Company Name: Green Plains
Company Ticker: GPRE US
Date: 2020-11-05
Event Description: Q3 2020 Earnings Call

Market Cap: 519.82607628
Current PX: 14.58
YTD Change($): -0.85
YTD Change(%): -5.509

Bloomberg Estimates - EPS
Current Quarter: -0.068
Current Year: -1.343
Bloomberg Estimates - Sales
Current Quarter: 671.6
Current Year: 2202.833

Q3 2020 Earnings Call

Company Participants

- Phil Boggs, Senior VP of IR & Treasurer
- Todd A. Becker, President, CEO & Director
- George P. Simpkins, CFO

Other Participants

- Adam L. Samuelson, Analyst
- Craig Edward Irwin, Analyst
- Benjamin Shelton Bienvenu, Analyst
- Kenneth Bryan Zaslow, Analyst
- Jordan Levy, Analyst
- Eric Andrew Stine, Analyst

Presentation

Operator

Good morning. Welcome to the Great Plains Incorporated and Green Plains Partners Third Quarter Earnings Conference Call. (Operator Instructions)

I will now turn the conference call over to your host, Phil Boggs, Senior Vice President, Investor Relations and Treasurer. Mr. Boggs, please go ahead.

Phil Boggs, Senior VP of IR & Treasurer

Thanks, Carmen.

Welcome to Green Plains Inc. and Green Plains Partners Third Quarter 2020 Earnings Call. Participants on today's call are Todd Becker, President and Chief Executive Officer; Patrich Simkins, Chief Financial Officer; and Walter Cronin, Chief Commercial Officer.

There is a slide presentation available, and you can find the presentation on the Investor page under the Events and Presentations link on both corporate websites.

During this call, we will be making forward-looking statements, which are predictions, projections or other statements about future events. These statements are based on current expectations and assumptions that are subject to risks and uncertainties.

Actual results could materially differ because of factors discussed in yesterday's press releases and the comments made during this conference call and in the Risk Factors section of our Form 10-K, Form 10-Q and other reports and filings with the Securities and Exchange Commission. We do not undertake any duty to update any forward-looking statement.

Now I'd like to turn the call over to Todd Becker.

Todd A. Becker, President, CEO & Director

Thanks, Phil. Thanks, everybody, for joining the call this morning. For the quarter, we reported a net loss of $34.5 million or $1 per diluted share.

This loss included a $13.8 million noncash tax adjustment related to charges in our deferred tax assets. Without that noncash adjustments, the net loss would have been much narrower or closer to $0.60 a share.

More importantly, we are free cash flow positive for the quarter, including another strong quarter of cash distributions from Green Plains cattle company.

We reported $8.8 million in adjusted EBITDA for the quarter, and our consolidated crush margin was $0.08 a gallon, which included almost $0.06 a gallon of negative absorption from plants that were shut down due to regional market conditions, Project 24 upgrades and normal scheduled plant turnarounds.

Our plants that were operating earned almost $0.14 a gallon consolidated crush margin as the completed Project 24 upgrades helped improve the whole portfolio. We look forward to the completion of all of our upgrades, which should reduce plant downtime that affected this quarter.

Another impact to Q3 was the movement of sales from this quarter to Q4 and Q1 of industrial alcohol from York, Nebraska as customers elected to wait to receive USP grade alcohol as our upgrade is almost fully completed. This not only solidified our sales book but expanded it as well.

I'm happy to report that we have begun to make USP grade, but not just at the maximum rate yet. We expect to achieve full rate by late December.

When we take all of this into consideration, Q4 is looking to be better than previous quarters based on current market conditions, higher operating rates, less negative absorption and the completion of York's upgrade. We are trying to do what we can to lock down the quarter with a more active hedge program. So as you can see, there's a lot of noise in our numbers, but generating free cash through all of that is what we are trying to accomplish as we achieve our path to 2023.

Let me take a minute to review the accomplishments on the total transformation that we achieved -- we have achieved over the past few months, including enhancing our liquidity, which we expect to help accelerate our transformation. We were excited to close on our $75 million protein financing with MetLife during the quarter and continue to have ongoing discussions with additional parties to finance the balance of our protein initiative. We believe this will result in more financing alternatives than we have seen in the past and secure our path to transforming our platform.

