic Development Contact
Craig R. Clark
(607) 968-0214
Craig.clark@alleganyco.gov

Melissa Pingitore
(716) 307-1580
melissa.pingitore@acida.org

ADDITIONAL NON-RATED SITES

Infrastructure Site Contact
Jaidan Hunt
Manager of Advisory Operations
jaidan@ecostrat.com

TRANSPORTATION

The Wellsville Business Park has direct access by road via NYS Route 19 and Riverside Drive, with NYS Route 417 less than 0.5 miles away. I-86 is approximately 10 miles north, providing connection to I-90. Rail service is provided by Western New York and Pennsylvania Railroad, which connects to Class I carriers Norfolk Southern and CSX. Wellsville Municipal Airport (ELZ), a public municipal airport classified as a general aviation facility, is approximately 2 miles from the site. The nearest commercial service airport is Elmira Corning Regional Airport (ELM), approximately 75 miles east via I-86; Buffalo Niagara International (BUF) and Greater Rochester International (ROC) are both approximately 80–85 miles.

ELECTRIC SERVICE

Municipal electric service is available on-site through the Wellsville Municipal Electric Department, supplied via a distribution system that typically operates at 4.16kV; the site's history with heavy industrial steam turbine testing means that higher voltage service and substantial transformer capacity are also available on-site. **Contact:** Ryan Stisser, Electric Superintendent, (585) 596-1742

NATURAL GAS

Natural gas service is available on-site through National Fuel Gas Distribution. The site previously supported heavy industrial manufacturing involving steam turbine testing, indicating that significant gas capacity was historically present. **Contact:** National Fuel Gas Distribution (716) 857-7000

WATER

Municipal water service is provided on-site by the Village of Wellsville Water Department. The Wellsville Water Treatment Plant is rated for 2.5 MGD; current average daily consumption is approximately 0.9 MGD, leaving over 1.5 MGD of excess capacity available for industrial processing or cooling. **Contact:** Village of Wellsville DPW, 585-596-1710

WASTEWATER

Wastewater services are provided by the Village of Wellsville, with treatment at the Wellsville Wastewater Treatment Plant located nearby on the Genesee River. The plant is rated for 2.5 MGD; current average usage is approximately 0.9 MGD, leaving significant excess capacity for industrial effluent. **Contact:** Wellsville Department of Public Works, (585) 596-1725

TELECOMMUNICATIONS

Fiber-optic internet and telecommunications services are available through Armstrong Business Solutions and Spectrum Business. Available services include fiber-optic internet at speeds described as up to 10 Gbps symmetric, DIA, hosted VoIP, and managed IT services; enterprise-grade redundant Wi-

Fi and state-of-the-art IT infrastructure. **Contact:** Armstrong Business Solutions, (877) 277-5705 & Spectrum Business, (855) 325-6063

SECTION D: RISK INDICATOR SCORING METRICS

CATEGORY 1.0: SUPPLY CHAIN RISK

1.1 Risk Factor: Quantity and Delivered Cost of Available Biomass Feedstock

1.1.1 Biomass Feedstock Supply Curve/Marginal Cost Curve

Rationale: The greater the feasible transport distance, the more feedstock is accessible to the Issuer, but at a higher delivered cost. The feedstock supply curve, sometimes referred to as the marginal cost curve, is a function of feedstock availability over its cost, which is primarily, but not exclusively, a function of distance. The feedstock supply curve is used to determine the availability of redundant feedstock at various price points, as well as the cost of replacing feedstock with substitutes located at different distances.

Feedstock cost curves are useful in determining supply chain resilience; they provide information about the cost of feedstock availability in times of supply disturbance. Biomass supply chains are prone to supply disturbances over time; suppliers can become insolvent, or weather events can temporarily disrupt feedstock availability. When a disturbance occurs, the Issuer may need to source replacement feedstock from different suppliers at different locations and at different costs. A biomass supply curve indicates quantities of feedstock available at various price levels from suppliers generally located further away than the core supplier.

Risk Information: Analysis of the supply curve data indicates that the rated quantity is generated within a drive distance just above 45 miles. The supply curves, shown in Figures E-6 and E-7, Section E indicate that additional feedstock volumes remain available within the rated price range of $90-$110/bdt, providing a buffer against potential supply disruptions. As a result, based on the rated quantities of pulpwood and forest residue, potential feedstock availability within economically viable hauling distances is considered low risk.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.1.2 Seasonal Biomass Feedstock Supply Variation

Rationale: Biomass supply can present significant seasonal variations. Seasonal supply variations, combined with limitations associated with longer-distance transportation and storage, can lead to BDO Zone biomass supply imbalances,[14] which can manifest in shortages and higher costs for Issuers.

Risk Information: The spring and fall wet seasons can make timber access more difficult and cause some temporary delays. Although the unpredictable timing of weather impacts in the fall and winter can make planning difficult, a project could actively stockpile large inventories of wood during the drier months to ensure a steady supply when weather-related access issues arise later in the year.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**

[14] Golecha & Gan, 2016.

Raw Risk Impact (RRI)	Score
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.1.3 Year-to-Year Variation in Biomass Feedstock Availability

Rationale: Biomass can have significant year-to-year supply variations due to variability in yield from biomass harvesting operations.

Risk Information: Regional roundwood harvest volumes declined from approximately 1.8 million BDT in 2015 to just under 1.5 million BDT in 2018. Since then, harvest activity has steadily increased, reaching nearly 2.0 million BDT by 2024 (Figure E-5). FIA data indicates a substantial surplus, with annual forest growth across the state greatly outpacing extraction, adding hundreds of millions of cubic feet in volume each year, as indicated by a growth-to-drain ratio of 1.9. Risk is deemed low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.1.4 Historical Biomass Feedstock Price Variations

Rationale: If the historical feedstock price shows volatility, then the risk of future price fluctuation is elevated. If feedstock prices have historically exceeded the price at which the Issuer would have to cease operations or breach a financial covenant (i.e., the "red line" feedstock cost), then mitigation measures should be put in place.

Risk Information: Analysis of softwood and hardwood pulpwood pricing over the past decade found that prices were relatively stable until Q2 2022 for softwood and Q4 2021 for hardwood (Figure E-9). During this period of stability, prices ranged from $70–$78/bdt for softwood and $78–$90/bdt for hardwood. Softwood pulpwood pricing was $74/bdt in Q2 2022 and then underwent a period of substantial growth, reaching $92/bdt in Q4 2022. Hardwood also experienced a significant price increase around this time period, rising from $78/bdt in Q4 2021 to $146/bdt in Q1 2023. This period of rapid growth was followed by a decline in prices, which fell to $76/bdt and $100/bdt in Q2 2023 for softwood and hardwood, respectively. Prices then entered another growth phase, reaching $98/bdt in Q2 2025 for softwood and $126/bdt in Q4 2023 for hardwood. Prices have since declined and now stand at $84/bdt and $106/bdt for softwood and hardwood, respectively.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	6
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	6

Gross Risk Indicator (GRI)	Score
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	36
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	36

1.2 Risk Factor: Harvest and Collection Risk

1.2.1 Biomass Feedstock Production Experience

Rationale: Risk is higher when suppliers have limited experience with planting, growing, harvesting, processing, and/or collecting biomass. Limited experience may be common for forest residue supply chains where forestry producers may have no previous experience.

Risk Information: The region boasts an established regional workforce dominated by resilient, second- and third-generation contracting businesses. Currently, semi-mechanized logging crews utilizing traditional chainsaws and cable skidders account for approximately forty percent of the workforce, whereas heavily mechanized operations equipped with complex machinery like feller-bunchers represent the remaining sixty percent. Additionally, small single-operator logging outfits have largely disappeared, replaced by highly organized contracting companies that frequently manage multiple crews to meet the high-volume throughput requirements of modern industrial facilities. Notably, the regional workforce lacks recent operational experience with in-woods grinding and chipping. Some operators that previously owned specialized chipping and grinding equipment have sold it off and exited that line of business entirely due to low demand. While some operators have held on to their equipment, they do not get much use out of it because of this low demand. Thus the risk was elevated to low-medium.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	6
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	24
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

1.2.2 Primary Product and Residue (or Secondary Transformation) Risks

Rationale: If the feedstock is a new/secondary product or a by-product, suppliers may either lack sufficient experience to mitigate risk or be unable to react to such risk. Secondary products or by-product producers may be less likely to prioritize production. For new product types, inexperience in planting, harvest, collection, and yield data may pose higher levels of risk. If the feedstock is a secondary transformation (i.e., forest residue), then production can be subject to variables beyond suppliers' control (e.g., changing demand for sawtimber).

Risk Information: In this region, the generation of secondary feedstock is almost entirely dependent on the primary hardwood processing sector. Forest residue is generated through timber harvesting. Pulpwood harvesting also depends on demand for lumber (although thinnings may be considered an exception). Therefore, the health of the lumber industry is directly correlated to the availability of woody biomass. The lumber industry is currently suffering from a decades-long demand slump caused by high interest rates and declining housing construction. Despite the fact that

some primary processing facilities have pivoted to exporting their products to international markets, the risk remains medium-high.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 48 out of 100.	**48**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 48 out of 100.	**48**

1.2.3 Harvest and Collection Practices and Schedules

Rationale: Differences in harvest timing and practices used can create risk to both the quantity and quality of feedstock. For example, feedstock harvested by different suppliers in different windows can undergo varying levels of exposure to sun, wind, and moisture, leading to variations in delivered feedstock quality. For forestry biomass, unsightly clear-cuts and slash piles (even on plantation forests and especially when located near communities) can provoke unwanted public backlash even when suitable and sustainable replanting regimes are followed.

Risk Information: In this region, pulpwood and low-grade biomass materials are primarily recovered during even-aged forest management operations, particularly through first-entry shelterwood cuts and timber stand improvement thinnings designed to manage sunlight and remove low-quality stems. The predominant collection method utilizes highly mechanized whole-tree harvesting, where trees are felled with heavy machinery, skidded to a central landing area, and subsequently delimbed and bucked into target lengths. Due to a low demand for low-grade wood, some operators frequently leave pulpwood standing in the forest or abandon forest residues across the cutovers and at the roadside. Ultimately, current practices increase the risk of fluctuating quality of both pulp logs and forest residues.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.2.4 Harvesting and Collection Equipment

Rationale: Different types of harvesting and collection equipment used by suppliers in a BDO Zone can have a significant impact on the quality and availability of feedstock. Using different types and combinations of harvesting, collection, and processing equipment among suppliers can lead to non-homogeneous feedstock. Equipment that is not designed specifically for biomass cultivation, harvesting, and collection can increase feedstock quality risks. Relevant equipment should be specified for the sake of product consistency and risk reduction.

