

Aspen Aerogels, Inc. NYSE:ASPN

FQ1 2020 Earnings Call Transcripts

Thursday, April 30, 2020 9:00 PM GMT

S&P Global Market Intelligence Estimates

	-FQ4 2019-		-FQ1 2020-		-FY 2019-	-FY 2020-
	CONSENSUS	GUIDANCE	CONSENSUS	SURPRISE	CONSENSUS	CONSENSUS
EPS Normalized	(0.04)	-	(0.22)	NM	(0.60)	(0.34)
Revenue (mm)	46.66	46.50	27.94	▲1.72	139.25	135.38

Currency: USD

Consensus as of Apr-23-2020 12:20 PM GMT

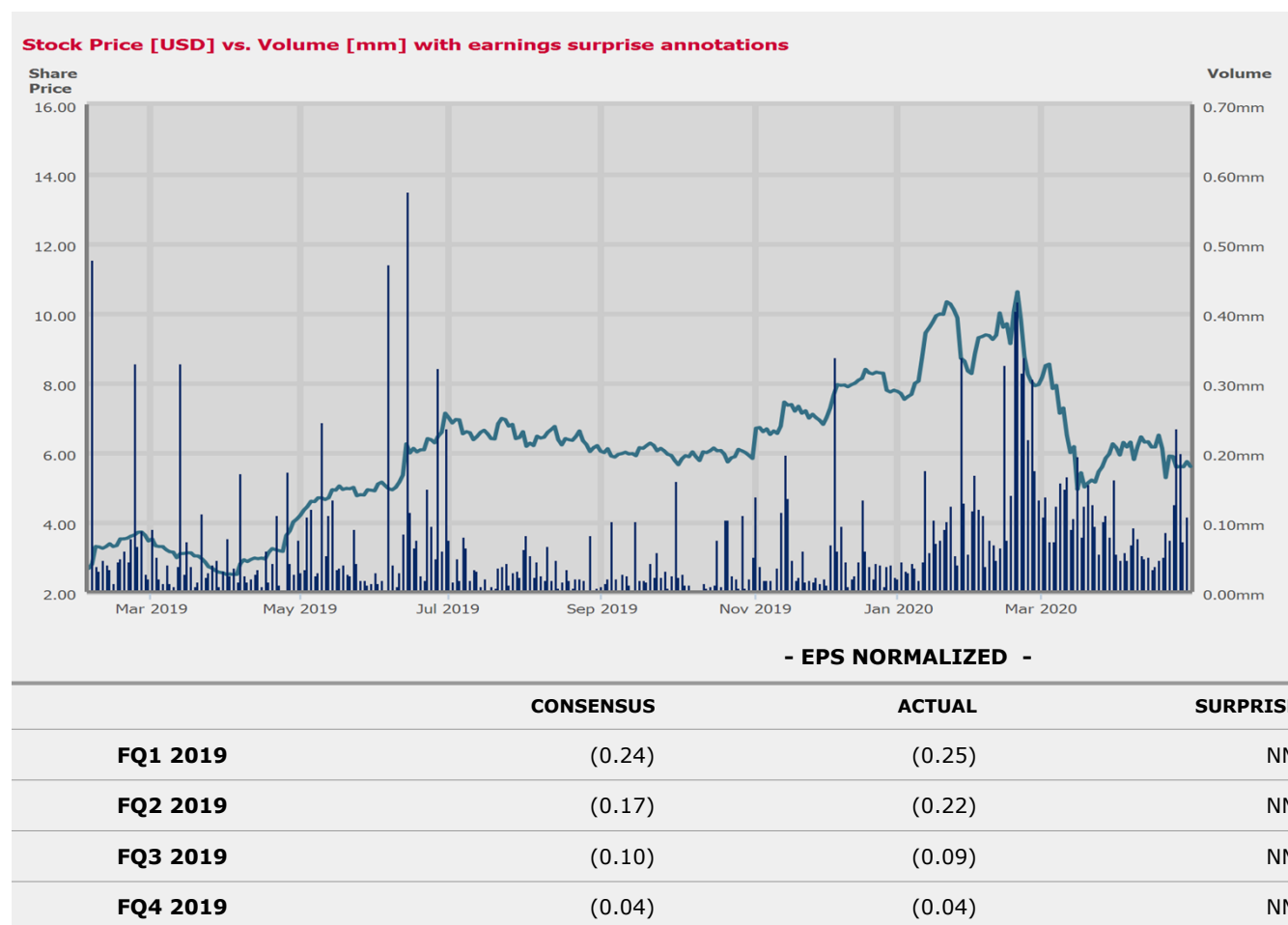


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Call Participants

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John F. Fairbanks

VP, CFO & Treasurer

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Presentation

Operator

Ladies and gentlemen, thank you for standing by, and welcome to the Aspen Aerogels, Inc. Q1 2020 Earnings Conference Call. [Operator Instructions]

I would now like to hand the conference over to your speaker today, John Fairbanks. Thank you. Please go ahead, sir.

