



DOME TECHNOLOGY™

WOOD-PELLET STORAGE

SMALL FOOTPRINT • STRENGTH • PROTECTION • CUSTOMIZATION • COST SAVINGS

WELL-ROUNDED IDEAS FOR WOOD PELLETS.

Harnessing energy from trees requires a storage solution as innovative as you are. Enter Dome Technology. Every one of the 600-plus domes in our portfolio has been a custom job, and for decades our high-capacity, small-footprint DomeSilo™ has been advancing business for companies all over the world.

Expect ultimate product protection? You've got it. Need to incorporate existing systems? Done. Want to boost margins? No problem. We provide storage, conveyance, speed, and safety in one rugged package. That's efficiency that pays for itself. That's the Dome Technology way.



Drax | Selby, United Kingdom

- 4 DomeSilos: 63m (207ft) wide x 50.3m (165ft) tall
- 320,000 metric tons (total)
- Reclaim: 99% vibrating floors (70% live), 2 tunnels/dome

Key benefits



High capacity, small footprint



Strength



Protection



Customization



Cost savings



High capacity, small footprint

A DomeSilo allows product to be stacked deeper on a smaller footprint, requiring less property at the site and freeing up land for future expansion. The increased capacity is made possible by geometry: The double curvature of a dome lends itself to the ability to build up, rather than out, and the curve provides strength at all points of the structure, even at the apex.



The entire interior of a dome, then, can be used to contain product. In addition, the DomeSilo can utilize diverse foundation systems that may reduce the need for a deep foundation.



“The fact is that the dome can handle, with its small footprint, differential settlement better than a silo. A silo almost always needs deep foundations, and there’s a premium associated with that.”

Lane Roberts

Dome Technology sales manager

Enviva | Port of Chesapeake, Virginia, USA

2 DomeSilos: 53.6m (176ft) wide x 47.9m (157ft) tall

90,000 metric tons (total)

Reclaim: 75% live, 1 tunnel/dome

<https://youtu.be/6LqZb8iOill>



Key benefits



High capacity, small footprint



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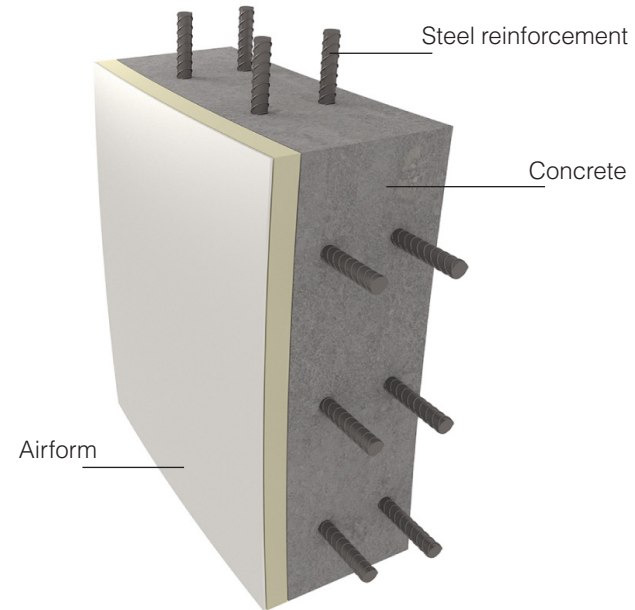
Cost savings



A force to be reckoned with

The seamless DomeSilo boasts greater ability to allow frequent loading and unloading. A dome's tolerance for cyclic loading and unloading is high because of its structural integrity, compared to steel tanks built with fasteners or welded seams.

The materials we use are key. The combination of concrete, steel reinforcement, and nature's perfectly strong shape produces an undeniably robust dome, ideal for weathering any storm.



