

# **Hyzon Motors Inc. (HYZN) Q1 2024 Earnings Call Transcript**

Seeking Alpha - Earnings Call Transcripts

May 14, 2024 Tuesday

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**Length:** 9315 words

**Byline:** SA Transcripts

**Body**

Hyzon Motors Inc. (HYZN)

Q1 2024 Earnings Conference Call

May 13, 2024 04:30 PM ET

Company Participants

Tom Cook - Managing Director, ICR

Parker Meeks - CEO

Stephen Weiland - CFO

Conference Call Participants

Craig Irwin - ROTH MKM

Steven Fox - Fox Advisors

Rob Wertheimer - Melius Research

Presentation

Operator

Thank you for standing by. My name is Krista, and I will be your conference operator today. At this time, I would like to welcome everyone to the Hyzon First Quarter 2024 Earnings Conference Call. All lines have been placed on mute to prevent any background noise. After the speakers' remarks, 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 first 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 are made. You are cautioned not to put undue reliance on forward-looking statements.

With that, I'll turn the call over to our CEO, Parker Meeks.

Parker Meeks

Good afternoon, everyone, and thank you for joining our first quarter 2024 earnings call. I am pleased to share our financial results and progress made during the quarter with you, a quarter in which Hyzon is proud to have built upon the commercial and technology inflection points we initiated in 2023, as a leader in the hydrogen mobility ecosystem.

I'll start with a brief recap of our results, before providing more color on our commercial updates, technology manufacturing and demand environment. Steve will then review our financials in more detail.

We recognized first quarter of 2024 revenue of $10 million compared to no revenue in the comparable prior year period. This revenue was primarily driven by customer acceptance of 10 coach buses deployed to Fortescue Metals Group in Australia last year, completing the commercial cycle we have described on previous calls, trial, contract, deliver and accept, with scale as the targeted next phase of the commercial cycle with our customers.

We do want to remind investors that we expect lumpiness in our revenue recognition in the near term, as the majority of our commercial agreements have some form of risk share such as a buyback guarantee, which impacts timing and treatment of revenue recognition. From a balance sheet and capital perspective, we delivered another quarter of improved net cash burn, excluding the impacts of our first SEC settlement payments and the proceeds from the sale of our Rochester facility, similar to prior guidance for the quarter. This reflects our continued focus on cost control, which Steve will comment on further.

Additionally, we have continued to advance our capital raise, working with a financial adviser of potential investment and strategic alternatives to support our commercialization with a focus on strategic investors, as we have previously discussed. Importantly, Hyzon continues to progress as a technology leader in a global transition to clean energy.

Our proprietary high power zero emission fuel cell technology is reducing emissions from heavy duty trucking today. As the hydrogen ecosystem grows, we see opportunities to deploy our existing and future generation fuel cell technology to decarbonize heavy-duty industrial applications, such as rail, mining, aviation and stationary power in the future. We believe 2024 will show Hyzon continues to lead in the commercialization of our technology, which our progress this quarter supports.

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I would like to take a few minutes to describe that now. Beginning on the commercial side. Earlier this year, Performance Food Group, or PFG, put its operation in their first four Hyzon fuel cell electric vehicles and marked a significant step toward decarbonization goals showed by PFG, Hyzon and the State of California. Now at several months completed, we continue to expand our on-road experience through real world commercial operations.

Since the last week of January, the PFG fleet has made more than 1,575 deliveries and traveled nearly 23,000 miles with approximately 2,900 total operating hours. Their trucks have been able to travel further and refuel quicker than other zero emission alternatives, while reducing harmful emissions and bring value to their operations. This intelligence will help us optimize our technology, while working simultaneously to develop the next-generation 200-kilowatt fuel cell system.

We expect to continue to work with PFG on an agreement for 15 200-kilowatt fuel cell trucks following a successful upcoming 200-kilowatt truck trial and a possible option to purchase an additional 30 fuel cell electric trucks. PFG represents exactly the kind of large fleet customer profile and commercial agreement structure, scaling over multiple years that we are focused on in 2024.

As we have described before, this approach starts with the customer trial, which, if successful, they do a positive order of typically five to 10 vehicles with the option for larger orders in the future over three to four tranches, starting 100 trucks per year from each large fleet over time. The vehicles are employed to the customer, which formally accepts them into operations, at which point Hyzon begins to recognize revenue depending on the commercial terms, completing that commercial cycle and assuming success with scale to follow. This approach also applies to our refuse truck platform.

Last week at Waste Expo, we launched the first fuel cell electric refuse truck for the U.S. market with New Way Truck, the largest private refuse equipment manufacturer in North America. We also announced a customer trial program, which will launch with Recology this summer, as on accelerated this vehicle development, because of the strong operational performance demonstrated by our Australian refuse truck of our four month customer trial near Sydney in challenging route conditions, including up to 18% grades.

The Australian vehicle delivered full day route performance in line with its combustion engine equivalents without aiding to refuel, in some cases even double the daily work rate of a comparable battery electric refuse truck. That significant performance gap proves in our view that only fuel cell electric powertrains can effectively decarbonize refuse collection. We are excited to bring this global zero emission platform to North America. The response from customers so far has been overwhelmingly positive, highlighting the market demand for the product with a nearly full trial schedule starting this summer.