John F. Fairbanks
VP, CFO & Treasurer

Good afternoon. Thank you for joining us for the Aspen Aerogels conference call. I'm John Fairbanks, Aspen's Chief Financial Officer.

There are a few housekeeping items I would like to address before turning the call over to Don Young, Aspen's President and CEO. The press release announcing Aspen's financial results and business developments as well as the reconciliation of management's use of non-GAAP financial measures compared to the most applicable GAAP measures is available on the Investors section of Aspen's website, www.aerogel.com. Included 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 quarter ended March 31, 2020. In addition, the Investors section of Aspen's website will contain an archived version of this webcast for approximately 1 year.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 today and are discussed in more detail in the reports Aspen files with the SEC, particularly in the company's most recent annual report on Form 10-K. The company's press release issued today and filings with the SEC can also be found in the Investors section of Aspen's website. The forward-looking statements made today represent the company's views as of today, April 30, 2020. 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 U.S. generally accepted accounting principles, or 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 definition 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 today's press release.

I'll now turn the call over to Don Young, President and CEO of Aspen Aerogels.

Donald R. Young
President, CEO & Director

Thank you, John. Good afternoon. Thank you for joining us for our Q1 2020 earnings call. I will start by providing an overview of our Q1 business results and by sharing our current perspective on the business environment during this particularly uncertain period framed by COVID-19. I will also discuss our ongoing strategy to address global opportunities, promoting resource efficiency and sustainability by leveraging our aerogel technology platform. As part of the strategic discussion, I will include comments related not only to our core energy infrastructure business, but also to our 2 electric vehicle initiatives. Next, John will review our Q1 financial performance and describe the set of actions we have taken to ensure the long-

term financial strength of the company. We will conclude the call with a Q&A session. I should note that John and I are operating from 2 different locations, so bear with us during the Q&A session.

Before I begin with my normal business comments, I do want to wish good health to you, your family and friends and to your work colleagues. The 300 of us at Aspen are staying close as a team and supporting each other, our families and our communities. Our goal is to keep everyone safe and healthy and to keep the company strong. We are also focused on "the next normal" and what it means to our strategy and to our drive to profitability. To this end, we have formed 2 cross functional teams. One team is focused on the next 30 to 90 days and is tasked with positioning us to regain our full momentum as quickly as possible. The second team is focused on Aspen Aerogels 1 year from now and tasked with harvesting certain of the positive work practices and efficiencies from this COVID-19 period that are worth adopting permanently, things that make us more profitable structurally. I will add additional comments on impacts from COVID-19 throughout my remarks.

Our first quarter performance built upon a significant revenue growth and gross margin expansion that we experienced in 2019. Product revenue in Q1 increased 6%, which was tempered in March by the uncertainty presented by COVID-19. While it is hard to know exactly what would have happened without COVID-19, we are confident that we would have experienced solid double-digit growth in product revenue in Q1.

Our traditional research services revenue decreased by \$1 million to \$100,000 in Q1 2020, which reflected our earlier decision to wind down our government research programs and to focus our talented R&D team entirely on our valuable commercial development opportunities. Importantly, even with relatively modest revenue growth, we expanded our gross margin in Q1 by 800 basis points to 21%, reflecting in part the sustained impact of our earlier initiatives to reduce raw material costs. With this revenue growth and margin expansion, we improved adjusted EBITDA in the first quarter by \$3 million and achieved positive adjusted EBITDA on a trailing 12-month basis.

One point to note is that we strategically increased our inventory balances by \$4.7 million during Q1. We made this decision as COVID-19 was unfolding to backstop against any potential operating restrictions on our manufacturing plant. As an essential business and with the ability to keep our employees safe, we believe at this point in time that we are unlikely to face operating restrictions. We plan to normalize our finished goods inventory levels during Q2, which we expect will balance out the impact on cash, gross margin and adjusted EBITDA from the Q1 inventory build.

We made significant strides on our path to profitability in 2019 and in the first quarter of this year. However, there is no question that the disruption of COVID-19 and the dramatic decrease in energy prices will handicap our commercial momentum. At this point in time, there is too much uncertainty to anticipate exactly the degree to which our business will be impacted. As we have described many times, our revenue is broken into 2 main categories: day in and day out maintenance revenue and larger scale project revenue.

