

# Aspen Aerogels, Inc. NYSE:ASPN

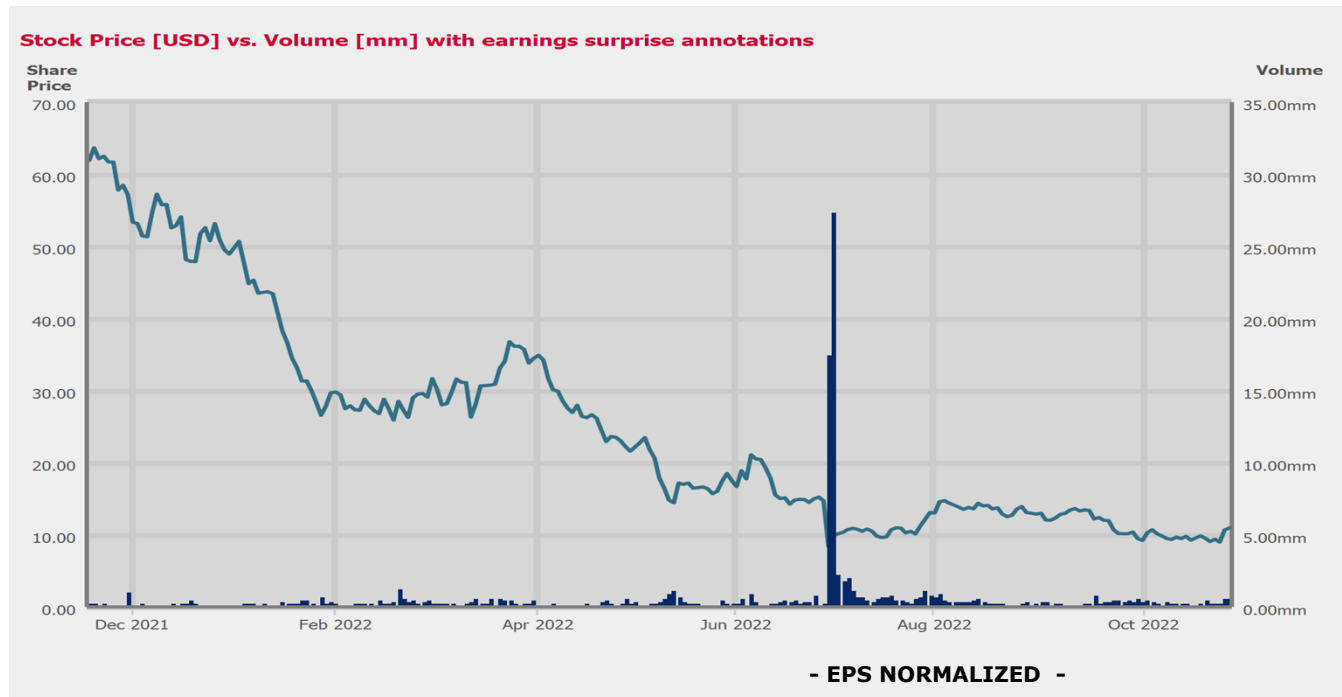
## FQ3 2022 Earnings Call Transcripts

Thursday, October 27, 2022 12:30 PM GMT

S&P Global Market Intelligence Estimates

	-FQ3 2022-			-FQ4 2022-	-FY 2022-		-FY 2023-	
	CONSENSUS	ACTUAL	SURPRISE	CONSENSUS	CONSENSUS	GUIDANCE	CONSENSUS	GUIDANCE
<b>EPS Normalized</b>	(0.55)	(0.75)	NM	(0.40)	(2.15)	-	(1.17)	-
<b>Revenue (mm)</b>	50.15	36.71	▼ (26.80 %)	56.89	191.10	180.00	249.37	240.00

Currency: USD  
Consensus as of Oct-26-2022 7:30 AM GMT



	CONSENSUS	ACTUAL	SURPRISE
<b>FQ4 2021</b>	(0.29)	(0.50)	NM
<b>FQ1 2022</b>	(0.47)	(0.59)	NM
<b>FQ2 2022</b>	(0.56)	(0.68)	NM
<b>FQ3 2022</b>	(0.55)	(0.75)	NM

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# Call Participants

## EXECUTIVES

**Donald R. Young**  
*President, CEO & Director*

**Laura J. Guerrant-Oiye**  
*Vice President of Investor  
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**Ricardo C. Rodriguez**  
*Senior VP, CFO & Treasurer*

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# Presentation

## Operator

Good morning. Thank you for attending the Aspen Aerogels, Inc. Q3 2022 Financial Results Call. [Operator Instructions]

I would now like to turn the conference over to your host, Laura Guerrant, Aspen's Vice President, Investor Relations and Corporate Communications. Thank you. You may proceed, Ms. Guerrant.

## **Laura J. Guerrant-Oiye**

*Vice President of Investor Relations & Corporate Communications*

Thank you, Emily. Good morning, and thank you for joining us for the Aspen Aerogels Fiscal Year 2022 Third Quarter Financial Results Conference Call. With us today are Don Young, President and CEO; and Ricardo Rodriguez, Chief Financial Officer.

There are a few housekeeping items that I would like to address before turning the call over to Don. The press release announcing Aspen's financial results and business developments as well as a reconciliation of management's use of non-GAAP financial measures compared to the most applicable U.S. generally accepted accounting principles or GAAP measures is available on the Investors section of Aspen's website, [www.aerogel.com](http://www.aerogel.com). Including in the press release is a summary statement of operations, a summary balance sheet and a summary of key financial and operating statistics for the 2022 third quarter ended September 30, 2022.