Looking to the balance of the year, we currently have nine refuse truck trials, either scheduled or in final scheduling beginning in the summer, including with many of the largest refuse fleets in North America. Subject to successful trials, we expect to enter into initial definitive commercial agreements in the second half of 2024 and commercial deliveries to begin in 2025.

During the first quarter, Hyzon Australia successfully concluded the four month refuse truck trial with REMONDIS which I just mentioned. The vehicle managed performance targets, and so as previously discussed, the commercial trial converted to a full vehicle purchase. We are in discussions with REMONDIS about potential additional vehicle orders.

Finally, during the quarter, we delivered one truck to drayage customer at the ports of Los Angeles and Long Beach, our second truck delivered in inter drayage at the largest port drayage fleet in the U.S. Putting our success are strong tailwinds worldwide for hydrogen and zero emission vehicles. In the U.S., for instance, support continues to expand. In addition to the administration's $7 billion hydrogen hub program, the Inflation Reduction Act earmarks $2.6 billion for the EPA's Clean ports program.

As initial examples, we are actively supporting two of the top 10 ports in the country and their applications under the Clean ports program, which have the ambition to deploy up to 100 trucks. In the first quarter, the Department of Energy also awarded $750 million to companies advancing clean hydrogen technologies, including to a project in which Hyzon is a partner. Hyzon has also recently submitted a concept paper under another DOE funding program as lead applicant, which is selected may provide the $14 million to help fund future expansions of our Bolingbrook fuel cell facility.

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Additionally, the U.S. Department of Treasury recently released final regulations regarding federal tax credits for purchasing clean vehicles, which makes clear that upfitters like Hyzon can be qualified manufacturers. This means that once our registration is complete, fuel cell trucks upfitted by Hyzon can be eligible for the up to $40,000 federal tax credit per vehicle claimed by the customer.

California remains a well-funded zero emission Class 8 truck subsidy market with $700 million available as of the beginning of 2024, including over $300 million available our CARB's HVIP program over $70 million from the Volkswagen Environmental Mitigation Trust and funding specifically for drayage trucks for the Ports of LA and Long Beach through the clean truck fund. On the refuse side, California state and federal subsidies could bring the net legal cost to the customer equivalent with diesel for qualified customers. In short, we are excited to build on our momentum in what we consider a very well-funded ecosystem.

Turning now to our fuel cell technology manufacturing, based out of our Bolingbrook Illinois facility. During the first quarter of 2024, we continue to progress in priority areas, keeping us on track for SOP of our single stack 200-kilowatt fuel cell system in the second half of 2024. As a reminder, Hyzon's fuel cell system generates 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.

We progressed toward SOP by completing five C sample systems using production tooling in the first quarter, with another five completed in April. We continue to advance rigorous durability testing to remain on track for SOP. We also advanced our Bolingbrook facility capabilities by commissioning a dedicated full stack test station and putting it into operation, expanding our complete MEA and single cell through full system lab testing capabilities even further.

And currently, we've been working diligently to drive greater efficiency in manufacturing and preparation for SOP. For instance, we increased our daily single cell production rate by over 2.5 times in the first quarter. Further, our team has been working to strengthen our supply chain through a broader supply base. We have identified additional suppliers across the value chain and are qualifying their components to fit seamlessly into our production process. Upon SOP, we expect annual capacity to be 700, 200-kilowatt fuel cell systems on three ships, with plus than $3 million of CapEx remaining to achieve that SOP and capacity.

While we are working to stream on our operations as much as possible ahead of SOP, we do expect to recognize additional efficiencies in future quarters and have planned capacity expansions in line with demand. We expect this approach to maintain the benefits of our asset light business model with fuel cell assembly capacity additions efficiently taken in line with anticipated demand increases from our customers over multiyear commercial agreements.

Finally, during the first quarter, we launched the first Hyzon manufactured single cell 200-kilowatt fuel cell system and Powertrain in a vehicle and our heavy duty caliber truck platform in Melbourne, Australia. We are collecting data on that system and vehicle as a test track. And so far, we are pleased with the results. Both the system and vehicle are operating as expected with kilometers now being accumulated, pulling fully loaded trailers.

Before handing the call over to Steve, I wanted to reiterate the goals and anticipated milestones for 2024, which we discussed last quarter. First, we expect to reach SOP for a single stack 200-kilo fuel cell system and our first 200-kilowatt vehicle platform in the second half of 2024. If accomplished, these will be major technology and commercial achievements, layering the path for commercial scale-up of our leading fuel cell technology to large fleet customers globally.

Second, we are progressing well on our trial based large fleet customer pipeline. We are concentrating on signing new large fleet multiyear customer agreements in 2024. Additionally, we anticipate advancing multiple fleets to the second tranche of their multi-stage commercial agreement, which if accomplished will show significant proof of customer adoption and the scaling potential for our technology with large blade customers.

Third, we expect to launch U.S. refuse struck trial in December of 2024, which, if successful, will be followed by initial definitive commercial agreements expected in the second half of 2024 and commercial deployments planned for 2025. We look forward to providing additional color to the market as these trials kick off. And as mentioned earlier in my remarks, we are excited by the response and engagement for major refuse customers domestically.

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Fourth, we are targeting 20 to 40 global fuel cell truck deployment under commercial agreements to customers in 2024, purposely focusing our deployments to large fleet customers to activate their multiyear commercial agreements or to advance to the second delivery of their agreements.