On the maintenance side of our business, we have seen some refinery and petrochemical work expand in scope to take advantage of the lull, but in more cases, the work has been truncated or pushed out to the fall or beyond. On the project side of the business, projects under construction are continuing or will continue once COVID-19 work restrictions are eased or removed. We remain on schedule with PTT LNG and are now serving an additional LNG project, Calcasieu Pass LNG, just south of Lake Charles, Louisiana; and a new subsea project for India's oil and natural gas company. As we have described in the past, inflation materials come late in the construction cycle and most projects are not stopped or even delayed after significant construction has commenced. It makes sense to think that we may be more impacted as time passes, largely as the result of FID decisions being delayed due to the combination of COVID-19 and low oil prices. Our critical commercial task for our -- for both maintenance and project work is to sell our value proposition centered on simplified logistics and reduced workforce requirements to continue to gain market share in the energy infrastructure space even in a down market.

When oil prices dropped precipitously in 2014 and 2015, we grew our maintenance business every year. And since that time, we have strengthened our sales organization to more consistently win project work.

There is no question that the double impact of COVID-19 and low oil prices is new territory for all of us, but we will do our best to meet the challenge.

During the first quarter and here in April of Q2, we took a number of steps to be sure that we kept the company strong. In February, just prior to the COVID-19 outbreak and the drop in oil prices, we raised \$15 million of equity capital. And in March, we extended our working capital line with Silicon Valley Bank. In late April, we were approved for a \$3.7 million loan from the SBA's Paycheck Protection Program. The PPP loan was necessary during this uncertain time to avoid layoffs or furloughs of our valued and loyal workforce. We also took early actions to conserve cash, including reduction of salaries, elimination of 2020 merit increases, elimination of cash remuneration for the Board of Directors, reductions of manufacturing and SG&A expenses and the lowering of capital expenditures.

In addition, senior managers at Aspen receive a meaningful portion of their compensation based on revenue and adjusted EBITDA performance versus plan. Given the 2020 plan was established prior to COVID-19 and the oil price collapse, it is unlikely that variable compensation will be earned for 2020 performance. These broad measures have reduced our expenses, strengthened our balance sheet and positioned us to withstand this uncertain time.

It is also important, however, to note areas where we have chosen not to reduce discretionary expenditures as we stay focused on executing our plan. We are committed to fully funding our planned R&D activities in support of expanding gross margins through bill of material reduction initiatives and process technology efficiencies and of our broader strategy to leverage our aerogel technology platform into new and diverse market, including both of our opportunities to participate in the EV mega trend.

On the subject of gross margin improvement, you will remember that in 2019, we implemented 2 of our 3 bill of material reduction initiatives. These initiatives contributed to the doubling of gross margin from the beginning of 2019 to the end and supported our expanded gross margin in Q1 2020. We expect to begin to see the benefits from the third bill of material reduction initiative in Q2. For perspective, the third initiative, if fully implemented during the first quarter, would have added over 200 basis points to our gross margin and over \$600,000 to adjusted EBITDA. In addition, we now have a fourth initiative in development, which relates to the capture and reuse of industrial gases in a more sustainable and cost-effective manner. This project is doubly important because it will enhance our supply chain security in an area that has caused us problems in the past. In addition to enhancing the surety of supply, the fourth initiative has the potential to add 200 basis points to gross margin on an ongoing basis upon completion early next year.

In the face of COVID-19 and lower oil and gas prices, we believe we have found the right balance among strengthening our balance sheet, prudently reducing certain cash costs and continuing to implement key programs to drive profitability in our core business and to leverage our aerogel technology platform into new exciting businesses. We will continue to monitor the situation on a daily basis to ensure we maintain the correct balance.

With respect to the remainder of 2020 and driven by the uncertain duration and impact of COVID-19, we are withdrawing our financial guidance, which was issued on January 27. During our most recent earnings call on February 20, I outlined a series of performance indicators for 2020, which set stretch targets that were outside of our financial guidance. Given the current period of uncertainty and after only a single quarter, the 3 performance indicators involving financial metrics are difficult to gauge at this point in time. I plan to comment on them at our next earnings call after we have given the current environment more time to play out.

I will, however, comment now on the 3 performance indicators that are strategic in nature. These are: to complete our EP20 expansion in order for the East Providence manufacturing facility to have the capacity to generate \$200 million of revenue and at least \$35 million of adjusted EBITDA, to gain adoption for or generate initial revenue from the thermal runaway opportunity in the EV market and to continue to validate our carbon aerogel technology for battery materials through an expanded partnership with SKC or Evonik or through new partnerships with additional industry leaders.

The EP20 project was initiated at the beginning of 2018 and promised to deliver 20% greater capacity from our existing assets in East Providence. The plan was to gain the additional volume through process technology advances and operating efficiencies with minimal capital expenditures. We made significant strides in 2018 when we created additional capacity, capacity that was critical to us in Q4 2020 when we generated revenue of over \$46 million.