In addition, I'd like to highlight that we have uploaded to our website a slide deck that will accompany our conversation today. You can find the deck at the Investors section of our website. An archive of today's webcast will be on our website for approximately 1 year.

Please note that our discussion today will include forward-looking statements, including any statement regarding outlook, expectations, beliefs, projections, estimates, targets, prospects, business plans and any other statement that is not a historical fact. These forward-looking statements are subject to risks and uncertainties. Aspen Aerogels' actual results may differ materially from those expressed in these forward-looking statements. A list of factors that could affect the company's actual results can be found in Aspen's press release issued yesterday, Page 1 of the presentation and are discussed in more detail on the reports Aspen files with the SEC, particularly in the company's most recent annual report on [ Form 10-Q ]. The company's press release issued yesterday and filings with the SEC can also be found on the Investors section of Aspen's website. Forward-looking statements made today represent the company's views as of today, October 27, 2022. Aspen Aerogels disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

During this call, we will refer to non-GAAP financial measures, including adjusted EBITDA. These financial measures are not prepared in accordance with GAAP. These non-GAAP financial measures are not intended to be considered in isolation or as a substitute for results prepared in accordance with GAAP. The definitions and reconciliations of these non-GAAP financial measures to the most directly comparable GAAP financial measures and a discussion of why we present these non-GAAP financial measures are included in yesterday's press release.

And one final note, during the Q&A session, in the interest of time, we ask that you limit your questions to 2 questions at a time. If you have additional questions beyond the initial 2, please get back into the queue, and we will get to all questions.

And I'll now turn the call over to Don. Don?

## **Donald R. Young**

*President, CEO & Director*

Thanks, Laura. Good morning, everyone. Thank you for joining us for our Q3 2022 earnings call.

I will kick things off with a progress report on our business -- on our recent business developments and financing activities, and Ricardo will discuss business results and outlook. We will conclude with a Q&A session.

Our first revenue guidance for 2022 had a center point of \$150 million. At the time, we reiterated our 2023 target to double revenue from 2021 to 2023 to \$240 million and to triple revenue from 2023 to 2025 to over \$700 million. During the second quarter, we raised our revenue guidance to a center point of \$190 million, while maintaining our 2023 and 2025 revenue targets. At our last earnings call, we anticipated that automotive OEMs would be impacted from time to time by supply chain challenges that could influence their growth ramps in any given period. We saw this in the third quarter. And while we had record thermal barrier revenue, it was less than we expected at the outset of the quarter. Q3 revenue was also impacted by some of our own supply chain issues, which Ricardo will cover in his presentation.

We are experiencing during the second half of this year the fluctuations inherent in the start-up nature of the EV market as our OEMs ramp their EV production. We believe that our Q4 thermal barrier revenue will be at a record level of approximately \$20 million and will enable us to achieve overall revenue for the year of approximately \$180 million, revenue growth for the year of nearly 50%. Our PyroThin thermal barrier commercial activity continues to gather pace as we deepen our engagement with additional customers.

We continue to sell parts to support customer product development and our long-term revenue pipeline, most notably to the commercial vehicle division of an important German OEM and one of its luxury light vehicle brands, increasing the number of vehicle nameplates to which we supply production parts is key. While we will continue to anticipate variability from one quarter to the next during the ramping period, overall, we believe that the long-term EV momentum is powerful. We remain confident that we have ample opportunity to reach our 2023 revenue target of \$240 million and our 2025 revenue target of \$720 million.

We have a deep order book on the energy industrial side of our business. And while it can mitigate some of the variability of the EV OEM ramp, it is not a one-for-one replacement at the revenue level. There are several highlights from the energy industrial business. We continue to see strong growth in LNG markets. During Q3, we had several early wins in accelerated LNG projects that will unfold in the coming quarters and years. In North America, we had first shipments of product for the conversion of former drilling rigs to rapid deployment LNG assets. We received additional orders in Latin America for Peru LNG and expect continued growth in Latin America as projects on the Pacific takes shape. We are expanding our presence in the Middle East and are proud to partner with ADNOC LNG, where we received our first Cryogel award in Q3.

In the U.S., we saw a strong demand and serviced large turnarounds through the quarter on the refinery and petrochemical side of the business. We completed major construction and material support for Shell's Penn chemical facility. We also continued during Q3 to execute on the largest propylene oxide plant in the world for Lyondell. The value drivers for these wins are long-term asset protection and simplified logistics. We are seeing similarly high activity levels in Europe, Asia and in Canada.

One last note on energy industrial, our Spaceloft subsea pipe-in-pipe segment is strong with 5 recent awards from Subsea7, TechnipFMC and Allseas. These 5 projects represent approximately \$12.7 million in revenue, and our backlog in this space continues to grow. The strong outlook for energy industrial is fueled by our value drivers of efficiency, resiliency and safety. We are building in optionality to manage our overall revenue growth during this early stage of the EV megatrend. This flexibility is a good example of the benefit of our strategy to leverage the aerogel technology platform into a diverse set of large and dynamic markets. With an active energy industrial business and with a strong position to grow with the EV megatrend, we are committed to our \$240 million 2023 revenue target and our \$720 million 2025 revenue target.

