



DOME TECHNOLOGY

# ANNUAL REPORT 2022

Highlights from our diverse scope of work  
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Enviva  
Port of Pascagoula, Mississippi, USA





## PEEPLES ADDS THIRD DOME IN GEORGIA

Dome Technology and Peeples Industries collaborated on a third dome at the same site in Savannah, Georgia, USA.

Surging business growth led Peeples to build a third dome, and Dome Technology was chosen as general contractor again because of “the outstanding contractor service” in addition to the benefits of dome storage for pellets, Peeples Industries project manager Brad Orwig said.

The latest dome stores 30,000 metric tons and is 190 feet in diameter and 105.5 feet tall. The previous two domes store 25,000 metric tons apiece and were originally filled by train. With the third dome, trains still deliver product, but truck reception is also an option. Dome Technology built the truck loadout, and pellets at all three domes are reclaimed by gravity feed to the ship loader.

According to Orwig, Peeples prefers working with Dome Technology because of “customer service, quality of workmanship, ethical business practices, strong relationships, uniqueness of design, (and) transparency of all aspects of cost/project.”



*Pellets are produced on site at this Drax facility and stored in the two new DomeSilos.*

## ANOTHER DRAX PROJECT

### New wood-pellet facility the ultimate in efficiency

Renewable-energy giant and repeat customer Drax worked with Dome Technology to complete another wood-pellet facility in the southern United States.

Located in Demopolis, Alabama, this new site features two storage domes 90 feet in diameter and 135 feet tall. Both can store 10,000 metric tons apiece and are designed with a live floor.

Product is reclaimed 100 percent by gravity, and the domes are fitted with state-of-the-art safety systems, including aeration, heat sensors, and gas-monitoring sensors.

The site is the epitome of efficiency. Pellets are produced at an on-site plant, then belt-conveyed to a bucket elevator, where they climb the first dome. At the top, the pellets enter a diverter, where they are directed to the desired dome.

Inside both domes, an innovative live-reclaim floor system, dreamt up

by Drax and built by Dome Technology, is built around a V-shaped floor so product slides easily across the steel-plated floor. According to Dome Technology sales manager Lane Roberts, the domes’ tall and narrow shape fit the available footprint while still maximizing capacity and live-reclaim capabilities.

“It really does cut down operational costs because you don’t have a lot of equipment to maintain, and you don’t have to have operators in there,” he said.

Pellets leaving the dome are conveyed about 1,000 feet to the river port, where they are loaded onto barges.

The dome also maximizes natural venting. Both domes are fitted with louvered gooseneck vents that control dust naturally; when pressure arises in the dome, it is naturally released through the apex, and dust is captured in the process.



The two Enviva domes are situated on the Port of Pascagoula in Mississippi, USA, and bring the total of Enviva DomeSilos built by Dome Technology to six.

## TWO MORE DOMES FOR ENVIVA

*The wood-pellet company adds DomeSilos in Mississippi, USA, to their operations*

**D**ome Technology has completed two more domes for wood-pellet powerhouse Enviva, bringing the total domes built for the company to six.

As Enviva expanded their pellet production in the southern United States, company leadership identified the Port of Pascagoula in Mississippi as the ideal shipping port. According to industry insider Fastmarkets, Enviva set a goal to take production from 6.2 million metric tons a year to 13 million; part of that effort included the construction of two new domes capable of storing 45,000 metric tons with 75 percent live reclaim, each measuring 170 feet in diameter and 165 feet high. The domes are fitted with typical sensor arrays and monitoring.

Floor aeration designed to cool the pellets was customized for these domes. Floor grates must be robust enough to withstand machinery driving on top, and the larger the grate, the greater the cost to build it. So rather than installing standard troughs five feet wide and two feet deep with a grate to match, Dome Technology's team proposed troughs two feet wide and five feet deep. This meant the cost of the floor grates could be

dramatically reduced while providing the same degree of aeration for reclaim.