By deploying a smaller number of trucks per fleet to priority large fleets, we are purposely managing working capital and associated net cash burn, while maximizing the commercial foundation we have in place to enable scaling in 2025 and 2026 noting that the Hyzon is tied to progress in our strategic capital raise and may be adjusted pending outcomes this year. Lastly, we are focused on strengthening our balance sheet and securing additional capital to fund our business.

Now, I would like to pass it over to our Chief Financial Officer, Steve Weiland. Steve?

Stephen Weiland

Thank you, Parker. It is great to hear about these proof points of our continued progress. The customer testimonials, refuse truck market traction and fuel cell SOP advancement all speak to our team's execution across the business. In accounting and finance, we continue to make progress as well, driving improvements to our processes, control environment and systems.

Now, turning to our results. We are pleased to have reported our first quarter 2024 revenue of $10 million compared to no revenue comparable prior year period. We believe that this reflects the financial milestone for the company, an amount this quarter, approximately equal to the total revenue recorded prior to this quarter and since the company's inception.

As Parker mentioned, revenue was primarily driven by the customer acceptance of 10 coach buses deployed to Fortescue Metals Group in Australia last year. Also in Australia, we recorded the sale of our first refuse truck to REMONDIS following what we consider a very successful trial.

Other significant components of revenue included the sale of a truck to U.S. trade customer in the first quarter, recognized revenue from trucks delivered to PFG last year that are treated as an operating lease for accounting purposes and final cash collections in China for legacy truck sales. While our first quarter revenue was certainly an important validator and reflection of customer acceptance, we expect continued lumpiness with revenue recognition going forward. First quarter revenue should not simply be extracted forward for the reasons discussed by Parker.

Cost of revenue came to $7.8 million in the first quarter of 2024 versus $0.8 million in the comparable prior year period. Cost of revenue for this quarter was primarily related to direct materials, labor costs and estimated warranty costs associated with FCEV sales in Australia and the U.S. Costs associated with China FCEV sales were recognized in prior periods.

In addition, the cash collections in China resulted in the reversal of the prior standard warranty accrual this quarter and cost of revenue this quarter was also partially offset by proceeds from inventory sales. 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.

Please note, in this quarter, that given certain of these items, such as no associated cost for the China sales, warranty reversal and inventory sales, the potential implied relationship between our revenue and cost of revenue this quarter should also not be extrapolated for the reasons previously discussed. We are pleased to share that R&D, SG&A and net cash burn, excluding the first SEC settlement payment and the proceeds from the sale of our Rochester facility, all came in at or below the low end of our guidance ranges.

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R&D expenses came to $10.8 million for the first quarter of 2024 versus $9.3 million in the prior year period. This increase was primarily driven by higher personnel costs supporting continued enhancements in vehicle design, vehicle software, fuel cell systems and electric powertrain. This came in below our quarterly guidance of $12 million to $14 million, largely due to the timing of certain development activities in support of our fuel cell SOP.

SG&A came in at $21.5 million in the first quarter of 2024 versus $30.9 million in the prior year period, just below the bottom end of our $22 million to $24 million guidance range. The primary reason for the decrease in SG&A is approximately $12 million in lower legal, accounting and consulting fees related to prior year litigation and the now resolved SEC investigation. We ended the first quarter with $82.6 million in cash and equivalents, representing a net cash burn of $29.6 million in Q1, which is the quarterly change in cash and equivalents and short term investments.

Excluding the $8.5 million first SEC settlement payment and approximately $2.9 million in proceeds received from the sale of our Rochester facility, and in line with how we provided the guidance range for this quarter, this came to $24 million. This was at the bottom of our guidance range of $24 million to $27 million, reflecting continued focus on cost control. This net cash fund, excluding these items, represents our lowest quarterly net cash burn over the last 10 quarters, fifth consecutive quarter of declining boat and an average monthly net cash burn of approximately $8 million.

We continue to believe that we can operate our business below a $10 million average monthly net cash burn, reflective of how we are operating at the moment by remaining focused on managing our costs while prioritizing investments in our development.

Turning to guidance. And similar to last quarter, we are not providing full year guidance given the dynamic nature of our business and current capital raising efforts. As stated previously, we believe that we have opportunities to significantly reduce burn if needed, while preserving the core IP and strategic value of Hyzon such as keeping our fuel cell SOP on track for the second half of this year.

We are providing guidance for the second quarter, noting that it reflects our current business operating model, which is subject to change based on our capital raise outcomes. We estimate that R&D will be in the range of $11 million to $13 million, SG&A in the range of $26 million to $30 million and net cash burn in the range of $27 million to $30 million. While second quarter R&D and SG&A guidance ranges are roughly in line with the first quarter, the net cash burn guidance does reflect an uptick from the first quarter. This is largely driven by the timing of working capital, annual bonus payments and pay period timing.

Thank you and I will now hand the call back over to Parker.

Parker Meeks

Thank you, Steve. Our start to 2024 strengthens our belief that this year is building upon the inflection point and the commercialization of our technology that we achieved in 2023. We completed the commercial cycle of vehicles deployed in the transition from 2023 to 2024 as demonstrated by our quarterly revenue progression. We are encouraged by the data and feedback from the first vehicles deployed with PFG. We also announced the launch of our first U.S. fuel cell refuse vehicle with New Way last week and are excited to begin trial to both the U.S. refuse truck and the 200-kilowatt Class 8 fuel cell truck in this summer.