We continue to make progress on Plant 2, our aerogel manufacturing facility under construction in Georgia. At a macro level, the past 12 months have been marked by supply chain, inflationary and cost of capital challenges for all projects, and our Plant 2 project has not been immune. We are proactively managing the project in order to mitigate cost and schedule pressures in doing so without losing sight of our goal to build the initial phase of the first-class aerogel manufacturing facility that enables us to hit our

2025 revenue target of \$720 million. We have also designed Plant 2 to allow us to bring online incremental capacity as our current OEM scale and as we are able to convert a robust development and prototyping pipeline into design awards with new OEMs. We believe Plant 2 positions us to play a significant and important role in battery performance and safety.

As we have said in the past and as is especially true in the current financial markets, we are taking an all-of-the-above approach to financing our growth plan. As we explore prospective sources of capital, we have continued to focus on strategic investors who know our company and the markets we serve and who have the potential to make equity or debt investments in the business as coke strategic platforms has done in the past and has indicated its interest in doing so again. We believe having a strategic investor as the centerpiece of an investor group will add validation to our business strategy and of course, strengthen our balance sheet. While market conditions continue to be a challenge, we believe we will close a round of financing in the near term.

In addition to potential strategic investors and the public equity and debt markets, we are engaged with government programs as potential 2023 sources of capital for Plant 2. Our first application for the U.S. Department of Energy grant for advanced battery materials as part of the Bipartisan Infrastructure Act was not funded. As we believe the awards were largely granted to companies that are quote inside the cell. We believe that the administration is likely to announce an additional \$3 billion in grant funding opportunities before the end of second quarter 2023. We expect that a significant amount of that funding will be dedicated to U.S.-based manufacturers dedicated to the electrification economy. We are also exploring other DoE programs that are focused on battery performance and safety. The programs target American manufacturing in an effort to address the resiliency of supply chains in the U.S., especially for projects in critical areas of sustainability such as energy storage and related materials. While such DoE programs can take time and are unpredictable, we believe we are a very good candidate and that our pursuit is consistent with our all-of-the-above approach to raising the necessary capital for us to execute our long-term strategy.

And finally, I would like to continue the practice of highlighting our ESG work during quarterly earnings calls. For the past 2 decades, sustainability has been linked to the success of our business. It is a natural fit for us to explore new uses for our aerogel technology platform with the goal of improving environmental performance and safety of our customers' products and processes. It is also at the core of our culture to respect and celebrate our employees by striving to create a diverse and inclusive environment. We believe we have a responsibility to make a positive impact on our communities, and we are committed to creating a corporate culture that pursues its mission with the highest standards of integrity. During the third quarter, Aspen published our inaugural ESG highlights report and launched our ESG web page, which provide a comprehensive overview of our overall ESG strategy. We look forward to your feedback.

I will now turn the call over to Ricardo Rodriguez.

**Ricardo C. Rodriguez**  
*Senior VP, CFO & Treasurer*

Thank you, Don.

I'll start on Slide 4 and our financial highlights for the third quarter. Starting with revenues. We delivered \$36.7 million of revenues in Q3, which translates into 21% growth year-over-year. Energy industrial demand remains very strong, and were booking orders into the second half of next year. We see no demand risk in the medium to long term on our EV thermal barriers as the move to electrification accelerates. Our annual aerogel plant shutdown to implement longer roll lengths and faster line speeds combined with CO2 shortages and near-term volume ramp-up delays in EV thermal barrier apartment prevented us from continuing the recent quarterly revenue growth rate that we've been driving for 3 quarters in a row. Absent these disruptions, we believe revenue would have increased by \$7 million.

Our EV thermal barrier revenues increased by 11% over the prior quarter to \$11.9 million and over 12-fold year-over-year. Our Q3 energy industrial revenues of \$24.7 million were 16% lower than those in the same quarter last year and 29% lower than in the previous quarter. This segment was most affected

by our prescheduled annual plant shutdown and the national CO2 shortage. To illustrate this impact, it's worth remembering that our aerogel plant in Rhode Island operates 24/7. We effectively shut down this operation for 7 days from July 16 to July 22 and implemented various process changes that are already yielding benefits with faster line speeds and longer rolled production lengths. The national CO2 shortage prevented us from realizing these benefits in the third quarter by limiting our aerogel production for at least 17 days. We've implemented various measures to ensure that we reduce the frequency and impact of further interruptions by increasing our CO2 storage capacity on site and starting to manage the transportation of supply with our own trailers. These investments have already contributed to a stable production schedule this month.

Next, I'll provide a summary of our main expenses. Material expenses of \$20.8 million for the quarter made up 57 percentage points of sales, which continue to be over 10 percentage points higher than where we want these to be in the long term. This delta is driven by the fact that most of our EV thermal barrier production in July was still delivered from Rhode Island with higher scrap levels and a more complex part design that has been phased out as we transition to higher volumes. In Q3, we effectively transferred our EV thermal barrier assembly from Rhode Island to a larger site in Monterrey in Mexico with higher volume processes that will enable our profitable growth in the future. As we completed this initiative at the beginning of August, demand on the 3 automotive nameplates that we're currently supplying temporarily slowed as customers are addressing their own issues, increasing vehicle production volumes. This slowdown prevented our thermal barrier gross margins from improving quarter-over-quarter, ending at negative 70% versus negative 67% in the prior quarter by affecting our ability to absorb fixed costs. We are confident, however, that as soon as demand accelerates next year, we will be able to capitalize on the transition to optimize processes.