The waterfront site posed challenges common for portside locations. Dome Technology helped Enviva shave costs by proposing the domes be built upon an innovative deep-foundation system. Tunnels were constructed on grade because of the high water table.

The two Pascagoula domes follow a similar building pattern for Dome Technology and Enviva projects. In 2011 and 2012 the two companies collaborated to build a duo of domes at the Port of Chesapeake in Virginia. At the end of 2016 the Dome Technology team completed two more domes for biomass manufacturer Enviva at Port of Wilmington, North Carolina.

"It's an honor that they have selected us repeatedly to build six domes for them," said Dome Technology sales manager Lane Roberts.

**The domes are each 170 feet in diameter and can store a combined 90,000 metric tons.**





## EAST IDAHO CITY GETS NEW WATER TANK

Dome Technology built a million-gallon water tank for the City of Iona in Idaho, USA, similar to two other tanks completed for other cities in the region.

“(Dome Technology was) the low bid, but I will tell you we were impressed with the product that was built in Shelley (Idaho). We really wanted to try to make the bidding process competitive, so we jumped through a lot of hoops to accommodate everyone that wanted to bid the project,” Iona mayor Daniel Gubler said. “We are happy with the outcome.”

Dome Technology’s water tank is a steel-reinforced concrete structure with a domed roof; because concrete is sprayed in place, there are no joints in the wall or the roof. The D1150 model has post-tensioning embedded in the walls for seamless robustness, rather than wrapping the post-tensioning wire around the outside of a tank.

## JAPAN PROJECT COMPLETED

As part of its collaboration with Japanese company Kajima, Dome Technology completed a storage project in Shunan City, Yamaguchi Prefecture. The structure has a diameter of 27.5 meters, a height of 28 meters, and a 10,000-ton storage capacity.



*Riviera Beach city leadership weighed in on the dome’s custom appearance.*

# STORAGE WITH STYLE

*Ozinga dome in port city built with aesthetics in mind*

During the third quarter of 2022, Dome Technology finished building construction-materials company Ozinga’s new cement storage dome at the Port of Palm Beach, Florida.

The structure’s custom appearance is the result of a cooperative effort between Ozinga, Dome Technology, the Port of Palm Beach, and the City of Riviera Beach and is designed to enhance the visual landscape of the area and complement the marine environment.

“Dome Technology is grateful for the opportunity to be part of the solution for this unique and challenging project,” Dome Technology CEO Bradley Bateman said. “Our team appreciates the chance to work with Ozinga on another exceptional project.”

The 50,000 ton-capacity dome is located north of Miami and has a low-profile roof and parapet.

The facility will receive and store international shipments of cement that will then be transported to other locations for use in the production of ready-mix concrete. “The success of this innovative project is due to the great relationship that’s been built with the City of Riviera Beach and the Port of Palm Beach,” said Ozinga president Justin Ozinga. “We’re looking forward to having a positive impact on the community here for generations and are grateful for both parties’ involvement and ongoing support.”

Ozinga has supplied ready-mix concrete for commercial, residential, public works, landscaping, and excavation projects from its Florida locations in Davie, Doral, Miami Gardens, and Miami since 2017.

The new facility is expected to be fully operational by the summer of 2023.

# LARGE-SCALE STORAGE

*Continental Cement Co. project built in response to surging demand*

Continental Cement Co., a Summit Materials company, has another storage dome in the works, this time at its Davenport, Iowa, USA facility.