As mentioned earlier on the call, 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. We expect our production facility in Bolingbrook, Illinois to become fully operational in the second half of this year with minimal remaining CapEx requirements. Overall, we are pleased with our progress, and I would like to thank the whole team here at Hyzon for their continued dedication and execution, which started the year with a strong foundation.

Finally, I would like to thank our customers and stakeholders for their continued partnership and for sharing our mission to reduce 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

Thank you. We will now begin the question-and-answer session. [Operator Instructions] Your first question comes from the line of Craig Irwin with ROTH Capital Partners. Please go ahead.

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Craig Irwin

Hi. Good evening, and thanks for taking my questions. So Parker, a lot of progress this quarter, so many different things we can hone in on. But I guess the future business plan, right, the growth really benefits from your introduction of this 200-kilowatt fuel cell stack. Can you maybe give us a little bit more color on what you've learned from the C samples that were made, the five in the quarter and then the five in April?

I guess the lower -- 30% lower volume in weight is kind of an engineering solution. We know that's going to be on target or better. But the targets are 25% lower cost and 20% improved miles per kilogram of hydrogen. Can you just confirm for us that this is being validated by the C samples? And can you maybe just explain a little bit about the testing you're doing with these before you move to on-road testing and the start of production in just a few months.

Parker Meeks

Absolutely. First, Greg, great to hear your voice, thanks so much for the question, and we love digging into our technology. So I'm happy to go deep there. So just to take a step back for a moment, we are at the C sample stage on our 200-kilowatt fuel cell system SOP. The system has been in development at stands on the back of 20 years of overall technology development and IP.

At Hyzon, we're quite proud to have now over 160 total patents between granted and pending applied to underpin that IP, right, all the way -- going all the way from the MEA and the catalyst on the MEA, the membrane electrode assembly through a single cell, the biforplate stacking system.

And when you're going from a 110-kilowatt fuel cell system to our 200-kilowatt fuel cell system, which is actually a 250-kilowatt stack. The durability testing and the SOP process that we go through is really validating at every element where it's worth measuring the durability of the performance and to your point, the implication for cost and for performance, right?

So, it starts with MEA and single-cell testing, right, measuring performance, measuring how we're doing in terms of stress testing, durability testing at that level, short stack testing, which is anywhere from 5 to 10 kilowatts worth of cells stacked up, stack testing and then full system testing. And I got on those lengths to describe the deeper elements of our SOPD to give everyone a sense, but the learnings that we achieve at the C sample stage, we build on all the learnings we've achieved throughout the process for a sample to sample from '22 and '23 and to the C sample phase that we are in now.

So with that as a backdrop, we are learning quite a bit in the C sample phase on the back of all the earnings that we had last year at the B sample stage. Some of the learnings do apply to elements like the MEA, like the catalyst and the design of the EMEA itself. When we see different performance in testing and durability, it allows us to identify at the cell level because we do have RFID and other tagging systems to identify performance within a stack, within a short stack, where we see variation, where do we see better performance and how we replicate that more consistently across the production process, which is unique to Hyzon in some ways versus competitors because we do go all the way back to the MEA, right?

Additionally, in stock testing and in full system testing, we get a sense of the full stack performance and how that varies from stack to stack. And additionally, at the system level, we get an opportunity to test BOP. Because when you look at what's different and what are we trying to achieve in the step change, which we've been able to achieve differentially from others at least on ex-China on-road mobility space of 200 kilowatts plus in a single stack in the system. It is about going from a smaller single cell to a 25% larger active area, right, and making sure that we're getting that consistent performance across that cell level. It's about evaluating the full stack level, hundreds of those cells stacked up and getting that consistent power generation at consistent water infusion performance.

But at the BOP level, the 200-kilowatt system does a BOP, we've developed with our suppliers over time, and it's getting to things like injectors and humidifiers and how the BOP is performing and supplier evaluation as our supply chain group under our COO, Bap Banerjee has been driving in collaboration with Dr. Mohrdieck, our CTO, how we enhance and advance our BOP supply chain. So all of these different elements and facets are tested. We have seen tens of improvements in design, I'll say, over our entire development process of the 200 kilowatt to a date.

And all of that gives me and our team tremendous confidence that we are properly developing this technology that we're finding the things that we need to find to your point, to improve performance and durability and to identify the cost reduction opportunities as well, as we look forward to post SOP performance advancement, where given that we do believe that based on where we are, as most publicly known at least, that we are significantly ahead of others in this scale of a fuel cell system technology in mobility.

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Our goal is, by the time, others have a 200-kilowatt plus system coming to market that we're a couple of years potentially improved on the cost and the performance curve, which a lot of those leading indicators of initiatives start even now. So we're quite excited about completing the C sample phase, moving to preproduction relatively soon and being on track for SOP in the second half of this year.

Craig Irwin

Thank you for that. So my second question is really one, where I'd like a little bit of clarification maybe if you can share it. The guidance for 20 to 40 deployments to commercial customers in 2024, how many of those units do you expect to use the new 200 versus the 120 that you've been supplying to customers to date? And I assume they're going to be sort of heavily back end loaded, mostly fourth quarter, some third quarter. And can you maybe talk a little bit about geography or any other color maybe PFG as well to help us figure out how to set our models.