Risk Information: To supply the rated quantity of pulpwood 3 additional logging crews and 12 logging trucks would be necessary. In addition, 3 mobile grinders and 14 chip vans would be necessary to grind and transport the rated quantity of forest residues to the project site. The outreach findings support the conclusion that logging capacity is generally available in the Allegany County wood basket, especially among existing mechanized contractors, but that dedicated grinding and chipping capacity is more constrained, increasing the risk to medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**36**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**36**

1.2.5 Ownership/Control of Land

Rationale: Suppliers that own land or a production facility where feedstock is produced tend to have better control of supply chains and present lower degrees of supply risk.
Risk Information: The vast majority of standing timber in the Supply Zone is privately owned timberlands (72%), and most harvests (81%) happen on these privately owned woodlands. A notable demographic trend is the fragmentation of private lands into smaller parcels owned by individuals or families, meaning future biomass procurers will have to negotiate with a larger volume of independent landowners who often possess significant property assets but lack the liquid capital to actively manage them. At the industrial level, Timber Investment Management Organizations and Real Estate Investment Trusts frequently consolidate larger tracts in northern Pennsylvania.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.2.6 Variation in Feedstock Preparation or Densification Methods Among Different Suppliers

Rationale: The shape and density of the unit in which feedstock is supplied can impact feedstock cost and quality. Standard feedstock densification modes for biomass consist of round or square bales, pellets, cubes, chips, or grindings. The size of wood fiber processed in a grinder is less homogenous than if a chipper is used. Bales of different densities can absorb moisture at different rates. In certain cases, round bales have been viewed as problematic due to their uneven moisture content distribution.[15]

[15] Huhnke, 2018.

Risk Information: Forest residues are likely to be the most variable because grinding and collection methods differ among suppliers. However, a new project is assumed to manage this risk through feedstock specifications and receiving-system design, the risk was deemed low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3 Risk Factor: Existing Users

1.3.1 Existing User Locations

Rationale: Competitors' locations relative to siting locations within a BDO Zone can affect the viability of procuring feedstock and the cost of that feedstock. Accurate and detailed competitor mapping provides an understanding of a competitor's geographical influence on new plants within a BDO Zone, including competitive advantages such as short hauling.
Risk Information: Nine biomass competitors exist within the Competition Zone: seven pellet mills and one pulp and paper mill with an on-site CHP unit. Existing users mainly target sawmill residuals; however, the pulp/paper mill located around 61 mi away does take in pulpwood from chipping yards in combination with sawmill residuals. With that said, the region has plenty of excess pulpwood and forest residues capable of supporting a new project.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.3.2 Existing User Intake Quantities

Rationale: Clear understanding of feedstock consumption by key competitors for each rated feedstock type in the BDO Zone is essential to quantifying competitor risk. Understanding current consumption and historical trends of feedstock utilization can provide valuable information about feedstock price elasticity during shortages and insight into events that may impact future supply conditions. It can enable more accurate estimates of the sensitivity of feedstock availability to potential future consumption levels or the impact of external events (e.g., weather events, structural economic changes, seasonality, or policy change).
Risk Information: The pulp and paper mill in Elk County, PA has a total demand of around 404,200 bdt/yr of material, of which around 163,900 bdt/yr are sourced from the Supply Zone. Of the 163,900 bdt/yr of material sourced within

the Supply Zone, about 129,400 bdt/yr of the material is estimated to be pulpwood. Risk is deemed medium-low as the pulp and paper mill could increase demand for pulpwood.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.3.3 Existing User Pricing and Price Sensitivity

Rationale: Understanding how much competitors pay (or receive) for different feedstock types is essential in determining the Issuer's competitiveness and accurately assessing the delivered cost range in the BDO Zone rating.

Current and historical prices paid/received by competitors provide insight into their procurement behaviors and exert pressure on suppliers in the BDO Zone, such as the ability/willingness to pay premiums for feedstock during times of feedstock shortage or reduce prices (or cut-off deliveries) during gluts. Competitors that have the ability to offer higher prices for feedstock during feedstock shortages can pose a significant risk to the Issuer.

Knowledge of competitor pricing and price sensitivity is also an essential prerequisite to formulating a feedstock cost curve, which can enable predictions of feedstock redundancy, i.e., how much feedstock could become available at different pricing levels.

Risk Information: Regional pulpwood pricing has remained between $76-$98/bdt and $100-$126/bdt since Q2 2023 for softwood and hardwood, respectively. Outreach indicates that current pulpwood prices are around $100/bdt delivered. There is some risk associated with potential price competition with the pulp and paper mill in Elk County, PA. Risk is deemed medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**36**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**36**

1.3.4 Impacts of Future Demand on Biomass Feedstock Availability and Price

Rationale: Feedstock utilization in a BDO Zone can change over time. Expansion of feedstock demand by current competitors can put additional pressure on feedstock and lead to higher prices, feedstock disruptions, shortages, supplier breaches, or other types of supply chain disruption.

If current markets for feedstock have been publicly signaling the potential for increased demand for feedstock (in the case of a sawmill adding a shift or pulp mill potentially expanding into the production of renewable chemicals, for example), high interest in a supply zone can make suppliers overconfident, leading to a supplier-controlled market where short-term contracting becomes the norm and supply chain reliability is compromised for the Issuer. If and when it occurs, increased demand on feedstock may decrease availability and increase cost for new plants within the BDO Zone.

Risk Information: One proposed facility that would compete for feedstock with a new project was identified. This facility will specialize in converting low-grade woody biomass (dirty chips, logging residuals, and slash)[16,17,18] into drop-in fuels, such as gasoline. The site will be located in Covington Township, Tioga County, PA, thus it's procurement area will likely have a significant overlap with the Supply Zone of a project in Belmont, NY, as it is only around a 75 mi drive distance. This facility has a proposed intake capacity of 1,000 green tons per day of low-grade biomass (around 175,000 bdt/yr). In March 2026, the Front-End-Loading Phase 2 (FEL-2) was completed, the second of a four-stage engineering process[19,20], the company is now fundraising for FEL-3[21]. No specific opening date has been publicly stated, consequently, the risk was deemed low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.5 Soft Supply Influence of Existing Users

Rationale: In some cases, existing markets for feedstock may be able to exert high degrees of pressure over local suppliers, effectively enabling control of feedstock, especially during times of shortage. This control can derive from qualitative or "soft" factors, such as long previous relationships between local suppliers and existing markets for feedstock.

Risk Information: Although existing fiber consumers have historically anchored the regional market, their influence over suppliers is currently limited by severe market oversupply and restricted intake capacity. Because of this oversupply, most existing buyers operate on a strict quota system, frequently shutting off supply as their log yards fill quickly. Local outreach indicates that many loggers currently struggle to even secure a quota, constraining them to operate significantly below their potential logging and logistical capacity. As a result, logging contractors have substantial excess production capacity and consistently expressed strong interest in an additional outlet for low-grade wood fiber. Outreach indicated that a new facility would not disrupt existing supplier relationships but would instead utilize material that current markets are unable to absorb.

[16] https://www.woodlandbio.com/#:~:text=dirty%20wood%20chips%2C%20made%20from%20low%2Dgrade%20materials
[17] https://www.ntcareerconnect.com/business/woodland-biomass-innovations/
[18] https://www.linkedin.com/posts/biznewspa_a-pennsylvania-startup-that-aspires-to-make-activity-7444828070013796354-WCol
[19] https://advancedbiofuelsusa.info/woodland-biomass-innovations-validates-engineering-design-for-first-commercial-facility
[20] https://treefrogcreative.ca/woodland-biomass-draws-closer-to-construction/#:~:text=completed%20the%20second%20of%20a%20four%2Dstage%20process
[21] https://www.bioenergy-news.com/news/woodland-biomass-innovations-validates-engineering-design-for-wood-to-gasoline-facility/#:~:text=fundraising%20for%20FEL%2D3%20execution%20engineering

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.6 Temporary Externality-Driven Markets for Biomass Feedstock

Rationale: Alternative, non-traditional, externality-driven competitors for feedstock can drive feedstock demand (and cost) in unusual circumstances.

Risk Information: No significant non-traditional or emerging market competitors for feedstock were identified.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.3.7 Relative Inventory Capacity of Existing Users

Rationale: The more inventory a competing biomass facility is able to store, the more competitive pressure it can exert on supply. The ability to store large inventories allows competitors to purchase inventory when the prices are low, potentially giving it an economic advantage. Additionally, the ability to store inventory during feedstock supply surpluses can enable competitors to continue to intake feedstock when the Issuer's plant (with lesser inventory capacity) may be forced to put suppliers on quota. Larger inventory capacity on the part of competing markets creates supplier loyalty and can make it more difficult for new projects to secure supply without paying a significant premium.

Risk Information: Although existing competitors possess substantial wood chip storage capacity, the abundant availability of pulpwood and forest residues within the Supply Zone limits any competitive advantage this may provide. As a result, this indicator is considered low risk.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**

The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.8 Relative Accessibility/Delivery Hours and Wait Times

Rationale: The value attributed by suppliers to local competing markets for biomass is often directly related to the degree of flexibility the market provides in terms of delivery hours and the more efficient discharge can occur.

Risk Information: Industry outreach revealed no material transportation, access, or unloading challenges that would impede feedstock deliveries. As such, this indicator presents a low procurement risk.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.3.9 Relative Specification Advantages

Rationale: When choosing a market for biomass feedstock, suppliers not only look at price but also at relative quality requirements or specifications. It is important to understand feedstock quality specifications for competing markets within the BDO Zone in order to accurately quantify the risk that competitors can exert on the Issuer's supply chain.

Risk Information: The region is primarily served by a pulp and paper facility and several pellet plants that require clean, highly processed feedstocks, typically sourced from sawmill or secondary chip operations. These facilities generally avoid raw roundwood and in-woods material due to strict quality specifications, resulting in significant volumes of forest residues and lower-grade fiber remaining underutilized and without a consistent market outlet. A new project capable of accepting a broader feedstock mix, including unprocessed or minimally processed material, would be well positioned to capture this stranded supply. While clear feedstock specifications would still need to be maintained and enforced, the project would also have the ability to establish its own requirements without material barriers. Accordingly, the risk associated with this indicator is considered low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.4 Risk Factor: Transportation

1.4.1 Biomass Feedstock Transportation Costs

Rationale: Transportation can be one of the most significant cost components of biomass supply chains. The average transport cost and percentage of total feedstock cost attributable to transport should be known.

Transport distances of 50-75 miles for biomass feedstocks are typical, but larger distances can be common. Where the average transport distance from suppliers to Issuers is high, the supply chain is subject to greater sensitivities to risks, such as increases in diesel cost, weather impacts, mechanical breakdown, and the demand for scarce feedstock from competitors closer to the source.

Understanding average transport distance can help flag higher-risk BDO Zones where transport distance materially exceeds the average.

Risk Information: Local outreach and research found that the typical transportation charge for up to a standard 50-mile hauling distance is $20/bdt (~$0.40/bdt/loaded mile). Compared to a delivered price of $90-$110/bdt, the transport cost accounts for roughly 18%-22% of the total biomass cost. Because any disruption in fuel prices or routing efficiency can quickly threaten contractor solvency, the risk is elevated to low-medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.4.2 Ownership/Control of Transportation/Logistics

Rationale: In most cases, suppliers that own or lease transportation equipment necessary to transport biomass from forests or fields are at lower risk than those that do not. However, in some circumstances, reliance on third parties to transport biomass is common practice and does not contribute to risk.

