

# **Hyzon Motors Inc. (HYZN) Q2 2024 Earnings Call Transcript**

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August 13, 2024 Tuesday

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**Length:** 8445 words

**Byline:** SA Transcripts

**Body**

Hyzon Motors Inc. (HYZN)

Q2 2024 Earnings Conference Call

August 13, 2024 08:30 AM ET

Company Participants

Tom Cook - Managing Director, ICR

Parker Meeks - CEO

Steve Weiland - CFO

Conference Call Participants

Craig Irwin - ROTH MKM

Steven Fox - Fox Advisors

Presentation

Operator

Thank you for standing by. My name is Giolla, and I will be your conference operator today. At this time, I would like welcome everyone to the Q2 2024 Hyzon Inc. Earnings Conference Call. All lines have been placed on mute to prevent any background noise. After the speakers' remark, there will be a question-and-answer session. [Operator Instructions]

I will now turn the conference over to Tom Cook, Managing Director with ICR. Tom, you may begin your conference.

Tom Cook

Thank you, operator, and good afternoon, everyone. Welcome to Hyzon's second quarter 2024 earnings call. With me on the call today are Parker Meeks, Chief Executive Officer; and Steve Weiland, Chief Financial Officer. As a reminder, you can find a press release detailing our financial results and the presentation accompanying today's call in the Investor Relations section of our website.

Today's discussions include forward-looking statements regarding future plans and expectations. Actual results might differ materially from those stated and factors that could cause actual results to differ are explained in the forward-looking statements at the end of the press release and Page 2 of our earnings presentation. Forward-looking statements speak only as of the date on which they're made. You're cautioned not to put undue reliance on forward-looking statements.

With that, turn the call over to our CEO, Parker Meeks. Parker?

Parker Meeks

Good morning, and thank you for joining our 2024 second quarter earnings call. I look forward to sharing the commercial, technology and organizational progress we have made, which we believe strengthen our first mover position in decarbonizing heavy mobility. On the technology side, these include continued advancements towards startup production of our leading 200 kilowatt fuel cell technology.

On the commercial side, we are pleased to have launched our 200 kilowatt class eight fuel cell truck trial program with multiple large fleets in July. With positive initial customer feedback, which I will expand upon later. Steve Weiland will then review our financials in more detail.

First, let me address the announcement we made last month to focus on our core North American Class 8 and refuse vehicle markets. After reviewing our strategic options, we decided to focus our operations on the market and applications with the highest immediate commercial potential to Class 8 tractor and refuge truck markets in North America.

After considering our options and completing a full assessment of challenging international market conditions and waning government support outside of North America, we decided to halt our operations in the Netherlands and Australia. In collaboration with our Board of Directors, this was deemed the best path to support the active commercial development of the North American business and our 200 kilowatt sort of production or SOP.

This decision allows us to concentrate our financial resources and investments on our first to market single stack, 200 kilowatt fuel cell technology in our North American Class 8 and refuse truck platforms, which we have launched in largely trial programs in the U.S. supported by continued customer interest in advancing government subsidy programs.

Steve will provide more color in a moment on the financial impact of this decision. This quarter, we are proud to have met our guidance and delivered a monthly average cash burn at the low end of that guidance. After halting operations in the international markets, based on how we are operating now, we estimate our average recurring monthly cash burn to be further reduced to approximately $6.5 million by year end.

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Additionally, given our strategic transition to a single region, we are no longer providing deployment guidance for the balance of 2024, as we narrow our focus to the opportunities in the North American Class 8 and refuse markets. We plan to provide updated guidance on the North American market in the future as our customer trial programs advance.

Alongside focusing our resources, we have continued our capital raise efforts working with our financial advisor PJT Partners to evaluate potential strategic capital investment and strategic alternatives to support commercialization of our 200 kilowatt fuel cell technology. And late July, upon becoming shelf eligible, we raised $4.5 million in gross proceeds via a registered direct offering in a difficult market environment to increase our runway and improve the liquidity of our stock. This represents the first capital the company has raised since going public in July, 2021.

Since this raise, Hyzon's average daily trading volume has increased approximately 22x to 13 million shares per day, when comparing the 30 days prior to the transaction, the 16 trading days post transaction ending on August 9. We believe that this capital raise and improved liquidity combined with continued commercialization of our proprietary fuel cell technology, positions us to pursue additional financings later this year. We believe that successful trials of our leading fuel cell truck platforms converting to large fleet customer contracts combined with the expected near-term SOP of our 200 kilowatt fuel cell system, will serve as important commercial, equity market and strategic investment catalysts. We recognize the capital markets for early stage growth companies, particularly those operating in the hydrogen fuel cell and clean transportation sectors have been in a prolonged period of upheaval.