As we recently announced, we also sold the remaining 50% interest in our cattle business for $80 million. While we strongly believe in the future of this business, we are utilizing this capital to invest in a more accretive and predictable earnings streams. When combined with the $75 million MetLife financing as well as the estimated $56 million tax refund we expect to receive from the IRS in the near future, we expect to have over $200 million in incremental liquidity to fund the protein build-out.

Including our strong cash position, you can see we're in great shape financially, maybe the best shape in years. Our term debt limited to our convertible bonds and some project-based financing. With that said, we are basically net term debt zero.

In addition, other than security for our MetLife loan, none of our assets are encumbered or used as any collateral for any financings. During the Third Quarter, we were also pleased to break ground on our Wood River ultra high-protein project as our second installation, and we are excited to have them join Canada producing value-added ultra high-protein upon its expected start late Q2 2021.

We have also announced that we have chosen Obion, Tennessee location to be our third facility to receive the Fluid Quip MSC technology, which will bring our total capacity with Fluid Quip Technologies of over 200,000 tons of ultra high-protein annually. We want to thank the State of Tennessee, especially the governor's office who have motivated us to finish to do this project, and we will continue to work with them to get this up and running as quick as we can.

At an estimated initial $0.15 to $0.20 a gallon uplift, we will be adding $45 million to $60 million in incremental EBITDA from just these three locations. Obion has been one of our best and most profitable locations over the years, and this technology will firmly cement it as a top-performing biorefinery, if not the best-performing in our company and the industry. The $60 million Obion project is expected to come online by the end of 2021.

We are also announcing that we are further upgrading our York location to alcohol purities above USP. While we expect York's USP project to be completed in the Fourth Quarter and have several customers excited to take that product, we believe that we needed to take the next step. We have contracted with the Fluid Quip again to operate the York location to produce grain-neutral spirits or GNS, which firmly establishes that location as a long-term participant in various high-value alcohol markets.

Our Mount Vernon location is well underway with its Project 24 upgrade and is expected to be complete in the First Quarter of 2021. We have also received word from the State of Illinois that our Madison location should receive its permit soon, allowing us to proceed with Project 24 upgrade at that site. Given the success we have seen at our other locations, we anticipate meeting or even beating our platform OpEx target of $0.24 a gallon by the Second Quarter of 2021 when Project 24 is complete.

So as you can see, all these initiatives, we are continuing to execute on our strategy and are adding speed to our escape velocity to transform this company and lessen the reliance on the ethanol crush. During the quarter, we produced approximately 189 million gallons of ethanol, which put us at a 67% utilization rates. Margins have mostly been contained in the spot market and remain inverted in the future.

The weekly EIA data has been neutral to supportive towards margins as production has maintained levels below 950,000 barrels per day range until this week, while inventory stocks have been consistently around 20 million barrels. This stock number supports positive spot margins as well, but the weekly numbers are something we are watching closely. Green Plains Partners continued with stable operations, protected by a long-term minimum value commitments in place and benefit from the rate adjustment that went into effect in July.

During the Third Quarter, we began to amortize the term loan we put in place in June and paid down $12.5 million of that debt.

Now I'll turn the call over to Patrich to review both Green Plains Inc. and Green Plains Partners financial performance. I'll then come back on the call to talk more specifically about our ongoing initiatives to transform the company through our GNS alcohol, protein and aquaculture initiatives and a little more on markets and policy in the election. Patrich?

George P. Simpkins, CFO

Thank you, Todd. Good morning, everyone. Green Plains consolidated revenues were $424.1 million in the Third Quarter, down $208.3 million or 33% from the Third Quarter a year ago, driven primarily by lower ethanol production run rates as compared to the Third Quarter of 2019. For the quarter, our run rates were 66.8% of capacity compared to an 84.2% run rate for the prior year Third Quarter. The difference in run rates between years was primarily due to a combination of Project 24 upgrades and production adjustments for regional market conditions.