Risk Information: For independent logging contractors, a lack of dedicated markets for low-grade wood has forced many to operate far below their actual physical capabilities. Consequently, existing transportation capacity remains significantly underutilized, with operators maintaining trucks, equipment, and crews that are currently sitting idle. Regional outreach indicates that if a new biomanufacturing facility were to introduce a strong, consistent demand signal, it would quickly unlock this latent supply, allowing local suppliers to rapidly mobilize their existing transportation equipment to meet the new capacity requirements without facing immediate logistical bottlenecks. However, if an incoming project relies on chipped forest residues, suppliers will face a lack of chip vans. Currently, the region's timber harvesting infrastructure is not equipped to produce or transport large volumes of chipped material. Therefore, mobilizing meaningful quantities of forest residues at a commercial scale will require significant new infrastructure investments, elevating the risk to low-medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

1.4.3 Transportation of Biomass Feedstock Requires Specialized Equipment and Specialized Operator Training

Rationale: Requirements for specialized transport equipment (e.g., walking-floor trailers) can increase supply chain risk. Where there is low availability of required transportation equipment, equipment owners have increased leverage over transportation prices, and supply chain resiliency can be lower.

Risk Information: Transporting processed biomass, such as wood chips or forest slash, requires dedicated chip trailers rather than the standard flatbed log trailers used for hauling roundwood. Relying on single-use chip trailers can sometimes complicate logistics by limiting opportunities for profitable backhaul loads. The region currently possesses sufficient capacity for transporting pulpwood, but there is a limited capacity for transporting forest residues.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	6
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	24
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

1.4.4 Delivery Routes Through Local Communities

Rationale: Transportation of biomass can become a nuisance to local communities, especially if a large number of trucks pass through residential and school areas. Local communities often have the power to force regulations regarding truck transport, impeding the ability of BDO Zone suppliers to transport feedstock.

Risk Information: Forestry truck traffic is common in the region, and no evidence of public opposition to such activity was identified. The risk was deemed very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.4.5 Transportation Regulations and Local Weight Limits

Rationale: In many BDO Zones, transportation is regulated based on seasonal road conditions. These regulations (e.g., "frost laws") often take the form of weight restrictions or limits on the number of trucks allowed on roads. Such regulations can impede the project's ability to source sufficient feedstock or increase the cost of doing so at certain times of the year.

Risk Information: In Pennsylvania and New York, gross vehicle weight limits are generally 80,000 lbs. Seasonal road weight restrictions also apply, particularly during freeze–thaw periods. Seasonal road weight restrictions apply on certain routes, and in some jurisdictions, requires timber haulers to enter into formal maintenance agreements and secure expensive hauling bonds, creating a financial and administrative burden.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.4.6 Road Infrastructure

Rationale: Feedstock cost and availability can be a function of road infrastructure, in particular the accessibility the infrastructure provides to feedstock. Issues with road networks will translate directly to risks to feedstock supply.
Risk Information: Tertiary roads, including logging roads, are typically unpaved and can be affected by wet conditions during the winter–spring transition period. However, this is a common and well-understood constraint across North American forestry operations and is typically managed through stockpiling, scheduling, and road maintenance or construction. No significant road infrastructure issues were identified through outreach to local forestry professionals.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.4.7 Transportation Redundancy

Rationale: Transport equipment redundancy is important for dealing with seasonally variable feedstock supplies as well as the risk of equipment breakdowns.
Risk Information: Outreach found that transport redundancy does not appear to be an issue for the rated quantities of pulpwood, but there is a limited capacity of chip vans currently available.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**

No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.5 Risk Factor: Risks Related to Supply Chain Resiliency

1.5.1 Size, Number, and Location of Suppliers

Rationale: In general, a supply portfolio involving multiple suppliers of various sizes (and from multiple BDO Zones) is important for ensuring steady and uninterrupted feedstock supply with minimal price fluctuations. If a small number of large suppliers provides a high proportion of total feedstock, a disruption or supplier breach will have greater impact on the supply chain. In such cases the risk of disruption is lower, but the impact of those disruptions is higher. Conversely, many small suppliers are less likely to have the capacity to withstand internal disruptions and thus may be more likely to breach. Here, risk of disruption is higher, but their likely impact is lower. The number of suppliers as well as the ratio of small to large suppliers should be optimized. There is no pre-determined number or optimal ratio of suppliers, although having too many or too few can both pose higher degrees of risk.

Risk Information: Local foresters and loggers have communicated that logging capacity to supply the rated quantities of pulpwood logs should be available in the region. There is a need for at least 3 grinding operations for the rated quantity of forest residues, thus the risk was elevated to medium-low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.5.2 Suppliers Subject to Same External Risk Factors

Rationale: When a single risk event can impact the feedstock production ability of all (or most) suppliers, then feedstock risk is higher and supply chain resiliency is lower. Resilience is maximized when biomass supply chains exhibit diversity in spatial location (i.e., geography), production practices, and other elements of supply chain structures such that the impact of single high-risk events has varying impacts on suppliers.

Risk Information: The production of pulpwood and forest residues is strongly dependent on the primary wood products markets. Thus, local suppliers are vulnerable to downturns in the domestic housing, furniture, and cabinetry sectors, which could cause a decline in timber harvesting. The risk is medium-high.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed high, therefore the RRI is 8 out of 10.	**8**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 48 out of 100.	**48**
Mitigation/Notching	**Notch**
No adjustment.	**NN**

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 48 out of 100.	48

1.6 Risk Factor: Biomass Feedstock Scale-up

1.6.1 Capacity of Supply Chain Components and Infrastructure to Scale

Rationale: Scale-up risk increases if supply chain components or underlying feedstock infrastructure necessary for these components cannot scale to handle Issuer feedstock requirements and throughput capacity. Capacity to scale should be demonstrated.

Risk Information: Outreach in the region indicates that logging capacity is locally available. However, in-woods chipping equipment is in decline due to lack of market demand. Risk is deemed medium-low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	6
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	24
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

1.6.2 Availability of Labor for Biomass Feedstock Production

Rationale: Skilled labor shortages can be difficult to remedy in the short term. The availability of suitable labor in an area can impact the ability to procure sufficient feedstock quantities on required schedules. Labor risks are higher where supply chains are not yet active or for Issuers for whom large feedstock requirements or the development of new (or expanded) supply chains demand significant additions to the local labor force.

Risk Information: The logging workforce is notably aging and may be an operational risk. The region offers a diverse array of training programs to support the forest and wood products workforce, ranging from hands-on trade skills to higher education and business development. Industry professionals can easily access logging, safety, and lumber grading courses through the PA Sustainable Forestry Initiative (SFI), Penn State Extension, and the NHLA Inspector Training School. While these workforce-development programs may help offset attrition over time, overall, this indicator is assessed as medium risk.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	6
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	6
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	36
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	36

1.6.3 Low Historical Demand for Biomass Feedstock in the Supply Zone

Rationale: If Issuer BDO Zone does not have a history of developed large-scale feedstock procurement, suppliers may not have sufficient expertise in feedstock production to ensure reliable supply, especially in the early years. This can be particularly true for forest residues, where, typically, the infrastructure for collection, processing, and delivery is immature.

Where supply chains are not well-established, risk can be mitigated when new bio-based plants control a higher degree of feedstock processing. For example, if a BDO Zone rating is issued for clean wood chips and the historical demand in the Zone has been exclusively for pulpwood, then supply chain risk will be decreased for new bio-based plants that intake pulpwood and manage log debarking and chipping internally, rather than requiring inexperienced suppliers to deliver debarked wood chips.

Risk Information: The regional pulp and paper industry has maintained consistent demand for pulpwood over the past 10 years. However, the demand has come from one pulp and paper mill, increasing the risk to medium-low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.7 Risk Factor: Climate and Natural Risks

1.7.1 Seasonal Weather Impacts on Biomass Feedstock Supply

Rationale: Seasonal weather impacts are defined as those deriving from natural weather variations (e.g., spring thaws, rainy seasons, or dry seasons—as opposed to singular weather events like fires, droughts, or hurricanes). Seasonal weather changes can be a significant risk factor affecting feedstock availability, quality, and price.

Given the significant influence that weather has on multiple aspects of growing, harvesting, and transporting biomass, it is difficult to predict the availability of biomass at a specific location at different points in the future with a high degree of certainty. However, it is still possible, using past data and statistical models, to generate reasonable upper/lower bound estimates of biomass production in any given year in a wider supply zone. Such estimates are essential in assessing feedstock risk and enable accurate assessment of the efficacy of the Issuer's mitigation methods.

Risk Information: Seasonal wet conditions can temporarily reduce harvesting and hauling activity, particularly during late winter and early spring. These impacts are typically managed through stockpiling strategies and harvesting in more accessible areas, allowing forestry operations to remain active for most of the year.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**

No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7.2 Long-Term Weather and Climate Trends

Rationale: In certain BDO Zones, climatic trends and significant potential changes to future weather patterns can create feedstock risk.

Risk Information: Annual precipitation and the frequency of extreme rainfall events have increased over the past century and are expected to continue rising[22]. However, the resulting impacts on forest operations, including flooding-related disruptions, are generally limited. No other significant long-term climate trends were identified that are expected to materially affect wood supply within the BDO Zone.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7.3 Forest Fire

Rationale: Forest fires, especially when occurring on a large scale, destroy feedstock and create shortages. Fire-prone conditions are predicted to increase across North America. This could potentially result in a doubling of the amount of area burned by the end of this century compared with amounts burned in recent decades. Boreal forests, which have been historically greatly influenced by fire, will likely be especially affected by this change.

Other climate change impacts that could add damaged or dead wood to the forest fuel load (e.g., as a result of insect outbreaks, ice storms, or high winds) may increase the risk of fire activity. New research is aimed at refining these climate change estimates of fire activity and investigating adaptation strategies and options to deal with future fire occurrences. There is growing consensus that as wildfire activity increases, fire agency suppression efforts will be increasingly strained. However, analyses of fire history suggest that the effect of climate variability on precipitation regimes is the primary reason for the decreasing fire activity.

Risk Information: Forest fires are not currently a major, widespread concern in the supply basin, and the overall risk is deemed low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**

[22] https://statesummaries.ncics.org/chapter/pa/

No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7.4 Risk of Infestation

Rationale: Risk of future infestation, including its estimated consequences on feedstock supply, should be calculated into the overall risk profile.

Since forest insect populations are influenced by environmental conditions, future changes in climate can be expected to significantly alter the outbreak dynamics of certain forest insect species. In some cases, larger and more frequent insect outbreaks may occur, but in other cases, recurring outbreaks may be disrupted or diminished. As the climate continues to change, we can expect more situations, particularly at the margins of tree ranges, where sub-optimal conditions for tree growth and reduced tree vigor can lead to outbreaks of forest insects.