Albioma | Fort-de-France, Martinique

1 DomeSilo: 35m (114.8ft) wide x 33m (108ft) tall

13,000 metric tons

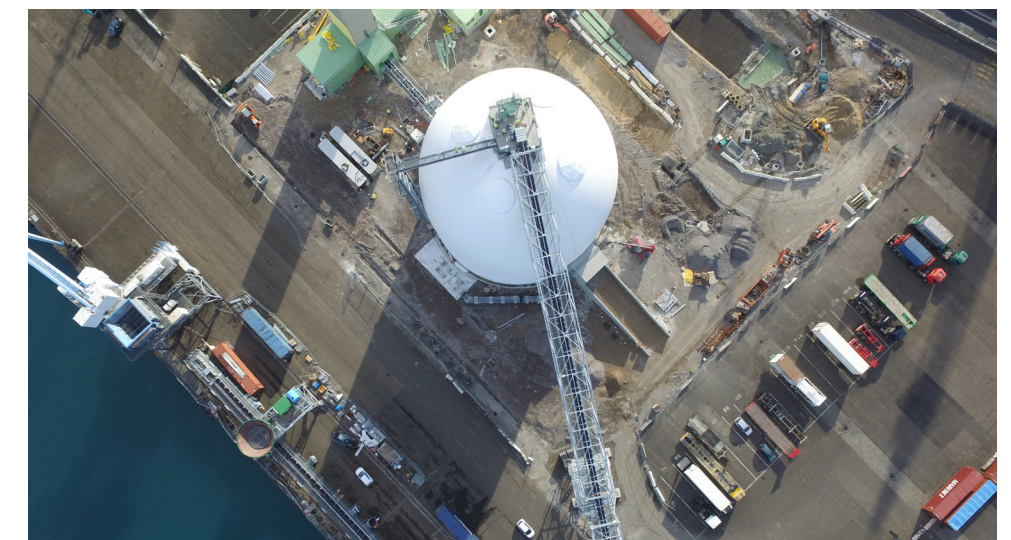
Reclaim: 75% live, 1 tunnel

<https://youtu.be/oLiQyfoN07c>

Natural-disaster resistance

Domes are especially suited for weather resistance thanks to geometry. Their robust nature comes from monolithic construction and their shape, which distributes applied forces across the entire surface of the structure. A dome can be engineered to withstand winds exceeding 250 mph.

Domes are a choice option in areas prone to seismic activity because a seamless concrete shell is naturally suited for resisting seismic loads. A dome is free from corners or concrete beams meeting up to create a joint, a construction interface that creates a weak point. The absence of weak points in the shell allows the structure to convert loading to an axial force going across the surface of the dome, rather than channeling the stress to a weak spot.



Key benefits



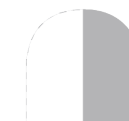
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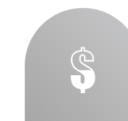
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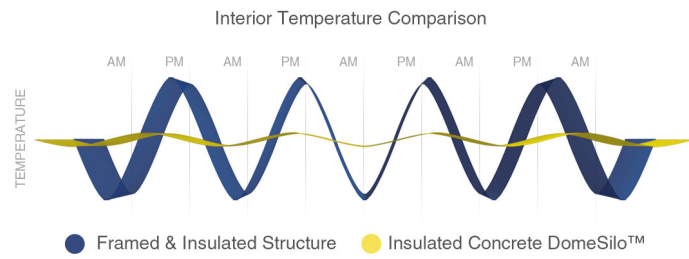


Cost savings



Superior product protection

With other storage facilities like tanks and silos, fluctuations in external and internal temperature plus the possibility of moisture or condensation inside the structure can compromise product integrity.



The impermeable exterior membrane eliminates the introduction of outside water into the stored pile. And the combination of a waterproof membrane, insulation, and reinforced concrete shell prevents extreme interior temperature fluctuation; these features reduce heating and cooling of the walls and air inside, preventing condensation.



Enviva | Port of Wilmington, North Carolina, USA

2 DomeSilos: 51.8m (170ft) wide x 48.8m (160ft) tall

90,000 metric tons (total)