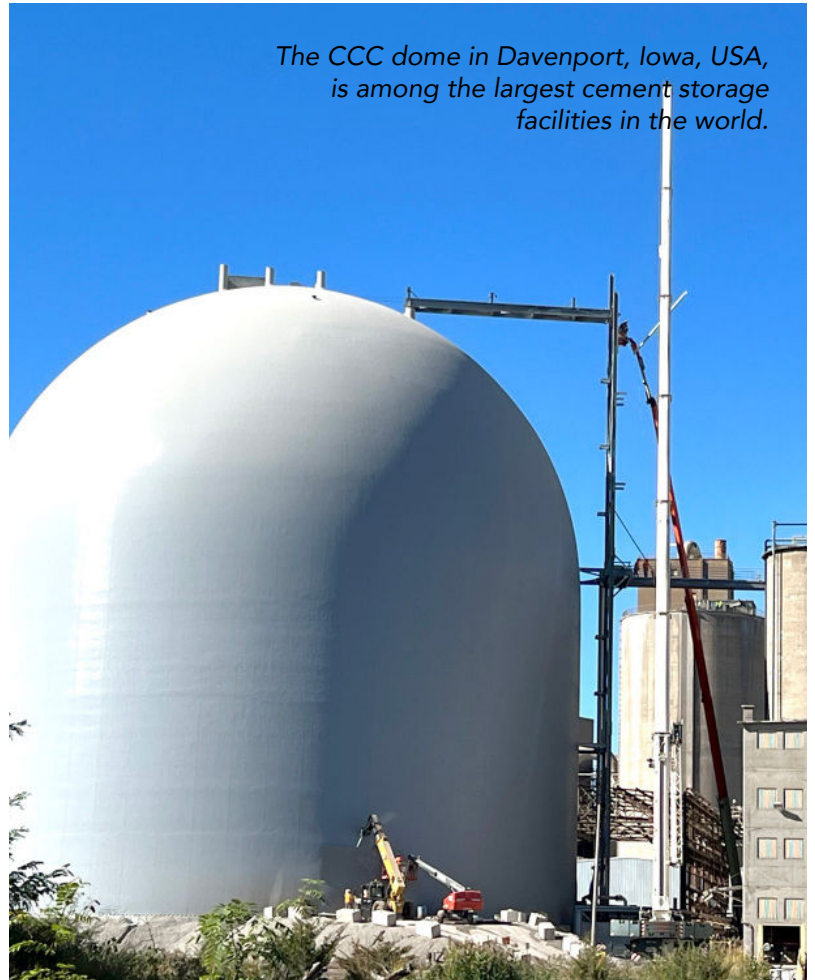
The DomeSilo is designed to store 125,000 short tons of cement powder; when completed, dome provider Dome Technology believes the structure will be among the largest-capacity cement storage facilities in the world, said sales manager Lane Roberts.

The dome size is a response to demand that's been building for the past decade. CCC Davenport has been short on storage for many years, resulting in cement being loaded on barges and stored on the river. Over the past decade, CCC has stored significant amounts of cement each year, resulting in substantial demurrage costs. With

demand for cement and barge demurrage costs increasing each year, Summit Materials and Continental Cement were confident that now was the time to invest in larger, more permanent storage.

"CCC will reduce its demurrage costs for cement storage on the river and eliminate the need to curtail production or shut down the plant. This helps to ensure we have sufficient cement to ship coming out of the winter months into the busy spring and summer seasons," Continental Cement Co. plant manager Shawn Mages said.

The DomeSilo is 165 feet in diameter and 171.5 feet tall. Reclaim is achieved with an FLS Full-Floor pneumatic reclaim system, and the dome's floor is faceted with slopes in four directions to a central discharge.



*The CCC dome in Davenport, Iowa, USA, is among the largest cement storage facilities in the world.*

## ALBIOMA CHOOSES TWO DOMES FOR ISLAND LOCALE

**R**epeat customer and independent renewable-energy provider Albioma contracted with Dome Technology to build two identical DomeSilos for storing wood pellets on Reunion Island. "This is another impressive project for Albioma," Dome Technology CEO Bradley Bateman said.

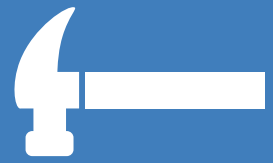
The domes are 105 feet in diameter and 85.3 feet tall with a capacity of 9,500 cubic meters apiece. Pellets are stored and burned on site to produce electricity for the island. A Vibrafloor system was chosen for reclaim.

