



Manufacturing


Hydrogen, battery startups had big plans in Michigan. What's holding them back?

By Kurt Nagl



Credit: BayoTech Inc.

The BayoGaaS Hydrogen Hub opened in Wentzville, Mo., in late 2023. A similar project planned in Michigan has not yet gotten off the ground.

 Reprints  Share

May 14, 2024 05:46 AM

Hydrogen, battery and clean energy startup projects touted as key to a U.S. manufacturing resurgence are facing a big challenge: finding backers beyond the government to get factories off the ground.

The uncertainty looms over high-profile projects in Michigan, where officials have prioritized securing manufacturing jobs of the future. Projects proposed by a range of

companies including Nel Hydrogen, LuxWall and CustomCells promise hundreds of millions of dollars in investment and hundreds of jobs, but they are a long way from the finish line.

Related →

Michigan among regions selected for \$7B hydrogen hub project

First-of-its-kind hydrogen hub planned at American Center for Mobility

Nel Hydrogen zeroes in on Plymouth Township site for \$400M plant

That is because the fundamental question of demand — who will buy the products and when — has only become murkier in recent months as investors rein in their bets on unproven technologies, even as the federal and state dollars begin to flow more freely.

The biggest hang-up is securing the financing to get the factories built and determining how the risk is distributed, according to several real estate developers involved in or familiar with the projects. The companies may be loaded up with U.S. Department of Energy grants and state incentives, but they lack credit, which is a big impediment to a deal.

While there is still appetite among investors to seed early-stage startups, finding the capital to scale up manufacturing — without a clear outlook of demand to justify it — is a difficult proposition.

In the case of hydrogen, the timeline for going mainstream likely has been set back even further after the automotive industry's retrenchment on electric vehicles, according to industry experts. Once bitten, twice shy on emerging technologies, suppliers and investors are taking a more cautious approach on deploying capital.

“There’s a demand imbalance,” said Vilas Kuchinad, head of innovation for the Global Sustainable Finance Group at Bank of America. “The challenge is not just on the technical side. Even after they prove its ability to work, they need to get to a point that they are cost-competitive. There’s a little bit of the chicken and the egg there. We need to get to the point where we have economies of scale to bring the cost down, yet you need demand to actually do that.”

There is also the question of how much the federal government intends to subsidize hydrogen, Kuchinad added.

Sign up for our Manufacturing Report newsletter to get a weekly digest of local manufacturing news right in your inbox.

Subscribe

“There’s been a slowdown as people wait for the final guidance on the 45V tax credit I think, but on the ground what we’re finding is people are still working to make these projects work and get them financed and built,” he said.

Hydrogen hold up

In 2022, Albuquerque, N.M.-based BayoTech Inc. announced it would [build a hydrogen production “hub”](#) at the American Center for Mobility in Ypsilanti, marking one of the first big hydrogen projects in the state. It was supposed to have opened a year ago but has yet to come to fruition.

Spokeswoman Catharine Reid told Crain’s that the company still aims to follow through, but the project faces hurdles related to demand and financing. In a Q&A from earlier this year on the company’s website, former CFO Jeff Wood pointed to challenges securing non-government capital as a general obstacle for the industry.

Reid said the company’s plan at ACM depends on local demand from automakers.

“The main factor is the macro industry outlook for hydrogen at this point,” Reid said. “You’ve seen over the past six to 12 months just a general slowdown in the industry.”

For Reuben Sarkar, CEO of American Center for Mobility and former DOE employee, the various fits and starts of the automotive industry over the past five years have become a routine part of operations. The state-subsidized vehicle test track, first envisioned as a way to secure Michigan’s place in driverless vehicle development, has had to pivot many times amid the changing winds of the industry.

“Anything that we’re doing, I think that these are multi-decadal type changes,” Sarkar said last week on the sidelines of “demo days” at the center, where officials unveiled the new [EV Charging Basecamp](#). The charging hub allows automakers and suppliers to

test the interoperability among myriad makes and models of cars and chargers, addressing a more pressing industry concern than hydrogen.

“All of it ... electrification, hydrogen,” Sarkar said. “There’s stuff in the market happening now, but the total transformation takes a long time.”

Credit: CoStar Group Inc.

Nel Hydrogen announced plans for a \$400 million, 500-jobs factory in Plymouth Township a year ago, but it appears a long way from breaking ground.

Since Nel Hydrogen announced [plans for a \\$400 million, 500-job factory](#) in Plymouth Township a year ago, the project has received a \$25 million grant commitment from the state, plus a \$50 million DOE grant through the Bipartisan Infrastructure Law. The DOE also gave a \$30 million grant for hydrogen development to General Motors Co., which entered a joint development agreement with Nel in 2022.

The Nel plant appears a long way from a groundbreaking, though. A site plan has yet to be submitted to the township. Supervisor Kurt Heise said he fully anticipates the project to happen, but the company is working out unspecified issues with developer Brookwood Capital Partners LLC.

It's unclear if Nel and Brookwood have struck a development agreement. They did not return requests for comment.

The hesitancy toward hydrogen is apparent for large tier one automotive suppliers as well. Competitors Forvia and Plastic Omnium each rolled out big plans for hydrogen projects last year. But they have been quiet about those programs since, a likely indication of uncertainty from their customers.

Forvia had been sizing up possible locations, including in Michigan, for a manufacturing plant to support a [pair of new contracts](#) to supply hydrogen storage systems for commercial vehicles in North America starting in 2025. Spokeswoman Misty Matthews declined to identify the OEM or comment on the status of the programs.