Once this challenging environment subsides, we expect to have broader access to less expensive capital, while strategic capital remains our primary focus in the near-term. We continue to work with our strategic partners and customers to find ways to advance the commercialization of our technology, which includes recent proposals regarding fuel cell and fuel cell truck orders and potential investment into our company, proposals we hope will convert to definitive agreements in the near future.

Now, let me turn to our commercial and technology progress where we continue to make important strides driving both near-term and long-term value.

Turning first to our commercial activity. In the second quarter, we delivered one additional 110 kilowatt fuel cell truck to our customer Performance Food Group or PFG for a total of five vehicles deployed with PFG in California. We continue to gather critical on-road experience through these trucks commercial operations. We plan to continue working with PFG on an agreement for up to 15 200 kilowatt fuel cell trucks following a successful 200 kilowatt truck trial and a possible option to purchase an additional 30 fuel cell electric trucks. An example of the multi-year commercial order pattern we prioritize with large fleets.

Additionally, our 200 kilowatt Class 8 fuel cell truck large fleet customer trial program launched with multiple customers in July and the initial operational performance and telematics data is both encouraging and exceeding our expectations. A truck has proven its ability to complete double shifts, ending the day with fuel to spare, accomplishing full day combustion engine operations. Many other major OEMs, battery electric trucks could not complete.

One truck customer's experience underscores the outperformance we are seeing in a key metric, fuel efficiency. On a heavy haul steep route double shift day, where the customer's standard diesel truck averages four miles per gallon. Hyzon's fuel cell electric truck has averaged over six miles per gallon equivalent, roughly 50% better than diesel. This fuel efficiency is critical because fuel comprises 50% of the total cost of ownership for a heavy duty truck. Based on our calculations with this level of fuel efficiency, total cost of ownership parody with diesel is achieved today even with fuel that is 40% more expensive than diesel. We look forward to sharing more information from these trials as they progress.

On the refuge collection vehicle front, customers, partners and stakeholders across the industry are demonstrating commercial interest for our refuge collection truck. As a reminder, in May, we unveil the first fuel cell electric refuse truck for the U.S. market with New Way Trucks, the largest private refuse equipment manufacturer in North America. Together, we are embarking on customer trials in the U.S. and Canada to prove the viability of the technology and showcase its performance. We expect to launch the first trial of San Francisco based waste and recycling management company, recology this month.

Across the two vehicle platforms, we remain oversubscribed for our trial program with 25 large fleets in the schedule across the 200 kilowatt Class 8 and refuse trucks through January, 2025. These fleets represent many of the largest fleets in the North American Class 8 and refuse truck markets averaging more than 4,200 trucks per fleet, including 10 fleets with at least 5,000 trucks each. As discussed in previous quarters, we prioritize large fleets as they have strong motivation to purchase zero emission vehicles, because of government incentives, their customer's requirements and in many cases their own sustainability commitments.

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Subject to the success of these trials, we expect to into initial definitive commercial agreements in the second half of 2024, with commercial deliveries beginning in 2025. We are excited by the potential for our trial and commercial agreement program to provide a strong order pipeline and foundation for commercial growth for Hyzon. Any material success in converting these 25 large fleet trials to our targeted 50 truck to 100 truck multi-year commercial agreements per fleet would yield sizable year-end order backlog for the company.

Beyond our vehicle platforms, we're also seeing increased commercial interest in our fuel cell technology from the stationary power market, including in such applications as backup and primary power for data centers. The combination of rapid data center storage demand growth driven by AI and cloud computing alongside data center owners and customers, significant ESG goals is in turn driving demand for clean hydrogen fuel cell power in data center expansion projects. We are now in advanced customer discussions for near-term deployments. With these trends in mind, the stationary fuel cell power market estimated at $3.5 billion in the U.S. by 2030 poses an attractive future application for Hyzon's heavy duty fuel cell technology.

Moving to our fuel cell technology, we're continuing to make progress with our C sample development in our Bolingbrook Illinois facility and remain on track for SOP in the second half of 2024. As a reminder, Hyzon's fuel cell system generates a net 200 kilowatts from a single-fuel cell stack, which offers a 30% lighter, 30% smaller, more cost effective and more fuel-efficient option when compared to the conventional approach of combining two systems or stacks to reach equivalent power.

In the second quarter, we built 16 C samples for a total of 21 C samples built in the first half of 2024. We also progressed our rigorous durability testing supported by commissioning our eighth fuel cell test stand in Q2, which expands our capability for in-house end-to-end fuel cell testing today and ongoing quality control once we begin production. Our remaining CapEx spend to achieve SOP is substantially complete, at which point we expect annual capacity to be 700 kilowatt, 200 kilowatt fuel cell systems on three shifts. We expect this to sustain our planned production rates for the next two years. In initial capacity testing, our team confirmed this production rate, along with our capital efficient future capacity expansion plans in line with anticipated demand and customer scale up programs.

