



Nikola Corporation
Q4 and Full Year 2021 Earnings Conference Call
February 24th, 2022

Presenters

Mark Russell, CEO
Kim Brady, CFO
Britton Worthen, CLO

Q&A Participants

Jeff Kaufman, Vertical Research Partners
Chris McNally, Evercore ISI
Mike Shlisky, D.A. Davidson
Bill Peterson, JP Morgan
Emmanuel Rosner, Deutsche Bank
Greg Lewis, BTIG

Operator

Good morning and welcome to Nikola Corporation's Fourth Quarter and Full Year 2021 Earnings call. At this time, all participants are in a listen-only mode. We begin today's call with a short video presentation, followed by management's prepared remarks. A brief question and answer session will follow the formal prepared remarks. If anyone should require operator assistance during the conference, please press "*0" on your telephone keypad. As a reminder, this conference is being recorded.

It is now my pleasure to introduce Nikola's chief legal officer, Britton Worthen. Thank you, Britton. You may begin.

Britton Worthen

Thank you, and good morning, everyone. Welcome to Nikola Corporation's fourth-quarter full year 2021 Earnings Call. With me today are Mark Russell, Chief Executive Officer of Nikola, and Kim Brady, Chief Financial Officer.

During today's call, we will share our views on the business environment and our financial results for Q4, 2021, and our outlook for Q1 and the full-year 2022. The press release detailing our financial results was distributed a little after 6 am Pacific Time this morning. The release can be found on the Investor Relations section of the company's website, along with presentation slides accompanying today's call.

Today's presentation and Q&A include certain forward-looking statements within the meaning of the federal securities laws. Forward-looking statements are predictions, projections, and other statements about future events based on current expectations and assumptions and, as a result, are subject to risks and uncertainties. Many factors could cause actual future events to differ materially from the forward-looking statements in this communication. For more information about factors that may cause actual results to materially differ from forward-looking statements, please refer to the earnings press release we issued today as well as the Risk Factors section of our Annual Report on Form 10-K filed with the Securities and Exchange Commission, in addition to the company's subsequent filings with the SEC. Forward-looking statements speak only as of the date they are made. Readers should be cautioned not to put undue reliance on forward-looking statements. We will now begin a brief video presentation which will be followed by prepared remarks from Mark Russell and Kim Brady.

(Video Presentation)

Mark Russell

What an extraordinary year we had in 2021. As you saw on the video, we got manufacturing facilities completed on two continents, delivered the first Tre BEVs to customers, significantly expanded our sales and service network, and added more strategic partnerships for hydrogen production, distribution, and dispensing.

It was a great day just this last December 17 when we delivered the first two Nikola Tre BEVs to one of our great launch partners in the Port of Los Angeles and Long Beach, TTSI. The trucks are performing extraordinarily well. They've completed 200-plus mile journeys on a single charge, and they've run routes spanning from nearby Long Beach all the way to Fontana, with 98% uptime so far. TTSI tells us that no other battery-electric truck they've tested has gone as far on a single charge. The range and the reliability of the Tre BEV is a testament to the capability and dedication of the extraordinary engineering and manufacturing teams we have here at Nikola. The official start of our series production is scheduled late next month, and we're looking forward to delivering revenue-generating trucks starting in Q2.

TTSI tells us that no other battery-electric truck they've tested has gone as far on a single charge. The range and the reliability of the Tre BEV is a testament to the capability and dedication of the extraordinary engineering and manufacturing teams we have here at Nikola. The official start of our series production is scheduled late next month, and we're looking forward to delivering revenue-generating trucks starting in Q2.

We produced 30 pre-series Tre BEVs on the line in Coolidge, Arizona during the fourth quarter. But because of constraints and the supply of battery components, e-axles, displays or chips, only 11 of these vehicles have been commissioned and released to customers, or Nikola's public road test fleet so far. The remaining 19 trucks are staged off the end of the production line and are waiting for production-spec component or for final commissioning. As soon as we complete

commissioning, we can release these trucks to the customers and dealers who are anxiously waiting for them.

Just to be clear, all production-line work on these remaining pre-series trucks is complete. They are off the end of the line. Completing the remaining commissioning of these trucks is straightforward offline work, and it won't conflict with the March 21 start of series production on the line, or the delivery of saleable production trucks in the second quarter.

Turning to the Tre FCEV. As you know, during the third and fourth quarter of 2021 we completed seven Tre FCEV alphas, five in Coolidge and two in Ulm, Germany. We're pleased with the momentum of the Tre FCEV in validation testing — two vehicles are with Anheuser-Busch in Southern California as part of a three-month pilot program there, including an unprecedented zero-emission, zero-carb beer delivery on February 11 in conjunction with this year's Super Bowl at SoFi stadium, A-B has long been committed to reducing its emission by 25% across its US value chain by 2025, and we have been honored to partner with A-B in achieving their extraordinary commitment to sustainability.

After completing the pilot program with A-B we'll continue pilot testing with TTSI in the Port of Long Beach with FCEVs and from there with other customers. Validation of the alpha fleet will continue through the rest of the year. In Q2, we'll be building beta versions of the Tre FCEV, which will incorporate ongoing improvements learned from continuing testing with the alpha fleet. Beta vehicles will start their validation in both the US and in Europe in the second half of 2022 and continue in the first half of 2023. And then Tre FCEV series production is scheduled to start in the second half of 2023.

We're very pleased with the growth of our Coolidge manufacturing facility where we're operating in the first phase and shortly will expand into the next phase giving us production capacity of 2,500 trucks for the year, 2022. We've already begun work on the next phase expansion, which is expected to be complete by the first quarter of 2023. At that time, the plant will have a production capacity of 20,000 trucks per year on two shifts.

We're similarly pleased with the ramp-up of our joint venture manufacturing facility in Ulm, Germany. The plant there has a production capacity of 2,000 vehicles per year, with the ability to expand that up to 10,000 per year. The 25 Tre BEVs that will be delivered to the Hamburg Port Authority by the end of 2022 will be built in Ulm.