Risk Information: The forests of New York and Pennsylvania face an unprecedented convergence of invasive pests and diseases, intensified by climate change[23]. Emerald ash borer has spread to almost every county in both states, effectively eliminating ash trees. Hemlock woolly adelgid is creeping northward as winters warm, threatening a keystone riparian species. American beech is under simultaneous attack from both beech bark disease and the rapidly spreading beech leaf disease. Spongy moth outbreaks — worsened by drought — are defoliating oaks across the region. Spotted lanternfly has exploded from a single PA county in 2014 to 19 states in a decade. Oak wilt is another disease present in NY and PA. Warmer winters reduce the natural cold-weather controls that historically kept these pests in check, allowing multiple threats to compound simultaneously and leaving forests with little time to recover between crises.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

1.7.5 Risk of Hail

Rationale: There is much uncertainty about the effects of anthropogenic climate change on the frequency and severity of extreme weather events like hailstorms and their subsequent economic losses. Some studies indicate a strong positive relationship between hailstorm activity and hailstorm damage, as predicted by minimum temperatures using simple correlations. This relationship suggests that hailstorm damage may increase in the future if global warming leads to further temperature increases.

Risk Information: While severe atmospheric instability and cold fronts occasionally generate violent supercell thunderstorms that drop large hail, these events do not damage mature timber. Even severe hail events do not possess the capacity to meaningfully degrade the structural integrity or reduce the harvestable volume of the region's wood fiber.

Raw Risk Likelihood (RRL)	**Score**

[23] https://cdnsciencepub.com/doi/10.1139/X08-171

The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.7.6 Risk of Flood

Rationale: Floods can cause catastrophic disruption and delay in feedstock supply. Where there is a high risk of flood and thus a negative impact on feedstock supply, the BDO Zone rating should account for this risk.

Risk Information: Riverine and flash-flooding are recurring events in the region, but it is concentrated in valley bottoms and along major streams rather than uniformly across the landscape.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.7.7 Risk of Drought

Rationale: Droughts can cause significant disruptions to feedstock supplies across entire BDO Zones for extended periods of time. Tree species are adapted to specific moisture conditions. Having less water available through drought has a range of negative impacts on the health of forest ecosystems. Direct impacts include reduced growth, increased tree mortality, and failure to regenerate. Indirect impacts include reduced ability to defend against insects and disease and increased fire risk. These impacts can affect the availability of wood fiber for an Issuer.

Risk Information: The region does experience episodic drought, but it has not historically posed a chronic, structural threat to wood fiber availability.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.7.8 Risk of Hurricanes, Tornadoes, and Strong Winds

Rationale: Hurricanes, tornadoes, and strong winds can destroy timber stands and feedstock piles. They can also delay forestry operations. Hurricanes and tornadoes can indirectly cause temporary shortages of available transportation as available trucking moves to handle higher-value disaster-related contracts. For example, Katrina cleanup limited the availability of live-bottom trailers in the North and South East of the US for several months as truckers shifted operations to handle more lucrative government contracts.

Although scientists are uncertain whether climate change will lead to an increase in the number of hurricanes, warmer ocean temperatures and higher sea levels are expected to intensify their impacts. Recent analyses conclude that the strongest hurricanes occurring in some BDO Zones, including the North Atlantic, have increased in intensity over the past two to three decades.

Risk Information: Hurricanes and tornadoes present relatively low risk in the region. While occasional storms bring strong winds, events severe enough to significantly damage stands or disrupt access are infrequent and localized. Overall, these wind hazards act more as intermittent, small-footprint disturbances than as a driver of chronic supply risk

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.7.9 Low Temperatures

Rationale: Low temperatures can have adverse impacts on the operations of feedstock processing equipment in Northern BDO Zones.

Risk Information: The region experiences below-freezing temperatures in the winter; however, this does not generally impact the supply of feedstock to a project in this region.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.8 Risk Factor: Non-Weather Based Externalities

1.8.1 Diesel Price, Oil Price, and Producer Price Index (PPI)

Rationale: CPI and PPI can impact feedstock cost of harvest and collection over time. Sensitivities to worst-case scenarios should be run.

Risk Information: As seen in Figure E-8, historical data indicates that East Coast diesel prices fluctuated significantly over the last decade, dipping as low as $2.08 per gallon in early 2016 before experiencing a massive spike in mid-2022, reaching $5.87 per gallon. Since that peak, prices have largely hovered between $3.50 and $4.50 per gallon. Diesel prices began to sharply increase in March 2026 and have remained at an elevated price since, being $5.45 per gallon in May 2026. This recent increase reflects broader global supply and demand dynamics affecting refined fuel markets. Because fuel is a major component of delivered feedstock cost, this volatility creates meaningful exposure for harvesting, collection, and transport economics, especially during broader supply-chain disruptions. Recent movements in the Consumer Price Index (CPI) and Producer Price Index (PPI) severely reinforce this exposure by inflating labor, equipment, and maintenance costs across the local supply chain. Bureau of Labor Statistics data for April 2026 showed a 17.9% year-over-year CPI increase in overall energy costs. During the same month, the PPI saw a 1-month spike of 7.8% for energy goods and a 5.0% increase for transportation and warehousing services. Consequently, the combined risk from volatile diesel costs and broader price index increases presents a material, medium risk to a new project.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	**6**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 36 out of 100.	**36**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 36 out of 100.	**36**

1.8.2 Currency Risk

Rationale: Where feedstock is purchased in a currency different than that which a new bio-based plant will locate in a BDO Zone, currency exchange rates and volatility can constitute risk exposure. BDO Zones that cross the US-Canada border, for example, which intake feedstock from both countries, are exposed to such currency risk.

Risk Information: Not relevant.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	**NR**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	**NR**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	**NR**
Mitigation/Notching	**Notch**
No adjustment.	**NR**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

1.8.3 Border Risk

Rationale: Where feedstock is transported cross-border to another country, risk exposure to border closures and crossing delays becomes present. The availability of trucks willing to do cross-border runs is limited, which can decrease supply chain flexibility and resilience. Plants near the US-Canada border, which intake feedstock from both countries, are exposed to these risks.

Risk Information: Not relevant.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	NR
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	NR
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	NR
Mitigation/Notching	**Notch**
No adjustment.	NR
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	NR

1.9 Risk Factor: Political and Social

1.9.1 Government Subsidies for Biomass Feedstock Production or Utilization

Rationale: Feedstock that is directly subsidized through government programs can pose greater long-term risk than feedstock that is not. Subsidies may be subject to amendment or repeal, sometimes with minimal notice.

NOTE: This risk indicator refers to direct feedstock subsidies only; it does not apply to government subsidies that pertain indirectly to the Issuer's operations, such as Loan Guarantees, or to the markets for products produced by the Issuer.

Risk Information: No government subsidies for feedstock production were identified.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.9.2 Local, Provincial, and National Laws, Regulations, and Permitting Pertaining to Biomass Feedstock

Rationale: Feedstock whose production is directly dependent on local, provincial, or national laws or government regulations can pose greater long-term risk than feedstock which is not, since laws and regulations may be subject to amendment or repeal.

If biomass utilization requires specific permits (e.g., percentage removal of forest residues, allowable cut limits, air emission, storage permits, rights-of-way, overweight permits for trucks, cross-border permitting for shipment of biomass, chain of custody, or certification of sustainability), the likelihood of obtaining such permits and/or complying with permitting requirements should be examined.

Risk Information: Harvesting pulpwood and forest residues in NY and PA requires no feedstock-specific removal permits, though operators must follow state timber harvest notifications and BMPs enforced by the New York State Department of Environmental Conservation (NYSDEC)[24] and the Pennsylvania Department of Conservation and Natural

[24] https://dec.ny.gov/nature/forests-trees/private-forest-management/timber-harvesting

Resources (PA DCNR)[25]. On public lands, timber sale contracts designate specific trees for removal, incentivizing full recovery of merchantable material to roadside. On private lands, which comprise most of the Supply Zone timberland, pulpwood is often left in the cutover due to a weak market demand. FSC/SFI certifications are common but not mandatory. No chain-of-custody or removal-percentage requirements were identified. Risk is low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.9.3 Backlash Against Biomass Feedstock Development, Procurement, or Usage in the BDO Zone

Rationale: Public backlash against biomass development in the Issuer BDO Zone can directly impact the Issuer's ability to procure, transport, trans-load, store, or utilize feedstock by affecting local policies, regulations, and the Issuer's ability to obtain necessary permitting.

Risk Information: Outreach indicated that the forestry industry is recognized as important to the local economy, and general support would be expected for new biomass projects.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.9.4 Consent of, and Cooperation with, Indigenous Communities

Rationale: Where new project development on or near Indigenous land, or where near Indigenous communities exert influence over feedstock producing areas, consent of, and cooperation with, Indigenous communities decrease Issuer risk.

Risk Information: The Seneca Nation of Indians, a federally recognized tribe, maintains a presence in the broader region, including the Oil Spring Territory located within Allegany County and the Allegany Territory (Salamanca, NY) approximately 30-40 miles from Belmont, well within the Supply Zone. While the BDO Zone site itself does not overlap tribal lands, feedstock sourcing, transportation routes, or future project activities could intersect Seneca interests or territory. No history of conflict between the Seneca Nation and regional forestry operations was identified. Risk is deemed very low.

Raw Risk Likelihood (RRL)	**Score**

[25] https://www.accdpa.org/chapter-102-permit-resources

The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.9.5 Food Security Concerns

Rationale: Despite the fact that any significant correlation between food prices and biofuel production is unclear, claims that biofuel production has driven up food prices, taken food from communities or had a negative impact on land use can fuel public backlash. For example, the removal of biomass may raise public concerns relating to food security if Issuer feedstock requires the use of land that would otherwise be used for growing food.

Risk Information: Feedstock is sourced from forest biomass and forestry residues, not agricultural crops or food-producing land.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed not relevant, therefore the RRL is not rated (NR).	**NR**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed not relevant, therefore the RRI is not rated (NR).	**NR**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is not rated (NR).	**NR**
Mitigation/Notching	**Notch**
No adjustment.	**NR**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is not rated (NR).	**NR**

1.10 Risk Factor: Sustainability and Environmental Concern

1.10.1 Biomass Feedstock Sustainability

Rationale: Public concerns about the sustainability of feedstock production can jeopardize biomass feedstock operations. Sustainability certification schemes should be utilized where applicable to ensure that feedstock comes from sustainable sources.

Risk Information: The growth-to-drain ratio of 1.9 supports sustainable harvest potential. Additionally, a BAM of 2.0 for pulpwood reduces the rated quantity. Similarly, a BAM of 4.0 was applied to forest residues, further conservatively reducing the rated quantity and building in an additional margin of safety given greater uncertainty around residue recovery rates and site-level removal practices.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

1.10.2 Risk to Soil Quality

Rationale: Soil sustainability can be defined as the management of soil in a way that does not exert any negative or irreparable effects either on the soil itself or any other systems. There is a diversity of approaches to soil sustainability in jurisdictional guidelines for forest biomass harvesting and production. For different feedstock types, there are also different thresholds at which feedstock removal causes significant negative consequences on the soil.

Poor soil quality that negatively impacts the long-term sustainability of the feedstock can entail long-term feedstock risk. Sub-optimal soil management can leave exposed soil post residue-harvest, which can lead to soil wash-off and soil carbon loss from precipitation and wind. Over-harvesting of biomass also depletes the carbon stock in the soil and creates a negative feedback loop that can degrade the soil and its nutrients.