Conversion costs, which we consistently describe as all production costs required to convert raw materials into finished goods, were of \$22.8 million and made up 61 percentage points of sales. These costs include all elements of direct labor, manufacturing overhead, factory supplies, rent, insurance, utilities, overhead and inspection. With less revenue than expected during the quarter and approximately \$12.9 million of these expenses being fixed, it was challenging to continue our path towards reducing the percentage of sales through improved fixed cost absorption. However, we remain confident in our ability to leverage the higher throughput rates enabled by faster line speeds and longer aerogel roll lengths to manage these costs.

Operating expenses, which are key to delivering our revenue and profitability goals of 2023 and beyond were of \$22 million. This increased by \$0.5 million quarter-over-quarter versus an increase of \$4.6 million in Q2 over the prior quarter. This modest increase aligns with my remarks from Q2 around making sure that our OpEx increases become more modest and focused precisely on delivering 3 things. One, tangible productivity benefits through new process development and the implementation of systems that streamline our methods and drive overall productivity. Two, new business awards through our EV thermal barrier technical sales efforts. And lastly, clear milestones in our R&D efforts. These include our silicon anode carbon aerogel development efforts, along with R&D efforts in our silica aerogel-based installation formulations. These are the developments that drive lower chemical waste expenses through reformulation and enable further productivity improvements.

Accordingly, our net loss increased to \$29.6 million or \$0.75 per share versus a net loss of \$7.8 million or \$0.24 per share in the same quarter of 2021. Adjusted EBITDA was negative \$23.2 million in Q3 compared to negative \$7.8 million in Q3 of last year. As a reminder, we define adjusted EBITDA as net income or loss before interest, taxes, depreciation, amortization, stock-based compensation expenses and other items that we do not believe are indicative of our core operating performance. In Q3, these other items included \$2.6 million of stock-based compensation and \$1.3 million of interest expense.

Next, I'll turn to the cash flow and our balance sheet. Cash used in operations of \$37.4 million reflected our adjusted EBITDA of negative \$28.3 million and an increase in operational cash needs of \$14.3 million that reflects a quarterly decrease in accounts payable of \$15.5 million. Capital expenditures during the quarter of \$67 million included the site work, extract their pit formation as part of Plant 2's construction, assembly equipment for a higher-volume thermal barrier operations, the R&D lab upgrades for our carbon aerogel battery material efforts and the initial construction of our advanced thermal barrier center. As

progress remains on track for Plant 2 to enable our revenue growth in 2024, we have incurred \$129.4 million in capital expenses through the end of Q3 towards it.

Cash provided by financing activities of \$44.7 million during Q3 included \$44.9 million of net proceeds from our ATM offering transactions at a gross average price of \$10.63 per share. We ended the quarter with \$102.4 million of cash, no borrowings under our revolving credit facility and shareholders' equity of \$182.4 million. We remain geared to deliver revenues of \$180 million in 2022, a net loss in the range of 82.3 and \$86.8 million and adjusted EBITDA in the range of negative 57.5 and \$62 million. Our capital expenditures for the year are expected to range between 200 and \$255 million (sic) [ \$225 million ] as we work to further optimize our commitments and investments across the board.

Delivering over \$59 million of revenues during the fourth quarter is subject to various external factors, such as our thermal barriers customers' abilities to maintain their stated vehicle production volumes and the supply chain of our main raw materials such as silanes, batting, CO2 and the local labor market, particularly for our aerogel facility in Rhode Island. We are proactively managing our supply chain risks and have ensured that we're supplying silanes and batting to execute our production plans. Recent nationwide CO2 shortages and the tight labor market continued to post the highest near-term risks to our revenue ramp.

Before turning the call back to Don, I'd like to provide a brief commercial activities update on Slide 6. In this chart, to remind everyone, the size of the circle is the vehicle volume in millions that Piper Sandler is forecasting for these OEMs in 2025, and their placement on the map is their approximate headquarters location. The color of the circle then determines whether we have been awarded business by that OEM, are actively quoting business, undergoing testing or not active with that OEM. We presented an earlier version of this slide during our Q2 earnings call. You can see that our team has successfully entered the quoting stages over the -- with the largest customers in Europe and Asia that will be relevant on a global basis in 2025. The volume of prototyping activity in Europe has also advanced into deep technical development that reinforces our strategy and continues to demonstrate customers' eagerness to invest in the right thermal runaway and thermal propagation solution. In Q3, we also started discussions with an additional American OEM and have provided them with PyroThin materials to test its capabilities.

With that, I'm happy to turn the call back to Don.

**Donald R. Young**  
*President, CEO & Director*

Thank you, Ricardo.

Before we turn to the Q&A session, I would like to reiterate 2 important points. First, both our EV and energy industrial businesses provide a favorable backdrop for us to reach our 2023 and 2025 revenue targets. And second, despite the challenging financial markets, we are confident that we will fund our plan to execute our strategy, will become cash flow positive during 2024 and create value for our shareholders. We appreciate your continued support. Emily, let's turn to the Q&A session.

# Question and Answer

## Operator

[Operator Instructions] Our first question today comes from the line of Eric Stine with Craig-Hallum.

### **Eric Andrew Stine**

*Craig-Hallum Capital Group LLC, Research Division*

So I'd love to just stick with Slide 5. I mean, first of all, great to see that you've added Tesla. And I mean that seems to be pretty recent since that. It looks like it's been updated over the last month. But I'm curious, so you've had these blue -- the blue circles and you're in quoting stage. I mean, is this an area where it's kind of going as expected and that you've got the OEMs now really trying to dial in what their plans are for their platform for specific launches, launch dates, that sort of thing? Just maybe thoughts on that. And do you have an expectation of when you think you could see some movement of those moving from cold stage to actual awards?