Finally, let me touch on the market environments. While government support has waned in international markets, we are seeing continued and growing strong support here in the U.S. This includes the $2.6 billion Environmental Protection Agency's Clean Ports program, CARB's HVIP program in California, the Internal Revenue Code Section 45W $40,000 commercial clean vehicle tax credits, and the administration's Hydrogen Hub program, which recently funded its first three regional hubs, including a $12.6 billion agreement for California's Hydrogen Hub Application ARCHES.

We expect additional hydrogen hubs to be funded before the end of the year and potential first awards under the Clean Ports program to be granted by year end as well. Hyzon has supported several Clean Ports applications, the largest of which could yield an order of up to 100 fuel cell trucks is selected. Hyzon has also recently submitted an application under the bipartisan Infrastructure Laws, Advanced Energy Manufacturing and Recycling Grant Program. If selected, the grant could provide up to $19.9 million and a 50% match structure to help fund future expansions of our Bowling Brook fuel cell manufacturing facility to annual production of 2,800 fuel cell systems well beyond our anticipated cash flow break even production rate.

Despite the potential for political changes in November, we remain bullish on the long-term prospects for our industry and our company. Thanks to the support we see from states such as California, which are committed to decarbonisation and the federal programs I mentioned before, which have shown continued momentum over the past several months.

Before handing the call over to Steve, I would like to reiterate the two primary goals and anticipated milestones for 2024, which we discussed last quarter. First, SOP of our 200 kilowatt fuel cell system and Class 8 fuel cell truck platform, we expect to reach SOP for a single stack, 200 kilowatt fuel cell system and our 200 kilowatt Class 8 fuel cell truck platform in the second half of 2024. These will be major technology and commercial, achievements clearing the path for commercial scale up of our leading fuel of technology to large fleet customers.

And second large fleet commercial agreements. Subject to successful trials, we anticipate signing new large fleet multi-year commercial agreements in 2024 on the back of the 25 large fleet trials plan through January, 2025. These trials launched on the 200 kilowatt Class A truck platform in July, with positive results thus far and are expected to launch on the refuge truck platform with recology this month.

Additionally, we anticipate advancing fleets under existing commercial agreements, so the second tranche of their multi-stage commercial agreements. As I stated previously, any material success in converting trials to new large fleet contracts, which show significant progress in setting, Hyzon's commercial pipeline foundation alongside evidence of large fleet scale up progression.

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Finally, we are focused on strengthening our balance sheet and securing additional capital to fund our business.

With that, I'll hand it over to Steve to discuss our financial results in more detail. Steve?

Steve Weiland

Thank you, Parker. Just to recap our prior disclosures and what Parker discussed on our strategic repositioning. After a comprehensive review, we are focusing on the North American Class 8 and refuse markets. We believe that there is a tremendous opportunity in these markets with the supportive regulatory environment and that the difficult decisions we took to preserve our balance sheet and narrow our focus will ultimately put us in a position to succeed.

In connection with the exit activities in Europe and Australia, we now estimate that we will incur charges of approximately $21 million, of which approximately $4 million is cash. While the total estimated amount has increased since our initial disclosure, the estimated cash impact has come down. We incurred substantially all of these costs in the second quarter and anticipate making the related cash payments in the third and fourth quarters of 2024.

However, we do believe that once our announced actions are complete based on how we are operating now, our average monthly recurring net cash burn will drop to approximately $6.5 million by the end of the year, while still supporting our core initiatives. These were difficult but necessary actions, and we are deeply appreciative of our employees' accomplishments in these regions and continued support as we wind down impacted operations.

Turning to our results for the second quarter of 2024. Our second quarter 2024 revenue was $0.3 million compared to zero revenue in Q2 2023. Our revenue this quarter primarily reflected continued recognition of the trucks delivered to PFG that are treated as an operating lease for accounting purposes, and spare parts sales to a customer. Cost of revenue came to $18.4 million in the second quarter of 2024 versus $2.4 million in the prior year period. Cost of revenue for this quarter was primarily related to inventory write-downs associated with the restructuring actions in Australia and Europe, as well as in the U.S. for 110 kilowatt inventory given the transition to our 200 kilowatt platform.

Cost of revenue for the comparable prior year period, primarily related to cost provisions accrued for customer contract activities and inventory write-downs in Europe. We are pleased to report that R&D, SG&A and net cash burn all came in at or below the low end of our guidance ranges, reflecting our concerted efforts to manage spend. R&D expenses came to $9.8 million in the second quarter of 2024 versus $12.6 million in the prior year period, reflecting lower R&D material costs partially offset by higher R&D personnel costs.

Second quarter R&D came in below our quarterly guidance range of $11 million to $13 million, primarily due to continued efforts on reducing spend, certain development costs coming in less than anticipated and the timing of certain development activities in support of our fuel cell SOP.