Reclaim: 75% live, 1 tunnel/dome

<https://youtu.be/hm4XCqa4fqk>

Key benefits



High capacity, small footprint



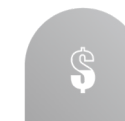
Strength



Protection

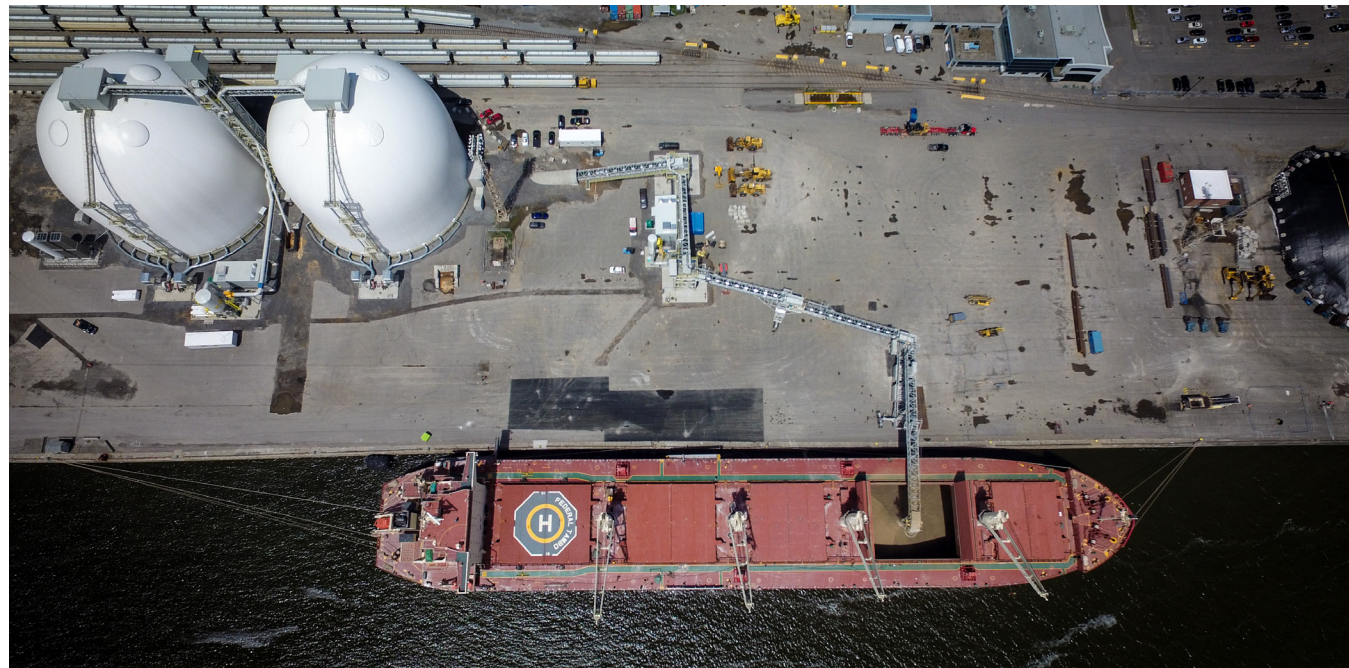


Customization



Cost savings





A customized solution for storing pellets

Dome Technology was founded by inventor Barry South, so it follows that Dome Technology's company culture is steeped in innovation. Here are a couple recent innovations offered to customers.

The filling tube

Wood-pellet companies working with Dome Technology have the option of installing a filling tube as an innovative way to load pellets with reduced dust and better product protection. A belt conveyor moves product into the top of the dome, where pellets enter the tube. Product rolls through openings incrementally located on the tube and into the pile, resulting in smoother, more even pile creation.

This model, complemented with a dust-collection manifold inside the tube, dramatically reduces the concentration of dust inside QSL's dome, said director of engineering Eric Lapointe. "There could still be an explosion, but the dust cloud would just be what's inside that filling tube, so the volume of the cloud would be much, much smaller," he said.

