Timber Tellings

World's First 3D-Printed Fully Biobased Home

Georgia Pacific (Read the full article)

December 19, 2022

The world's first 100% biobased home printed on the world's largest 3D printer in Mt. Jewett, Pennsylvania.

The University of Maine Advanced Structures and Composites Center (ASCC) recently unveiled "BioHome3D," what they're calling the world's first 3D-printed house made entirely with biobased materials.

The 600-square-foot prototype features 3D-printed floors, walls, and a roof made of wood fibers and bio-resins. Medium-density fiberboard was used as a base for the 3D printer to precisely lay down rows of the wood/plastic material, which then hardens and creates the base, walls, ceiling, and roof. The printer is programmed to leave openings for windows and doors and can flow at a rate of 150 pounds per hour, with future expansion to 500 pounds per hour.

Contents

Websites of Interest

TexasForestInfo.tamu.edu
Check out these FREE landowner tools that can assist you in making land management decisions on your property.

www.TexasForestry.org
Lobbying on various forestry and environmental issues that directly affect you, publishing and sponsoring educational events are just a few of many things that Texas Forestry Association does. Find out more about what Texas Forestry Association does for you and why you should be involved!

tfsweb.tamu.edu
Find a plethora of forest management resources and many people that can assist you in your forest management goals.

tpwd.texas.gov
Find out more information on wildlife management, hunting and fishing regulations and much more!

nrcs.usda.gov
Find out more information on natural resource conservation and federal programs in your area.

MyLandManagementConnector. com
Find and connect with service providers in your area to get assistance with land management practices on your property

The wood-plastic material uses wood flour that consists of ground-up residuals from sawmills and recycled plastic pellets.

The house is fully recyclable and highly insulated with 100% wood insulation. Construction waste was nearly eliminated due to the precision of the printing process. Those behind the project hope that the 3D-printed home will help manage the lack of affordable housing.

“With its innovative BioHome3D, UMaine’s Advanced Structures and Composites Center is thinking creatively about how we can tackle our housing shortage, strengthen our forest products industry, and deliver people a safe place to live so they can contribute to our economy,” said Maine Governor Janet Mills.

In addition to Mills, those participating in the unveiling included Senator Susan Collins, Jeff Marootian, senior advisor for energy efficiency and renewable energy for the U.S. Department of Energy, and Habib Dagher, ASCC executive director.

“Many technologies are being developed to 3D print homes, but unlike BioHome3D, most are printed using concrete. However, only the concrete walls are printed on top of a conventionally cast concrete foundation,” said Dagher. “Traditional wood framing or wood trusses are used to complete the roof. Unlike the existing technologies, the entire BioHome3D was printed.”

The home is currently equipped with sensors for thermal, environmental, and structural monitoring to test how it performs through a Maine winter. Researchers expect to use the data collected to improve future designs.

Market Report- Sept/Oct 2022

Product	Statewide Ave. Price		Previous Ave. Price		Price/ Ton Difference	
	Weight	Volume	Weight	Volume		
Pine- Sawlogs	$28.02/Ton	$224.13/MBF	$30.31/Ton	$242.45/MBF	-8%	↓
Pine-Pulpwood	$6.04/Ton	$16.31/Cord	$6.50/Ton	$17.54/Cord	-7%	↓
Pine-Chip-n-saw	$13.30/Ton	$35.90/Cord	$13.63/Ton	$36.81/Cord	-2%	↓
Mixed Hardwood- Sawlogs	$32.07/Ton	$288.66/MBF	$33.78/Ton	$303.99/MBF	-5%	↓
Hardwood- Pulpwood	$7.42/Ton	$20.77/Cord	$8.41/Ton	$23.54/Cord	-12%	↓

Texas Timber Price Trends is a bimonthly publication reporting average prices paid for standing timber in Texas. This report is intended only as a guide to general price levels. It should not be used to judge the fair market value of a specific timber sale, which may vary considerably due to many factors. It is recommended that you use the services of a professional consulting forester in managing any timber sale. Important factors affecting timber prices include the type, quality and volume of timber for sale, accessibility, distance to mills/markets, weather conditions, economy/market conditions, who is handling the sale or is buying the timber, and contract requirements by the landowner. The complete Texas Timber Price Trends can be viewed at http://tfsweb.tamu.edu/timberpricetrends.