Our consolidated net loss for the quarter was $34.5 million, slightly favorable to a net loss of $39 million in the Third Quarter last year. As Todd stated at the top of the call, this loss does include a noncash tax charge of $13.8 million related to a valuation adjustment to our deferred tax asset.

Adjusted EBITDA for the Second Quarter was a positive $8.8 million, up from an adjusted EBITDA loss of $13.4 million for the same period a year ago. For the quarter, our SG&A costs for all segments of $19.9 million was $1.4 million higher than the $18.5 million reported in Q3 of 2019. Adjusting for a onetime benefit of $1.2 million in SG&A in Q3 of 2019 related to the reversal of property tax accruals, SG&A for Q3 2020 is generally in line with Q3 2019.

Consolidated interest expense for the company was $10.2 million, which was lower by $0.3 million than the $10.5 million in Q3 of 2019 due primarily to a decrease in overall interest rates and slightly lower balances on our working capital lines.

On Slide nine of our investment deck, we present a summary of our balance sheet highlights. We had $226 million of cash and working capital, net of working capital financing at the end of the Third Quarter compared to $288 million for the prior year quarter. The net difference was $62 million between Q3 2020 and Q3 2019 is attributable mainly to a change of cash of approximately $72 million, primarily driven by our capital expenditure program, with the remaining variance resulting from changes to net working capital financing. The cash and net working capital amount for Q3 2020 does not include proceeds from the recent sale of our cattle business for $80 million.

Our liquidity position at the end of the quarter consisted of $182.3 million in cash, cash equivalents and restricted cash, along with approximately $349.8 million available primarily under our working capital (inaudible) and delayed term loan. This amount also includes $4.3 million available under the current credit facility of the partnership.

CapEx for the Third Quarter was $21.9 million, including $3.4 million of maintenance CapEx, with the balance of $18.5 million being allocated to growth capital, primarily for Project 24 and our high-protein initiative. Given support of the MetLife loan agreement, we expect full year CapEx to be closer to the upper end of our guidance of $120 million for 2020. This estimate includes $26 million of CapEx spend related to our Wood River protein installation. The majority of Obion's capital expenditures for the announced protein technology installation will occur in 2021.

For Green Plains Partners, we had 189.6 million gallons of throughput volume at our ethanol storage assets during the quarter, which was down 49 million gallons or 21% in the Third Quarter of 2019 as a result of lower production rates at Green Plains plants. However as a result of the minimum volume commitment contracts of Green Plains trade, the partnership billed trade group for 235.7 million gallons of throughput.

Accordingly, the partnership reported an adjusted EBITDA of $13.9 million for the quarter, up slightly from the $13.3 million reported in the Third Quarter of 2019, mainly due to a 6% increase in throughput rates charged by GPP, offset slightly by other ancillary costs. For the partnership, distributable cash flow was $11.3 million for the quarter compared to $11.1 million for the same quarter of 2019. On the last 12-month basis, adjusted EBITDA was $53.7 million. Distributable cash flow was $45.2 million and declared distributions were $19.8 million, resulting in a 2.28x coverage ratio. The coverage ratio was 3.97x for the Third Quarter.

Our coverage ratio excludes any adjustment for the $12.5 million in required principal payments amortized during the quarter.

Now I'd like to turn the call back over to Todd.

Todd A. Becker, President, CEO & Director

Thanks, Patrich. So our total transformation plan is executing on all cylinders right now and has a multi-pronged approach. Our goal to achieve $0.24 or below of operating cost per gallon at expected utilization rates is within reach, and we anticipate hitting that Mark during the First Quarter even before all the projects are done.

Second, we have been focused on the high-grade alcohol market. We have been able to quickly adapt our York production facility to service high-quality customers such as Lysol and have continued to ship product during the year with strong contributions to our results. While there has been some shipping delays once our USP upgrade is complete, we expect customers to quickly execute on existing open contracts.