### **Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Sure, Eric. And maybe before answering that one, I'll just make a quick correction on my remarks around the CapEx range. I actually meant to say that our CapEx range is going to be between 200 and \$225 million, which I believe they're in the pressure of the moment, I read it as \$255 million on the higher end. But now to answer your question on our progress in Europe, yes, I mean, for us, really what is evidence of progress there and getting closer to actually being sourced is the level of prototyping activity and the volume of parts and the iteration of those designs that are worked through with the teams. And that's why we put that in Don's remarks because it is notable. I mean, that volume of prototype parts that we've sent in Europe has increased. And we've got a clearer line of sight to what the specific applications we're being eyed for. And so I think that will continue making progress. And next year, we're going to start seeing that convert into a potential award.

### **Donald R. Young**

*President, CEO & Director*

Eric, I would just add to what Ricardo said. The pattern of engagement with these European OEMs and the intensity of it and sort of the specifics of the prototype tweaks, if you will, remind us very much of where we were with our earlier award wins with General Motors and Toyota. And I think it is also a function of those companies in the development of their battery platforms and the various nameplates that they have. So we recognize this pattern quite clearly, and that gives us confidence that we're in a good position with several of them.

### **Eric Andrew Stine**

*Craig-Hallum Capital Group LLC, Research Division*

Got it. So that -- I mean, fair to say that it sounds like with the one German OEM that you called out in the presentation, I mean, confidence there, but potentially, 2023 is when you see others, whether it's Europe or Asia or I mean it could be North America as well?

### **Donald R. Young**

*President, CEO & Director*

Absolutely.

### **Eric Andrew Stine**

*Craig-Hallum Capital Group LLC, Research Division*

Okay. And maybe second one for me, you may be limited as to what you can say and understandable if that's the case. But as I think about all these circles on the map and how that plays into financing, I mean, clearly, a strategic and it seems to have -- you seem to have a lot of confidence in going down

that road. Any clarity you can provide? Do you think it would be potentially from this map on this slide or someone in the more broad insulation space?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

We'd just like to be careful answering that, Eric. Let's just say sort of all of the above, if we can, just to use a phrase that we've used before, not to be evasive, but I just want to be careful in this stage of engagement

**Eric Andrew Stine**

*Craig-Hallum Capital Group LLC, Research Division*

No, understandable, but I thought I would give it a shot anyway, so.

**Operator**

Our next question comes from Colin Rusch with Oppenheimer.

**Colin William Rusch**

*Oppenheimer & Co. Inc., Research Division*

So with the full year guidance, it looks like you're going to get to about \$60 million in revenue for the year. I just want to understand where that incremental revenue is coming from, all of that is coming from the EV space and assume that the larger bulk of that is going to be coming from the industrial space and how much visibility you have to those numbers right now?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes. I think the volumes on the EV thermal barrier side have become clear for Q4 just recently. And so as Don mentioned in his remarks, I think we've got a relatively clear line of sight to around \$20 million for the EV thermal barrier space. And then really, we're leaning heavily on really the products that we have the highest productivity on out of the aerogel facility to really deliver the rest, the other \$40 million here. I mean we're -- the backlog is really strong there, and we've got customers there eager to -- eager and expecting the products. And so as we were working our way through the end of Q3, we started allocating aerogel production to the energy industrial segment, and we've continued to do that, and that's what's going to -- that's what still gives us confidence into the \$180 million for the year in 2022.

**Donald R. Young**

*President, CEO & Director*

I think as Ricardo said in his script, we're taking orders into 2023 at this -- well into 2023 at this point on the energy industrial side. So we've got -- so for us, it comes down to avoiding any supply chain issues during Q4. And as Ricardo also said in his remarks, we've made significant improvements, not only with productivity, but around some of our raw materials, in particular, CO2, which has been challenging nationally for a period. We've put in place some belt and suspenders efforts to be sure that we don't have disruptions going forward.

**Colin William Rusch**

*Oppenheimer & Co. Inc., Research Division*

Okay. That's super helpful, guys. And then just thinking about the gross margin evolution here with those supply chain adjustments and some of the cost out measures that you've got, how should we be thinking about the cadence of gross margin improvement as you get through the balance of this year, which you guys have provided a fair amount of detail on it, but more importantly, into next year?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes. I mean it's heavily volume dependent on the EV thermal barrier side. But we still -- I mean, we're still not deviating from our plans to turn that positive next year. And here, as we work to deliver the \$20 million in Q4, I think we're going to see a very good improvement over Q3 and Q2, just given the nature of what these parts look like now and really the processes that we're using to make them. So we're really pushing hard to turn that positive as soon as possible, and I feel confident that as we deliver the \$20 million, that gives us enough of our revenue base to demonstrate that path.

**Operator**

Our next question today comes from Alex Potter with Piper Sandler.

**Alexander Eugene Potter**

*Piper Sandler & Co., Research Division*

So Ricardo, my first question is on the revised CapEx guide, \$200 million to \$225 million, which is down versus last quarter. I'm just wondering if you can give some color on what qualitatively has changed? What are you delaying CapEx? Are you finding areas of increased efficiency? What's the main driver of that downward adjustment?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Sure. It's really just more timing versus our estimates at the beginning of the year and then in June as we were looking at it, while the progress hasn't slowed, it's really -- it ultimately comes down to when these expenses actually hit our books, and they're hitting us slower than we were originally expecting as we were planning for the year and then obviously working through our capital raise efforts. At the same time, when it comes to all of the other projects, we're really scrutinizing the scope of every single thing to not overcommit here. And that has given us some efficiency, but it's not the bulk of the retiming here.