Risk Information: Forestry on public timberlands in PA and NY is subject to best management practices (BMPs), enforced by the DCNR and NYSDEC, respectively. Private timberlands are not subject to specific state or federal regulations, but there is no evidence that past forestry practices have negatively affected soils in the region.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

1.10.3 Risk to Surface and Groundwater

Rationale: Excessive nutrient runoff from biomass feedstock production can accumulate in surface waters and result in algal blooms and hypoxia, which can lead to habitat loss for aquatic species higher up the food chain and alter aquatic ecosystem food webs. Damage to aquatic ecosystems can cause social and regulatory backlash. Water intake issues can also increase risk.

Risk Information: Biomass harvesting in New York and Pennsylvania, when conducted under state forestry Best Management Practices for water quality (including riparian buffers), substantially reduces water-quality risks. On public and many corporate forestlands, these BMPs are applied through agency requirements and voluntary FSC/SFI standards.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**

The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.10.4 Water Use

Rationale: Biomass feedstock operations can have significant impacts on the hydrological flux (infiltration, groundwater recharge, interception, and transpiration) of ecosystems. This can lead to water shortages, lower yields, and backlash from regulatory bodies if management plans are not properly instituted.

Risk Information: Water use risk is exceptionally low. Regional forests rely entirely on abundant natural rainfall rather than irrigation.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

1.10.5 Pesticide Risk to Human and Ecosystem Health

Rationale: Application of pesticides (i.e., herbicides, fungicides, and insecticides) on forest landscapes can result in adverse health effects for humans and ecosystems. If pesticide application is required in feedstock production, the impact must be considered in the BDO Zone rating.

Risk Information: The safety of pesticide use in managed forests in Pennsylvania and New York is governed by multiple layers of regulation and policy, including federal rules such as the EPA Worker Protection Standard, agency policies on state forests (e.g., DCNR in PA and DEC in NY), and, on many public and corporate ownerships, voluntary sustainability certification schemes like FSC and SFI. Together, these frameworks set requirements for product registration, applicator licensing, worker protection, and site-level best practices."

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

1.10.6 Risk to Wildlife and Landscape

Rationale: Biomass production and supply chain operations with negative impacts on wildlife and landscape are at a greater long-term risk of encountering project setbacks and disruptions.

Risk Information: Timber harvesting creates openings in the forest canopy, allowing young trees, shrubs, and other plants to grow back. This kind of young, regrowing forest benefits many wildlife species, and state wildlife agencies recognize it as an important habitat type.[26] Overall, risk to wildlife and landscape is considered very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

CATEGORY 2.0: INFRASTRUCTURE RISKS

2.1 Risk Factor: Physical Infrastructure

2.1.1 Land Parcel/Industrial District

Risk Information: The Wellsville Business Park (WBP) is an established, operating industrial park located at Coats Street / Riverside Drive in Wellsville, NY. The total parcel is 98.9 acres, of which an existing facility sits on a 30-acre fenced area backed by an additional 70 acres of forest land; approximately 22 acres within the parcel are contiguous, cleared, and optimized for new construction. The site sits along the Genesee River in the foothills of the Appalachian Mountains and features generally flat, industrial-grade terrain with stable silt loam and gravelly soils historically tested for heavy machinery foundations. The existing facility is over 400,000 sf, with 100,000 sf immediately available and an additional 200,000 sf coming online, offering a rare contiguous manufacturing footprint. Features include high-bay ceilings up to 55 feet and multiple internal cranes — legacy assets from the site's history as the Dresser-Rand steam and turbine manufacturing facility. The combination of existing heavy-industrial buildings and the additional land available results in a very low risk score.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.1.2 Ownership of Land

Risk Information: The Wellsville Business Park is privately owned by Wellsville Business Park LLC (principals Joseph Meind, Alan Knauf, and Carolyn Rumrill), which acquired the former Dresser-Rand facility. Space in the existing buildings is primarily available for lease, with possible purchase options for the vacant developable acreage within the 98.9-acre parcel. The risk is assessed as low.

[26] https://youngforest.org/why-young-forest/its-really-early-successional-habitat

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

2.1.3 Permitting Description

Risk Information: Wellsville Business Park is an established industrial park with many baseline usage permits already in place, and new tenant-specific build-out permits are typically expedited through the Allegany County Planning Office. For the adjacent vacant acreage within the same parcel, typical SEQR review and local planning board approvals generally range from 3 to 6 months depending on project complexity. Village of Wellsville acreage is already zoned General Industrial, eliminating rezoning requirements. The combination of existing permits, SEQR Type II treatment for the built structures, industrial zoning, and expedited planning review positions permitting as a low risk factor.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	16
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	16

2.1.4 Environmental Issues

Risk Information: The Wellsville Business Park is an active brownfield site, formerly the Dresser-Rand facility used for heavy industrial manufacturing including steam turbine testing, and is currently in the process of redevelopment under that classification. A Phase I Environmental Site Assessment was conducted by Ravi Engineering in 2020. The site is described as being in an air quality attainment zone. The risk is assessed as medium-low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	6
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	4
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	24
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

2.2 Risk Factor: Utilities

2.2.1 Natural Gas Availability

Risk Information: Natural gas service at the Wellsville Business Park is provided by National Fuel Gas Distribution. Significant capacity was previously installed at the site to support heavy industrial manufacturing, including steam and turbine testing operations, meaning high-pressure industrial-grade service is available on-site. The risk is assessed as low, as line size information is not available.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.2.2 Electric Availability

Risk Information: Electric service at the Wellsville Business Park is provided by the Wellsville Municipal Electric Department, with service on-site. The system typically operates at a 4.16 kV distribution voltage, but because of the site's history with heavy industrial steam turbine testing, higher voltage service and massive transformer capacity are already available on-site. The Wellsville municipal electric system benefits from a low-cost hydropower allocation through the New York Power Authority (NYPA), making electric rates significantly below the New York State average. The combination of on-site industrial-capacity service, existing transformer infrastructure, and NYPA hydropower pricing positions electric availability as one of the site's strongest assets — particularly for energy-intensive biofuel processing. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.2.3 Water Availability

Risk Information: Water service is provided by the Village of Wellsville Water Department, with an extensive internal network of water mains already on-site throughout the WBP complex. Fire-protected sprinkler systems are installed throughout the existing buildings. The Wellsville Water Treatment Plant is rated for 2.5 million gallons per day (MGD), with current average daily consumption of approximately 0.9 MGD, leaving over 1.5 MGD of excess capacity available for industrial processing, cooling, or boiler feedwater. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**

Raw Risk Impact (RRI)	Score
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

2.2.4 Drainage, Stormwater Management, and Sewage

Risk Information: Wastewater service is provided by the Village of Wellsville. The Village Wastewater Treatment Plant is rated for 2.5 MGD, with current average usage of approximately 0.9 MGD, leaving significant excess capacity for industrial users. Importantly, the Village recently completed a multi-year WWTP improvement project (2020–2025) specifically to increase ammonia limits and add leachate storage (including a 75,000-gallon tank), ensuring high capacity and permitting flexibility for industrial effluent. Stormwater drainage infrastructure is well established across the industrial park, and the generally flat site topography supports standard stormwater management solutions. The combination of on-site sewer connections, ~1.5 MGD excess treatment capacity, a recently upgraded plant with elevated ammonia limits, and dedicated leachate storage makes wastewater handling one of the strongest aspects of this site. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

2.2.5 Waste Disposal

Risk Information: The Allegany County Transfer Station is located approximately 2 miles from the Wellsville Business Park. For larger-scale industrial waste, the Hyland Landfill in Angelica, NY (operated by Casella Waste Systems) is approximately 20 miles north and specializes in municipal solid waste and industrial byproducts, however, the landfill is expected to close in 2029. The proximity of the county transfer station and access to a regional Casella-operated industrial landfill ensures reliable, competitively priced waste disposal options for industrial tenants, however the early closure year increases the risk. The risk is assessed as low-medium.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	4
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed medium, therefore the RRI is 6 out of 10.	6
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	24
Mitigation/Notching	**Notch**
No adjustment.	NN

Loaded RI Score	Score
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	24

2.2.6 Information and Communication Technology (ICT) Services

Risk Information: Telecommunications at the Wellsville Business Park are provided by Armstrong Business Solutions and Spectrum Business. Fiber-optic internet is available with symmetric speeds up to 10 Gbps+, along with dedicated internet access (DIA), hosted VoIP, and managed IT services. The site features enterprise-grade technology including redundant Wi-Fi and state-of-the-art IT infrastructure inherited from its previous corporate manufacturing use. The dual-carrier fiber availability at 10 Gbps symmetric service levels exceeds what is typically required for industrial process control, enterprise systems, and SCADA applications. The redundant provider options also reduce single-carrier failure risk. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

2.3 Risk Factor: Transportation/Logistics

2.3.1 Road/Highway Access

Risk Information: The Wellsville Business Park has strong road and highway access suitable for heavy industrial freight operations. The primary site entrance via Coats Street was specifically engineered for heavy-duty, oversized multi-axle trailers, eliminating common connecting-road constraints. NYS Route 417 — the primary east-west heavy trucking artery through the village — is accessible within less than 0.5 miles, and NYS Route 19, providing the main north-south connection toward Buffalo and Rochester, is approximately 0.8 miles from the site. Interstate 86 (Southern Tier Expressway) is located approximately 9 miles north at Exit 30 in Belvidere, connecting the site to I-90 (NYS Thruway) and major Northeast markets within a well-maintained state highway corridor. The combination of an engineered heavy-haul access road, two nearby state arterials, and I-86 within 10 miles represents excellent truck freight connectivity for a rural industrial site. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	Score
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	2
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	2
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	4
Mitigation/Notching	**Notch**
No adjustment.	NN
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	4

2.3.2 Rail Access

Risk Information: The Wellsville Business Park is rail-served. An inactive rail spur that can be easily reactivated enters the property and connects directly to the Western New York & Pennsylvania Railroad (WNYP) main line. The WNYP network interchanges with the Norfolk Southern (Class I) network at Olean and Hornell, NY, providing full Class I rail connectivity for both feedstock inbound and finished product outbound movements. On-site rail access with direct Class I interchange is one of the most valuable infrastructure assets a biofuel facility can have, as it enables cost-effective bulk movement of feedstock, chemicals, and finished fuels. The need to reactivate the existing spur represents minor capital work relative to constructing new trackage. The risk is assessed as low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.3.3 Airport Access

Risk Information: Wellsville Municipal Airport (ELZ), a public municipal airport classified as a general aviation facility, is located approximately 2 miles from the site, providing immediate general aviation and corporate travel access. For commercial air service, Elmira Corning Regional Airport (ELM) is the nearest option at approximately 75 miles east via I-86, though it offers fewer daily departures and routing options than the larger regional airports. Buffalo Niagara International Airport (BUF) and Greater Rochester International Airport (ROC) are both approximately 80–85 miles away, a drive of approximately 1.5 hours under normal conditions. While no major commercial airport is immediately adjacent, the 2-mile general aviation field supports executive and corporate travel, and three commercial service airports within approximately 85 miles provide multiple routing options to major hubs. The risk is assessed as medium to low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed medium, therefore the RRL is 6 out of 10.	**6**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 24 out of 100.	**24**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 24 out of 100.	**24**