Additionally, our Wood River USP upgrade is now anticipated to be finished during the first half of 2021. Even more important is an upgrade to GNS at York. Because of the design and quality already in place with the existing plant, USP upgrades are using some of the equipment from Hopewell as well. We believe we can quickly get all the way to GNS, opening the door to additional markets. We believe this will be an important step as it is clear to us that higher quality alcohols produce longer-term offtakes and better customers.

Third and most importantly is our strategy to upgrade our biorefineries to produce sustainable ultra high-protein at each of our locations. In a year where soybean carryouts are shrinking and protein prices are screaming, we cannot move fast enough as this has been a 20-year trend of protein demand growth that is beginning to accelerate. In fact, this may be a record year-over-year growth in demand, and the risk is truly there won't be enough. Even with our Obion announcement as the third location, don't be surprised if we are quickly back to announce additional locations as we seek ways to accelerate the rollout.

Once Obion is complete, we will be capable of producing over 200,000 tons annually, generating 50% or greater protein levels. We are very happy to announce that we are almost sold out of Shenandoah's 2021 production to the pet food space and continue to work with customers in pet, aquaculture and dairy to take the remaining production over the next few weeks. What we are producing is a better and higher protein with very unique amino acid profiles and yeast characteristics than others are producing in the space.

More importantly, our fiber and fat content is low, which is extremely important in the pet and aqua space. So that means all protein is not equal, and ours certainly has an interesting advantage we learn about every day. There's a lot of confusion out there, but I can tell you our customers are not confused. We are already establishing Shenandoah and Green Plains as the go-to company for the highest quality control, quality assurance, and lastly, consistency and quality of the product. We don't believe we will ever commoditize what we produce.

We have completed several aquaculture trials at our world-class aqua lab in Shenandoah, and we have seen very interesting results in taste and rate of gain. We are starting several more as we speak for ourselves and customers who are also using our lab for trials.

In dairy, we have very interesting amino acid profiles that have been proven to increase milk yields in studies already. That's on top of the yeast benefit in our ultra high-protein products.

Finally, we have inclusion in all veg animal feeding diets as the custom -- consumer is tired of seeing animals being fed to animals, and our high-protein products will help solve that dilemma, which brings me to our partnership with Novozymes and (AL Hayashikane) that are going to distinguish our protein production from competing technologies and other proteins. We believe we can move quickly to higher protein purity levels and even more important, add nutritional upgrades unmatched by other technologies and producers.

This all adds to our confidence that we are on the right path to transform the company and lessen the reliance on traditional ethanol economics.

An additional benefit that often goes overlooked is that the protein production from the Fluid Quip process also increase its corn oil capacity by an additional 50%. As a result, we could see our platform capacity increase from about 300 million pounds of corn oil production to over 450 million pounds. Much of our corn oil is sold as a low-carbon feedstock into the renewable diesel industry, and with the growth in that industry, we believe there is plenty of demand for additional corn oil in the market, which can lead to an uplift and additional margins as a result as we are not just going to give this away and watch those markets earn outsized returns and one of the lowest CI score feedstocks in the market, even lower than soybean oil.

For your information, corn oil is 27.0 to 30.0 CI and soybean oil is around 53.0 to 54.0. I believe this is not being paid attention to from a Green Plains valuation perspective.

If you look at the margin per gallon that renewable diesel producers are achieving in the back of our feedstock, when we produce over 450 million pounds or almost 60 million gallons of low CI feedstock, that is the future opportunity of its own.

Lastly, I want to touch briefly on how our recently announced Hayashikane [ph] partnership validates and supports the long-term direction of providing sustainable high-value proteins and novel ingredients to support the growing global demand in human and animal nutrition. Last quarter, I talked a little about our wholly owned optimal aqua venture and how our ultrahigh protein can serve as a high-quality ingredient delivery mechanism. Partnering with Hayashikane proves just that.

In trials already, we have seen our ultra high-protein product in combination with Hayashikane technologies provide potential aquafeed solutions that meet the specific needs of RAS customers, challenged by their specie selection, water quality and infrastructure, allowing us to better tailor products for improved feed conversion ratios and better, cleaner tasting fish and seafood consumer products.

Additionally, we believe our protein will ultimately find its way back into additional markets through Hayashikane as well.