During Q4 2021 and in January 2022, we've made additional customer announcements including:

- An LOI with Heniff Transportation Systems for up to 100 Tre BEVs through our dealer network, Thompson Truck Centers
- An LOI with USA Truck for up to 100 BEV trucks, also through Thompson Truck Centers
- An LOI with Saia LTL Freight for up to 100 BEV trucks
- An LOI with Covenant Logistics Group for up to 50 trucks, 10 BEVs and 40 FCEVs.

In total, we've entered into contracts, LOIs, and MOUs for 1,385 trucks, comprising 375 BEVs and 1,010 fuel cell trucks, led by our long-standing agreement within Anheuser-Busch for up to 800 FCEV trucks. Under the terms of all these agreements, we anticipate continued success in pilot operations will result in binding purchase orders.

Turning to government incentives, which influence customer demand and certainly have the potential to accelerate the transition to zero-emission vehicles. On January 13, we announced the Nikola Tre BEV was ruled eligible for the HVIP incentive program by the California Air Resources Board. This means that Nikola Tre BEV buyers can qualify for up to a \$120,000 incentive to reduce the vehicle's upfront costs. In fact, it's up to \$150,000 in the case of drayage trucks in the Ports.

And we're working to educate our dealers and the customers on which of these incentives are available by state when they are purchasing a Nikola vehicle. Additional states are considering and passing legislation to incentivize zero-emission vehicle purchases, as well as charging and refueling infrastructure development incentives.

For example, the state of New York has a pending voucher program that could be worth up to \$185,000 per vehicle, and we've already submitted an application for that which would make the Tre BEV one of the first heavy-duty trucks on their approved vehicle list.

Our commercial and government affairs team diligently monitors federal and state incentives and works with policymakers and helps accelerate the inevitable transition to zero-emission vehicles.

In response to customer needs for charging solutions, Nikola has developed a mobile charging trailer, or MCT, that allows fleets to charge their BEVs with maximum flexibility. With Nikola's MCT, fleets can charge their vehicles at their depot or in the field with alternative power. Charging infrastructure is one of the key challenges fleet face when considering BEVs. And in the first quarter of 2022, we sold and delivered six MCTs to dealers and we've received purchase orders for six more units so far.

On January 18, 2022, we entered into a long-term supply agreement with Proterra for battery modules and packs, including cells for both our BEVs and our FCEVs. We expect to receive prototype packs in Q2 from Proterra and production packs for the Tre BEV by the end of the fourth quarter. Our supply chain team continues to diversify our supplier base and build more robust supply chains as we ramp up production.

On January 20, we announced our partnership with Corcentric Fleet Funding Solutions to help facilitate Nikola vehicle sales. The agreement allows Nikola and its dealer network to reach more customers by providing a financing solution to dealers and customers who may not otherwise have a financing option.

On December 21, 2021, we confirmed our settlement with the SEC and will pay the SEC \$125 million civil penalty in five installments over two years. We've made the first of these payments in December.

As we've shared before, the company has already taken action to seek reimbursement from Trevor Milton for costs and damages in connection with the matters the SEC investigated.

2021 was also a great year for our Energy business. We continued to establish strategic partnerships to build our hydrogen refueling production, distribution, and dispensing network. We anticipate adding additional hydrogen refueling ecosystem partners and we also look forward to announcing breaking ground and commencing construction of our first hydrogen production hub and station locations later this year.

We're pleased with the progress we made in 2021 and so far in 2022, and we're thrilled with the prospects in front of us this year and beyond. I'll pass it over to Kim now to take you through the numbers.

Kim Brady

Thanks, Mark. And good morning, everyone. Let's begin with our 2021 results. Our operating expenses came in at the low end of our guidance range for the year, and certain hydrogen infrastructure capital expenditures were deferred to 2023. We remain disciplined in spending and capital allocation decisions. Our Net Loss for the year was \$690.4 million. And on a Non-GAAP basis adjusted EBITDA totaled negative \$302.7 million.

As Mark previously mentioned, in Q4, we built 30 Nikola Tre BEVs, and five trucks were fully commissioned for customer delivery and R&D testing and road mileage accumulation. Two demo trucks were recorded as assets on the balance sheet and the remaining three R&D trucks were expensed.

In the fourth quarter, Net Loss was \$159.4 million, and on a Non-GAAP basis, adjusted EBITDA totaled negative \$90.4 million. Adjusted EBITDA excludes 1) \$53.7 million in stock-based compensation, 2) \$12.2 million for regulatory and legal matters, which include legal, advisory and other professional fees incurred in connection with the DOJ and the SEC investigation, and 3) \$2.3 million in depreciation and amortization.

Basic and Diluted Net Loss per share for the quarter was \$0.39. Basic and Diluted Non-GAAP Net Loss per share was \$0.23. Research and development expenses were \$91.2 million, including \$9.2 million of stock-based compensation expenses. R&D expenses consist of costs incurred in developing, building, testing, and validating Nikola Tre BEV and fuel cell trucks.

SG&A expenses were approximately \$71.5 million, including \$44.5 million in stock-based compensation and \$12.2 million in legal and regulatory cost.

Turning to the balance sheet, we ended the fourth quarter with \$522 million of cash and cash equivalents, including restricted cash balances. In addition, we also have approximately \$436 million of available liquidity through our two equity lines with Tumim, providing us with roughly \$958 million of total liquidity as of 12/31/2021.

Our capital expenditures totaled \$179.3 million year-to-date and are comprised of the construction of our Coolidge greenfield manufacturing facility, equipment purchases, and supplier tooling related to Tre BEV production.

We ended the quarter with approximately 413.3 million shares outstanding, weighted average shares both basic and diluted, for the fourth quarter, we're about 407.4 million.

Our headcount inclusive of accepted offers as of December 31st was 905 employees.