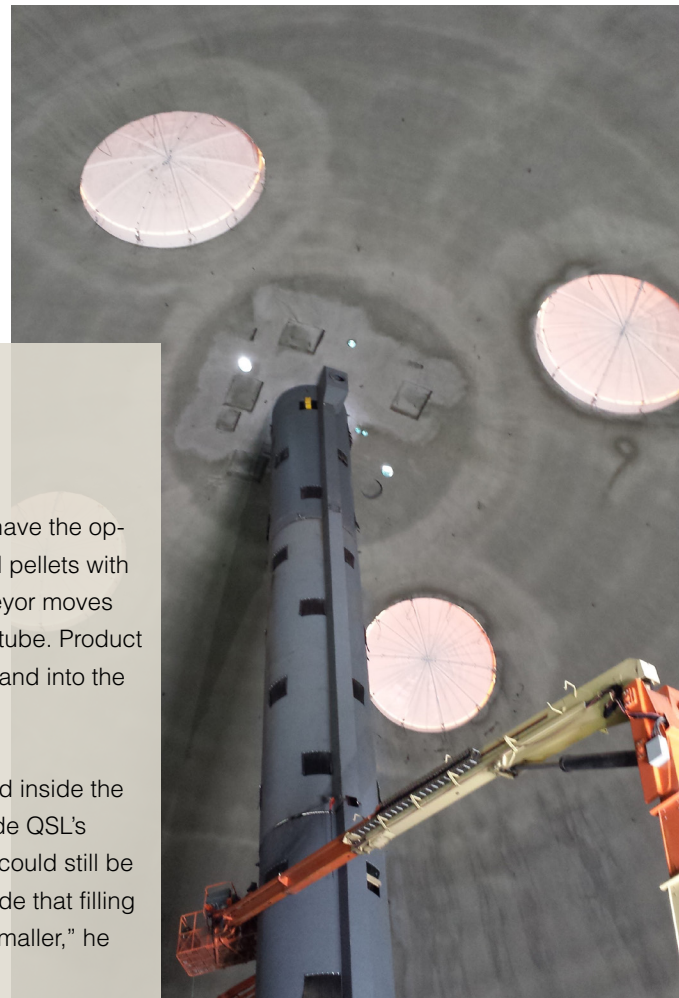
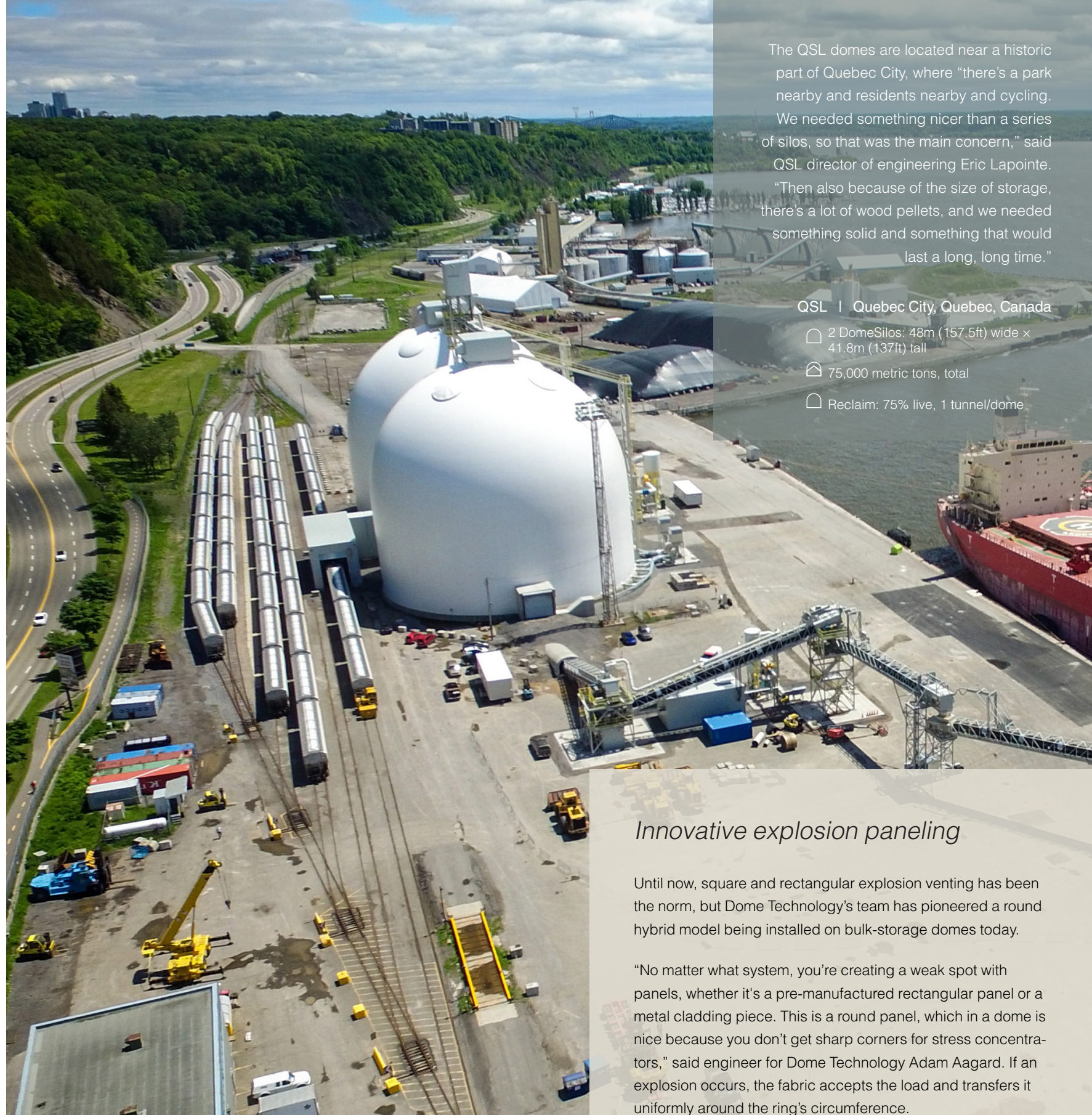