So what does all mean? We are focused on 2023 for our completion of our transformation. While that is a few years away time goes fast, and we continue to see real proof points of this happening. With that said, we will define what that means in baseline 2023 earnings for Green Plains. While protein upgrades are completed, we will be producing over 700,000 tons of ultra high-protein with a baseline earnings at 50% protein of $150 million to $200 million of baseline EBITDA. That is on a capital investment of approximately $400 million to $450 million. Add on top of that, York and Wood River USP GNS production of 75 million gallons a year at a historical $0.01 to $1.50 per million per gallon to fuel grade, that would equate to $75 million to $110 million of additional baseline earnings. On top of that, of course is our Project 24 benefit of approximately $80 million per year. But even with a zero baseline ethanol margin, we could achieve $225 million to $330 million baseline EBITDA before you even add the fuel margin on top of that. Even more exciting to these numbers is the fact that we are producing higher protein purity already, which only increases these numbers. For example, we believe when we hit 55% protein, this adds another $70 million to $100 million in earnings over the 50% protein baseline. At 58% protein, another $170 million over the 50% baseline, and at 60% protein based on the current market for 60% protein products, such as fish meal, an additional $370 million over the 50% [ph] baseline. These are based on additional markets that are trading today and all of this is outlined in the slides in the deck.

I will give you an example. At 60% protein, if you use $1,200 a ton replacement cost, that is over $1,000 a ton premium to traditional distillers grains today. For each $100 a ton, that equates to a $0.06 [ph] a gallon uplift to margins or almost $0.60 a gallon total uplift in total margins at 60% protein. That is not pie in disguise. We have the capability today as we speak, to mechanically produce 54% protein at Shenandoah and in fact, have produced on average of over 52% mechanically separated only protein already over the past three months.

The importance of our partnerships with everyone from Novozymes to Haysahi Kani [ph] to our exclusive pet food relationships all give us confidence we can produce unique value-added ingredients as it's not just all about the protein that will transform our earnings power of Green Plains, and we are working on other partnerships as we speak, and we'll be excited to announce each one of them as we complete them. We are thinking very differently about this and expect to achieve escape velocity up the J-curve that we previously discussed with you.

Finally, on this topic, think about what is happening. If you look at traditional processing that is taking place at corn wet mills, these plants owned by some of the biggest agribusiness and food companies in the world, they produce over 200 products from each kernel of corn. A traditional dry mill for perspective produces three ethanol distillers grains and corn oil.

What we have discovered is how to isolate a high-protein fraction from the corn kernel, giving us a real fourth product with significant value. And now USP and GNS alcohol giving us five and six, only 194 other product opportunities exist for us to go after and when we are done with this one, we can pick and choose the next highest value in the corn kernel, and I can assure you there are companies and technologies that will emerge from this thought process, and we expect to be one of the leaders pursuing this path.

I'm sure nobody has put it this way before as a focus. It's always been an ethanol, ethanol, ethanol, but I think there's a dramatic shift coming to the dry milling industry. Once again our employees continue to inspire my confidence in our transformation path. But I invite all of you to come see what is happening in Shenandoah, York or Wood River, and you'll get a complete view of where we are heading across the whole platform.

Thanks for joining the call today and we can start the Q&A.

Questions And Answers

Operator

(Operator Instructions) Our first question is from Adam Samuelson with Goldman Bank.

Adam L. Samuelson, Analyst

So a lot of ground that was covered in those prepared remarks. And maybe I'm just trying to think through the EBITDA layout that you provided here. So I want to make sure that I heard those numbers right. So $430 million [ph] total capital investment to reach that kind of 2024 run rate earnings. As you think about kind of the value uplift on the high-protein side, what do you think the upper limit here -- can you be clear where you are today in terms of both technology, in terms of production, in terms of sales and where you have very clear line of sight between -- on the technology and customer formulation in terms of value realization?