Moving to our Q1 2022 guidance, we plan to build and commission eight to 10 pre-series Nikola Tre BEVs in Q1. We are purposely limiting the production of pre-series vehicles since they are not saleable and will be used as demo and pilot testing vehicles. Besides, critical components will become more readily available in the second half of the year. As such, Q1 pre-series trucks will be recorded on our balance sheet as assets.

Estimated R&D expenses for the first quarter is in the range of \$77.5 to \$82.5 million, which includes approximately \$10.25 million of stock-based compensation.

SG&A expense ranges from \$72.5 to \$77.5 million, including roughly \$47.75 million of stock-based compensation.

CapEx for the first quarter is in the range of \$117.5 to \$122.5 million. At the end of Q1, we anticipate having approximately 419 million shares outstanding and the weighted average shares outstanding of \$415.3 million.

Now to fiscal year 2022 guidance. We expect to deliver the first saleable production Tre BEVs to customers in Q2. Our delivery commitment for the full year is 300 to 500 trucks, with anticipated revenue of approximately \$90 million to \$150 million. The full year gross margin is expected to be negative 75% to negative 60% due to low-production volume and the high cost of battery cells and packs. As we ramp up production volume and have a second pack supplier in place, including potentially insourcing some modules and packs in 2023, the gross margin for Tre BEV is expected to improve steadily and should ultimately get into positive territory in 2023.

Estimated R&D for the full year 2022 is \$295 million to \$305 million, which includes \$47 million of stock-based compensation.

SG&A for the full year 2022 is expected to be \$305 million to \$315 million, including approximately \$194 million of stock-based compensation.

Capital expenditures for the fiscal year 2022 range from \$295 to \$305 million. Our capital investment plans include phase two Coolidge manufacturing facility and associated manufacturing equipment, supplier tooling, hydrogen infrastructure, FCEV engineering equipment, and other CapEx.

In light of the current market volatility and uncertainty, we will be highly disciplined in our spending, including careful consideration of the timing of capital expenditures. We plan to finance manufacturing equipment rather than paying with cash whenever possible. At year-end, if no additional capital is raised and we fully utilize our equity line of credit with Tumin, our anticipated cash balance will be approximately \$225 to \$250 million. We plan to make sure we always have adequate liquidity to fund the next 12 months of operations throughout 2022.

We will monitor the equity capital markets closely and raise additional capital when appropriate in 2022.

We estimate total shares outstanding at the end of 2022 up about 461.6 million and weighted-average shares for the full year ending December 31, 2022, of approximately 435.6 million. This includes Estimated Employee Stock Option Exercises, restricted stock unit distributions, and estimated purchase notice issued to Tumin Stone Capital LLC.

Next, we would like to provide some insight into the supply chain constraints concerning our guidance. Supply chains limit what we can produce and deliver. We are not only confirming and validating our suppliers' delivery dates, but also addressing their tier two and tier three supply chain constraints. Based on our current visibility, the availability of critical components is skewed towards the second half of the year, and the quantity that suppliers have confirmed is not the same for critical components. However, in the spirit of transparency, we have a line of sight for critical components and can confirm the following quantities.

- Battery cells to build 500 Nikola Tre BEV trucks. We are working with our supplier for additional cell allocation in the second half of 2022.
- Battery packs to build 300 to 500 Nikola Tre BEVs. This is dependent on the suppliers' battery module chips, manufacturing execution and improving the yields to meet Nikola's production schedule. We are closely working with the supplier to optimize the output.
- Electronic Control Module chips and sub-components to build more than 500 Nikola Tre BEVs. Chasing down and securing microprocessors have been incredibly challenging, but we believe the chip constraints will start to ease a bit in the second half of the year.
- Displays to build more than 500 Nikola Tre BEVs.
- E-axles to build more than 500 Nikola Tre BEVs. The supplier is adding a second and third shift to meet our volume.
- Inverters to build more than 500 Nikola Tre BEVs.

To be clear, in today's environment, there is no guarantee when it comes to the ETA for critical components. It remains very fluid, and we are vigilant and paranoid, meaning confirming,

double-checking, and verifying, trying to navigate the part shortages every day and not cause delays to the series production of Tre BEV build schedule. We plan to provide supply chain status updates of key components each quarter.

We have also intentionally strengthened our supply chain team with new and existing leadership, which has led to greater focus and better execution. Our top priority is ensuring we have critical components available for Tre BEV Start of Production and Tre FCEV beta build.

Contrary to what has been erroneously reported in the press, we have been and will continue to hire strategically for important supply chain and other roles.

Broadly speaking, we anticipate our headcount will increase from 905 employees at the end of 2021 to approximately 1,300 to 1,400 employees by the end of 2022.

Many investors have asked the best way to gauge Nikola's progress in 2022. We suggest you pay attention to and closely monitor our milestones. They are as follows:

1. Deliver 300 to 500 production Tre BEV trucks.
2. Successful pilot testing of Tre FCEV alpha trucks with A-B and TTSI and others
3. Build, validate and test Tre FCEV beta trucks.
4. Announce location, break round, and commence construction of the first hydrogen production hub in Arizona.
5. Announce two or more dispensing station partners in California.

This wraps up our prepared remarks. We will use the remainder of the time to address your questions. Operator, please open the line.

Operator

Thank you. We will now be conducting a question and answer session. If you would like to ask a question please press "*1" on your telephone keypad. The confirmation tone will indicate that your line is in the question queue. Please press "*2" if you would like to remove your question from the queue. For participants using speaker equipment it may be necessary to pick up your handset before pressing the star keys. One moment please while we pause for questions.

Thank you. Our first question is from Jeff Kaufman with Vertical Research Partners. Please proceed with your question.

Jeff Kaufman

Thank you very much. And thank you as well for all of the detail today. Very, very helpful. I just wanted to ask it now that we have trucks in customers' hands and they're running on the highway driven by customers, not your own people on the test track. I was just kind of curious what you're discovering about the trucks, the feedback on the vehicles, you know, what needs

to be re-tuned? What are some of the positive surprises that you're discovering? I know you mentioned the range on the trucks going to Fontana?