During 2019, we primarily focused the team on the raw material reduction initiatives with the goal to drive gross margin expansion. In 2020, we have a clear low capital path to reach our EP20 goals and are confident we will accomplish this objective.

During the COVID-19 disruption, we have been able to keep a good pace with our 2 development opportunities pertaining to electric vehicles. As discussed at our last earnings call and in response to inquiries from several electric vehicle manufacturers, we have accelerated optimization of our silica-based aerogel blankets to provide better solutions to EV manufacturers to manage thermal runaway, a phenomenon where a cell in a lithium-ion battery pack has a sudden release of energy that initiates an unstoppable chain reaction, potentially resulting in a fire. Such optimization is well within our wheelhouse. We have delivered nearly \$1 billion of product to our energy infrastructure customers, driven in part by our products' extraordinary fire protection properties.

The thermal runaway product leverages our existing silica aerogel technology. It can be produced using our current manufacturing assets and is protected by our existing intellectual property. We remain actively engaged with our key partners in this program and have made significant technical progress. We remain confident that we will gain adoption for or generate initial revenue from the thermal runaway opportunity in the EV market in 2020.

With respect to our carbon aerogel efforts, we continue our work to validate and accelerate the potential adoption of our carbon aerogel technology within the battery materials market. Our effort centers on taking full advantage of the unique attributes of our carbon aerogels with the ultimate goal to improve the energy density of lithium-ion batteries, a key enabler in expanding the drive range of electric vehicles. We are working closely with our evaluation partners, SKC and Evonik, and are actively engaged with other industry-leading companies, both battery and EV manufacturers with a goal to improve the performance, cost, durability and safety of lithium-ion batteries. The technical and partnership progress is promising. We continue to believe that we will both expand our relationships with our existing 2 partners and enter into additional agreements with other industry leaders in 2020.

Our goal with these 2 opportunities that leverage the mega trend towards electric vehicles is to build additional attractive and diverse aerogel based businesses and to further demonstrate the value of our technology platform. Again, we will report out more fully at the time of our Q2 earnings call on these 3 strategic performance indicators and on our 3 financial performance indicators, which relate to revenue growth, margin expansion and profitability.

Finally, and to recap, we believe we are taking the correct actions in this unusual time to fortify the company to prepare to regain our commercial momentum and to continue to advance our strategy.

Now I'll turn the call over to John for a review of our financial results. John?

John F. Fairbanks
VP, CFO & Treasurer

Thanks, Don. I'd like to start by running through our reported financial results for the first quarter of 2020 at a summary level. First quarter total revenue grew 2% to \$28.4 million from \$27.9 million in the first quarter of 2019. First quarter net loss improved to \$3.2 million or \$0.13 per share from \$6 million or \$0.25 per share last year. First quarter adjusted EBITDA was positive \$0.5 million compared to negative \$2.6 million a year ago. We define adjusted EBITDA as net income or loss before interest, taxes, depreciation, amortization, stock-based compensation expense and any other items that we do not believe are indicative of our core operating performance.

I'll now provide additional detail on the components of our results. First, I'll discuss revenue. During the first quarter, total revenue increased by 2% to \$28.4 million. Of the total, product revenue grew

\$1.5 million or 6% to \$28.3 million. This increase in first quarter product revenue was driven principally by continued strong shipments to the PTT LNG Nong Fab project and solid growth in our core U.S. petrochemical and refinery markets, offset in part by a decrease in project-based revenue in the subsea and Canadian markets.

Our total revenue reflected a decline in research services revenue of \$1 million, resulting from our decision to focus our R&D resources on improving the profitability of our existing businesses and on leveraging our aerogel technology platform into new markets. Total shipments during the quarter decreased by 6% to 8.2 million square feet of aerogel blankets, but our average selling price increased by 13% to \$3.47 per share -- per foot, sorry. Increased average selling price reflected the full impact of both of our annual price increases over the past 2 years.

Next, I'll discuss gross profit. Gross profit was \$6 million or 21% of revenue during the first quarter of 2020 versus \$3.7 million or 13% during the first quarter last year. This improvement in gross profit and gross margin was driven by the 13% increase in average selling price and a decrease in the cost of raw materials, offset in part by the 6% decrease in shipment volume, an increase in manufacturing expense and the decline in contract research.

I want to highlight that our first quarter gross profit included a \$1.5 million benefit associated with our \$4.7 million increase in inventories during the quarter. We strategically increased inventory balances in March to provide a cushion against potential COVID-19-based disruptions to our manufacturing operations.

Next, I'll discuss operating expenses. First quarter operating expenses decreased by \$600,000 or 6% versus last year to \$9.1 million. Decrease in operating expenses was a result of a \$700,000 decrease in general and administrative expenses and the \$200,000 decrease in sales and marketing expense offset in part by a \$300,000 increase in research and development expense in support of new business development focused primarily in the electric vehicle market.