Todd A. Becker, President, CEO & Director

So where we're at today as, obviously Shenandoah's now producing at full rate, we -- it started service about four month start-up. We think Wood River will take us about a month. So it takes a little bit longer as we are just learning how to use the system. Where we're at today is mechanically before we even kick in other relationships, we're producing an average of 52% to 53% protein as high as 54% protein. What's really important is what I said in the call, was the fact that we are almost sold out for 2021 out of Shenandoah. Our pet food relationships are beginning to reformulate around these products and are starting to accelerate the demand, and we've seen that already. So while we're very excited about that, that's only one of our addressable markets. But actually, I think we're seeing more and more companies potentially start to reformulate around our products. Our product is different than products that others are producing as well because of our protein purity but also because some of the other characteristics. So we focus on quality, quality, quality, but we are also innovating with these customers using our relationships with Hiyashi Koni [ph] and Novozymes as well. So we see the path, which is when you think about how the value chain works, it's obviously human nutrition first, which we don't think will hit right now. There is an opportunity for that at some point in the future. But then it goes to pet food, aqua and then everything below that. So we're not even exhausting the aqua space and already being sold out in one plant. We think when we bring out the second plant, we'll probably hit the -- continue to sell out to the pet market and maybe a little bit more into aqua. But we are also seeing a lot of interest in dairy as well. It's really just a function of what is the substitution that your product is being used for. For example, in our dairy customers, they're going to formulate around the level of protein, the level of yeast, the level of fat and the level of fiber and then the amino acid profile. So we're not -- when you first talk to a dairy, for example, they think oh, I'm just going to substitute for traditional distillers grains. Then they look at the product and then look at themselves and say no, this could be substituted for a blood meal, it could be substituted for other very high-value corn gluten meal type products. So we're very excited about that. We're starting to see that as well in dairy markets, and it's all about level of protein and how to reformulate.

So all of these numbers that we're giving you are really just replacement products in the formulation. I think in 2021, we'll be on a path to a higher protein, consistent higher protein at Shenandoah. Our customers will formulate -- continue to formulate around those higher proteins, and then you get paid for those higher proteins as well. So while you might sell a baseline protein of 50, there is scale above that, much like you see in some of the wheat markets that you would formulate around as well. So we're very confident around these numbers. We're very happy that we were able to get the forward sales on the books for Shenandoah, the repeat sales as well, and we're very happy to see customers starting to formulate long term around those products on the label. So as we bring on more, we believe every plant that we will bring on will have -- basically can be sold out, if that's the way we choose to approach the market.

Adam L. Samuelson, Analyst

Okay. Then if I could squeeze just one near-term ethanol market question in. Just as we get into the winter and the slow driving season, how do you kind of -- how do you see the supply demand relationship (inaudible) inventories have ticked up a little bit off the lows but aren't that bad yet, but how are we -- how do we portray [ph] in the supply-demand balance and capacity utilization over the next three to six months?

Todd A. Becker, President, CEO & Director

Yes. I mean I think right now, we've probably seen the lows in the numbers on the EIA data for stocks and probably production for a little while as we get into winter driving. The interesting thing, though, is we're coming into the Fourth Quarter really still at a pretty narrow level of stocks below 20 million barrels. While we expect probably over the next three to four months as driving mace [ph] has historically slowed down, we would expect to see those stocks build. The only difference this year is that, obviously with COVID, we continue to see draws almost on -- we continue to see draws almost on a weekly basis as driving demand continues to pick up in terms of just week-over-week, year-over-year even in terms of people flying less. But I think what's also important is what we're not seeing in the numbers, which we believe is the expanded blend rates that are taking place with E15 being rolled out in several states and even some of the demand that we're seeing increase from blends as well, and that's not inclusive of a little bit of a continued export program pace overall and potentially that could pick up over the winter if China decides to engage once and for all on ethanol, of which we've only seen a little bit of inkling of that, but nothing I would make a bet on at this point. So I think overall, we'll probably go into winter like every winter, expecting to see growth in stocks. And probably an uptick in supply as well in terms of production as you run -- as plants that we're running are probably running more efficient and better with the cooler temperatures.

So overall -- but if you look at the data and you plugged it into the models, this data still supports a positive spot margin, but that's all we're really getting as an industry, maybe spot to 20 to 30 days. And after that, you just have to wait and see what happens.