And then secondly, how are your discussions with customers starting to change? We're a year further into now we've got battery-electric trucks that are real that we can put in your hands. And I think customers are moving up the learning curve as well on BEV. So I was just wondering if you could address those topics?

Mark Russell

Thanks, Jeff. That's a great question. You know, for several years now we've been using prototypes and specs to talk to customers. And so we've just been looking forward to this for so long to actually have the trucks in customer hands and have them running them every day. And as you said that the most important thing that we're getting verification of both with the fuel cell alphas and with the battery-electric vehicles, those pre-production, pre-series, pre-production vehicles, is the range. Range is paramount.

And the reason we build a fuel-cell vehicle is because the battery ranges is restricted. We think we have the longest range battery truck out there today that we know of with the highest battery capacity. And TTSI has already told us that they test every truck they can get their hands on. By their count, they've tested approaching 20 trucks, different trucks, and they've never seen one with the range that this one has. They've already run this truck further than they've ever run any other truck.

And, of course on the fuel cell side, the trucks that we are running every day with Anheuser-Busch on regular public roads, regular workloads every day, those made the run from Phoenix to Los Angeles with fuel to spare. And of course that trucks designed to go up to 500 miles and the battery trucks designed to go up to 350 and that's absolutely critical because range is everything in commercial transportation. Of course they have to also be reliable. TTSI so far is reporting in 98% of uptime and that's the kind of uptime you need for a commercial truck. They have to be available all the time and because when they're not moving the operator's not making money. So the uptime has also been very important, it's been very good so far.

Then we get to the driving characteristics. And so far, the driving feedback is very positive. This truck has a relatively tight turning radius compared to most trucks, it's got great visibility compared to most North American trucks. It's got great torque, and power characteristics. One of those common feedbacks we get from drivers is I can't even tell there's a trailer on, which of course is not the case with a diesel truck. So quiet, clean, of course, comes with the territory with zero-emission vehicles. And we get that feedback as well. Comfortable. They enjoy the driver interface, the power electronics and information that they get in the cab, and, of course, the comfort of the cab as well. Those things are all important to us. We want the drivers to be happy and enjoy operating the trucks and to have good feelings about the trucks. And so far, they all love them.

Jeff Kaufman

Okay, and the discussions with customers as your customers are climbing the learning curve and now you have real vehicles out there they can get their hands on. How are those conversations changing?

Mark Russell

Well, we've always had great customer conversations. If you come to a customer and say, "Hey, I can replace your diesel truck with a zero-emission truck, perform the same mission you're performing today and, you know, we have a target to match your current cost of owning total cost of ownership." That's a proposition that everybody in the world is interested in, of course. But can you do it? Can you actually prove it?

And that's where the conversations are changing, because now we've got the real trucks on the road, hauling real customer loads on public roads. And it's proof in their face. So it does change the conversation. Because there's a lot of people just waiting for this solution to be out there and proven. And the more we prove it, the more those customer conversations change, and the more momentum we expect to see in the marketplace.

Jeff Kaufman

Okay, thank you. Congratulations.

Mark Russell

Thanks, Jeff.

Operator

Thank you. Our next question is from Chris McNally with Evercore ISI. Please proceed with your question.

Chris McNally

Thanks so much, team. So it was encouraging to see the delivery guidance and it seems like, you know, this is the year that, you know, trucks are being delivered. But clearly, you know, Kim, in your prepared remarks, it seems like batteries and cells and really more packs is sort of the critical limiting factor for the year.

Could you talk a little bit about what you have secured for 2023? Because I guess the industry is title around and everyone's worried about even '23, '24 capacity. So as you ramp towards that 2,500 capacity, you know, again, how much will cells and packs be an issue? You know, going forward?

Kim Brady

Chris, thank you. And that's a great question. As you know, I think we have indicated that we have entered into a long-term supplier agreement for battery cells with LG. Not only that, we have a battery cells and pack arrangement with Proterra. We can tell you that for 2023 we are in excess of approximately 2,400 units at this point in terms of cell allocation, that's been confirmed. And we are continuing to work with our suppliers in terms of pack delivery. As you know, we have two suppliers. And we are continuing to work with them to expand capacity as well as efficiency and manufacturing yield. And we are starting to see slow improvements. And we feel pretty optimistic, cautiously optimistic at this point where we are looking to continue to expand our capacity, or module and pack manufacturing as well as to receive additional allocation.

Mark Russell

And, Chris, let me do a little bit more.

Chris McNally

Yes, sorry.

Mark Russell

I was just gonna add a little bit more color to that, Chris. And I'm sure you would hear this from more than just us. But in our conversations at the C-suite level with all of our suppliers, that the number of suppliers that are talking about expanding their capacity is virtually 100%. I don't know a single person out there that's right now talking about keeping capacity or reducing capacity going forward into '23 and '24. So that's how these things get solved eventually as we get more capacity and it's a matter of the lead time for that capacity. And that's why, you know, I'm cautiously optimistic that in 2024 we're going to see different conditions.

Kim Brady

And as Mark suggested, we are proactively working with our cell suppliers. And there's some indication that we could receive additional allocation for battery cells in 2022. And potentially also increase what has been allocated to us for 2023.

Chris McNally

And just so, I just want to make sure I use the right term, the 2,400 cells worth of trucks worth of cells for 2023, is that secured? Is that your allocation? Meaning is there a penalty if that's not delivered? Because that's obviously a big number? And then the second follow-on would be on the pack side. Is Proterra, is that new supply agreement included in 2022? Or is that mostly

going to be, you know, a benefit to 2023, because that's obviously going to help a lot on the pack side.

Kim Brady

So when it comes to pack side for Proterra, most of that will be for 2023. We anticipate that we may be able to receive some packs, including cells towards the end of the year, we are still working through that timing. And when it comes to having secured battery cells for 2023, we have 2,300 sets already secured.

