

Woodchuck Video Transcriptions

Woodchuck Explainer 2025-01 250123_1200

URL: <https://vimeo.com/1049621827/991e833a08>

Transcript

Are you a contractor or manufacturer looking to cut costs and go green? Meet Woodchuck AI revolutionizing wood waste management.

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With AI driven technology, we turn construction and manufacturing wood waste into eco-friendly power. Say hello to Chuck. Chuck uses AI image recognition

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to simplify waste sorting and diversion. Ensuring wood waste finds its highest and best use. Remanufacturing, bioenergy or industrial products.

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Chuck has it covered. Track waste from origin to final destination and generate customizable sustainability reports including total tonnage diverted,

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CO2 avoided and clean energy BTUs produced. Save costs by replacing inefficient manual processes with smart AI solutions. From job sites

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to biomass processing, Chuck reduces landfill dependency and drive savings. Ready to build a greener future? Connect with us today

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and revolutionize your waste management. With woodchuck AI. Chuck turning waste into energy and partnerships into sustainable futures.

Turning Construction Waste Into Clean Fuel | Woodchuck

URL: <https://www.youtube.com/watch?v=BhD1Bq83CN0>

Transcript

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Every year, millions of tons of clean wood waste are tossed into landfills.

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But what if the waste could power our future? Introducing Woodchuck, where cutting-edge AI meets clean energy. We

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partner across industries to turn construction waste into renewable fuel, reducing emissions and fueling progress.

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Smarter waste, cleaner energy, a better tomorrow. Woodchuck, turning waste into power.

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[Music]

Woodchuck: Turning Construction Waste Into Renewable Energy with AI

URL: <https://www.youtube.com/watch?v=Zh1FbKRe6RY&t=27s>

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Each year, the construction industry generates an enormous volume of wood waste, much of which is discarded in

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landfills or burned inefficiently. The waste contributes to environmental degradation and represents a significant loss of potentially valuable material.

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At the same time, the demand for renewable energy is growing rapidly as the world seeks alternatives to fossil fuels. The challenge lies in finding

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innovative ways to meet this energy demand while reducing the environmental impact of industrial waste. We work a

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lot with contractors and manufacturing companies who are under increasing pressure from their end clients to offer sustainable solutions. Right now, the

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vast majority of wood waste in construction and manufacturing goes to landfills. A team of engineers and environmental researchers took a closer

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look at the overlooked byproducts of the construction industry and saw both a problem and a possibility. They

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recognized that clean wood waste from construction sites was an overlooked resource with energy potential. Through

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a combination of AI technology, logistics, and sustainability focused design, they developed a streamlined

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process to make that transformation efficient, scalable, and economically viable. What we do is we utilize AI

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tools to help us identify and divert that wood waste. So instead of sending it to landfills, we take it, process it into biomass and we deliver that biomass

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to our energy partners who use it to generate clean renewable electricity.

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There have been lots of companies that have tried to segregate waste before and it's really a fairly labor-intensive inefficient manual process and it just

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doesn't work well and it's expensive. We are using AI image recognition to identify materials and presort them. It

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really flips the script on numbers and makes it really financially viable. We strongly believe that anything to be a truly sustainable solution, it needs to

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work economically. It needs to be actually sustainable.

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In the construction industry, what's typically done is roll-off dumpsters at construction sites. But the difference is we're doing source separating. So separating happens at the job site.

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There's a wood dumpster only. That wood dumpster gets filled, picked up, brought to us. At that point, we send it through

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the grinder. We grind it up to bring it to its water content that's allowed, its fines content that it's allowed, and

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then we load it up into semis, track the greenhouse gases that are released within the transportation, and then we track it to its final origin, and then offset what those carbon pieces are.

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Energy solutions like this require strong partnerships to succeed because they operate at the intersection of

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multiple industries. Construction, waste management, logistics, and energy. No single entity controls the entire chain

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from waste generation to energy production. Collaboration not only make the system functional, but scalable,

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efficient, and impactful. At Northstar, we're committed to providing a clean mix

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of products and services for our customer base. Customer base includes corporate, industrial, and institutional

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companies nationwide. Part of that clean mix is biomass. What we do in a biomass facility is we capture the wood waste in

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the form of wood chips and we utilize that wood waste to fire up a boiler which generates steam that turns a

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turbine and makes electricity. So we're actually displacing coal and other thermal products of electricity by utilizing that biomass.

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Cross-industry collaboration is harnessing AI-driven technology and creative problem solving to drive innovative energy solutions. These

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partnerships are not only producing renewable energy, they're laying the foundation for a smarter, more sustainable future.

