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Underground Shelter Made With 42 Buses

By Lydia Noyes, Contributing Editor

Bruce Beach Built a doomsday shelter with 42 school buses buried 14 ft. underground in the 70's and 80's.



Photos sourced from the Ark 2 community website

Born in Winfield, Kan., Bruce Beach was a general contractor and professor of computer science for over 4 decades. After retiring, Bruce moved in the 1970's to Horning's Mills, Canada, onto the family property of his second wife. There, he dug a giant hole and buried 42 school buses to create a 10,000-sq. ft. nuclear fallout shelter.

Beach chose to use school buses due to their open floor plan, and because they're built with steel beams that are strong enough to withstand the weight of 14 ft. of dirt he stacked on top. He paid \$300 for the initial bus and acquired the rest throughout the early 1980's.

It's unclear how much the entire project cost, as Beach relied on bartering and volunteer labor. Throughout the decades of its construction and continuous maintenance, Beach frequently hosted work groups on his property. Everyone who helped was promised space in his shelter, assuming they could get to it in time in a doomsday scenario.

His motivation for this project was entirely altruistic. Beach wanted to provide a way for society to avoid total collapse and equipped his bunker with everything he deemed necessary for establishing a new world order. The bunker's name, "Ark Two," started as a joke but stuck as the project's "Noah" continued to expand on his plan for saving humanity from disaster.

Ark Two was designed to protect a small community for up to three months. At peak capacity, it could house around 500 people - most of whom would be women and children. Its wings include buses filled with child-sized bunk beds, separate spaces for both preparing food and the clean-up process, a nursery, and even a dentist's office outfitted with 1980's technology. The entire compound is secured behind a concrete door - the only part visible to the outside world. Just past the door was a decontamination chamber to prevent the spread of infectious disease into the compound.

Beach thought through just about every detail for survival. The bunker was continually stocked with up to 3 mos. worth of food, fresh water, diesel for electricity, and a septic system. It was even equipped with a radio system that could send and receive messages across North America.

Maintaining a fallout shelter for hundreds of people to use at a moment's notice is not without its challenges. Beach threw away tons of food in the decades he maintained it as provisions inevitably went bad. Likewise, Ark Two has had its share of legal trouble over the decades. The government of Ontario has attempted to shut it down on numerous occasions, citing safety concerns and a lack of permits.

While the bunker has never been used for its original purpose, it became a meeting point for preppers and survivalists to work together at annual summer gatherings.

Bruce Beach passed away from a heart attack in 2021 at 87. With him, some of the vision for Ark Two has died, and the bunker's future remains uncertain. Contact: FARM SHOW Followup, Ark Two Online Community (www.webpal.org/SAFE/aaaarktwo/).



Shelter had separate spaces for food storage and prep.

Technology uses a 3-part, electrolyzer-based system to produce anhydrous ammonia.



New System Makes Anhydrous On The Farm

By Bruce Derksen, Contributing Editor

Given the high cost of anhydrous and other nitrogen-based fertilizers, FuelPositive, a Waterloo, Ontario, company, is using its proprietary ammonia synthesis technology to produce small-scale and decentralized anhydrous ammonia right on the farm.

Having undergone vigorous testing at their fabricator shops, their first pilot system is nearing completion and will soon move onto a Sperling, Manitoba, farm.

The sustainable energy company's technology uses a 3-part, electrolyzer-based system to produce anhydrous ammonia. Their target customers are farmers already familiar with the gas, are using it on their farms, and are competent with its safety processes.

Inside several secured standard-sized 20-ft. shipping containers built to handle weather extremes from Canadian winters to equatorial desert heat, an initial container holds a nitrogen generator which, in simple terms, applies electricity to induce pressure swings

and pull nitrogen from the air.

A second container contains a hydrogen generator that utilizes green electricity to convert water into hydrogen gas.

"In basic terms, it's like positive and negative booster cables inserted into a cup of water," says Nelson Leite, FuelPositive COO. "The hydrogen is released and captured as a light gas. The more you separate the moisture from the hydrogen, the purer it gets."

These two feed gases feed into a series of converters that heat and pressurize them. An added catalyst enables a chemical reaction that binds them into an NH3 molecule (ammonia). This gas is cooled and condensed into a liquid form, then separated as pure ammonia and stored in a separate tank.

"We want it to be virtually maintenance-free without needing an operator," Leite says. "Like a water heater in the basement, if the water is hot, it's got to be working. If it runs out, you wait for it to build back up. There's

nothing for the farmer to do. It runs on its own, and fills up the tank with anhydrous ammonia."

The locked, 20-ft. long, compartmentalized containers are placed on the farm along with a connected, pressurized tank that collects and stores the created anhydrous ammonia. A single unit is targeted to run year-round with the storage tank sized to fit. It would produce 100 tons of anhydrous ammonia per year, or enough for an average 1,500 to 2,000-acre farm. A small water purification system, along with approximately 500 liters of water per day, is required to run the process. A supply of 600 volts of power is also needed.

FuelPositive's goal is to manufacture all the various components in North America, eventually having everything closer to their company site.

He says the system isn't bound by extra regulations in Canada as it doesn't produce enough ammonia to be considered an issue, although the storage tank requires specific permits. Their pilot farm is completing preparations to receive the equipment in the coming months, which include building an access road, installing the storage tank, clarifying permits and regulations, plus connecting a water system that won't freeze in the winter.

FuelPositive began taking pre-orders in August 2022 at an MSRP of just under \$1 million (Canadian), plus or minus options. The company has received multiple solid commitments along with many more verbal pledges to purchase.

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