Chris McNally

Secured. Fantastic. And then one just real quick one on the model. When we just back into the revenue per Tre BEVs it looks like it's roughly, you know, \$295, \$200,000, I think there was some discussion that, you know, the price was more in the \$325 to \$350. Can you just walk us through that dynamic? It's just again, you know, maybe I'm missing something, but just literally revenue divided by trucks?

Mark Russell

Chris, the answer to that is that's just an average that we're using for the early sales periods. And, yeah, the numbers you're talking about and higher are our numbers that are kicked around in the market. Obviously, with early customers who committed to us early, and when we have a pilot program, those are the folks that get the best terms ever. And then they go up from there. Jeff Kaufman, just asked a question about are the houses changing? The more proven these trucks are, the more momentum we have and the more weight we have in negotiation in the marketplace. So I wouldn't project forward on those numbers, those are the numbers you're going to see from us kind of on average, coming out of the gate.

Kim Brady

So Chris, when we think about that, it is somewhat conservative number, as you know, we have a limited number of trucks that we'll be able to deliver in 2022. We'll be very focused on key markets, especially in California. And in California, as you know, we qualify for HVIP, as well as there's greater restriction in terms of standards, as well as greater demand. And so we plan to maximize our pricing as much as possible. We are simply providing some guidance purely for modeling purposes. And we want to be on the conservative range. However, we'll be much more aggressive when we actually negotiate with customers.

Mark Russell

And just to be, just to clarify, Chris, when we say that we have the cells secured, that doesn't mean we have them in inventory. They're not in our possession, necessarily, we have some in our possession. But the number that Kim gave you is the ones we have secured in that we have

committed allocation from the manufacturer and we have prepaid some of the cash in advance. And, you know, that's as secure as you get at this point.

Chris McNally

100% understood on both points. Really appreciated the detail.

And if I can just squeeze one last one in, you know, on slide eight, you gave the update of all your previous announcements. It's great to see them all on one slide. You know, I'm just curious, you know, for the fuel cell vehicle, is it possible given even that it's a couple years out, does it make sense to take on another sort of second anchor mega client to the size of Budweiser? Are you able to, you know, to get lead times that far out? Because obviously, it's such an important program. You know, I think that idea of having two the diversity is, you know, or whether it's a strategic investment by a second, it just seems like it could be so important. Just curious if that's something that could be entertained or are you so capacity constrained for the next couple of years that that's something that's more, you know, down the road?

Mark Russell

We're talking to a number of customers all the time, Chris. And the ones that are most interesting to us are the ones that can be the kind of anchors you're talking about here in these first few years. So we would be open to adding to that. But as you can see, we've got a pretty robust backlog here of MOUs, LOIs, and contracts. And add to the previous point about, the more proven these trucks are, the more momentum we have in the marketplace. And that's why I wouldn't be interested in selling a whole lot more trucks right now because we get stronger and stronger, pretty much every day every week at this point.

Chris McNally

Appreciate the detail guys.

Operator

Thank you. Our next question is from Mike Shlisky with D.A. Davidson. Please proceed with your question.

Mike Shlisky

Hey, good morning, guys. If I could start off with the Proterra agreement. Can we really get some just some color as to why you went with Proterra? Why even have it in the first place? And then just what was it about that particular product that interested you? And will some customers have to kind of reevaluate all the trucks and all their orders if you're gonna have a

whole different battery in the system down the road or it's just going to be a very smooth behind-the-scenes transition here?

Mark Russell

Good question, Mike. The reason that we added Proterra is to have a second source. Most importantly. We don't want to be single-threaded on any critical components. So, you know, we've got a proven pack in the form of the one we're using now and supply chain back to the cells. The Proterra solution is a module impact solution, it's not a different cell. You know, we're using the same cells with both suppliers and we're the ones securing the cells generally. Although in the case of Proterra, they also have some of their own cells, which is very helpful in the current environment.

But what's attractive about Proterra is they had a module that was already proven because they've done a lot of work in the bus market. So upscaling that module for the size of a Class 8 truck is, you know, was relatively easy lift for us technically. And so it gave us a quick second source that gets us pack availability, as Kim said, in the fourth quarter of this year and that ramps up even more next year. So we have two sources to rely on. And in the Proterra case, they've got some really good data and background from their previous work, you know, in commercial transportation, they've got a pack with a lot of data behind it already.

Kim Brady

So, Mike, this is something that we have thought about a lot and had a lot of discussions with our manufacturing folks in terms of integrating packs to our trucks. And as you know, with respect to packs that Romeo provides that's Nikola design, and with respect to Proterra, they're following a similar configuration and design, such that integration becomes less of an issue, and is something similar to what we have already are integrating Romeo packs into our trucks. We also want to make sure that there's a clear distinction Proterra agreement comes with battery cells, whereas Romeo packs we are delivering battery cells.

Mike Shlisky

Again, to the thought that you have to reevaluate the trucks with all those customers again if they had a different battery system in them. Is that correct or?

Mark Russell

That's a good point, Mike. There is validation work that goes along with changing the pack at all. If you change anything you have to retest and validate it, of course. Yes, that's true. That's one of the reasons why we won't have a Proterra pack on a truck until the fourth quarter. It'll all be Romeo until then.

Mike Shlisky

Okay. Okay. Fair enough.

I also want to ask secondly, on the supply chain question. You didn't mention it in your prepared remarks, and you're both in the first phase. Are you having any issues with obtaining some of the equipment that you need for phase two or ending in phase one delayed as far as building the actual Coolidge itself? Will you feel like that will not be a hindrance by Q1 '23?

Kim Brady

That will not be an issue. We have been on plan in terms of our build, our schedule for our facility in Coolidge. And right now, we are working on phase two. And we have already started that process. And we anticipate by Q1 of 2023 we will have phase two completed and at that point, our capacity will increase to approximately 20,000 units running two shifts.