Parker Meeks

No Craig and happy to provide as much as we can there. Correct. So to start, you're right, this year, as I've said before, is a year of transition, right, from the 110 kilowatt fuel cell system to the 200-kilowatt fuel cell system with its SOP and with the SOP in parallel of our 200-kilowatt heavy-duty fuel cell truck platform. We did unveil the first 200-kilowatt fuel cell system in a heavy duty truck in Australia last quarter, which was a big, big moment for us.

That was the first Hyzon produced 200-kilowatt fuel cell system unveiled in their truck, preparing to go into its commercial trials down there with our customer PR group. And we're quite excited to have that truck on the road with the U.S. truck in development in parallel behind it. And we're also excited about our upcoming 200-kilowatt U.S. heavy duty Class 8 truck, which, as we've stated before, is preparing for its trials to start this summer, and we're anticipating a few things on the back of that.

As we stated publicly before the PFG agreement at the first five, 110-kilowatt trucks, we've deployed the first four of those five with the fifth coming relatively soon. The second tranche is 15, 200-kilowatt trucks that are just pending a 200-kilowatt truck trial, which we're excited to conduct with PFG relatively soon.

And assuming that trough successful, we'll move into negotiating the commercial definitive agreement on all or part of those 15 trucks as part of that second tranche, which will be a significant moment not just for us, we think, for this segment for the fuel cell truck segment because I'm not aware of many, if any others that have announced a second tranche delivery of a major fleet. And that's something I may have missed something, but we would be at least among the few if not the first to announce the second deployment to a major fleet.

So it certainly is -- we are anticipating that 200-kilowatt driving through this U.S. trough program that we've commented on across the refuse truck and the Class 8 200-kilowatt truck, 24 different fleet trials that are either scheduled or in file scheduling for essentially the second half of this year, winning over into January a bit and that assuming success converting into initial multiyear commercial for new fleet customers and then hopefully advancing PFG to their second order trucks assuming success.

And also, that obviously deploying globally in Australia on the back of that vehicle that we unveiled, and that [indiscernible] being launched through that. So, specifically to the 20 to 40 deployment guidance, that will be -- that is anticipated to be a mix of 1 kilowatt and 200-kilowatt fuel cell system vehicles. The refuse truck platform that was launched first in Australia with our successful commercial trial that's converted to a sale with REMONDIS that is on a 110-kilowatt fuel cell.

And the refuse truck actually only needs 110-kilowatt fuel cell systems to perform the use case. That truck performed beautifully as we noted in the prepared remarks, doing all the work of combustion and up to 18% grades and not needing to refuel over the course of an entire combustion route day and compared to many battery electric trucks performing twice the work rate in terms of cans lifted before those value trucks have to go home and to recharge, so that's all at the 110-kilowatt.

We do believe it's a future for the 200 kilowatt in refuse truck application. The reason is fuel efficiency. The fuel cell loves to be operated at 60% fuel efficiency, even though 1 kilowatt certainly can do the work and perform very well. in a future generation, future development of that platform, we may advance to a 200-kilowatt truck in that we think could even be a better total cost of ownership.

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But for this year, what I can say at this point is it will be a mix. We do have a mix of deployments planned geographically as well. And as we progress throughout the year, pending adjustments that may be made based on our capital raise progress, we may be able to give a bit more detail going forward.

Craig Irwin

Thank you. So my last question, if I may, before I hop back in the queue. The $3 million in CapEx remaining for start-up production and your initial targeted capacity, can you maybe help us with the timing on that CapEx? And is there any risk around supply chain for equipment delivery or other parts that you need there for SOP that you see at the moment?

Parker Meeks

Yeah. Look, I mean what I'll say, which I think all of us in this position would say is there's always risk, right? There's always supply chain risk about what stage you're at. But the facts are with less than three mini CapEx remaining, obviously, the vast majority of equipment is already on site and either commissioned or in commissioning. At this point, we feel very comfortable with the $3 million number that it could be less than that.

And the bulk of our focus in the SOP and the CapEx remaining is really final commissioning of equipment that ties either to sort of camera based quality control for the automation in areas like the single cell and the stack area, right, to confirm our 700 units per year 200-kilowatt fuel cell system capacity on three shifts that we are anticipating the facility to be capable at SOP. So we haven't disclosed more detail on that in terms of the burn rate of that $3 million of CapEx, but the SOP, we have set is on track for second half of this year.

And what I'll say is we are comfortable with that number and with that timing where we are today. Of course, there is some risk. But I'd say the risk is less in supply chain. It's more in the progress and the completion of the required commission activities and the durability and other testing we have to do to validate our progression from C sample to preproduction in to full SOP.

Craig Irwin

Great. Well, congrats again on all the progress this quarter, impressive.

Parker Meeks

Thanks so much, Craig.

Operator

Your next question comes from the line of Steven Fox with Fox Advisors. Please go ahead.

Steven Fox

Hi, good morning. I had a couple of questions as well. I guess, first of all, I know you don't want to -- I know the revenue recognition can be lumpy, etc. But can you give us a sense for where there's the sort of the number of trials underway that can lead to revenue recognition this year? And sort of the odds of what could play out versus what follow-on steps could come with some of these trials? And then I have a follow-up.