SG&A came at $25.5 million in the second quarter of 2024 versus $49.1 million in the prior year period. The year-over-year decrease in SG&A was primarily driven by the $22 million SEC settlement recorded in the second quarter last year, an overall reduction in legal and professional fees and spends reduction efforts partially offset by higher stock-based compensation and a write down of certain supplier deposits. Second quarter SG&A came in just below the bottom end of our $26 million to $30 million guidance range. We also recognized restructuring charges of $2.7 million in the second quarter of 2024 compared to no charges in the prior year period.

Restructuring charges this quarter include asset impairment and employee related charges related to our wind down activities in Australia and Europe. Our average monthly net cash burn for the second quarter of 2024 was $9.2 million for a total $27.5 million for the quarter, coming in at the low end of our quarterly guidance range of $27 million to $30 million. Although down from the $9.9 million first quarter average monthly net burn, this was up slightly from the first quarter $8 million average monthly net cash burn excluding the first SEC settlement payment and proceeds from the sale of the Rochester facility, which reflects the slight uptick we spoke about last quarter due to timing of working capital and payroll.

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Based on how we are operating at the moment, we estimate that our increased focus and restructuring actions will further reduce our average monthly recurring net cash burn to an estimated $6.5 million by year end. Our cash, cash equivalent in short-term investments, so that $55.1 million as of June 30, 2024.

I'd like to provide some additional color on our first capital raise since our company was listed in July, 2021. We have been actively laying out this path with actions such as our shelf filing and authorized share increase. It is also worth noting that we had been unable to raise registered capital, which is critical in this market until we became shelf eligible in June. Once that occurred, we executed against it promptly.

While capital raising in the current market is very challenging, we believe that this offering helps provide the groundwork for better trading liquidity, a key ingredient for an improved ability to raise capital. We have seen this play out as our average daily trading volume increased approximately 22x to 13 million shares a day from the 30 days prior to the offering to the 16 trading days following it. We believe that this groundwork combined with continued successful 200 kW trials will help provide a path to more meaningful capital raises and potential strategic investment interest.

Lastly, given the dynamic conditions, our ongoing cost actions and capital raise efforts, we are not providing further financial guidance at this time.

With that, I'll hand it back to Parker for closing remarks.

Parker Meeks

Thank you, Steve. We are encouraged by the data and feedback from the first vehicles deployed with PFG and from our first trials with a 200 kilowatt Class 8 fuel cell truck. Our trial customers tell us that Hyzon trucks are outperforming battery electric and completing daily operations as well as in some cases better than diesel trucks. With fuel efficiency, there's up to 50% better than diesel in some major customer use cases. We are excited to begin trials of the U.S. refuge truck this summer and to progress the 25 large fleets currently in our full trial schedule, targeting conversion of multi-year commercial agreements on the back of those trials.

If successful, this would serve as a strong pipeline and commercial growth foundation for Hyzon heading into 2025 and beyond. We remain on track for SOP of our single stack 200 kilowatt fuel cell system in the second half of this year, while improving our manufacturing efficiencies and expanding our facility capabilities in building Brook Illinois.

I would like to thank the whole Hyzon on team for their continued dedication. Finally, I would like to thank our customers and stakeholders for their continued partnership and for sharing our goal of reducing emissions across the heavy duty industry through hydrogen fuel cell technology.

With that operator, we are now ready for questions.

Question-and-Answer Session

Operator

[Operator Instructions] Your first question comes from line of Craig Irwin of ROTH MKM.

Craig Irwin

That was a really busy quarter in there, so I'm not completely sure where to start. I guess we could probably start with the discussion of refuse trucks. Parker, when we were at ACT Expo, we heard people say that the practicalities of actually doing battery electric refuse truck are actually quite limiting. They don't have the ranges or the performance necessary and it's actually hard to mount enough batteries on the vehicles. So, the superior economics versus diesel you discussed in your prepared remarks, really is just the tip of the iceberg. Can you maybe unpack for people, the practicalities of a hydrogen fuel cell implementation on a refuse truck and why your customers are showing such strong interest?

Parker Meeks

So, this is a topic that we love to really dive into because frankly, it's changed so much in terms of our and the market, our customers understanding of what are their credible options for zero emission revenue collection going forward. A year ago, we thought this platform would be a great platform, one that could outperform in the fuel cell category, but we thought the space would have, on a room providing electric solutions. Given the theory was that low speed start stop region breaking driven use case batteries would be able to perform it. But I think you've hit the nail on the head as to what we and our customers have realized as many of our customers, particularly the large fleets in North America have been trying battery trucks for some time.

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When you're talking about a refuse collection vehicle, those vehicles need to do several things, really perform the same job that the combustion engine trucks do today, They need to be able to carry a certain amount of payload, is really one of the most important things. Of course, they need to operate safely. They need to be able to handle in some cases hilly steep climbs and neighborhoods on the way to and front of the landfill. They've got to be able to also handle the power requirements for these advanced garbage truck bodies, when you look at the garbage truck of today, it is incredible the innovation that the garbage truck body manufacturers have put into these garbage truck bodies. The ability to pack the trash while the truck is moving, for instance, all the efficiencies that they can build in, but all that creates power trucks.