Timber Theft, Report It and Help Prevent It!

Texas A&M Forest Service

Timber theft is a crime that affects everyone. With the price of timber rising and more absentee landowners in Texas, timber theft is on the rise. While timber and landowners initially feel the monetary loss, everyone loses because trees are taken without methods in place to ensure new forests for the future.

Many timber theft cases involve absentee landowners who are more vulnerable because they aren't around to protect their property. In these cases, the thief is often long gone by the time the crime is discovered.

Another method of theft involves timber buying contracts. There are a number of scenarios, but the most common is that the contract is never fulfilled by the buyer.

To help you avoid these and other timber theft tactics, Texas A&M Forest Service offers the following advice:

- Have someone you know and trust report any cutting or trespassing on your land immediately.
- Have a Bill of Sale before any cutting begins and never sign a contract without checking references of the buyer.
- For the best price insist on getting bids for your timber.
- Mark all property lines to assure cutting on adjacent property does not encroach on yours.
- Most importantly, if you do not know the timber business, find someone who does to help you determine volumes, current prices and potential bidders.
- To learn more about timber theft prevention and applicable laws, read the Timber Theft Laws in Texas brochure.

To report suspected timber theft of suspicious activity call: Texas A&M Forest Service Timber Theft Hotline 1(800)364-3470.

Turning CO_2 to Stone

Stacy Morford, Columbia University

Earth has limits to the amount of carbon dioxide in its atmosphere before the environment as we know it starts to change. Too much CO_2 absorbed by the oceans makes the water more acidic. Too much in the atmosphere warms the planet. With emissions from our carbon-based economies rising, scientists at Columbia University's Lamont-Doherty Earth Observatory are developing ways to prevent CO_2 produced by power plants and industries from ever entering the atmosphere, and they are exploring ways to take CO_2 out of the environment.

There are places in the world where carbon dioxide reacts naturally with the local rock, turning the planet-warming gas to mineral. It's a slow process in nature, but Lamont scientists have found a way to harness that reaction and speed it up so they can take CO_2 from power plants and lock it away quickly and permanently.

In a ground-breaking study that holds new potential for combating climate change, CO_2 captured from a power plant in Iceland and pumped underground had mineralized into a white, chalky substance for permanent storage, and this conversion happened far faster than anyone expected.

Lamont scientists are now exploring similar possibilities with vastly greater storage potential beneath the oceans off the U.S. coasts, and they are experimenting with a type of rock found in abundance in Earth's mantle that could be used to go the next step and begin taking CO_2 out of the environment.