DomeSilos are ideal storage structures for areas prone to natural disaster and can withstand windborne debris, projectiles, and winds exceeding 250 mph. According to the Dome Technology site-construction team, the domes weathered two cyclones during construction.



*Albioma's two new domes feature round explosion venting, like their dome in Martinique.*



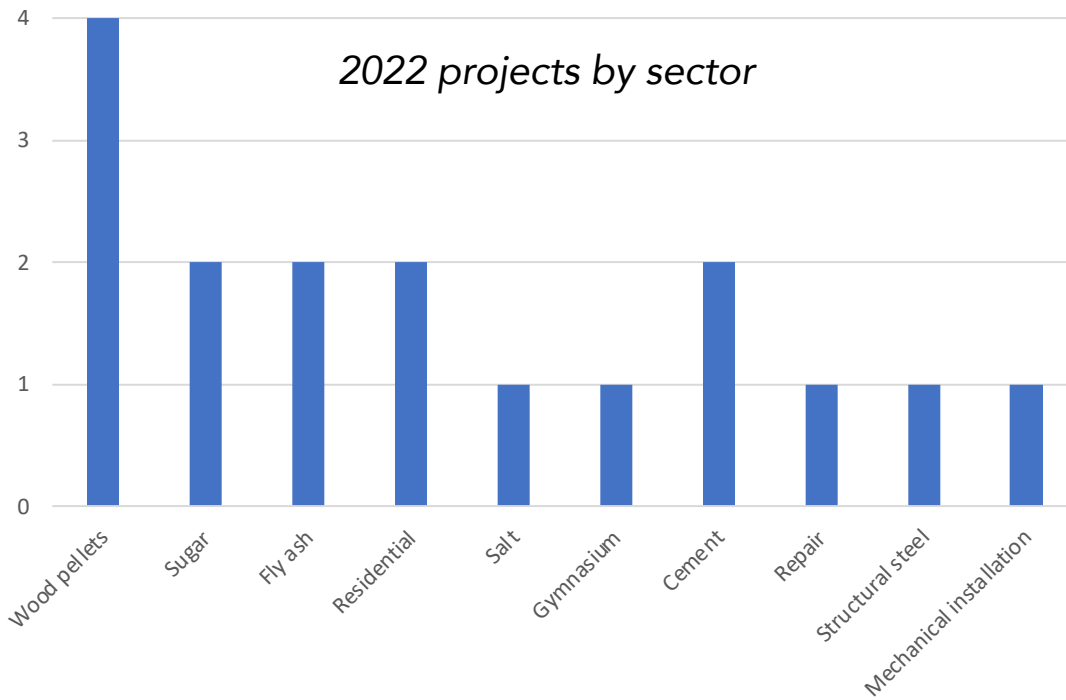


## PROJECTS AT A GLANCE

Last year Dome Technology worked on 17 construction projects—see the breakdown in the graph at left.

Details about completed work are published on our website. Look for new posts every Monday at [dome-technology.com/company/articles](https://dome-technology.com/company/articles).

2022 projects by sector



## A SNEAK PEAK INTO CURRENT PROJECTS

The Dome Technology team is engaged in several large-scale projects in the United States and abroad. A DomeSilo is under construction for a Middle Eastern sugar refinery. Titan Cement is building a dome in Florida and another in Virginia. And an international cement company has hired Dome Technology to build a 50,000 metric-ton dome in Texas, USA, and 25,000 metric ton dome in Colombia.



*Dome Technology's production team stayed at the Tahuayo Lodge in Iquitos, Peru—a site accessible only by boat.*

# COMPANY HOLDS CONFERENCE IN PERU

To celebrate the upcoming year and promote camaraderie, the Dome Technology production team headed for the jungle in January.

Twenty-four employees stayed at the Amazonia Expeditions Tahuayo Lodge in

Iquitos, Peru, January 3 through 7.

The leadership conference was an opportunity to bring together the team that builds Dome Technology's high-quality projects all over the world, CEO Bradley Bateman said.