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Woodchuck is an AI powered climate tech company dedicated to transforming construction and demolition wood waste

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into clean renewable energy. Woodchuck has developed a proprietary AI platform that utilizes advanced deep learning and

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generative AI to identify, sort, and process wood waste efficiently. This technology enables the conversion of

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wood waste into high-quality biomass providing a consistent and reliable source of renewable energy for bioenergy

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producers. Woodchuck was founded to address two global problems. One is the need to reduce waste and the second is the need to generate more renewable

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energy. So Woodchuck uses AI image recognition to identify valuable materials that are currently in the waste stream. We can identify those

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materials, segregate them from the waste stream, and use them for their highest best use. So, we're really reducing waste and generating more renewable

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power at the same time. In collaboration with partners like Northstar Clean Energy, Woodchuck has established a

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state-of-the-art biomass processing facility in Grand Rapids. This facility not only diverts tens of thousands of

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tons of wood waste from landfills annually, but also supports local industries by supplying renewable biomass energy.

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What Woodchuck's going to do for us and what they have been doing for us is provide us a consistent sourcing of biomass wood chips for all of our

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biomass operations. Currently, they are providing 3 to 400 tons monthly to our Genesee biomass facility near Flint,

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Michigan. We expect that number to grow over time and we're very pleased with the innovative sustainable way that Woodchuck provides high quality

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wastewood. Barton Malow has been increasing its sustainability efforts and particularly around waste management and

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partnering with Woodchuck allows us to divert more wood from landfills to the biomass facility. It's really been a

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win-win for us. We are diverting that wood from the landfill and we're providing an energy resource for the communities that we're working in.

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The macro factors that make woodchuck work, the need to reduce waste and the need to produce more renewable energy, those conditions exist across all of

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North America, frankly, across the world. So, we are really looking for partners anywhere in North America or across the world that are looking to reduce waste and generate more renewable energy.

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To find out more, please visit woodchuck.ai.

Sync to video time

How Construction Companies Can Meet Zero Waste Goals | Tracking, Diversion & Reporting Solutions

URL: <https://www.youtube.com/watch?v=MFyLOXSafs4>

Transcript

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Construction companies today are under growing pressure from their end clients to

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find new efficiencies to reduce waste to reduce reliance on landfills and to be able to track and report on those

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efforts to their clients. Um, big household names like IKEA and Amazon and

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Ford have set very uh, aggressive public goals when it comes to zero waste um,

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and reducing carbon. And contractors, construction companies are having trouble meeting those demands because there really aren't a lot of options

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out there for them. um to find a partner that can in fact divert materials and um find value out of them either by turning

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wood waste into energy or uh recycling cardboard and plastics. Um it's hard to find those there. A lot of places simply

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don't have options. If they do find a vendor that um will divert materials for them, the next challenge is then

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documenting that and providing reporting on that and validating how much material was diverted, where did it actually end up? Uh was carbon actually avoided. Um

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these are big challenges that face construction companies today and I would say most construction companies are hungry for solutions and looking for solutions.

AI-Powered Waste Diversion How Woodchuck Transforms Sorting with Image Recognition

URL: <https://www.youtube.com/watch?v=TqcLHkXdENw>

Transcript

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So when we look at waste diversion and sorting, say right now, nobody really has implemented a

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solution that's cost-effective. Um it's a it's an industry that's largely devoid of technology. It relies mostly on manual labor, inefficient processes.

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um because most of it they are trying to um sort out co-mingled materials after the fact and that just that creates big

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challenges and no one's really found a cost-effective solution for that. Uh woodchuck takes a very different strategy uh where we are actually

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presorting materials and trying to identify and segregate materials before they become co-mingled with other materials and AI image recognition is a

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fantastic tool to help us make sure that this happens. Um AI is is and image recognition in particular is really

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fantastic at monitoring physical situations, identifying materials, identifying contamination and making sure that we sort materials properly so

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that we can in fact in a cost-effective way convert those materials into um valuable next steps.

Biomass: The Missing Piece in the Clean Energy Trilogy

URL: <https://www.youtube.com/watch?v=Ny894pehkSA>

Transcript

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The biggest complaint on fossil fuels is they release a lot of carbon when they're being burned. Um, and and that's true. Um, so when you look at biomass, I

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think the one of the great advantages of biomass is there are energy production systems like BECCS systems and biker

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systems that have bioenergy plus carbon removal features to them so that you can produce electricity and capture the

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carbon. So it really solves both of those problems, right? that continues to provide the um or meet the ongoing

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energy growth demand but simultaneously captures that carbon. So a big advantage over petroleum fuels. Um the same is

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true for coal. When you burn petroleum or coal it's a dirtier burn. So it's um more difficult to capture all of

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those emissions. Biomass can burn very clean and making it simpler and more cost effective to capture those contaminants that are being emitted.

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Can I also throw in there um when you compare biomass to solar or wind? Solar or wind are great. Um they produce no carbon um when they produce electricity.

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The problem with solar and wind is they're intermittent, right?

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They depend on the sun. Uh they depend on wind blowing. Uh, and so in order to use a solar or wind energy,

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it really needs to be coupled with infrastructure and storage in order to have that energy available when you need it. Um, a lot of, you know, thought

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leaders in the renewable energy space are really looking to the trilogy of wind, solar, and biomass because biomass can be stored and used when you need it.