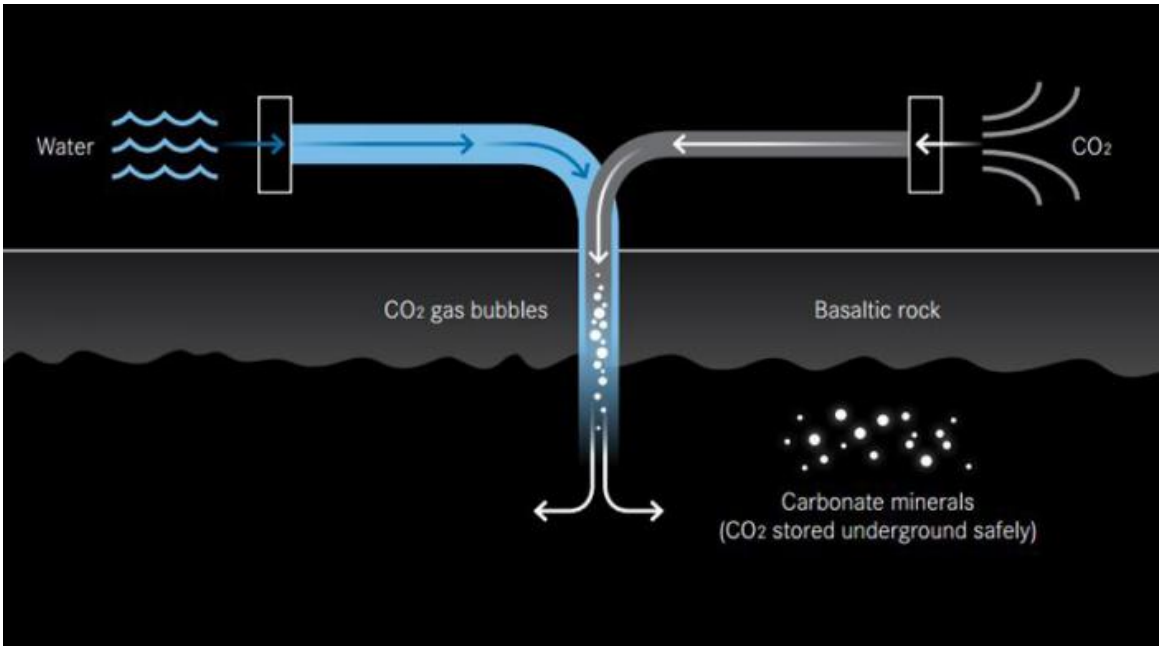
"It's clear that, no matter what we may wish, we will not put the brakes on the carbon economy fast enough to avoid overshooting safe CO_2 limits in the air," said geologist Peter Kelemen, who is leading studies on mantle rocks and their potential for CO_2 removal. "On the bright side, our research into Earth processes is showing that there are things we can do that emulate natural systems to address the carbon problem."

The Iceland Project

Scaled up, the process of capturing CO_2 from power plants and factories and turning it into a solid could buy time as countries worldwide shift away from fossil fuel use and toward cleaner energy sources. The Intergovernmental Panel on Climate Change (IPCC) has described carbon capture and storage (CCS) as a critical technology for keeping climate change in check. There are challenges, though. In most of the 15 large-scale CCS operations functioning today, CO_2 is stored as either a gas or a supercritical fluid in natural subsurface repositories, typically sandstone, or reused to force oil or gas out of played-out wells. The process has been used for over 20 years for storage and longer for oil recovery, but there has been a lingering question: could the stored CO_2 leak out?

At Iceland's Hellisheidi Power Plant, Lamont hydrologist Martin Stute, Adjunct Senior Research Scientist Juerg Matter, and colleagues tried something different. They used CO_2 captured at the power plant, and mixed it with water and hydrogen sulfide, creating soda-like carbonation, then injected the mixture into porous basalt rocks 400 to 800 meters underground. Basalt, which is created as lava cools, contains calcium, iron, and magnesium, which react naturally with CO_2 to form solid carbonate minerals. Within two years, 95 percent of the injected CO_2 had turned to mineral – far faster than the 8–12 years originally expected.

"We knew that under natural conditions this process was happening, but we did not know on what time scale," said Stute, who also teaches at Barnard College. "The energy company we were working with was so impressed by the success that they decided to adopt it."



Reykjavik Energy expects to inject 10,000 tons per year starting this year and increase that level. The continuing experiment will also test some remaining questions, such as whether the pore spaces could clog over time. The researchers have found that the pressure from the process itself creates tiny fractures, expanding the area where newly injected CO_2 can flow in and mineralize, which they expect to minimize clogging.

Exploring Off Shore

Basalt, which made Iceland the ideal location, is also abundant beneath the oceans, including just off shore from coastal power plants.

David Goldberg, a geophysicist at Lamont, has been leading off-shore studies to map basalt reservoirs with the potential to store carbon that would mineralize over time. He has proposed burying CO_2 in several sites off the U.S. East Coast about a mile below the seafloor, and he is now working on one of five Department of Energy projects using seismic data to determine how much CO_2 could be stored in those and other off-shore reservoirs.

Goldberg's team is also proposing the first test of off-shore basalt storage, a project that would pump 1 million tons of CO_2 into basalt off the Pacific Northwest.

"Iceland was a key demonstration. The holy grail is off-shore," Goldberg said. The storage potential in the oceans is immense, and it moves the process away from communities. It also avoids the need for water resources. Where the Iceland project added fresh water to the captured CO_2, off-shore projects could mix seawater with purified CO_2 to speed up the reaction time.