Next, I'll discuss the adjusted EBITDA. First quarter adjusted EBITDA was positive \$0.5 million compared to negative \$2.6 million a year ago. The approximately \$3 million increase in adjusted EBITDA was a result of the \$2.3 million increase in gross profit, the \$600,000 decrease in operating expenses and an increase in depreciation and stock-based compensation expense of \$100,000.

Next, I'll turn to our balance sheet and cash flow for the first quarter. Cash used in operations of \$1.4 million reflected an investment in working capital of \$1.9 million, partially offset by our positive adjusted EBITDA of \$0.5 million. The investment in working capital was driven by our decision to increase inventory, including both raw materials and finished goods by \$4.7 million to provide a buffer against potential operational disruptions arising from the COVID-19 pandemic. Capital expenditures during the first quarter totaled \$927,000, and we're focused on investments to improve plant reliability.

During the quarter, before COVID-19 and oil price volatility negatively impacted the stock market, we strengthened our balance sheet by raising net proceeds of \$14.8 million through an underwritten public offering of our stock. In early March, we also extended our revolving credit facility with Silicon Valley Bank through April 2021. We ended the first quarter with \$11.8 million of cash, net current assets of \$28.3 million, no borrowings under our revolving credit facility and shareholders' equity of \$70.4 million. We also had access to an additional \$8.8 million available under our revolving credit facility at quarter end, and our Rhode Island subsidiary was approved for a \$3.7 million PPP loan under the CARES Act during April. We'll use the PPP loan proceeds to avoid the need for furloughs or layoffs at our East Providence plant.

As Don noted in his comments, we believe our March 2020 product revenue would have been higher if our customers had not been impacted by the COVID-19 pandemic and volatile energy markets. At present, we expect demand for our products will continue to be adversely impacted. COVID-19 pandemic and volatile oil markets have created considerable uncertainty for our business and makes accurately projecting our 2020 revenue difficult at this point in time. Accordingly, we've withdrawn our prior 2020 financial outlook. It did not include any impact from the COVID-19 pandemic or the significant volatility in the global energy markets.

However, in response, we've taken a number of actions to reduce expenses and improve cash flow. We instituted a wage decrease for executives and managers, eliminated planned annual pay raises for all employees, cut discretionary expenses and reduced our planned 2020 capital expenditures. Our Board of Directors also elected to forego cash compensation during the current period of business uncertainty. We're also prepared to curtail operations in our East Providence plant, if required, to ensure employee safety or to align capacity with demand.

Although projecting our revenue in the current economic environment is difficult, we believe the fundamental economics of our business remain intact. In general, we'd expect revenue of \$30 million in a given quarter to drive a 20% gross margin and breakeven adjusted EBITDA. As we've discussed in past earnings call, our variable contribution margin is approximately 40%. As a result, an increase or decrease of \$5 million in quarterly revenue would generally lead to a \$2 million increment or decrement in gross profit and adjusted EBITDA. And again, as we discussed in past calls, product mix, changes in finished goods inventory balance and unforeseen events, including those associated with COVID-19 pandemic and volatile energy markets can have a significant impact on our profitability in any given quarter. But for our purposes today, the most important point here is that we believe our business fundamentals remain intact.

Overall, we believe we have the balance sheet, liquidity and available credit required to support operations and to continue to fund our planned strategic investments. We believe we've taken prudent actions to date to reduce expense levels and to improve our cash flow. We believe our business fundamentals remain intact. And we remain committed to monitoring all aspects of our business and are prepared to take the actions necessary to keep the company financially sound and to execute our strategy. I'll now turn the call back to Jason for Q&A.

Question and Answer

Operator

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

Eric Andrew Stine

Craig-Hallum Capital Group LLC, Research Division

So just -- I know this is -- you're kind of in uncharted territory here. And I know low oil does impact the upstream part of your business, which is relatively small. But if you're able to, if you think about kind of where the business is now and the impacts that you anticipate going forward, I mean, how would you break this down between COVID and oil if you're able to do that, keeping in mind that your day-to-day -- your refinery and petrochem business in the past has held them pretty well in the face of low oil?

Donald R. Young

President, CEO & Director

Yes. Let me start. I would say that, I think, COVID had the most immediate impact on our maintenance work. I think many of us were sort of frozen in place as we were trying to do the right thing and making sure that we could keep workers safe, et cetera. And I think that applies to our customers and end users as well. Maintenance is something that needs to go on, and they do have some latitude with respect to the scope of any given activity.