Mark Russell

But Mike, that's a great question and we should highlight the extraordinary performance of our manufacturing teams, particularly teams dedicated to building the facilities because both German facility in Ulm and the US facility here in Coolidge, Arizona, were built basically on time and on budget, which in today's environment building and construction materials have their shortages the same as vehicle manufacturing. And that team has done an extraordinary job of getting these facilities up and running. It's just awesome.

Mike Shlisky

Indeed. Thanks so much guys. I will leave it there.

Operator

Thank you. Our next question is from Bill Peterson with JP Morgan, please proceed with your question.

Bill Peterson

Yeah, hi, thanks for taking my questions this morning and providing a lot of the details in the press release, as well as on the call thus far. On the hydrogen infrastructure, you know, you mentioned in the release, you expect, you know, basically to define locations break ground and begin production, it seems like it's somewhat of a delay relative to what we saw in the last quarter. So I was hoping you can provide an update on your hydrogen production plans, I guess, using your own electrolyzers, as well as some of the timing of the partnerships that were announced last quarter, and then maybe wrapping that up, like, what are your commitments financially, at least in these in these production partnerships?

Mark Russell

So Bill, let me answer the first part of that now, I'll ask Kim to talk about the financing. And they are related because of who are the partnerships have been able to line up. And you are correct that we're not where we wanted to be at this point. We want it to be further, we wanted to have something announced by now. But our commitment is to get something announced and ground broken and get construction commenced on both the first hub and the first stations this year. So we're committed to making more progress going forward. This turns out to be a difficult thing to do, we knew it would be difficult, but it's been more difficult than we anticipated to actually get the first locations permitted, ground broken, construction commenced because we haven't done it yet.

I can tell you, we are close. It's not for lack of work and effort. We have an extraordinary team on this as well. And I'm confident that once we get to the point of actually breaking ground and commencing construction, we'll be able to go quickly as we've proven with the construction of our manufacturing facilities. These facilities, you've got to remember one of the things about these facilities is they are you going to be fairly unique in the world. The first hub that we build will be somewhat of a unique facility in the world to produce hydrogen at commercial scale from hydrogen electrolysis. In some cases, we'll be using petroleum sources and capturing carbon at WVR in Indiana and we may actually add that to other hub facilities as well.

But the basis of these facilities will be hydrogen electrolysis, making hydrogen from water using electricity. That's the reason we have that APS rate you see on that slide. That's the reason that we've had those partnerships with Nel on electrolysis, that's the reason we have the partnership with TransCanada or TC Energy, rather. Where TC Energy has the balance sheet and the capital budget and the strategic intent to get into this business. That's why this is just a marriage between us made in heaven because we have the demand for the hydrogen, they have an intent to get in the business of making hydrogen and moving it around. And we get together and we can, you know, they are happy to help us build the facilities.

And in some cases, bring locations. They have locations that are all many locations that are already ideally suited for potential hub production. And they're going to be great partners for us. We have the right pieces of the puzzle in place and now it's about execution. That's what this has all been about from the beginning, is getting the concept and the model and the plan into execution. So that's our challenge this year is to do that.

Kim, you want to talk about the financing?

Kim Brady

Bill, the way you want to think about this is that, as you know, as we announced hubs as well as dispensing locations, hubs will be in special purpose vehicles so they will be off balance sheet, and the way we should think about is that the asset or the project will typically be financed was 70% debt, 30% equity. That equity could be owned by Nikola as well as TC Energy. And in many of those situations because Nikola, our cash concerns, we are going to be very capital efficient in the first few stations we may purposely decide that we will own very little equity.

However, an offtake agreement with the hub will be 100% Nikola. We will control the molecules. And so we'll be controlling and marketing and selling hydrogen to our customers. And then let's think about dispensing locations. When we have talked about previously, with respect to unsigned gaseous generation, we discuss CapEx of \$16, \$17, \$20 million per station, we are looking at mostly dispensing locations where we will not be generating hydrogen. What that means is that cost for dispensing stations will likely be around \$8 million, potentially \$9 million per station. And many of these stations, once again, we are looking at various partnership arrangements, such as partners, such as TA, where we're leveraging their own existing footprint. And we'll be building small dispensing locations where CapEx could be funded by both parties. And we are also talking to third parties who will actually fund the CapEx. And then once again, we control delivering molecules to the dispensing locations.

So what I'm telling you is that we are going to be highly capital efficient to the extent that we can execute asset light approach, but still control molecules, we are going to do that.

Mark Russell

And in the case of a large operator, with a large terminal of trucks, where they want fueling inside their operation behind the fence, that's what the reason we have that partnership with OPAL, that's what they specialize in. And in that case, we expect the capital to be provided by the operator of the terminal and or OPAL probably in combination. And then the thing to remember is, all of this is replicated in Europe, it's slightly different in Europe. But the basic structure will be the same where the part that's being played by TCE here in North America, in Europe, that part will be played by OGE, which like TCE is one of the largest pipeline operators in Europe.

And you'll see a similar approach in Europe. There's some slight differences in that, we have the advantage of working through that with IVECO because they have an established network of not only dealers but gaseous fuel supply that they've already established on the natural gas side. So that enables us to help piggyback that, especially since OGE intends to deliver that hydrogen in the same manner, that they're currently delivering natural gas to those, those existing stations. So Europe is substantially ahead on that front. We're emphasizing North America here a little bit, because that's what we have to hit first. Europe you know, we'll be just behind that and also Europe is actually a little bit ahead in terms of infrastructure.

Bill Peterson

Thanks for all the details. That makes sense. Sticking on hydrogen, I guess, you know, the fuel cell EV you know, you talked about the milestones for this year with successful alpha and basically build test and validate beta. I guess, what are the key learnings or areas you're looking I guess, to improve that you're applying for beta. And then I guess, just for clarification, is this beta? Is this plan for just internal testing? Or is this going to be planned with your lead partners there? And then finally, I think somebody asked earlier about more customers, but and you put

it in your press release, the presentation. But how should we think about the potential for second-half sales next year? Or is this something that's more likely in '24 for the initial ramp?