**Alexander Eugene Potter**

*Piper Sandler & Co., Research Division*

Okay. That's helpful. And then, I guess, maybe also just on sources of incremental capital, I can appreciate the sensitivity around this topic. It appears, obviously, to be a very material topic. If you look at the guidance for CapEx as well as your cash balance as it currently exists, I'm wondering the expense to which you have access to capital, I can't remember how much is left on the ATM. Is a big capital raise necessary in the next 3 to 6 months in order for you to continue on your path with this CapEx guidance? Or is it not necessary?

**Donald R. Young**

*President, CEO & Director*

Alex, it's Don. We anticipate -- we believe that we will have a capital raise in the near term and to support our Plant 2 and some of the other activities that we have going on that require capital and to stay on course to execute on our strategy. I think having a strong balance sheet is also important to some of the automotive OEMs who are looking to us to have parts designed into their platforms over a long period of time. And so there are several good reasons for us to fortify the \$100-and-some million that we started this quarter with, and we intend to do that. Again, we believe we'll do it in the near term.

With respect to the ATM, do you have that?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

We've got around \$60 million.

**Donald R. Young**

*President, CEO & Director*

Remaining on that, Alex, yes.

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

And we're being cautious and opportunistic on how we use that. And it's obviously not the main source of capital here.

**Alexander Eugene Potter**

*Piper Sandler & Co., Research Division*

Okay. Great. And maybe if I can squeeze one last one in here. Can you talk about the CO2 shortage. This is the first time I had heard of it. I'm not really steeped in that supply chain. So any additional color you can give on that? It sounds like you are taking some mitigating factors in order to address that. But to what extent could something like this resurface next quarter or 2 quarters from now? Obviously, it seems like it's sort of crept up out of nowhere. So how big of a risk is this or other parts of the supply chain in that energy industrial part of the business?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes. I mean the CO2 shortage hasn't really gone away. And it's actually been in the news quite a bit over the summer with folks in the beverage space, not being able to get a dry eye suppliers not being able to get it. And it started here in the Northeast as we understand it. And basically spread throughout the country, and it's still there. What we've had to do is really just increase the amount of buffer that we have of it on site and then really take control over how we get it from anywhere in the country rather than relying on more of a regional supply chain. And so for us, it really didn't come out of nowhere. We've been flagging it as a risk really since Q1 and started installing the additional capacity for storage on site.

More structurally, there's an opportunity to invest and actually doing our own recapturing. But as we understand the national issue really all stem from a contamination issue for one of the main sources in the U.S. that really prevented all of us were heavy users of CO2 to get it in a timely manner. And I mean, it's alleviated just given that the demand is dropping in the fall, but we've also just been able to put in place the right mitigation actions so that we're less affected by it. For us, in Q3, particularly, the issue was the timing, right. Ideally, this would have been timed exactly when we shut down the plant for our improvements. But really, the bulk of the down days came after we restarted the plant ready to make more aerogel.

**Donald R. Young**

*President, CEO & Director*

And just one last comment. As we did site selection, Alex, for our Plant 2, the Southeast has a much greater, much more robust sources of CO2 supply. And our R&D effort has also -- we recycle the vast percentage of our CO2 use. We continue to improve upon that. And as Ricardo alluded to, I think in the future, as we continue to sort of pull our supply chain a little closer in, we have opportunities to self-generate as well. And so we've been focused on this for a while. This has been an issue -- potential issue for a while. And obviously, it came out in full force in the third quarter. But I think our team is doing a lot going at it from a lot of different directions. And again, as I say, the Southeast where our Plant #2 is, again, has a much more robust set of suppliers.

**Operator**

Our next question comes from Chris Souther with B. Riley.

**Christopher Curran Souther**

*B. Riley Securities, Inc., Research Division*

Yes. Maybe just to start, we could talk about -- you mentioned near-term capital raise from strategic potentially another round with coke and ATM. I just wanted to get a sense if there's an additional DoE loan for kind of 2023? Are we still looking at \$150 million for that potentially next year? And maybe as you're sizing other investments between now and then, just how we should think about you guys baking in the DoE loan as part of the puzzle if you need the cash kind of ahead of when that approval might come in?

**Donald R. Young**

*President, CEO & Director*

Yes. Let me just comment on our work with DoE. As I said in my script, there were a set -- there was a set of awards that took place a couple of weeks ago. We were not included in that. Many of the companies who were in the battery chemistry sort of, as I said, sort of inside the cell, we anticipate that in Q2 of 2023, there will be a second set of awards and again, as we understand it in the range of about \$3 billion, and there will be a greater focus on manufacturing. And our grant application was specific to our Plant 2 activities. We believe we're a good candidate for that in support of electrification and some of the themes that are inherent in that program. So we are very focused on presenting well, if you will, to -- in that effort. Although, Chris, it is hard to count on it. And so we're taking an approach to be sure that I don't want to call it a nice to have, but we are taking an approach to be sure we have the adequate capital to continue to execute our strategy throughout 2023 of building that facility and bringing Plant 2 up online. So it's contributing in the beginning of 2024 to support our growth in that year.