Parker Meeks

Yeah. That's great. Thanks. First of all, Steve, thanks so much for joining and for the engagement as always. So, on our commercial pipeline in process, a couple of things to comment, but I'll ask it to Steve to talk about our revenue recognition timing. So we are quite excited as I said on the prepared remarks about the fullness of our trough program.

And then to take a step back for something that may be newer to the company's commercial strategy, we are very focused, as you know, Steve, on large fleet back to base use cases like drayage and food beverage delivery and now refuse. Those large fleets are typically doing months of work ahead of a potential trial, right?

These are not -- your drive by stop it and take it out for a spend, right? We spent months of time with executive teams and with fleet teams on fuel cell trucks TCO, performance expectations, simulating routes, simulating performance and collaboratively identifying not why fuel cell is the only answer, which is not our view, but where fuel cells should clearly outcompete.

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And that's an expanding part of the route we see today given the struggles about electric trucks and range and payload, but really honing in on where should we run the trials because that is where the fleet is going to scale to start. And then what is that realistic scale look like, which is effective on a few things.

One is their appetite to take delivery and scale tied to their ESG or other Board-driven goals and/or regulations and/or customer requirements, and I'll come back to that on refuse, which is a really tremendous market that's been developing rapidly.

Second is the availability of fuel which all fits together in the way that we're looking at scaling up a single customer and where we see the market developing in the total. So all that said, the goal is of a trial that then is the last step to really confirm and to negotiate and put in place a multistep, typically three to four trash commercial agreement where the first tranche is typically binding and the tranches behind that are contingent.

The example being our agreement with Performance Food Group, which is a 50-truck total potential with five trucks binding upfront and the 15 and 30 truck tranches contingently behind the last being an option. So with all that backdrop, we have 24 fleet trials right now scheduled or in scheduling across the Class 8 and the refuse truck, some of those are second trials like Performance Food Group, where they trialed and made the initial agreement with space 110-kilowatt trial.

The 200-kilowatt trial is to assuming success, confirm the second tranche, which would be their first deployment of 200-kilowatt trucks, which could be up to 15. Some of them are fleets that have been with us for some time may have trialed the 110-kilowatt truck, but then decide the 200 kilowatts what they needed for the use case, really heavy loads, really long distances.

And those are going to be trialing. -- having already had a good experience with the 110 kilowatt truck, but wanted to confirm it in a kilowatt can do everything that they need it to do. And some are fleets that are trolling for the first time, right? It did not trial on the 110 that waited for the 200-kilowatt.

And what I'd say is for the fleets that have trialed previously and/or that are already under contract for 110, try the 200 and then taking delivery of a truck this year. If we're able to not have the same risk sharing mechanisms that we have on the first deliveries, the first deployments, excuse me, that could lead to revenue recognition sooner.

Today, not every contract, but most contracts that we have with large fleets, they want some kind of risk here on the first tranche, whether that's a buyback guarantee or some other risk-sharing mechanism, which does delay revenue recognition which you're seeing in some of our performance expectations for revenue in the future and some of the way that we've been realizing revenue in its sole numbers before you in Q1, where that does show with the Fortescue buses, the ability for revenue to be recognized in bunches basically, if we hit a big performance obligation that we're able to successfully navigate in this case, the customer accepted those 10 coach bus.

So what I say is the trials, the outcome we're looking for from the trials is really contracts. It's new multiyear large fleet contracts with large fleets that were announced in the market, our 200-kilowatt truck and/or our refuse truck is performing. It's giving fleets confidence to sign multiyear agreements with at least some binding provision in them. And then for some of them, it could trigger a second tranche delivery, which, if there are no holdbacks on that second delivery, then that would lead to potentially immediate or faster revenue recognition.

So a long-winded answer to say when I would look -- what we would point you to for the trials that would be success for us is confirming a second tranche order where that is in play and/or more -- I think, more importantly, confirming new large fleet multiyear contracts that we have slated for deployments either starting in 2024 or 2025. Steve, if you want to add anything on the revenue.

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Stephen Weiland

Yeah. Thanks, Parker, and I think you covered a lot of it, just a couple of observations I'd make. I think Parker pointed out rightly, it really depends on the contract turns for these trials, how that moves forward from that activity, right? Because to be recognized as revenue, it can't just be a deployment, right? It has to be delivered and accepted and that will really come down to each individual customer metical contract, sometimes on a truck-by-truck basis. Clearly, in that global deployment range of 20 to 40 million, there are revenue vehicles in there.

And I guess, the best thing I can point you to or read the financial statements would be when you pull up in the queue to go dive into Note 3 on revenue. And you'll see there, we talk about the transaction price associated with the remaining performance obligations on the revenue side, and it's about a $7 million balance that we expect to recognize as revenue from March 31 over the next 12 months. But a fact from that, we can't really give more revenue guidance squeezing at this time.

Steven Fox

No, I understand that. That's a good perspective to help us do our own math. And then secondly, given the context and given everything you laid out with how intricate these trials are in the contracts, etc., I'm still struggling to understand how competitive brands are rolling out or claiming to roll out like really large scale numbers with fleet over a relatively soon period.