2.3.4 Water Freight Access

Risk Information: The nearest navigable commercial port is the Port of Buffalo, approximately 85 miles from the site, providing bulk cargo and Great Lakes shipping access with downstream connectivity to the St. Lawrence Seaway and Atlantic Ocean. The Port of Rochester on Lake Ontario is also approximately 85 miles away but handles limited commercial shipping. The Port of Erie, PA is 115 miles away, and the Port of New York & New Jersey is approximately

280 miles. Given that barge freight is not a viable primary logistics mode for this site, the risk likelihood is high, though the impact is moderated to low given robust truck access and a reactivatable rail spur that together provide credible freight alternatives for most biofuel supply chain scenarios. The risk is assessed as medium.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed high, therefore the RRL is 8 out of 10.	**8**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 32 out of 100.	**32**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 32 out of 100.	**32**

2.4 Risk Factor: Social Infrastructure

2.4.1 Healthcare (Local)

Risk Information: Healthcare services for the Wellsville area are provided by Jones Memorial Hospital (part of the University of Rochester Medicine system), a community hospital located in Wellsville itself. For higher-level tertiary and specialty care, the major academic medical centers in Rochester (approximately 85 miles north, including Strong Memorial Hospital) and Buffalo (approximately 85 miles northwest) are accessible via I-86 and NY-19. The availability of a local community hospital affiliated with a major academic system, combined with reasonable access to two regional tertiary care centers, positions healthcare as a low risk factor.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.4.2 Education (Schools)

Risk Information: The Wellsville Central School District serves the local community with K-12 education. For post-secondary education, Allegany County is notably well-served for a rural area: Alfred State College operates campuses in both Wellsville and Alfred, providing strong vocational, engineering technology, and skilled trades programs. Alfred University is located approximately 15 miles away in Alfred, offering four-year engineering, ceramics, and business programs. Houghton University is also within regional commuting distance. This concentration of three higher-education institutions — particularly Alfred State's trades and engineering technology programs — provides a continuous pipeline of skilled technicians, machinists, welders, electricians, and engineering graduates directly relevant to biofuel facility operations and maintenance. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**

The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching No adjustment.	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.4.3 Local Transportation

Risk Information: Personal vehicle travel is the predominant mode of transportation in Allegany County. The average commute time for county residents is approximately 22.6 minutes, notably below the national average of approximately 27 minutes, reflecting the short distances between Wellsville and surrounding residential communities. Average car ownership is 2 cars per household. Public transportation options are limited in this rural area, which is typical for western New York. However, the below-average commute times and the site's central location within the Wellsville village boundaries, walkable to some residential areas, reduce workforce transportation friction. The risk is assessed as low.

Raw Risk Likelihood (RRL) The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**Score** **4**
Raw Risk Impact (RRI) The risk impact is deemed low, therefore the RRI is 4 out of 10.	**Score** **4**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**Score** **16**
Mitigation/Notching No adjustment.	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**Score** **16**

2.4.4 Public Safety (Local)

Risk Information: Public safety in the Wellsville area is provided by the Wellsville Police Department, the Allegany County Sheriff's Office, and the New York State Police. Fire protection and EMS services are provided by the Wellsville Fire Department and surrounding township volunteer departments. Crime statistics place the area in the 85th percentile for safety, meaning it is safer than 85% of US counties. Additionally, Wellsville, NY has an ISO score of 4. This results in a very low risk score.

Raw Risk Likelihood (RRL) The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**Score** **2**
Raw Risk Impact (RRI) The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**Score** **2**
Gross Risk Indicator (GRI) The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**Score** **4**
Mitigation/Notching No adjustment.	**Notch** **NN**
Loaded RI Score The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**Score** **4**

2.4.5 Housing/Cost of Living

Risk Information: The BDO Zone consists of seven counties, however, 84% of the BDO Zone falls within Allegany County. Allegany County's overall cost-of-living score is approximately 73.5, which is 26.5% lower than the national average and 39.5% lower than the state average. The median home value in Allegany County is $97,900 with an affordability ratio of 1.6, indicating a high degree of affordability. Median home prices in Wellsville are roughly $155,000–$185,000 as of 2026. The rental vacancy rate is 6.1%, and the homeowner vacancy rate is 1.3%, indicating ample housing availability. The housing inventory includes a steady mix of historic village housing and new rural residential builds. The combination of very low housing costs, a well-below-average overall cost of living, and ample housing availability presents a market that is highly favorable for workforce recruitment and retention. The risk is assessed as very low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed very low, therefore the RRL is 2 out of 10.	**2**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed very low, therefore the RRI is 2 out of 10.	**2**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 4 out of 100.	**4**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 4 out of 100.	**4**

2.5 Risk Factor: Labor

2.5.1 Workforce

Risk Information: As of 2025, the BDO Zone has a population of approximately 56,575 people, with 77% residing in Allegany County. In Allegany County, the unemployment rate is 4.9%, which is above the national average indicating labor availability. The median age is 38.7 and the county has an average population growth rate of approximately 0.2% per year over the past five years. The workforce has a distinctive advantage in "legacy industrial" skills: the Wellsville Business Park's history as the Dresser-Rand steam turbine manufacturing facility means the local labor pool has deep experience in welding, fabrication, precision machining, and heavy industrial maintenance. Skilled trade availability is supported by Alfred State College's vocational programs (including campuses in both Wellsville and Alfred), Alfred University's engineering programs, and Houghton University. Approximately 92% of adults over 25 in Allegany have a high school education or higher (compared to a national average of approximately 89%), and approximately 25% hold a bachelor's degree or higher (compared to a national average of approximately 35%). The combination of a skilled legacy industrial workforce, a strong three-institution higher education pipeline, a relatively young median age, and the higher unemployment rate positions workforce as a low risk factor.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

2.5.2 Labor Costs

Risk Information: As of January 1, 2026, the New York State (Non-NYC) minimum wage is $16.00 per hour. At the Wellsville Business Park, entry-level industrial roles typically start at $18–$21 per hour, and skilled trades (certified welders, CNC programmers, electricians, HVAC technicians) range from $28–$45 per hour. Allegany County's average weekly wage in Q3 2025 was $1,020, which is 69.9% of the national weekly wage, indicating a labor-cost advantage. The median household income (in 2024 dollars) of Allegany County is $62,869, representing 73% of the New York State median ($85,974) and approximately 78% of the national median ($80,734). Based on lower weekly wages and median household income, along with the moderate minimum wage floor and the reported skilled trades range, risk is deemed low.

Raw Risk Likelihood (RRL)	**Score**
The risk likelihood is deemed low, therefore the RRL is 4 out of 10.	**4**
Raw Risk Impact (RRI)	**Score**
The risk impact is deemed low, therefore the RRI is 4 out of 10.	**4**
Gross Risk Indicator (GRI)	**Score**
The Gross Risk Indicator (RRL X RRI) is 16 out of 100.	**16**
Mitigation/Notching	**Notch**
No adjustment.	**NN**
Loaded RI Score	**Score**
The Loaded RI Score ((1-Total Notch) X GRI Score) is 16 out of 100.	**16**

SECTION E: TABLES AND FIGURES

Figure E-1. Above Ground Biomass of All Live Trees in the Supply Zone (2015-2024)[27]

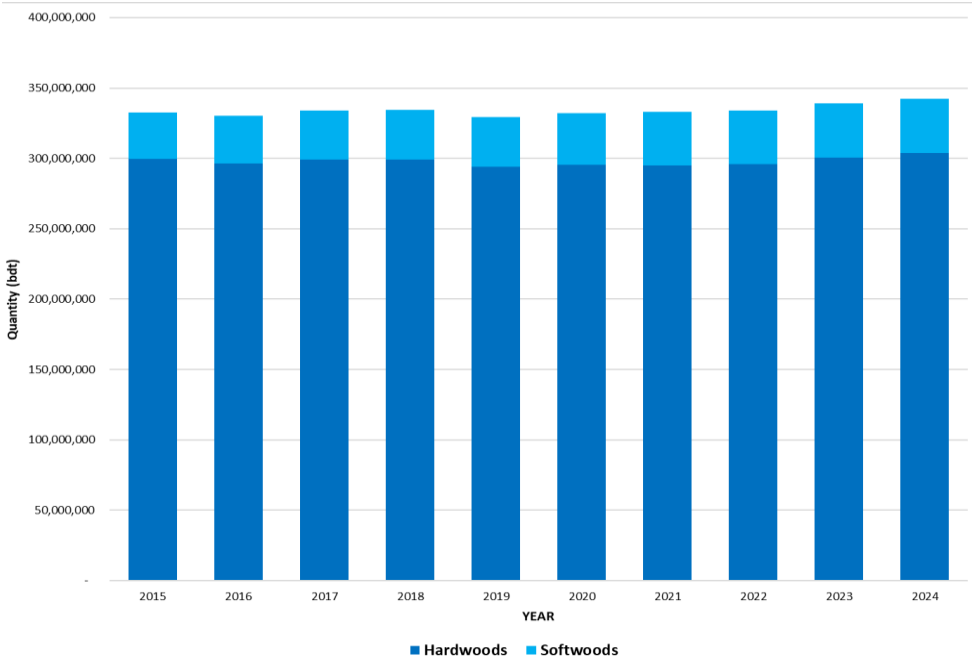
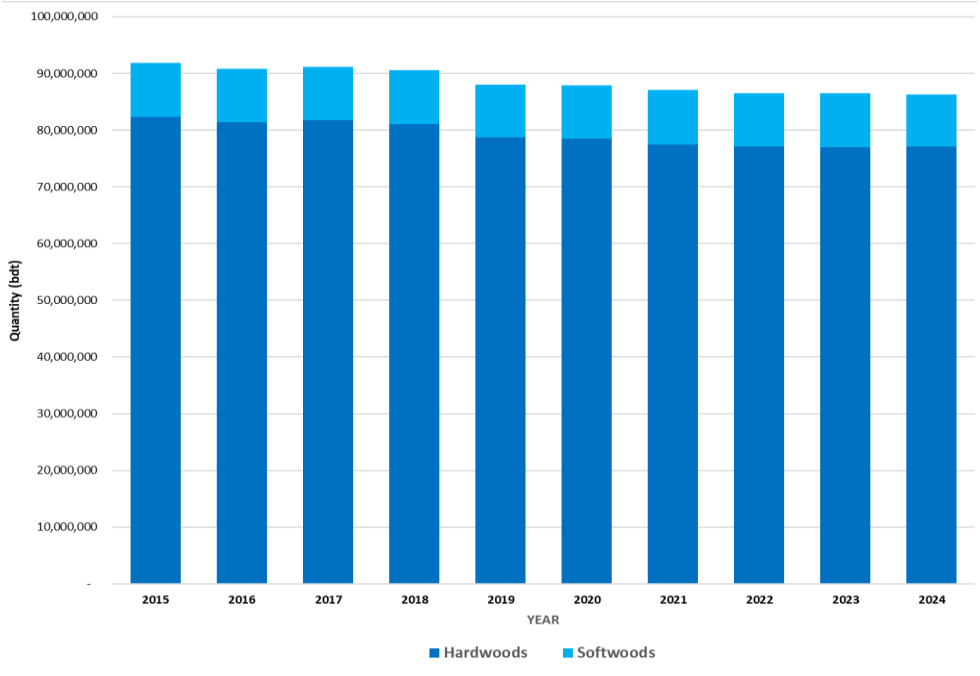


Figure E-2. Above Ground Biomass of Live Pulpwood Size Trees in the Supply Zone (2015-2024)[28]



[27] apps.fs.usda.gov/fiadb-api/evalidator
[28] Ibid.