When you add all that demand up, a need to carry payload, where some garbage truck applications need to carry up to 10 tons of trash payload to stay on track in terms of the number of trips they're having to make to a landfill to complete their route, they need to be able to carry up and downhill. They need to be able to power a body which has a steadily increasing power demand based on what it could do.

In trials, our customers tell us that most of the battery garbage trucks on the road today really can only complete about a half to maybe two-thirds of a day's work, because of all that power need, because of the way the batteries, and the biggest part of that is the payload penalty. We're seeing payload penalties on battery refuse collection vehicles of up to 40%, which obviously that means they can carry less refuse and need to make more trips and or just have more trucks to complete. The standby refuse collection hit the same number of houses to give.

To give you some numbers from our initial refuse truck trial in Australia, that route trip required about 125 miles plus 1,200 garbage can lifts per a day. Think about it as 1,200 households, that truck had to pick up and that's what combustion could do in a route that had up to 18% grades, which are just massive hills in the suburbs of Sydney. A truck was on operation for four months, completed that 125 kilometer plus 1,200 bin lift plus day with those steep hills without needing to refuel during the day, which battery trucks today's battery truck technology simply cannot do. So that's the use case and that's why we say given that we're the only fuel cell refuge function vehicle is close to coming to market, and the only one that we see announced, at least -- for at least the next two, probably three years.

And the fact that we don't see a single battery electric truck that even comes close today based on publicly announced results to being able to meet the use case and meet the needs. When you're large refuel fleets are facing both in many cases, board level sustainability goals of their drive to low emission to zero, which we're very thankful to partner with many of the large refuse companies in our upcoming trials. These companies have been leaders in the drive towards lower emissions through the work they've done with CNG for instance.

But then you combine that with customer demand and willingness to pay. So, particularly in the state of California, where you have customers at the city and county level, these are the customers for the large refuse management companies and the fleets, they're putting in their RFPs and their bid packages, a goal and a scoring mechanism around how many zero emission trucks that revenue collection provider has in their fleet on their routes by a certain year, 2026, 2027, 2028.

And these are tens of trucks per major part of that route. And this is now a scoring requirement that the -- collection fleet see if they want to compete, if they want to either retain the contracts that they already have in their portfolio or if they want to expand their market share end into big city, big county contracts that have these requirements. They need to have an ability to raise emission trucks in their fleet. And if they choose battery based in today's technology, they're going to have to buy again, 25% to 40% more trucks to be able to deliver that to service.

So it's a performance gap that we think is substantial between fuel cell and battery. It is an economic gap that we think is substantial. And the most exciting thing that we see, frankly, is our expectations for fuel efficiency and what that means for the economic equation, particularly on the refuse flexion vehicle. So based on our Sydney trial, we saw fuel efficiency of up to 3x better fuel efficiency on our fuel cell truck than diesel, which is a dramatic difference given half the cost of a truck over its life is its fuel.

And what that means is if that fuel efficiency holds here in the U.S. that use case could support up to $15 per kilogram hydrogen pricing, assuming diesel was at $5 a kilogram and be at the same cost of fuel today without subsidy if that fuel is delivered at $15 a kilogram without subsidy. So there's -- as you can see, its use case was quite excited by and we have very high demand from particularly the large refuse fleet across both the U.S. and Canada because of -- again, the performance equivalency with combustion, the performance advantage that's not even closed versus battery and the economic advantages of fuel cell when it comes to the fuel efficiencies that we're seeing to be expect to confirm in trial very, very soon.

Craig Irwin

So the investment community is paying a lot of attention to infrastructure as far as the ability to either fuel or charge the new drivetrain vehicles that are becoming available out there. A lot of the EV truck companies have had challenges because they can't cite sufficient charging for the school bus fleets or for the anticipated truck fleets that people want. Can you talk about how you're charging or -- sorry, how you're handling refueling for your trials not just on the refuse trucks, but on other markets and the timelines and permitting necessary to put in hydrogen refueling structure and whether or not there's pre-existing infrastructure may be available to similar customers that facilitates early adoption.

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Parker Meeks

And that's a critical area that we're actually working on is, as my personal background actually is more on the energy infrastructure side. So something Hyzon has been in deep collaboration with partners around really since Hyzon's inception. Bringing the molecule and the infrastructure required to our fuel cell technology to our trucks in this case is vital. And again, going back to what I just said, given its half the cost of the truck over its life and because both technologies have infrastructure challenges to overcome, but we do see the path for hydrogen fuels and technology on infrastructure to be an easier one and better electric and a less expensive one.