Is there a -- but it seems like economically disadvantaged levels versus what you guys are targeting? Like is this a good thing for the industry, a bad thing for the industry, something that we have to see how it plays out? I mean I know it's not a company you're running, but you must be watching those closely.

Parker Meeks

Certainly, I mean we keep close tabs on what's happening in the market. Many of the same customers are competing us with others, and we're excited about any opportunity because we believe our technology and our business model, to your point, others are driving volume of fuel cell vehicles at significantly negative cash contribution margins where we proud they've delivered trucks, deployed trucks to large fleets last year in the U.S. had a positive cash contribution margin back to Hyzon, which is due to warehouse technology, due to our design choices, driving that truck level cost structure to what we think is a scalable foundation.

And so all I can say is we applaud hydrogen demand. That is good for all of us. That puts dispensing points on the map that puts customers in play in this market. When you look at the ambition of the State of California alone, you are talking hundreds leading to thousands of heavy duty fuel cell trucks in a relatively short period of time in the grand scheme of the truck market. So there's plenty of market. right?

And so we're not overly concerned about others that are driving fuel cell truck that may apparel to us. We actually think it benefits the market in a lot of ways because again, we're confident that as the only competitor that we see outside of China with a 200-kilowatt plus single stack, single fuel cell system in trucks with our cost structure and with the performance of our trucks.

And then it comes to the refuse vehicle, where from what we see, there's no other fuel cell refuse truck coming to North America for at least a couple of years from what we've seen publicly and it may be longer than that. And a use case where from what we've seen from our data and from our customers use it by electric refuse trucks, the performance gap is substantial, right? So all that tells us that we're focused on a business model that makes sense it's scalable that allows us an ability to manage cash burn to manage our balance sheet really smartly.

Also fuel, right? Fuel, we all know this year is quite challenging with the three heavy duty stations in California still shut down, where we're all using mobile fuelers in different cases to deliver fuel at prices that are higher than we would like. So if you're fueling 150 trucks this year versus 150 trucks in 2026, is going to be a lot cheaper and a lot less burden being carried by potentially the OEM to fuel those trucks. We believe every year we get out from 2024.

So for us, it's about, again, a scalable model for the ecosystem is large fleet back to base. That's what we're focused on. We think 10 large fleets, we can get to 1,000 trucks a year over time, right, as they scale up over three or four years to 100 truck a year gold that we have for each one of our large fleets that can -- that has the ambition to do that. And we think this all lines up with production capacity and with fuel availability and with, frankly, the economics of fuel and TCO where this measured scaling approach is going to lead to the highest success outcome.

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Steven Fox

Great. That's all super helpful. I appreciate all the commentary. Thank you.

Parker Meeks

Thanks, Steve.

Operator

Your next question comes from the line of Rob Wertheimer with Melius Research. Please go ahead.

Rob Wertheimer

Yeah. Hi. Thanks for your continued comments on the refuse market, which is interesting. That's a market I just didn't guess would be a core one for hydrogen, and it's obvious the battery is struggling. A specific question there and then you extend it to our other opportunities, have you seen companies try to pack more batteries in to kind of extend the duty cycle and do what you can do? Is there a weight limit to your refuse customers are sensitive to?

I mean any sense of whether that's a temporary roadblock on electric or whether you see any more fundamental limitations. And then just to extend that, so that's an obvious kind of attractive market for you guys. Are there similar needs that you see in other niches that just haven't been met or can't be met easily by competitive products and other parts of trucking? Thank you.

Parker Meeks

Absolutely. Thank you very much, Rob. Great questions and we are getting deeper into refuse than we expected, honestly, given how fast it is moving and the performance gap that we've seen. So, I'll take the first question on just to restate it, what do we see as the real temporary versus permanent barrier between battery truck performance and can they resolve it with additional bed capacity.

The short answer, Rob, today, what we see at least from both our own view of the public data and our customers, which are in our schedule are some of the largest refuse fleets in North America, along with obviously REMONDIS who ran their successful trial over to sale in Australia. We see battery trucks that are struggling. The permanent reason is actually already waits.

So your typical garbage start depending on the configuration because somewhere up to 13 tons of trash. Some of these battery trucks are already loading up battery capacity so much that the weight limit -- the weight penalty is up to 4 tons. So they only carry 9 tons of trash. That causes a significantly higher number of trips basically to hold the same amount of trash to the infill whatever point they're going to. That's the big reason why that combined with fill, why they're only seeing, in some cases, half a day's work before they're done.

So adding more battery is only going to exacerbate the weight problem. It's not really going to solve it. I'm not a deep battery designer, but I would assume solar something has to break through to really change the dynamic of store capacity versus weight. So we see that as a structural issue with battery garbage trucks. Now there are some that we know are coming out with more efficient electric bodies and things like that, that certainly will help.

But I would also put forward that any improvements they make to the battery truck in the body, we will outcompete with hydrogen attached to that, right? So the hydrogen fuel cell attached to a battery attached to an electric body will continue to outcompete all battery garbage truck mainly because of weight.

The other thing I'll say, which is interesting on the same point, refuse is now expanding to Class 8. So the same large fleets that run a lot of refuse collection vehicles, run a lot of Class 8 vehicles to transfer 82,000 pounds of refuse from a transfer station to another low location. Some more customers in California are testing these Class 8 battery trucks to do 200, 220 mile day and the battery trucks can't do it. Because anywhere you're going in Southern California, you're except climbing Hills, and you combine that weight penalty, that weight concern with battery capacity on Class 8 and the range just can't do the work.