Pulling CO2 from the Environment

It is increasingly apparent that we will need to do more than just capture CO_2 from power plants to keep temperatures from rising beyond 2° Celsius – we will also need to start taking CO_2 out of the environment, as reports from the IPCC and the National Research Council (NRC) and National Academy of Sciences have warned.

In addition to basalt, Kelemen has been working with peridotite, a fast-reacting rock that comprises much of the Earth's upper mantle and can be found near the surface on all continents and beneath the sea floor. This winter, he will be leading an international drilling project in Oman, where a large block of mantle has been pushed to the surface by plate tectonic forces and is exposed to weathering. The Oman formation naturally sequesters 10,000 to 100,000 tons of CO_2 every year, leaving magnesium and calcium carbonate veins in the rock. Kelemen estimates that by speeding up the process, peridotite could be used to store 1 billion tons of CO_2 per cubic kilometer of rock per year.

Fossil energy industries recognize the challenges ahead as the planet warms and the international community begins to take action. "They know they're going to have to protect their investment by getting involved in carbon management," Kelemen said.

Read the full article at https://phys.org/news/2016-10-co2-stone.html .

Upcoming Events

March 20-21, 2023 Texas Forestry Association and Forestry Day at the State Capitol- Location: Austin, TX. For more information visit https://member.texasforestry.org/events/EventDetails.aspx?id=1709269&group=

March 24, 2023 Forest Landowner Meeting- Location: Texas A&M AgriLife Research and Extension Center, 1710 FM 3053; Overton, Texas. Cost is free and lunch will be provided. Please RSVP by March 20, 2023 to the Texas A&M Forest Service Henderson Office (903) 657-0511.

Update on NCX Carbon Credits

Some of you participated in the NCX harvest deferral carbon program for the year 2022. NCX expects to finalize closing assessments and generate Results Reports by February 28. When completed, you will be notified by NCX if you applied through the web site or by your third-party provider if they applied for you.

It will then be necessary for you or your third-party provider to submit payment details which will include federal tax information for the IRS and your preference for a check or ACH direct payment. You should receive payments by March 31, 2023.

The NCX program is evolving and is currently on hold. It is anticipated that the program will resume for 2024. Programs by other vendors are still under development and not yet taking applications.

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NETFLA WEB SITE

www.netxforest.org

Next Membership Meeting

Friday March 17, 2023 at Luigi's in Mount Pleasant at 10 am

Consulting Forester, Hap Hachtel, forester at CJT Associates, LLC in Mt. Enterprise, TX, will present the program. Hap is a member of the Association of Consulting Foresters, Texas Chapter. He is a true professional and has been a Consulting Forester for many years.

His presentation will address issues such as: How does a Consulting Forester assist landowners in managing their forest land, how does a Consulting Forester manage a timber sale and harvest, how does the Consulting Forester assist in reforestation after a final sale and what is the cost to the landowner, how does a Consulting Forester interface with the Texas A&M Forest Service and NRCS?

Be prepared to ask questions and get answers for your concerns.

Luigi's is located at 2213 West Ferguson (TX Hwy 49). It is on the south side of the street near the intersection of West Ferguson and the US Hwy 271 bypass around Mount Pleasant.

Lunch will be on your own if you elect to stay.

Mark your calendars for **10 am on Friday, March 17.**

Future Programs:

The Board is considering program topics for 2023 meetings which include: pine seedling genetics, timber harvesting, and USDA-NRCS funding assistance opportunities. Please contact an Officer or County Director if you have a topic that you would like addressed at a future meeting.

NETFLA Contact and Membership Dues Information

Thank you for your NETFLA membership. We hope that Newsletters, Programs and Meetings have provided you with useful information that has helped you manage your timber property. We encourage you to continue your membership in 2023. Membership dues are $15.00 per calendar year.

If you have not yet renewed your membership for 2023, you can renew at the next meeting or mail your check to: **NETFLA, P.O. Box 343, Daingerfield, TX 75638-0343**.

Contact: Judy Weiss (903) 645-3782, or e-mail gjweiss@windstream.net