In terms of other capital, yes, we'll continue -- we're very focused, again, not to overuse the all of the above phrase, but we are -- we will be focused on strategic investors. Coke has been a terrific supporter of ours, and we believe they will continue to be and the equity and debt markets as well. So again, we're taking a pretty broad view of this. We believe that we will be able to close a round of financing here in the near term. And we'll continue to work our -- the capitalization of our company to keep up with the enormous opportunity that we have in front of us.

**Christopher Curran Souther**

*B. Riley Securities, Inc., Research Division*

Got it. Okay. Yes, all that makes sense. I think you had called out the grant you were applying for on this last round that was announced a week or 2 ago that it was \$150 million though. Is that kind of in the ballpark of what you'd be applying for in that coming kind of more of a fact?

**Donald R. Young**

*President, CEO & Director*

Correct.

**Christopher Curran Souther**

*B. Riley Securities, Inc., Research Division*

Okay. Got it. Cool. And then maybe just on Toyota -- okay. And then maybe just on Toyota, there have been multiple press releases over the past week or so talking about Toyota reviewing their overall EV road map, potentially transitioning with larger volumes around 2025 and the bZ4X, maybe being a bigger piece of that 2025 plans. Could we just get a sense maybe matching up some of those press reports you're seeing with what you guys have baked in for 2025 from that customer? I'm curious if you guys are reading the same things and thinking that the volumes, you've talked about having visibility for might have upside. Anything you could kind of comment around progress with that customer around just kind of the platform win beyond bZ, I think would be helpful for folks.

**Donald R. Young**

*President, CEO & Director*

Well, coincidentally, we have a team in Japan this week actually and visiting with Toyota among others. And of course, we've read the same -- some of the same dispatches that you're referring to. I think what I would just say is that we are engaged technically and commercially with Toyota and remain close to them. And it will be -- I don't mean to say we're privy to anything that is...

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

That goes beyond the headline.

**Donald R. Young**

*President, CEO & Director*

Goes beyond the headline, but -- I think when it all -- when you boil it all down, I think the headlines were really -- yes, maybe a shift, but I think a shift to go bigger and be yet more committed to it.

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

And also to answer your question on just how that factors into our 2025 revenue plan right now, we're really only including the nameplate that we have been awarded.

**Donald R. Young**

*President, CEO & Director*

Yes.

**Operator**

Our next question comes from Jeff Osborne with Cowen.

**Jeffrey David Osborne**

*Cowen and Company, LLC, Research Division*

Two quick questions, Don. One, I think in the past, you had talked about maybe challenges in using your PyroThin product for cylindrical format batteries. I was just curious if that's still the case or if you found an application that might work for that?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

That's still the case.

**Jeffrey David Osborne**

*Cowen and Company, LLC, Research Division*

Is there anything to do to sell more at the PAC level or no?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes. I mean, for folks that are using prismatic and pouch cells. And so I mean this whole idea of the form factor is something that we're seeing everybody reconsidering right now along with chemistries, and -- but we're definitely more compatible with folks that are using prismatic and pouch cells.

**Donald R. Young**

*President, CEO & Director*

I think speaking generally, Jeff, without meaning to speak to any one OEM, I think we also see, as Ricardo mentioned, companies working on different chemistries and sometimes form factors to go along with those chemistries, perhaps LFP chemistries, et cetera. And so it's interesting to be engaged in some of those programs, again, on the prismatic and pouch side of that where our strengths lie.

**Jeffrey David Osborne**

*Cowen and Company, LLC, Research Division*

Got it. And just to be clear, because you've seen GM also announced stationary batteries. Are you in conversations around stationary batteries? And if so, is that included in chart Slide 5, I think it is, that references your dialogue with potential customers? Or is that just specifically for automobiles in 2025?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

So Slide 5 only refers to particularly light vehicle volumes. But as we understand, the stationary batteries that you mentioned are also on the Ultium platform using Ultium modules, and we are in the Ultium modules.

**Jeffrey David Osborne**

*Cowen and Company, LLC, Research Division*

Got it. And then just the last question I had, that's helpful, Ricardo, as you mentioned several times the shutdown in July and the speeding up as well as the elongation of the rules. Can you quantify what the potential either margin impact is of that exercise or the potential annual revenue impact or percentages or throughput, is there any way to frame that?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes. So all else being equal and uninterrupted without any changes in product mix, that's around a 20% productivity improvement, just additional throughput with the same fixed expenses.

**Operator**

Our next question comes from George Gianarikas with Canaccord Genuity.

**George Gianarikas**

*Canaccord Genuity Corp., Research Division*

I'd like to ask about Toyota, again, because -- so some of the articles referenced a complete redesign of their thermal management. And I'm just kind of curious as to whether you can share any thoughts on what you know about what they're considering there?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes, it's hard to go into a ton of detail there, unfortunately, not to evade it, but really, we just don't want to front the news here.

**Donald R. Young**

*President, CEO & Director*

George, I would just -- I would say that Toyota has an important focus on thermal management as I think some of the articles have said and as they've had in the past, but I think the fact that they have included that in their redesign kind of concepts, I think, is interesting.

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

And also it's worth mentioning that the overall trend -- more of it, more and better, so yes, I think...

**George Gianarikas**

*Canaccord Genuity Corp., Research Division*

Understood. And I want to focus on the previous question as well. Around the energy, the stationary storage opportunity. I mean how many conversations have you had with regards to that market? Can you share any details about how that might be a future opportunity beyond, I don't know, '25 or '26?