Photo courtesy QSL



The QSL domes are located near a historic part of Quebec City, where "there's a park nearby and residents nearby and cycling. We needed something nicer than a series of silos, so that was the main concern," said QSL director of engineering Eric Lapointe. "Then also because of the size of storage, there's a lot of wood pellets, and we needed something solid and something that would last a long, long time."

QSL | Quebec City, Quebec, Canada

2 DomeSilos: 48m (157.5ft) wide x 41.8m (137ft) tall

75,000 metric tons, total

Reclaim: 75% live, 1 tunnel/dome

Innovative explosion paneling

Until now, square and rectangular explosion venting has been the norm, but Dome Technology's team has pioneered a round hybrid model being installed on bulk-storage domes today.

"No matter what system, you're creating a weak spot with panels, whether it's a pre-manufactured rectangular panel or a metal cladding piece. This is a round panel, which in a dome is nice because you don't get sharp corners for stress concentrators," said engineer for Dome Technology Adam Aagard. If an explosion occurs, the fabric accepts the load and transfers it uniformly around the ring's circumference.

Key benefits



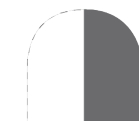
High capacity, small footprint



Strength



Protection



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Cost savings



More bang for your buck

Here are some ways a DomeSilo from Dome Technology can save you money:

- Built on a smaller footprint—less property, more storage.
- Boasts a longer life cycle than a concrete silo or steel tank.
- Favors a single reclaim system, even for multiple structures.
- Built with locally available concrete and reinforcing steel.
- Requires fewer construction materials with less waste.
- Built quickly from the inside, so weather isn't a factor.
- Utilizes foundation systems that may reduce costs.
- Requires very little maintenance.



“Dome Technology did a lot of things for us. They cheapened our price up because we didn't have to put in a deep pile foundation”—a system that for the A-frame would have carried the same cost as one entire dome, Peoples Industries project manager Brad Orwig said. “(Dome Technology) is the only dome company we work with now,” he said. “I've worked with a lot of contractors, and Dome Technology is by far the most professional and the best contractor I've ever worked with.”

Savannah Bulk Terminal | Savannah, Georgia, USA

- 🏠 2 domes: 57.9m (190ft) wide x 32m (105ft) tall
- 🏠 50,000 metric tons, total
- 🏠 Reclaim: 60% live, 1 tunnel/dome



Key benefits



High capacity, small footprint



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Drax | Selby, United Kingdom



"We built the first wood-pellet dome and have since built all of the wood-pellet domes around the world. As a pioneer in the dome-construction process, we innovate and provide optimal systems for our customers, proving to be the trusted experts for bulk storage."

Bradley Bateman
Dome Technology
CEO

Company history

Founded on innovations developed in 1975, Dome Technology builds domes used for industrial bulk storage such as wood pellets, gypsum, fly ash, coal, grain, fertilizer, mining ores and other bulk products. Dome Technology also builds domes for architectural facilities such as schools, churches or gymnasiums. Dome Technology has built more than 600 domes throughout the United States, Canada, South America, Europe, Middle East, Africa, and Asia.

Our approach to every project

We combine the technology of the dome with our full-service collaborative and engineering design team to ensure you get the most innovative, cost-effective solutions for your project. Our ACI-certified nozzle men, a comprehensive quality-control program, and third-party testing ensure top quality while making your wood-pellet project a reality.

By combining 40 years of experience with a spirit of innovation and expertise in engineering, we provide a one-stop shop for the bulk storage and conveyance solution you need.



Projects that speak for themselves

Dome Technology builds the strongest storage structures on the market. Here is a sampling of our wood-pellet projects.



Enviva
Port of Chesapeake, Virginia, USA

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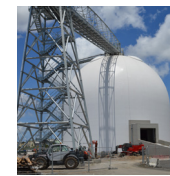
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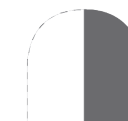
High capacity,
small footprint



Strength



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Enviva | Port of Wilmington, North Carolina, USA



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