And so let me explain line and update in line with your question as to what we're doing and what we are seeing. Starting with battery electric that is part of the comparable, again, both on the Class 8 fleet platform and with the refuse collection vehicle all of us in zero emission are going to scale, whether it's battery trucks or fuel cell trucks in back to base use cases. We're not going to scale these solutions and markets in an over the road point-to-point long haul type of a setup.

That means we have typically anywhere from 50 trucks to 500 trucks behind the warehouse fences, behind intermodal yard fences, behind refuse collection landfill fences that are all being fueled typically on site today. They are being fueled with diesel. They are being fuel with CNG and that actually helps us from a hydrogen perspective, because these fleets are used to handling fuel that's either being produced off site in the case of CNG collected and/or distributed. And if it's diesel, they're receiving typically diesel deliveries at least weekly, if not daily. So that is normal for almost every fleet from a large fleet perspective that we are working with. That's how they run their operations today. On-site fueling regular deliveries or collection of fuel.

In some cases, in particularly in the revenues industry, they're already producing their own fuel for many of these fleets from a CNG perspective. When you look at battery electric, being transition for a fleet to try and do battery charging for any concentration of trucks is dramatic, if you're talking about any meaningful number of trucks 40, 100, 150 battery trucks, you could get into megawatts of power that's required behind these fences. And we look at where these trucks are, where there's trucks, there's people typically and where there's people in this activation environment, there's a grid typically that is challenged it be it either in generation or in more likely transmission distribution and substation infrastructure capacity and all that is real cost.

So when you see some estimates that people put out on power electric charging, they're only counting the cost of power using cost of power assuming that all the equipment's there, which is almost never the case when you're talking about this level of install charging if you're getting into the tens and tens and potentially hundreds of trucks minus single fence. So the fleets are seeing that and some of the more advanced fleets are quantifying it, and the cost of battery electric and the time it will take in some cases we've had customers who have told us they've gone in for applications with the power authority for a couple hundred trucks worth of charging, and they've been told it's going to take anywhere from two to six years to get the infrastructure online that they would need to get to 200 trucks worth of electrical infrastructure capacity at a single point.

And again, you think about places like LA, San Francisco, you can imagine the challenges. Whereas from a higher standpoint, the transition can be grid independent, right? When you talk about on-site fueling from mobile fuelers to start, which is what we're doing today. So we disclosed publicly, for instance, in the launch of the first trucks delivered to performance food group that the pilot is providing the mobile fuelers for that facility. These typically are mobile fuelers that carry anywhere from 200 kilograms to up to 1 tons to 4 tons of fuel, depending on if it's gaseous or liquid and have dispensers on site. That allow for, in our case, given our gaseous 350 bar tanks, typical fueling for the Class 8 truck of anywhere from 15 minutes to 20 minutes, 25 minutes.

And for the garbage truck, given the onboard packaging is less fuel -- doesn't need it as much fuel onboard. Where are we fueling the garbage truck typically in 10 minutes to 15 minutes, which is important because going back to the use case, that's also an advantage for us in terms of range. In fact, in some of our trials the range today that we're seeing on our truck and typical use cases is 300 miles to 350 miles on the Class 8 truck. Even if they want to do a 600 mile day, it's really only a 15 minutes to 25 minute fill for them to double the range basically, whereas battery doesn't have that option.

So we start with mobile fuelers that's available today. We have partners that provide that and then we have a plan with the customer in line with our multi-year commercial agreement to evaluate select permit install on-site dispensing. So again, going back to the mobile fuelers, if you have a 1 ton mobile fueler and the typical use case on the Class 8 truck that probably fuels 25 trucks to 30 trucks per day, and we look at our typical multi-year commercial structure the first year, maybe 5 trucks to 10 trucks, the second year maybe anywhere from 15 trucks to 30 trucks you're getting beyond the first year, well into the second year of deliveries on that mobile fueler. And there's options to go to higher capacity, again, if you're using a liquid mobile fueler, you could add up to 4 tons potentially of fuel in that trailer.

While we're working with the customer in our field partners to site in and permit and have them construct the on-site fueling facility that will fuel the first scale up to 50 trucks to 100 trucks on that site with plans to expand that capacity over time. And all that is really both the long lead items in that development are permitting, certainly just like it is for bioelectric and the supply chain of equipment. But it is in our view, fundamentally different profile of a development structure and timing versus by electric, which again, you've got to transform typically all the local infrastructure back to the grid with utility and the expense that has to come with that.

So we're very fortunate to have many infrastructure, I'd say collaborators, in some case, they're committed partners who are actively engaging with our customers to lay out this infrastructure path, starting with mobile fuelers to get us to the first 18 months to 24 months with a clear plan to design permit and install permit dispensing. And it's one that as people see this come to life with our fleets over the next 12 months to 24 months, I think they'll see that the understructure advantage lies with fuel cell.