“We are confident in the technology that is available, including a 600-mile range that we can provide to a heavy-duty vehicle with our systems,” Matthews told Crain’s. “The area of focus where we feel the work needs to be is the infrastructure. The first is the production of the fuel, the second is the transportation and the third is the filling stations. We feel that the industry is ready to provide the technology if we can ramp up the availability and the infrastructure.”

Plastic Omnium said last August that it would [invest \\$171 million](#) and build a new hydrogen storage systems plant in Grand Blanc Township. The project would support a large contract from General Motors, a source confirmed. It was expected to supply 40,000 vehicles annually by 2027, according to terms in a Michigan Economic Development Corp. briefing memo.

Township Supervisor Scott Bennett told Crain's that the municipality was still awaiting site plans. Plastic Omnium declined to comment. A GM spokesperson said they were "not able to comment on speculation."

Stephen Tapley, partner in the automotive and industrial practice at AlixPartners, said the DOE's new hydrogen hub program is spurring more activity in the space, but companies need better assurance of a return before committing their own capital.

"There's still a lot of question of where is the demand going to come from," Tapley said. "I want to build, I want to invest, but where is that payback going to be?" I believe it's still in its very infancy, and it has a very long way to go."

Higher risk

It isn't just hydrogen being hit with a reality check. Large-scale advanced manufacturing projects in general are capital intensive and heavy on the risk.

Last July, Ypsilanti-based LuxWall announced [plans for a \\$166 million, 450-jobs expansion](#), including a new factory in Detroit and Litchfield in the south-central part of the state, which would be the "world's first high volume vacuum insulated glass production facilities." Founded by a former executive of automotive glass giant Guardian Industries, the company completed a \$30 million Series A and was awarded a \$6 million state grant and \$31.7 million DOE grant.

CEO Scott Thomsen said in November that the company intended to work with Dan Gilbert's Bedrock LLC to build the factory, but the status of that plan is unclear. Bedrock did not respond to requests for comment and LuxWall declined to comment.

Be it for hydrogen tanks, batteries or energy-efficient glass, the projects are risky for developers because they are custom factories built to the unique specifications of the end user. They are often taller than typical industrial buildings and they require special mitigation systems for fires and hazardous materials, according to development experts. They also need heavy electrical infrastructure and special insurance policies, which jacks up the price further.

Whereas a typical 300,000-square-foot warehouse shell costs about \$35 million to build, a specialized factory of the same size could run two or three times as much.

Then there's the question of what happens to the building if the tenant goes bust. Politicians tout the flashy new projects, but they often represent big risk to banks,

which much prefer the boring, steady cash-flow businesses.

“The analysis for a lender in making a loan is twofold, and it depends in part on the philosophy of the conventional lender,” said Doug Bernstein, partner at Plunkett Cooney law firm specializing in bankruptcy and creditors’ rights. “One, is there cash flow to service the loan, and two, what’s your collateral and what’s it worth? If I have to liquidate it, what can I reasonably expect to recover?”

Developers also prefer the mundane warehouse tenants for the same reason. They can cycle tenants through with ease, skipping the complication of custom buildouts.

Spec development giants Ashley Capital and NorthPoint Development, known for the nondescript warehouse buildings that have proliferated in recent years, are finding out firsthand about the risks of the EV battery business. Ashley is the landlord for struggling startup [Our Next Energy](#) in Van Buren Township, where build-out of a \$1.6 billion plant has been paused due a liquidity issue rooted in the industry’s EV pullback.

The developer declined to comment on its lease with Our Next Energy.

NorthPoint is in talks with German battery cell manufacturer CustomCells for a potential [\\$100 million factory and 250 jobs](#) at GM’s former Warren Transmission Plant site. NorthPoint declined to comment on the project.

Raising money as a battery maker is an uphill battle these days, too, said Alex Calderone, a Birmingham-based financial consultant.

“It is an absolutely brutal environment out there for EV startups and their suppliers,” Calderone [said in a recent report](#) on Our Next Energy. “The only way to survive is to procure more capital, but when you’re bleeding money and the investment thesis starts becoming less attractive to folks, it’s not easy to keep getting people to write checks even if you have tremendously good technology.”



By Kurt Nagl

Kurt Nagl is a reporter covering manufacturing — particularly the automotive industry’s transition to electrification, the impact on the supply base and what it means for the state — as well as the business of law. Before joining Crain’s Detroit Business, he reported in Iraq and China and for various publications in Michigan.

Novi-based Shyft nears EV launch after delays

Bosch appears to drop bid to acquire Whirlpool — for now

Manufacturer to expand, add 50 jobs in Novi

Most Popular

1

Where are all those U-Hauls coming from?

2	Historic jazz club renovation moves forward
3	Lucky Detroit set to open 1st of 2 new coffee shops
4	Gordie Howe Bridge connects with 1 year of construction left to go
5	Dan Gilbert: Why do I care about transit? Just ask young people.

Get Our Newsletters

Staying current is easy with Crain's news delivered straight to your inbox, free of charge. Click below to see everything we have to offer.

your.email@address.com

Subscribe Today

With a Crain's Detroit Subscription you get exclusive access, insights and experiences to help you succeed in business.

SUBSCRIBE



Subscription

[About Us](#)

[Contact Us](#)

[Help desk](#)

[Media Kit](#)

[Staff](#)

[Crain Careers](#)

[Post a job](#)

[Ad choices](#)

[Advertise](#)

[Classifieds](#)

[Reprints](#)

[Privacy Policy](#)

[Privacy Request](#)

[Terms and Conditions](#)

[Sitemap](#)