And again, we think that the COVID side of it is temporary and that demand will come back. For us also, we have a relatively low market share in most of the markets that we serve. And so our ability and our focus is to try to gain market share as well and try to minimize the negative impact of these kinds of events.

I think the low oil and gas price, again, as I said in my comments, has a bit more of, I would say, a longer-term impact potentially on our project side of the business. We certainly noticed that in 2014, 2015. And any historian of our company would know that we continue to grow our maintenance business throughout those years, including '16, '17 and '18, but had a drop-off in our project work. And that was really -- that learning was the basis for our -- creating a projects-oriented team that is solely focused on filling the pipeline, being sure we're in specifications and winning projects consistently. And again, there's no question that these 2 things, COVID and low oil, will have some impact on that. Again, I think it will impact us mostly as time passes. Our projects are, for the most part, moving forward here in Q2 and foreseeably through this year.

Eric Andrew Stine

Craig-Hallum Capital Group LLC, Research Division

Yes. Just sticking with the project side. I know LNG, it's a little bit of a mixed bag. I mean you mentioned -- we know about PTT, you mentioned the project in India and Calcasieu Pass, really the only export project that is moving forward here as of late. But I would -- I mean what are you seeing on the import side? I would think a low price environment for a country like Thailand is a pretty positive setup. So just wondering maybe what the pipeline on the import terminal side looks like?

Donald R. Young

President, CEO & Director

Yes. I think wherever you see and the PTT LNG project that we are serving today in Thailand is a very good example of this. This is a country that is displacing its coal. And obviously, this lower gas pricing makes LNG ever more competitive with coal overall. So we see a lot of the displacement in -- especially in some of these emerging countries drawing more LNG and again, displacing the coal. So that part of the equation, I think, is a positive for us. I think that the export side might be a little trickier for the next year or so until the market settles. But again, we've got our sight set on some projects here in 2020, one of

which we've already won. But our real focus is to be sure that as we complete deliveries of PTT LNG in late this year or quite possibly Q1 of next year that we replace that project with a lot of other projects as well.

Eric Andrew Stine

Craig-Hallum Capital Group LLC, Research Division

Yes. Okay. And then last one for me, just on the thermal runaway opportunity on the EV side. I know you were working with a number of companies, one of them more advanced than others. Just curious since the last call if you can expand on that a little bit. Has that -- has the number of OEMs or potential OEMs grown? Have you advanced with that one customer? Just any details there would be very helpful.

Donald R. Young

President, CEO & Director

Yes. We have done both of those things, frankly. I would say we have expanded the number and also the depth of the trials has increased as well with our principal targets. And the back and forth from a technical point of view, the sampling, the testing, the optimization of the materials, I would say, has been pretty intense, actually. Very regular conversations, I would say, almost daily. And so, look, this is an important problem that we are trying to contribute a solution to and we remain really excited about the opportunity. And again, as I say, this idea of passive fire protection is exactly what we do. And we've applied that capability to hydrocarbon plants for more than a decade now, and we really know our way around this space. Of course, there are some special considerations in electric vehicle, and we're really focused on that optimization process. And it's been exciting, and we remain confident.

Operator

Your next question comes from the line of Thomas Curran from B. Riley FBR.

Thomas Patrick Curran

B. Riley FBR, Inc., Research Division

Glad this call find you both well. Don, when it comes to your energy infrastructure end markets, how would you rank insulation projects in order of resilience? And on the maintenance side, what percentage or percentage range of annual spending is generally considered mandatory or in some way required by regulations, even if there's a bit of latitude there in terms of the scope of it or allowance for a temporary pause?

Donald R. Young

President, CEO & Director

Yes. Hard to give exact percentages, of course. But my -- I think the way I would think about it is that our materials are usually part of -- are used as part of broader turnarounds. And people are going in for corrosion inspection oftentimes and displacing or replacing pipe, corroded pipe, et cetera. And that is the -- that is probably the principal driver of a lot of the work that is -- a lot of the value proposition that we bring to refineries and petrochemical plants. And if you think about that portion of the market, that is not really a discretionary maintenance item. That is a significant safety issue and is an important driver. So we believe the value that we bring demonstrated now for a long time in that market to the premier companies in that space. That -- let me just say, that business tends to go well through thick and thin. And I think the history through the low oil price era of late '14, '15 and '16 demonstrated that part of it.

Again, what we saw, Tom, in this or what we're seeing, I should say, and around the spring turnaround work, I think, might be another example here. We did see a number of locations, particularly perhaps over on the petrochemical side but on the refining side as well sort of expand their scope during the lull. That was nowhere near the majority. We saw much more conservative actions of doing the minimums, shall we say, or pushing out to the fall. So a little bit of a mix. Again, I would call it a net negative, though I don't want to paint too rosy the picture of that. But it's worth it as we've been pushed out a bit from here in Q2, and we think that it will very likely start to come back here in the fall turnaround season.