Figure E-3. Percent Merchantable Biomass of Standing Live Trees by Ownership[29]

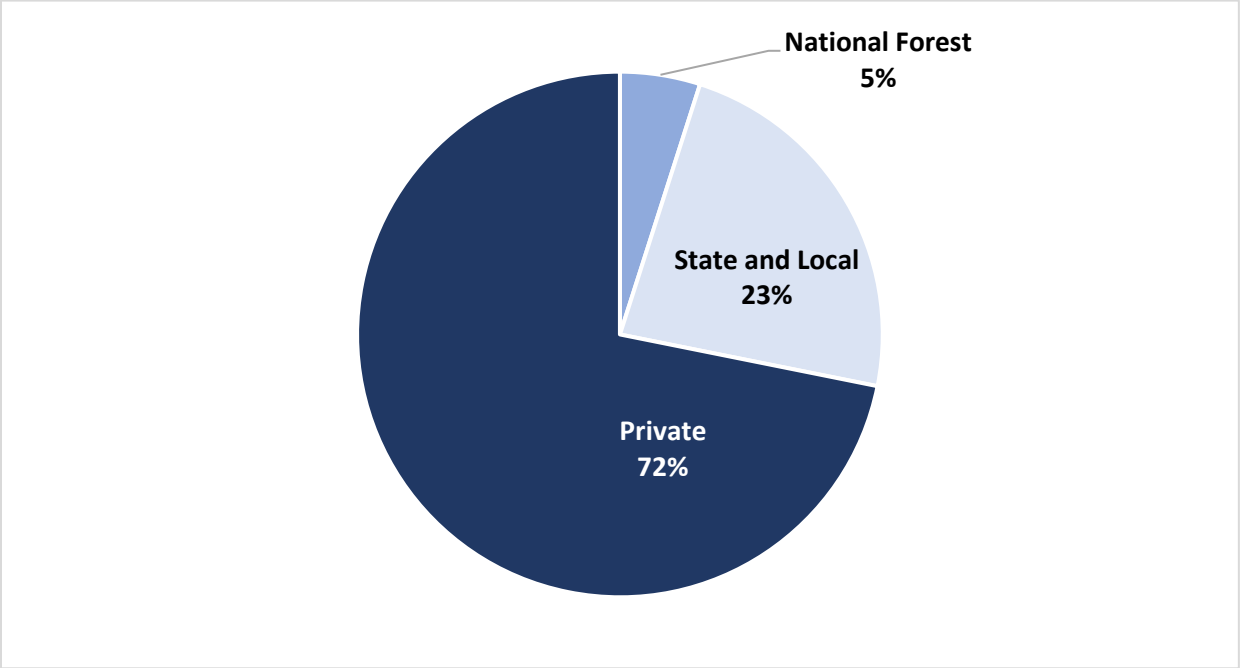
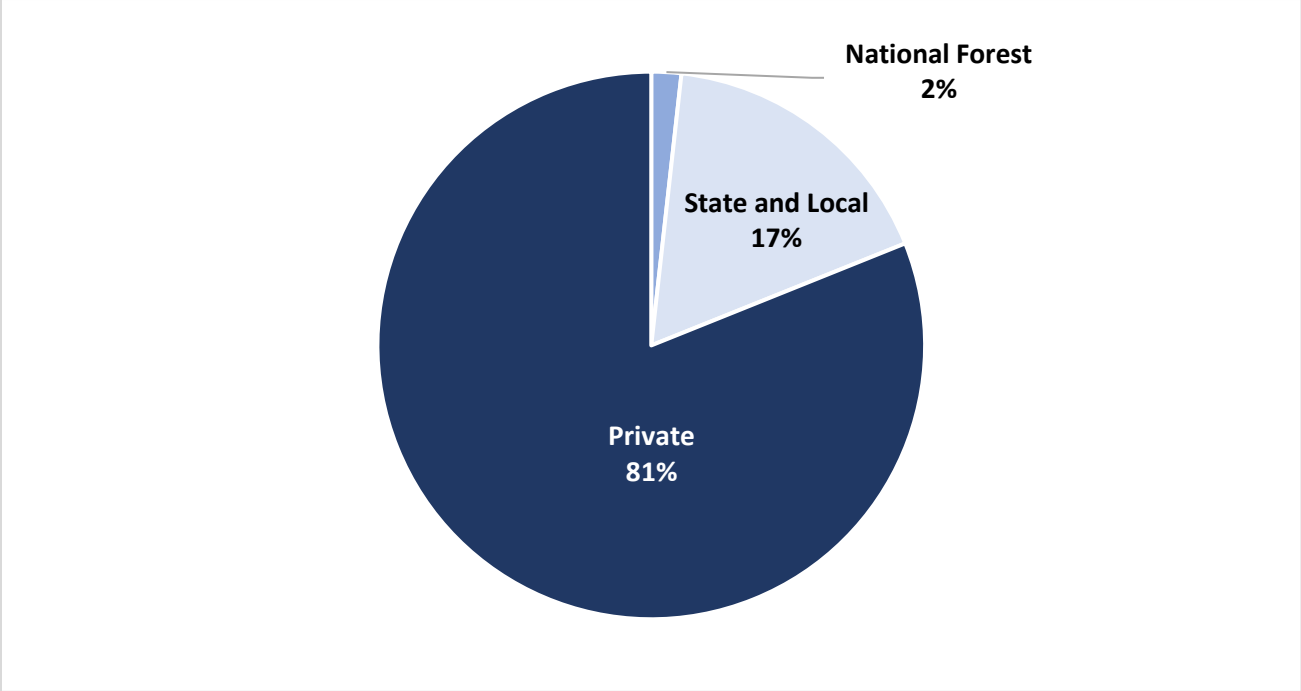


Figure E-4. Percent Timber Removal by Ownership[30]



[29] Ibid.
[30] Ibid.

Figure E-5. Average Annual Removals in the Supply Zone[31]

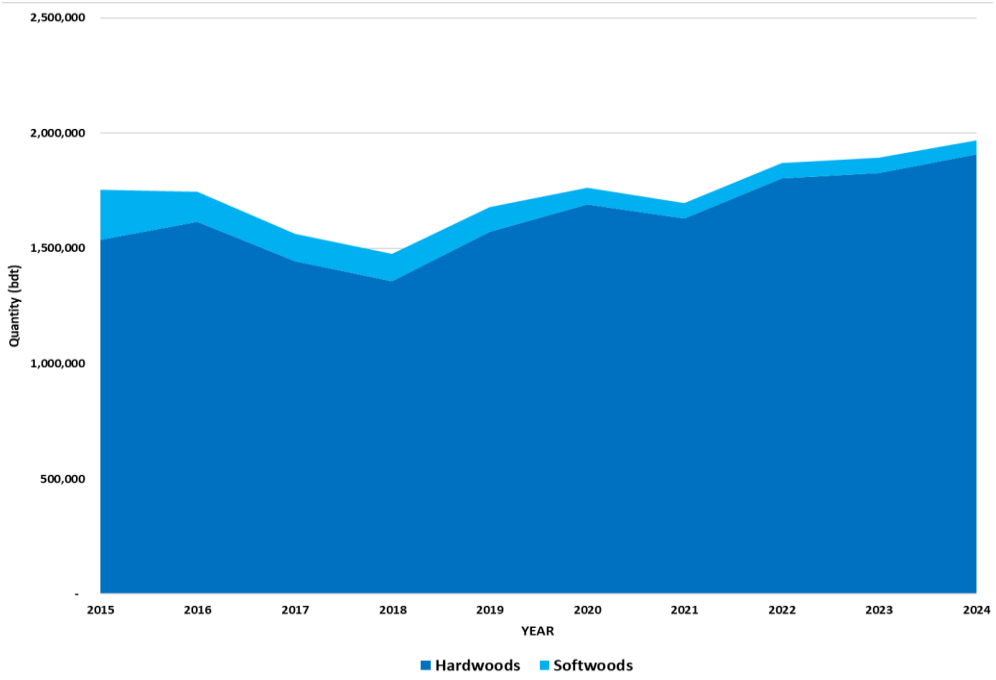
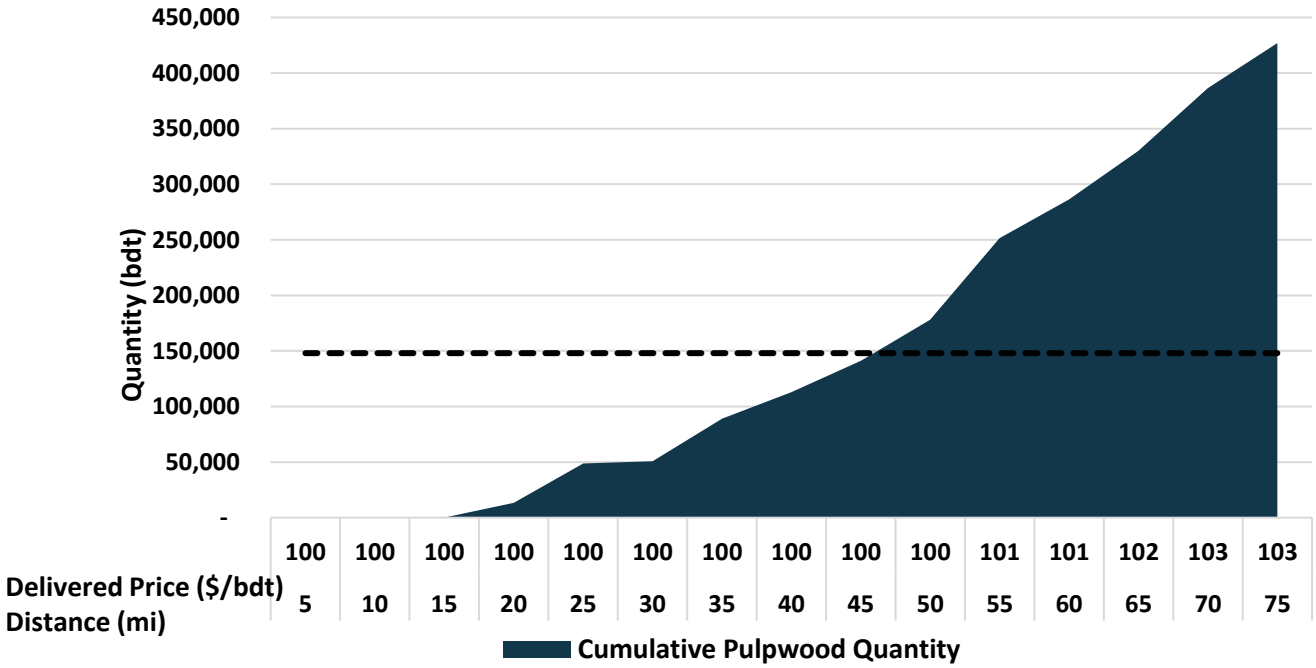


Figure E-6. Supply/Marginal Cost Curve for Pulpwood Generated in the Supply Zone[32]



[31] Ibid.
[32] Ibid.