Mark Russell

Great questions, Bill. The fuel cell work is already with the customers. We have two trucks that are hauling beer every day with Anheuser-Busch now on the fuel cell.

Bill Peterson

Yeah, that's understood. I'm talking about for the, you know, for the beta test, the beta trucks.

Mark Russell

Yeah, that will continue. We'll continue to work with our launch customers on the fuel cell side in the beta testing. Yeah, absolutely. We'll just like with the with the battery trucks, that'll be a combination of track testing on our own track, third party tracks, tracks in winter and hot weather locations. And then we'll use customers as well to do beta testing and validation. It'll be very similar to what we've done on the battery side.

Bill Peterson

What kind of areas are you trying to apply or improve as you move from alpha to beta is, I guess, the key point of that question?

Mark Russell

Well, we take whatever feedback the testing and the customers give us and try to improve the vehicles but these are production intent at this point. We're trying to prove that they can do what we specified them to do, particularly that they can go 500 miles and that they have the kind of uptime that you need in commercial trucking. Because we already know the drivers and the operators love the vehicles. Now it's about proving the range, proving the reliability, the quality.

Kim Brady

And, Bill, your second question regarding next year sales, remember it's still somewhat early at this point and we'll help better idea especially towards the second half of this year. We are excited about, as Mark suggested, by the upcoming reliability of our fuel cell alpha. And certainly there will be greater learning that will take place as we build beta and continue to validate and test. And we are going to understand much better in terms of what the demand will be for next year.

Mark Russell

Although I would point out that anybody who's worried about overall structural demand going forward doesn't understand the situation. There's 3 million trucks in this country at least 3 million in Europe that have to be replaced. And that's going to happen either by people who want to replace them and go zero, or by people who cannot operate in certain jurisdictions with a current diesel. Diesel is going away; it's going to be gone. And you've got to have a zero-emission solution. And the two questions are what is it going to cost me? And will it be, you know, equivalent to my diesel experience? Can it go the same range? Can have the same reliability?

The only question that's unanswered on that front for the whole world is, is there a truck out there that can actually do this? And what does it cost? And we're the one, as far as I can tell, we're out in front and answering those questions. And that's one of the reasons why we don't want to get too far ahead of ourselves here. We are answering the questions about the long-term future commercial transportation right now as we speak. And I don't see anybody doing it better than we are.

And as we do that, our momentum and our ability to get trucks into the marketplace on the kind of terms that we're looking for, goes up, you know, basically exponentially as we prove this out, and we now are proving it out. And I don't, there's nobody who won't buy the proposition that, hey, I can take your diesels off the road and replace them with zero-emission in sustainable way and the total cost is going to be about the same. Nobody says no to that. And all the years of conversations with customers about this, nobody's ever said no to that. It's always been can you really do that? Well, we're proving that you can right now.

Bill Peterson

Yeah, no, it makes sense. And totally recognize the demand environment is strong for these types of products. That kind of leads to the final question, you illustrated nicely the, you know, the letters of intent and orders, you know, for the BEVs and fuel cells. You know, it looks like outside of the Hamburg authority, you know, Europe's a little bit, a little bit lighter. I'm curious, what's going on there? And I guess specifically, where's the interest lie more as you look out over the next few years in terms of bad versus good, the fuel savings. You'd kind of be tying into your last answer.

Mark Russell

Well, Bill, your question about Europe is an excellent one because we tend to give that a little bit less airtime than we should. And just like on the hydrogen infrastructure side, Europe is ahead on the market side as well. You know, we're talking about some incentives over here in the United States that Europe already has had in place for some time. And Europe has additional incentives. Right now in Germany, there's a purchase incentive for vehicles that covers 80% of the difference between zero-emission vehicle and the diesel it replaces, for just for one example.

So Europe, as a market, is ahead. And that's not only an incentive, that's on mandates, the number of jurisdictions that have dates on the books at which point you can no longer legally operate a diesel vehicle is much bigger than in the United States or in Canada. And that's expanding more rapidly over there the number of mandates that are in place. So in that sense, Europe is also ahead on the market side. And the fact that we don't show you a big backlog in Europe is not because the demand is not there. And you'll see that come into place as Kim said, at the kind of lead times you would expect to see, without us giving away more trucks with the kind of early terms that we gave to their customers and the launch customers.

Kim Brady

Now, Bill, we are working very closely with the IVECO and we are very integrated in terms of our joint manufacturing facility. We do recognize to sell in Europe, we do have to have European homologated fuel cell electric vehicle. So we are working on that. But it's really the timing and the resource allocation. And right now we're very much focused on making sure that we the address US markets first. And we have a fuel cell truck that we can go into production in 2023. Shortly thereafter, then we'll focus on European version of fuel cell truck for the European market. So it's really about a priority of execution that we have purposely decided and it's not lack of demand, as Mark talked about, in fact, Europe is actually ahead.

Mark Russell

But our execution in Europe is about, as Kim said, six to 12 months lag from what we do in the United States. So as the vehicle comes to market here, it should come to market in Europe six and no more than 12 months behind.

Bill Peterson

Thanks again for all the disclosures and intel. Appreciate it.

Mark Russell

Thanks, Bill.

Operator

Thank you. Our next question comes from Emmanuel Rosner with Deutsche Bank. Please proceed with your question.

Emmanuel Rosner

Thank you very much. A couple of financial questions for me. So first one, obviously, with 2022 being your first year of saleable deliveries, there's also sort of an early look at the early economics. And so the Deutsche teams just, you know, taking the guidance you gave divided by

number of trucks seems about maybe \$300,000 or so selling price on these early trucks and there's upside to that after that. And then the cost of manufacturing them, I guess, you know, government fuel, cost of goods sold seems to be about, you know, \$500,000 or so a truck. So, and then on its way towards you said maybe positive gross margin sometime in 2023.