Thomas Patrick Curran

B. Riley FBR, Inc., Research Division

And then just in terms of -- on the project side, how would you rank your end markets when it comes to project resilience from most resilient in terms of exogenous shocks to likely to be first to pause or delay an FID decision?

Donald R. Young
President, CEO & Director

I think you know well, Tom, the -- oftentimes, these projects really have a multiyear scope to the FID process itself. And there's no question that we have seen some pausing going on just prior to the FID being made. We have not seen -- once FIDs have been determined, we've not seen turnbacks, if you will, from that process. And so from a resilience -- look, I think the petrochemical guys are probably a bit healthier and more determined right now than the refining side. Again, I would say the LNG -- the receivers are more resilient, if you will, are more aggressive than the exporters at this point. It's pretty early days, too, Tom. This has really been -- really something that really kind of, as we all know, really started to impact the market really over the course of the last 45 and 60 days approximately. And so I think a lot of people are seeing where they can take advantage of the situation and other times where they need to sort of hunker down and just hit survivability mode. Most of our end users are not -- they're not -- this is not about survivability for them. These are big, strong entities that have been through this type of thing in different forms for a long period of time.

Thomas Patrick Curran
B. Riley FBR, Inc., Research Division

I appreciate that. And then when it comes to the passive fire protection opportunity related to EV thermal runaway, given how you just described the evolution of your discussions, how they deepened and expanded, what does that suggest for the original time line you've shared for when you might be positioned to announce a first partnership and then go on to see first sales? Could you actually remain on track for that original time line despite the disruptions represented by COVID-19?

Donald R. Young
President, CEO & Director

Yes. So far, on the thermal barrier side, on the fire protection side, we have not seen meaningful delays. Our research teams are working, call it, in sort of a staggered way in the sense that they're in the labs for 2 or 3 days and then typically, instead of going to their desks for 2 or 3 days to capture their work, they're obviously going home instead. And so that has been able to lower the density, if you will, in our research and development labs. And our counterparties -- our counterparts, I should say, on this work more or less seem to be having the same pattern.

It's interesting on our carbon aerogel on the battery materials side, again, working with a large South Korean company and a large German company as our evaluation partners. They are a bit ahead of us in terms of coming back to work. And so that part, I don't want to say we haven't skipped a beat because, again, I think this has been an unsettling time for everyone involved, but we're not anticipating significant delays in that work.

Operator

[Operator Instructions] Your next question comes from the line of Sameer Joshi from H.C. Wainwright.

Sameer S. Joshi
H.C. Wainwright & Co, LLC, Research Division

Just a follow-up on previous questions related to the EV-related opportunity. Did -- is the Cryogel opportunity also near to having meaningful revenues? Or is it just the thermal runaway opportunity that you will see some revenues surround in 2020?

Donald R. Young
President, CEO & Director

Yes. Sameer, if I understood you correctly, the portion of the 2 opportunities we have in electric vehicles, the thermal barrier opportunity is one that we believe will generate initial, and I want to emphasize, not large, but initial revenue in 2020. And we would hope to build meaningfully from there.

On the carbon aerogel side, on the battery materials side, that, for us, is more of a 3- to 5-year revenue opportunity. Again, our real focus in 2020 on that, I guess, as a marker of success and validation would be to deepen the relationships that we have with SK and Evonik and to enter into some additional relationships with some brand companies, so to speak, when it comes to battery manufacturing and electric vehicles.

Sameer S. Joshi

H.C. Wainwright & Co, LLC, Research Division

Understood. On the inventory buildup front and as it relates to the bill of material reductions that you have achieved over the last year. Going forward, how much of revenues would be supported by this inventory buildup? And any supply chain disruptions? How does that affect your bill of material and then gross margins?

Donald R. Young

President, CEO & Director

Yes. John, do you want to take that?

John F. Fairbanks

VP, CFO & Treasurer

Yes. Yes, I will. So the finished goods inventory at the end of the first quarter would support roughly \$10 million worth of revenue. So that buildup put us in a position where we could handle a significant amount of orders even if we had lost access to the East Providence plant, which we don't expect to at this point in time. It will have a modest delay to the sort of the benefits that we would otherwise receive from the reformulation of a few of our products because we've brought in the raw materials to support the prior formulations. But frankly, that will be relatively insignificant once we fully implemented all 3 of the bill of material cost-reduction initiatives. During the second quarter, we'll very quickly start to reap the benefit of those cost reductions.

Sameer S. Joshi

H.C. Wainwright & Co, LLC, Research Division

Understood. And then one last one from me. The cost reductions or wage reductions that you have implemented, what -- can you give us like a quantitative -- or just in terms of percent reductions over the first quarter costs in terms of operating expenses?