Figure E-7. Supply/Marginal Cost Curve for Forest Residues Generated in the Supply Zone[33]

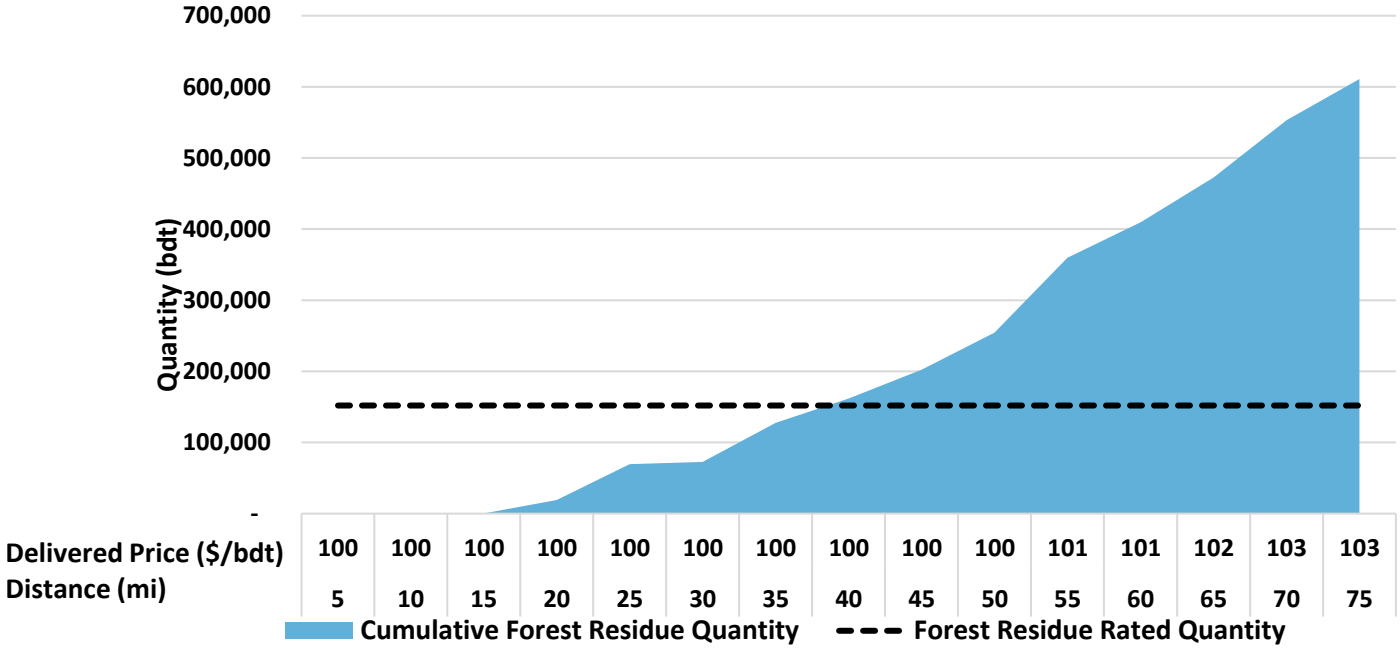
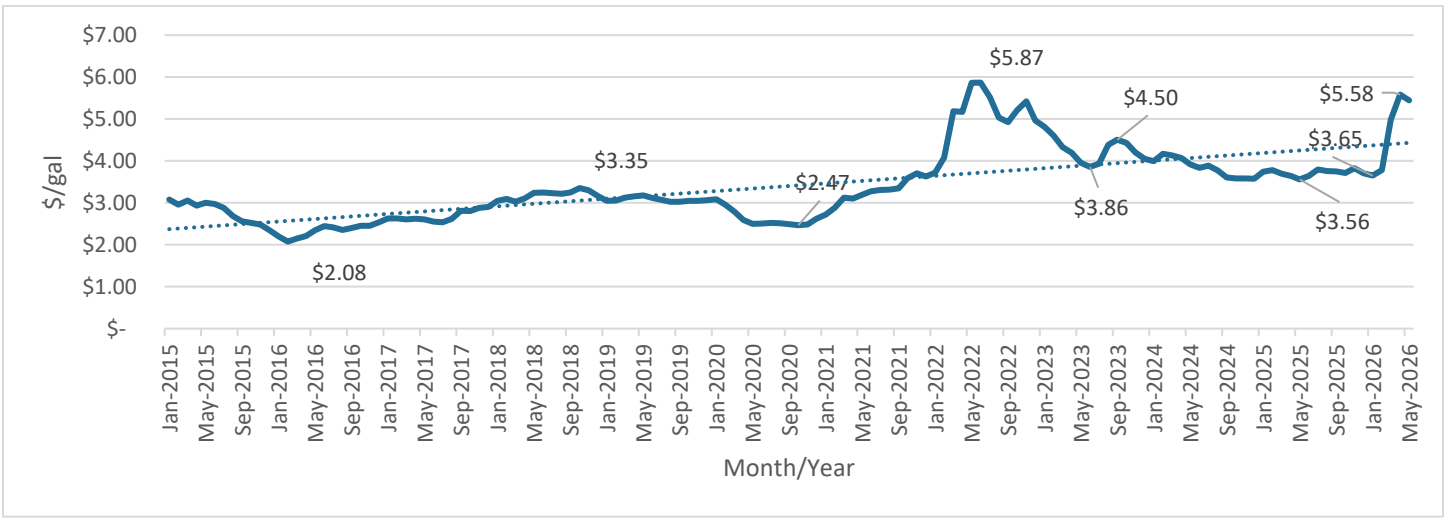
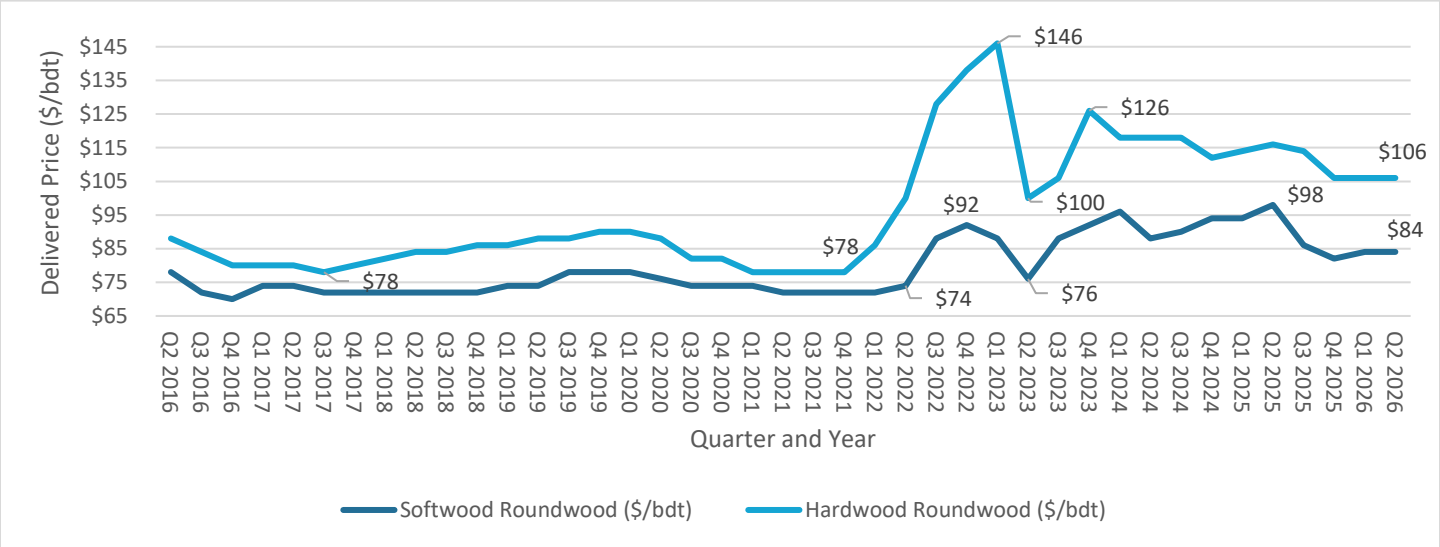


Figure E-8. Historical Diesel Prices ($/gal) and Trendline for the East Coast – PADD1



[33] Ibid.

Figure E-9. Pulpwood Market Prices[34]



[34] Forsik Northeast historical data

SECTION F: ADDITIONAL SITE



PROPERTY OVERVIEW

Site Name:	Intergrow – Former Greenhouse
Address:	11589 State Route 19A
City:	Hume
State:	New York
County:	Allegany
Acres:	55
Zoning:	Industrial/Agricultural

SITE CONTACTS

Economic Development Contact
Craig R. Clark
(607) 968-0214
Craig.clark@alleganyco.gov

Melissa Pingitore
(716) 307-1580
melissa.pingitore@acida.org

ADDITIONAL NON-RATED SITES

Infrastructure Site Contact
Jaidan Hunt
Manager of Advisory Operations
jaidan@ecostrat.com

TRANSPORTATION

The Intergrow site is located on State Route 19A. I-86 (the Southern Tier Expressway) is located approximately 20 miles south via NY-19, and I-390 is located 25 miles east via NY-436. The site is not rail-served. The nearest airport is Wellsville Municipal Airport (ELZ), located 25 miles south. The nearest international airports are Greater Rochester International Airport (55 miles north) and Buffalo Niagara International Airport (65 miles northwest).

ELECTRIC SERVICE

Electric service is provided by Rochester Gas & Electric (RG&E), and it is built with heavy industrial capacity with high-voltage lines available on-site. There is a 50 MW natural gas turbine facility adjacent to the site that was formerly used by Intergrow for waste heat. **Contact:** RG&E Economic Development, (800) 743-2110

NATURAL GAS

Natural gas is provided by NYSEG, with high-pressure service lines available at the property boundary. **Contact:** NYSEG Economic Development, (800) 572-1111

WATER

The property has private high-capacity wells and on-site retention ponds, designed for multi-million-gallon annual consumption.

WASTEWATER

The site has private industrial septic, and no municipal sewer access. The nearest WWTP is the Village of Fillmore WWTP, located 3.5 miles south. There is extensive on-site retention and drainage infrastructure already in place.

TELECOMMUNICATIONS

Telecommunication services are provided by Empire Access (Fiber) and Spectrum, with high-speed dedicated fiber optic internet available. **Contact:** Empire Access Business Sales, (800) 338-3300

SECTION G: LEGAL DISCLAIMER

This BDO Zone Rating (the "Rating") is prepared for and provided to Allegany County Industrial Development Agency and is intended to be read and used in its entirety and not in parts. Separation or alteration of any section or page from the main body of this Rating is expressly forbidden. In preparing this Rating, Ecostrat has used information obtained from third parties or otherwise publicly available. All such information has not been independently validated, verified, or confirmed by Ecostrat (except where otherwise specifically indicated) and Ecostrat makes no representation or warranty as to the accuracy or completeness of any information provided by third parties or otherwise publicly available.

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