So if you look at our Class 8 trial schedule for the 200-kilowatt are the same large fleets that you would think of as refuse collection to customers are in the Class 8 200-kilowatt trial schedule because they're starting with battery Class Is. And this is all very exciting because it's one of the easiest, best use cases long term to fuel. All these trucks come back to the same location. They're used to handling on-site fueling from gas, right?

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The lot of these fleets are on CNG today. And a lot of the customers in the end are municipalities, cities, counties, who have their own ambitions for zero emission trucks, particularly in California, and it's now becoming a criteria for RFPs for some of these large waste fleets to be able to win contracts. So in that situation, you're not even comparing to the combustion alternative, you're comparing to bioelectric where, obviously, if you're having to buy 20%, 30% more trucks to do the same work, really easy for us to beat that on a total cost of ownership standpoint.

Before I get to the complications of putting 10 to 20 megawatts of power at a refuse site to try and charge battery trucks. So we see the structural. We see that as a huge advantage for Hyzon because we're the first refuse truck that's coming to market in North America, and we believe we'll be the only one on the market based on public announcements for multiple years at least, and we don't see battery having really much of a shot catch up. And it's a use case that now is opening up to both of our major platforms, the refuse truck and the Class 8 truck.

On the other niches, it's a similar theme of where do you have a lot of power use sitting still -- is part of why the refuse truck market is even more penalizing on better drugs is they also -- some of the newer bodies, they're driving and they're packing at the same time. They're passing they're sitting still. They're using a lot of energy without moving where the regen breaks can't really help them all that much. And so there's other applications, which are probably more of a Class 6 Class 7 vehicle in gas power and water utilities, for instance.

Think about your boom trucks, your lift trucks, any EPT, any power take-off application. A lot of those, both DOT department of transportation fleets and utility fleets, up to 40% of the energy they use is sitting still, right? So that's tough for battery typically to deal with along with some of the some of the axle limitations. So that's certainly a future market we see when we're ready once the Class 8 refuse trucks are commercialized to bring in to Class 6, 7 base power chassis that you can pick your back end, right, be that again, a lift or a boom or potentially a concrete back into something else?

Rob Wertheimer

Okay. That's super interesting. Thank you. And a little bit of a nonrelated question. Your thoughts on testing and what you know now, what you will know on durability on the 200 stack? And then where does durability come in on your list of customer concerns? Obviously, there's the developing industry. So I don't know if that's number one or number 10 on how people evaluate you. I'll stop there. Thanks.

Parker Meeks

Yeah, certainly. And this is a question that I know our customers would say is very top of mind for them and for us as well. So to answer your second question first, durability is on a short list, right? Because it's not just a question on -- first, it's a question on uptime, right? That's the number one question is, okay, I'm going to trial this truck and go trout anywhere typically from two to four weeks, that's great. That proves to me that it works, it does the work.

It can fit in my use case, but I can't have it out there for three months and have down for a significant period of time, right? I've got to have some level of reliability, knowing that it's a new technology and our early customers, so we understand that. But first, it's early in life durability. And then it certainly is latent like durability for total cost of ownership, right?

And so when you think about durability, a diesel truck, you're talking depending on the use case, seven to 10 year useful life, 700,000, 800,000 mile useful life, but there's typically an engine overhaul somewhere in that life. What's the equivalent for fuel cell, to reach 800,000-mile useful life, that's about 20,000 hours of fuel cell runs on durability, right? That is the end goal for us. We will not have that proven an SOP.

Just to be clear, it takes a long time to prove 20,000 hour durability on the same system just actually. The first step goal was 15,000 hour durability, which would be about 600,000 miles in a 40-mile per hour average truck speed use case. And the goal at SOP is to have progress through accelerate simulation testing through that initial goal and to be on track basically approved about $15,000 and $20,000

Now our benefit is, our same technology, the same base IP going back to the MEA has been in development for 20 years. We do have some good data, obviously, from the 110 kilowatt in prior generations. However, to be clear, and we're clear with our customers, we are starting over reproving durability on the 200 kilowatt, right? Because it is certainly on the shoulders of all that prior proof point, but it's something that is cutting edge and as such, needs to be proven again.

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So to put it simply, it's critical to us, critical to our customers. It's a lifetime durability both short term and long term. We're quite confident that you heard me describe in detail our SOP process. We're quite confident that the rigor is going into durability testing, both in our own lab at multiple levels and in outsourced labs across the U.S. and the world. And we are on track to prove the durability that we need to prove and we'll continue to do that in open communication with our fleet customers.

Rob Wertheimer

Thank you.

Parker Meeks

Thanks, Rob.

Operator

That concludes our question-and-answer session. I will now turn it back to Parker Meeks for closing remarks.

Parker Meeks

Thank you very much, operator, and thank you all for joining us. Our work so far in 2024 really sets us up well to achieve the milestones we described, and we look forward to continuing to update you as we drive toward our commercialization goals this year. Thank you again for joining us today. Take care.

Operator

This concludes today's conference call. Thank you for your participation and you may now disconnect.

**Load-Date:** May 14, 2024

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