**Donald R. Young**

*President, CEO & Director*

Well, with respect to -- we've had across the industry, we've had conversations on this. General Motors, of course, made their announcement more recently in this regard. And we -- and they are using their -- and they have stated that they are using Ultium battery platform as the basis for the stationary energy storage. And so we're sort of literally and figuratively in the middle of that. And so that is a positive for us as they build that out. We have been engaged with them around Ultium. And our focus, of course, has

been on the EV side of the business to date. So again, we don't have any extra insights that we'd be able to share at this point on their strategy. Of course, other companies have worked in this direction also, and we've been engaged with them. A lot of the same ideas of mitigating the dangers of thermal runaway certainly apply in this case as they do in an EV.

**Operator**

Our next question comes from Tom Curran with Seaport Research Partners.

**Thomas Patrick Curran**

*Seaport Research Partners*

Not much left on my list. With this imminent round of financing done, would the expectation still be, number one, that it's most likely to be structured as some type of pipe, and then number two, that it will probably include 2 strategic investors?

**Donald R. Young**

*President, CEO & Director*

The pipe option is certainly a -- falls under the umbrella of all of the above for certain and is it would be an interesting approach to us. I think the idea of multiple strategics, we were not necessarily including coke in that phraseology, even though one could very much make the argument that it's a strategic in many regards. And as a partner, they've been extremely helpful to us. So I think I'll just leave it there if I may. And again, we believe -- we anticipate that this will play out here in the near term.

**Thomas Patrick Curran**

*Seaport Research Partners*

Fair enough. I understand things are very sensitive and constrained at the moment. But just that clarification, I was including KSP in asking about more than one strategic, so you've partly entered that.

**Donald R. Young**

*President, CEO & Director*

Yes. And I'm glad you asked it. I believe you clarified that.

**Thomas Patrick Curran**

*Seaport Research Partners*

Right. And then, Ricardo, for conversion costs, I believe you said for thermal barriers, conversion costs came in for 3Q at 61% of sales, looking to 4Q of 2023, if you should hit your thermal barriers gross margin target for 4Q, where would you expect conversion costs as a percentage of thermal barrier revenue to be at that point? And could you just revisit and expound upon what the drivers should be of that expected reduction in conversion costs as a percentage of thermal barriers revenue?

**Ricardo C. Rodriguez**

*Senior VP, CFO & Treasurer*

Yes, they need to basically be cut in half. So they need to be in that 25% to 30% level. And a lot of it next year, correct. Yes, a good portion of that improvement comes through just the volume rate that I would be assuming as I do the math for that quarter. But really, we've -- it kind of is a shame that we didn't have the thermal barrier volumes that we were expecting in August and September during the quarter because we would have already started showing a path towards that through our operation in Mexico. And so we're hoping to really work now here in Q4 as we deliver roughly \$20 million of thermal barrier revenues to start making a meaningful dent at that 61%. And ideally, a year from next quarter, we'll have cut that in half at least.

**Thomas Patrick Curran**

*Seaport Research Partners*

Great. So we should see that first significant step down in conversion costs as a percentage of revenue, starting with next quarter's results?

**Ricardo C. Rodriguez**  
*Senior VP, CFO & Treasurer*

Correct. Assuming the volumes are there.

**Operator**

Our next question comes from Chip Moore with EF Hutton.

**Chip Moore**  
*EF Hutton, Research Division*

Just wanted to follow up there on the gross margin ramp in Q4. I think guidance implies you're somewhere closer to where you were back in 2019, and you just touched on the move to Monterrey for PyroThin. So thanks for that. I guess maybe on subsea, should we be expecting the bulk of those orders you called out to hit in Q4 or any other factors to consider there?

**Donald R. Young**  
*President, CEO & Director*

There is -- some of that activity will be produced and delivered during Q4. The majority of it will be in 2023.

**Chip Moore**  
*EF Hutton, Research Division*

Got it. Okay. And then just a follow-up. Maybe you can give us a bit more of an update on advanced battery materials, e-money announced last week it's going to projects in that space, as you know. Just curious maybe how you're prioritizing investment there? Is this something you sort of wait until you get that next round of financing to accelerate? Or how should we think about that?

**Ricardo C. Rodriguez**  
*Senior VP, CFO & Treasurer*

Yes. I mean we haven't slowed down that development and actually have seen really encouraging results on those 3 metrics that we outlined earlier in the year. The team is just really impressive as we've built it up. They're working in a brand-new lab, and we feel just as confident as we were a quarter ago or even 2 around our path together and have made meaningful progress towards demonstrating the increased energy density, the increased dependability on that higher density path towards a lower cost process and than a lot of what we're seeing getting awarded here and then also reduce variability as you put the material into actually making a cell. So really, the team is still on a path towards demonstrating all of those things here before the end of the year. And as we do that, and we think about applying for a grant, I think emphasizing on those developments will be really important to improve our candidacy for these things as we focus on our inside the cell efforts more meaningfully after having demonstrated all of these milestones.

**Donald R. Young**  
*President, CEO & Director*

We're also able reducing variability, really focused on cycle life as well, and the ability now to begin to produce enough quantity for larger-scale testing, both internally, if you will, and with potential partners.

**Operator**

We have no further questions today. So Don, I will hand back to you for concluding remarks.

**Donald R. Young**  
*President, CEO & Director*

Thank you, Emily. We appreciate your interest in Aspen Aerogels and look forward to reporting to you our fourth quarter 2022 results in February. Be well, and have a good day. Thank you so much.

**Operator**

Thank you, everyone, for joining us today. This concludes our call. You may now disconnect your lines.

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