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Craig Irwin

Last question, if I may. It's really encouraging to see the C samples tracking exactly how you said they would. And it's nice to hear that the 200 kilowatt stack is on track for on time commercial production later on this year. Can you maybe lay out for us how this might change things in the Class 8 market for you? Do you think that this is something that has some of the customers that are maybe sitting on the bench right now stand up and say, okay, I'm willing to take my first 10 trucks, I'm willing to take my first 20 trucks. Is this something where it's an important proof point to the customer base?

Parker Meeks

It certainly Craig, and I think as when we look at the large Class 8 fleets that are in our trial schedules, which again, we are quite proud to have across the Class 8 platform and the refuse truck platform, 25 large fleets in our trial schedule, which we're very excited to have that trial schedule launched last month with our first two large fleets actively in that trial. These fleets are focused on quality, they're focused on durability, they're focused on longevity. They've been driving a business that's successful that in the end is a low margin business. Trucking typically is a low margin business because they focus on the longevity of the products they put into their operation and the overall sort of profit structure of those trucks.

So that is a very high bar to me, which is why hands on from the start, we followed a very typical OEM automotive SOP process, making sure that we're communicating in a way that these fleets are used to, one, that they understand when we're able to bring them into our facility and show them how we're progressing not just in our SOP, but in our quality control, in our durability testing and very transparently in what we're seeing, what we're finding. It's not just about the fuel cell works great, don't worry. It is about the process gone through where we showed learnings, right? Whether it is in the fuel cell development testing and design or on trial, right? There are learnings and our fleets want to see learnings. If we're not showing the learnings, they know that they're not seeing the full picture because many of them have been through this before.

They're part of the CNG transition. They're part of the LNG transition. They're part of the battery electric truck market. And so, it's about transparency. It's about a process that they see as standard for the industry and one that they can touch and feel and that trust. And whenever we tell them that we've implemented over 40 design changes in the fuel cell -- in the total fuel cell since the start of the SOP, that gives them actual confidence, that the process is working, that it's showing results that you would expect to have when we show them the camera based quality control that we put in the efficiencies that we've been able to realize in the production process, the additional testing that we brought online to further expand our end-to-end in-house testing capabilities from single cell the way to full stack and in full system.

We have confidence that assuming that we declared the SOP later this year will passed all those milestones and will have a product that truly is commercially viable, because it speaks their language, because it's something that's been done in a way that they can see in touch and feel, and we're very open and transparent about it. I think it absolutely is a critical validation for our fleet customers who want to see a product that they can rely on and that they understand what state is that they fully understand this is not diesel. Diesel's been going through decades of innovation and mature, and they're okay with that.

As long as they understand that we are ahead, which we think our customers see that they understand that our performance is going to get the job done. That the path to achieve the longevity, the durability and the quality that they desire is on track. And that we are on path to have a product which has economics that needs subsidy today, but don't need subsidy in the future. It can scale along with the ambition that they have for zero emission trucks. And that's what we think we put on the table for them.

Craig Irwin

Congratulations for all the progress in the quarter. I'll go ahead and hop back in the queue.

Operator

Your next question comes from line of Steven Fox of Fox Advisors.

Steven Fox

I guess first of all, Parker, can you clarify a couple things you said relative to PFG. So from a standpoint of potentially ramping to maybe 30 vehicle orders and PFG operating say 20 vehicles to 30 vehicles at a time, how do you and your partner envision that working? And can you just sort specifically talk about how the fueling infrastructure would work with what would be your first large fleet customer at scale? And then I had a couple follow-ups.

Parker Meeks

So specifically with regard to Performance Food Group, again, we're quite thankful to have PFG as a core anchor fleet customer here in the U.S. market. Those that aren't aware PFG is the fifth largest private fleet in the U.S., the 7,000 trucks and we think that they're a real leader in the industry in terms of decarbonization goals and driving innovation and their fleet. They've shown that through drive public announcements they've made on the battery electric side, and now we're the first fuel sub truck supplier. So now five, we're very proud to have five monthly kilowatt trucks deployed to PFG over the past few quarters.

And those five are the first five of a potential total 50 truck commercial agreement that we signed the PFG last year. The next tranche is 15 trucks -- up to 15 trucks on the back of the 200 kilowatt trial that we hope is successful, assuming that trial succeeds PFG will have the options to purchase of the 15 trucks in the next launch. And then there's a further 30 truck option for PFG beyond that.

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So we're currently delivering those trucks in their Fontana facility, which we had a celebration event January at that facility and when the first four trucks were put into ops there. And I can't speak deeply on PFG's plans, but what I will say is we work very closely with PFG as an example of a large, big customer who does fuel their truck, their diesel fleet on site today. So, it very fits right in the model that I just walked through as to how we see the infrastructure evolving over time.