So first of all, is the math directionally correct, you know, initially? And then what is sort of what are the factors that will help improve this equation over the next, you know, 12 to 18 months or so, you know, towards a positive? What sort of line of sight you're having this?

Kim Brady

Emmanuel, great question. And, you know, similar to what Chris asked, we understand, surely from demand that we provided in terms of revenue, as well as units and average ASP would suggest approximately \$300,000. This is purely for modeling purposes. And we talked about, we will do our absolute best to make sure that we optimize the pricing and we believe there's room to do that. When it comes to COGs, as you know, right now, the cost of battery cells, as well as packs are too high. And there's worldwide shortage when it comes to battery cells. And there's very little we can do to reduce that price in 2022 and 2023. Mark talked about that there is worldwide capacity expansion for 2024.

So we do think there's a greater flexibility when it comes to cells. Remember, cells, modules, and packs make up approximately 55% of your bottom for battery-electric truck. So what we're focused on is reducing our pack cost. And that comes from making sure that our suppliers are able to improve their yield, especially right now, when you think about modules and packs which are not optimized. And we're trying to make sure that there's yield improvement. And ultimately, when it comes to also packs, we need to transition from machining to casting to drop the price for the enclosure. And that's going to be really important to us.

So we're very much focused on implementing those initiatives. So that ultimately, we can drop the cost with respect to modules and packs, when it comes to other components is really about scale and volume. Even at \$300 to \$500, we have a visibility and purely based on the volume that certain costs for such as e-axle, as well as inverters, we know that we can reduce price on those components. And when we go into 2023, as our volume continues to increase, we'll be able to reduce price on those components even more. And so we have a very good idea about which components that we're targeting to reduce costs and what can be localized even reduce further cost. And so we're very much focused on that.

Mark Russell

Each part has a plan to get the cost down over time. And those plans look pretty robust to us. In most cases, the plan is shared with the supplier we have a shared target in terms of what we want to be producing at x-volume and y-volume. And so that's why we're confident we're going to drive that cost down. The only thing that's going against our plan in the short, you know, in the, you know, in the current situation has been, as Kim mentioned, is battery cells. And those

were those are going down in price, by the way, just in the market pretty much every year for a long time and this is the first year they've going back up. And that's why we say we're not going to get that cost down in the next 12 to 24 months but after that we think the conditions are favorable for changing that as well. So we do feel very, very confident we'll get the cost down as we build volume.

Emmanuel Rosner

Yeah, no, that's encouraging. I'm definitely on board with you on the cost of cells. I was positively surprised by, I guess, the comments in the prepared remarks around potentially driving these gross margin to positive sometime in 2023 because it seems like you'd probably require \$200,000 type of cost improvement between now and next year, without really any benefit, you know, the sales cost. And so just curious if you feel like this is an improvement of such magnitude is achievable, you know, using the other levers?

Kim Brady

So, Emmanuel, that's not quite the case, in terms of the magnitude of that improvement. In fact, as we go from pre-series build to actually production build, there's cost decrease that we're realizing. And so what we're talking about is, from production to 2023. And we do have that pretty good visibility and target for each component and what will be localized and we have a pretty good idea about how much cost we'll be able to drop.

We want to make it clear, what we're talking about is Nikola Tre BEV when it comes to fuel cell, of course, since we're starting production in second half of 2023, our cost of goods sold for fuel cell truck, especially in 2023, will be higher than likely average selling price.

Emmanuel Rosner

Yeah, that makes sense. And then second, quick question in terms of your capital needs. So, you know, you started this phase two, in Coolidge, it will take you to a capacity of, you know, about 20,000 units. So, I guess, at the same time, you sort of in the initial availability you have in terms of components for next years, you mentioned something in the north of 2,400 units. Does it still make sense to spend all this year and get to 20,000 units capacity at the beginning of 2023, when most likely you won't need anywhere near that next year? Or does it make sense to sort of phase this in slower and preserve our capital?

Kim Brady

And that's a great question. And this is something that we have debated. And when we think about CapEx being allocated for phase two, essentially, we are deferring to 2023, as much as possible. And only thing that we're looking at in CapEx is really phase two shell. And that's something that we'll need to build, otherwise, it's going to delay everything else. And so when we think about Coolidge CapEx we're being very, very thoughtful, recognizing that our current

capacity does allow us to build up to 2,500 units. But if we delay what we have to build right now, that will have ramifications in terms of how we think about 2023. And so we have really skinned that capital allocation down as much as possible. So we have gone through that exercise.

Emmanuel Rosner

Perfect. Thank you.

Operator

Thank you. Our next question comes from Greg Lewis with BTIG. Please proceed with your question.

Greg Lewis

Yes, thank you and good morning, realizing that the calls running a little bit long here, I'll just stick to one question. You know, Kim, appreciate that you've made some deposits on your allocations but I'm just kind of wanted to understand a little bit better as we think about the battery cell allocations. Clearly, you know, raw material prices, you know, seem like every day, they just want to go higher. As we think about the cell allocations in '22 and '23. Are those fixed price? Or is there a mechanism where they're a function of, I guess, I'm just trying to get an understanding of LGs ability to pass through higher costs to your battery cells.

Kim Brady

That's a great question. As you know, if you're negotiating with any cell suppliers, while there is a fixed price in the short term, and for example, 2022 and 2023, longer-term, there is not a price, simply because we know that there is worldwide expansion for capacity and we're anticipating price to drop and we wanted to make sure that we do not commit to any fixed price in 2024 and beyond. However, for 2022 and 2023, without fixing the price that we could not get allocation. And not only that, even with fixed price, all the battery suppliers have some provision with respect to the inflation costs with respect to key raw materials.

Greg Lewis

Perfect, thank you very much.

Operator

Thank you. There are no further questions at this time. I'd like to turn the floor back over to management for any closing remarks.

Mark Russell

Thanks, everybody for participating today, appreciate your interest in Nikola, and we'll talk to you again next quarter thanks

Kim Brady

Thanks.