Donald R. Young

President, CEO & Director

John, do you mind?

John F. Fairbanks

VP, CFO & Treasurer

Yes. So we took -- there was a -- we've made the decision not to provide the annual wage increases, which would have run in the range of 3% to 4%. So that was savings against our planned -- our 2020 plan. We then -- for executives and managers, we had a 5% wage decrease. But I think as Don noted, the bigger impact is the likelihood that we will not pay out any incentive compensation related to our performance in 2020. And as Don said, variable compensation can be up to 50% of his total compensation. And so -- or more. And so there really is a very significant overall wage reduction associated with the actions that we've taken to date.

Operator

Your next question comes from the line of Jed Dorsheimer from Canaccord Genuity.

Jonathan Edward Dorsheimer

Canaccord Genuity Corp., Research Division

I guess I just had a question around the thermal runaway application. And if you're using the foam in the anode, what does that do to the reduction of airflow since most of the batteries are air cooled? How is that -- could you just help me better understand that?

Donald R. Young

President, CEO & Director

Well, Jed, I think it's possible. I've confused you in the past. Our anode material is focused on our carbon aerogel program. And the thermal barrier, these are really separation materials that are used between cells and around modules. And so our -- what we're trying to do is not eliminate the chance of the fire, but -- or the energy, but rather minimize or impede the propagation of it from cell to cell and module to module. So again, I think a little bit -- your question is a little bit mixed between our 2 different opportunities that we...

Jonathan Edward Dorsheimer

Canaccord Genuity Corp., Research Division

Got it. So the 2 different products, I understand that. But from an air flow perspective, so the thermal runaway, you're trying to actually reduce the air flow so you don't have that. I'm just, I guess, curious in terms of the -- and maybe I am conflating the two. But it would seem like there is a -- that there would be still a -- I guess it's a balance in terms of the thermal runaway product versus the cooling needs, correct?

Donald R. Young

President, CEO & Director

Correct. And we're not playing a direct role in the cooling fluids, but rather, again, creating thermal barriers, again, to try to contain the sudden energy loss to the, let's call it, the bad cell, if you will. And again, trying to keep the energy isolated to that cell or at least impede the propagation of that energy from cell to cell.

Jonathan Edward Dorsheimer

Canaccord Genuity Corp., Research Division

Got it. And so in your discussions with the battery manufacturers, so I guess I'll form it as a question. How would you split the discussions with cell manufacturers versus battery/module or auto OEMs that are -- have that assembly process?

Donald R. Young

President, CEO & Director

Yes, our primary work in the thermal barrier side has been with EV manufacturers themselves. And our primary work on the carbon aerogel battery side has been either with a battery manufacturer, of course, like SK or a battery materials player like Evonik. And so that has been -- having said that, I do talk about expanding the scope and the number of partners we have on the carbon aerogel side, and we are having discussions that include the auto manufacturers themselves. So we think that it is quite likely that we'll touch all of those bases, battery materials, battery manufacturing and the EV manufacturers themselves in these discussions.

Jonathan Edward Dorsheimer

Canaccord Genuity Corp., Research Division

Got it. And maybe this is just a neophyte question, but so in those discussions, are you starting to find and formulate where there is kind of a sweet spot in terms of battery size or battery chemistry, I guess, on anode or a certain energy density that your solution tends to work best with?

Donald R. Young

President, CEO & Director

Well, one of the benefits of our evaluation agreements and in particular, with SKC, part of SK Group, have been this targeting of performance and cost, frankly. And so -- and with some of the other companies that we've worked with, they've given us very specific targets. And to the tune of saying, if you can reach these targets, if you can demonstrate this performance, there's always the cost caveat in there, too. So it's a cost performance deal. We would like to take this to another step.

And so again, the answer is yes. Our research team is very much focused on a core set of targets. And it does really, I think, outline stage to stage in our progress. And so again, our team is using these partnerships for this sort of targeting purpose.

Jonathan Edward Dorsheimer

Canaccord Genuity Corp., Research Division

Got it. Could you elaborate on that? On what -- I recognize that you have found the areas that are sweet spots. But could you let us know what that seems to be?

Donald R. Young

President, CEO & Director

Why don't we do that in another forum, Jed, I'd be happy to. And of course, I'd really like to have our -- a portion of our team join me in that discussion to really focus in on those -- on that kind of technical detail.

Operator

There are no further questions at this time. I turn the call back to Don Young for closing comments.

Donald R. Young

President, CEO & Director

Thank you, Jason. We appreciate your interest in Aspen Aerogels. We look forward to reporting to you our Q2 2020 results at the end of July. Be well, and have a good evening. Thank you.

Operator

That concludes today's conference call. You may now disconnect.

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