Today, those trucks, as we and us publicly are being fueled by -- a few different fueling sources initially was fueled by a trailer provided by pilot and we're in the middle as I mentioned before, in line with how we typically approach things with our fleets of working with PFG on their mid-term and long-term fueling solution for Fontana, and then for the potential other locations where they're considering expanding fuel cell trucks as we get into deeper into that total 50 truck potential order pattern over a time.

So the transition for a fleet like PFG will be on mobile fuelers. And again, based on the capacities I mentioned before, they can fuel on mobile or temporary fueling solutions, well into basically through this entire second tranche. If you have them together, it's five on the ground today and another 15 in the second tranche for 20 total. As you progress to a total of 50, should they take their option to bring in the full 15t and the second tranche and the further 30, if they go through that entire pattern, 50 trucks, you theoretically can fuel from a liquid fueling trailer solution. But at that point you start to look at the permanent installed solution for a facility. And the good news is you really only need about 30 trucks to 40 trucks at a single facility to base load a permanent install station.

So even that 50 truck work pattern should be fulfilled is plenty of trucks to fully economically base load and onsite fueling install permanent solution. And you can imagine that's exactly the type of planning that we're going through with PFG, which we've been in for some time, as we get ahead of that transition from mobile fueling. So I guess in short mobile fueler and additional capacity from the existing stations that are online in the area and that are being brought online are all viable solutions for a customer like PFG well into the 30 plus truck range. And then as we get into that third and fourth tranche of an order pattern, we want to make sure we've got that thought solution on-site, which there's plenty of capacity and truck volume to make that a viable solution.

Steven Fox

And then just as a follow-up, you mentioned how you're oversubscribed in terms of future trials of 25 fleets you highlighted. Can you talk about just your confidence level in being able to execute that many trials over a short period of time in the next, I guess year or two?

Parker Meeks

It is critical for our business, obviously as we've set for some time, the trial really is the final stage in the customer development journey. Typically, when a trial launches with a large fleet, we've went through months of joint customer shaping where at both the executive level and the direct sort of fleet op co level, we're deep into fuel cell technology economics, where it fits in the use case, where it should outperform battery electric and where it should be on par with the combustion alternative, where the fuels come from, how it's going to scale over time. All that work is done over months to prove to ourselves and to the customer this is worth doing, and then the trial launches as sort of the final proof step before our finalizing the contract negotiations and potential fuel supply for the scale up.

So the 25 large fleets, the majority are at that stage and that's across both platforms. So the Class 8 is already in trial. Our first trial truck is what's already been now in two different large fleets in July and into August. And the refuse truck we're still on track to have that trial launch with recology starting in the San Francisco Bay area in this month. And while 25 is a significant number over the remaining four and a half months of the year, with two truck platforms and additional trial trucks coming online later in the year, we're comfortable and confident, particularly given that the majority of the trials across both platforms are in California or Alberta. They're concentrated in geography. It helps us in how we support the trials, how we're able to have our both vehicle and fuel cell tech available both remotely and on the ground as needed. Helps us also from a fueling standpoint, if we're fueling on mobile fuelers can just rotate and sort of follow the trucks. So we don't need it -- it really minimizes the number of mobile fuelers that we need very compact demonstration trial schedule, where the truck platforms are operating in kind of the same regional areas.

And in terms of performance, we're quite enthused by the performance of the Class 8 truck, which has already been in trial as we noted it in the pre-prepared remarks to have the challenging use case that one of our customers put that truck through to have that truck delivered in a use case had a very, very heavy haul, very steep grade. You're talking about a 3,000 foot climb as part of this trial route. And to do that work that combustion does and to do work that all the battery trucks they tried was not able to do, I think is a really great immediate result that we're quite proud of.

And to do it with fuel efficiency, that was roughly 50% in that Class 8 use case better than diesel. Again, that's a tremendous foundation for scalability. And even with fuel that was let's say $7, $8 a kilogram a day, if that were the price to the fleet, we would already be at TCO parity with that level of fuel efficiency.

So we're quite confident in the performance of the truck can be the early returns and the Class 8. The refuge truck, we can't wait to get that truck out on route and trial relatively soon. In fact, today, it's going through its final paces in Iowa new ways facility, which been going through its final shakedown is in the great state of Iowa and it's actually on route collecting refuge as we speak in Carroll, Iowa. So if you're calling it from Carroll, Iowa, look out on the streets for a Hyzon truck collecting trash. But getting that truck into operation, we think is going to prove what its sister truck did in Sydney. And we think as we progress through this trial program, it's going to show both our electric customers in the market that fuel cell technology's ready to power heavy duty trucks now.

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Operator

That concludes our Q&A session. I'll now turn the conference back over to CEO, Parker Meeks for closing remarks.

Parker Meeks

Thank you, operator. And thank you all for joining us. We look forward to continuing to update you as we drive our commercialization goals to realization this year. Take care.

Operator

This concludes today's conference call. You may know disconnect.

**Load-Date:** August 13, 2024

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