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So a lot of thought leaders in the space are using biomass for their base load energy production and then they'll use solar and wind uh and try to build

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infrastructure to store that energy so it's used for uh for peaks.

How Woodchuck Uses AI to Turn Wood Waste Into Clean Energy, New Materials, and Hydrogen

URL: <https://www.youtube.com/watch?v=9FiWZZIV-08>

Transcript

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Yeah. So, one of the further things that we do with the AI, uh, we've already talked about we use it on the front end of the process to presort materials. Um,

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once those materials are on our site, uh, specifically talking about wood when we are processing wood, we continue to

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use AI image recognition to analyze the wood as we process it. So, we can continue to identify how pure it is,

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what contaminants are in there, and what contaminants can continue to be removed.

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The goal of this process is to maximize the percentage of biomass that reaches that highest tier of quality. We call it

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tier one. And in order to be tier one, it needs to be 99% uh clean biomass, completely clear of any contaminants. If

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we can get biomass to that level of cleanliness, then it qualifies for remanufacturing. So, we can actually send that to another factory that'll

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turn that back into new construction materials or into new uh materials that can be used in new furniture. so that carbon is captured in those new

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materials um and they provide new value and re-enter the value chain a truly circular economy. Um if the wood uh can

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be clean but can't quite be clean enough for remanufacturing then we can use it for bio energy. If we can't get it clean enough for bio energy, there still is a

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whole range of industrial products that can be that can utilize this uh lower quality wood. And that wood may have uh permanent contaminants in it like

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Oil-based paints or preservatives or fire retardants. Um you don't want to use those for energy because it doesn't burn clean enough. You don't want to use it

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for remanufacturing um because it's not clean enough for remanufacturing. Um but those materials can still be used for

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permanent carbon storage. They can be used as solidifiers and sealants. Um, and they can also be used in the

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production of hydrogen. Uh, hydrogen production uses really high temperatures. Um, a process called gasification. And when you reach those

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high temperatures, it actually breaks down the different toxins, uh, whether that's fire retardant or oil based paint or whatever it may be, and breaks it

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down to it, uh, basic elements that can then be sectioned off. You can pull off the hydrogen, you can pull off the oxygen, you can pull out the solidified

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carbon. Uh, so it's no longer toxic. Um, and these materials can then be used in a in a second life.

How Woodchuck AI Brings Unmatched Transparency to Sustainability & Waste Diversion

https://www.youtube.com/watch?v=doNyvJ_E-SQ

Transcript

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So, one of the challenges within the sustainability community um for a long time has been transparency. How do you know what you want to be happening is

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actually happening? Um and honestly, there there have not been a lot of great options for that. Um we think that's one

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of the strengths that Woodchuck AI brings to the market. We track the materials from the moment we pick it up through processing, through

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transportation to whatever its end point is. Uh we track that meticulously and then provide validated reporting back to

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our clients so they can see exactly what happened to each one of the material streams. How much net CO2 was avoided?

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If it was turned into energy, how many BTUs of clean energy was produced? Um if it goes to remanufacturing, the tonnage of material that goes to

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remanufacturing, um the tonnage of material that goes to recycling. Um, so they can see these validated reports and

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be confident that the materials that they are diverting out of their waste stream are in fact being used for their highest and best use.

How AI Turns Wood Waste into Clean Energy, Biomass & High-Value Products | Woodchuck

URL: <https://www.youtube.com/watch?v=UhdZrBHwb1U>

Transcript

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Woodchuck is using AI image technology to really efficiently identify materials, segregate them, process them,

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and help them to find their highest and best use. Um, speaking particularly about wood waste, um, wood waste has a a

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lot of potential and can be used in different ways depending on what the source was, how contaminated the wood was, and how clean it can be processed.

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Um if wood if using AI we can identify the contaminants and remove them from the wood and produce an extremely clean

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resulting biomass that biomass can be used in remanufacturing uh turned into new construction materials and new

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furniture. um if it can't be quite clean enough for remanufacturing, it can be used in energy production. Uh and that

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energy can excuse me that energy production can be done at biker facilities or beex facilities which are

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essentially bio energy and carbon removal systems which allow you to generate electricity from biomass with

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little to no uh contaminants entering the air. The majority of that carbon is captured and permanently stored. If that

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um wood cannot be cleaned for those standards, it has some type of permanent contaminants in it, it can still be processed and used in a number of

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different industrial uses like uh sealants and solidifiers. Um or it can be used in hydrogen production which will break down those different toxins.

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So what the AI image recognition does within the Woodchuck AI platform it allows us to maximize the percentage of

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biomass that reaches those highest tiers of quality to make sure that it is used for its highest and best use. Um but also helps us to identify wood that

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can't reach those higher standards. So we do minimal processing while still finding a second use for it so that none of it ends up in the landfill.