Operator

Our next question comes from Craig Irwin with Roth Capital.

Craig Edward Irwin, Analyst

So Todd, I love the slide, Slide number10 from your presentation. It really lays out for us the progress over the next few years that we can expect. The difficult thing from our side is, you didn't give us 2020. Can you maybe help us sort of sketch out what the '21 increase is over '20 on an operating basis? Where are we at with achieved savings on '24? The base USP and then different protein and USP upside potential. Can you just share the numbers with us now so we see sort of the step-up sequentially moving into '21?

Todd A. Becker, President, CEO & Director

I mean I think we're going to have a stronger finish to the year based on at least the spot ethanol margin running at a higher rates, moving some of our alcohol sales, high-quality alcohol sales from Q3 to Q4 and Q1. That market has certainly changed over the last six months from really aggressively taking the low B grades and a lot of those products that we saw probably didn't make it to market all the way through us increasing our quality of alcohol. So I think we're still going to have a stronger finish on paper today. It would definitely be our best quarter and could be a very good quarter for us. Again we don't want to give very specific guidance, except to say that it's definitely trending higher, and it comes through the final execution of our high-quality alcohol.

Our protein, we still continue to have a good protein margin as well. So I mean I think we'll finish the year strong. I think when we look at the baseline -- going into baseline 2021, you can see that we're predicting some of the Project 24 upgrades that come through, and that's a zero equivalent margin, and we'll just take the upgrades as the baseline margin. We've got on top of that just the baseline USP at $1 premium, but the market is higher than that. We know that and USP upside beyond that, the market is even on the higher side of that today but there's a lot of USP coming on. So we're going to be conservative in our estimates going forward on predicting what high-quality alcohols will be until we fully go to GNS, which we believe at that point, we can get longer term, even longer-term contracts on, but there's too much USP, I believe, coming on to the market. But from a standpoint of us getting there very quickly with York because we already made 80% of what we shipped out of York was already USP grade, but the other 20% just didn't make it. So we would not sell USP as a company while others would take the risk and do that and sell a lower quality, and we weren't willing to substitute and take the risk of that. So it doesn't take much to get to the final stage of that. And even GNS, that York used to be a beverage-grade facility anyway. So we're just putting it back in some of the some of that technology. So it doesn't take very much to get back to you at G&S, but I think that's the long-term way you have to go with all of your product. I don't believe that -- I think USP will be the old B grade and GNS will be the old USP grade.

And I think that's how the market is going to go. So we're also seeing a lot of customers that, again initially, we saw delays in shipments because of the buildup and some of the stuff that was being sold into the consumer markets. But now we're seeing a lot of that clear the shelves and potentially stabilizes demand back to a better level. Then from there on top of that, obviously is if we get premiums over 50% pro to 53% to 54% to 55%, as we continue to finally start to execute on some of our other biotechnology upgrades. Obviously the Hayashikane [ph] partnership is very important. So I think what we've laid out is a small contribution from ethanol, a baseline contribution from alcohol, a good contribution of protein that we're rolling it out. But even more importantly than that, obviously there's other parts of our business like our agribusiness segments and others that have contributed as well. So we just wanted to kind of lay out what like-for-like would be year-over-year uplift. I think we'll finish 2024 stronger -- or I'm sorry, 2020 stronger. Again lots of moving pieces. Corn markets starting to rally a bit, but ethanol is keeping up with it. So correlations are still high. If we can -- and I think just the stocks number is something we have to watch. If the ethanol industry increases production significantly or build stock significantly, obviously that could pressure margins. But at this point, we still have a spot margin available to us.

In addition, we're also seeing, Craig, an uplift in distillers corn oil values, DCO values into the diesel and biodiesel and renewable diesel markets. We are not willing to forward contract at this point. At the same level as we were, we believe the market will continue to move higher for that product. Our product is very important. And especially with some of the startups that are happening around renewable diesel. When somebody is earning over $2 a gallon on a product that we're selling because our CI score is so low, we're going to be very stingy with who and what we sell and how far we go out on as well because there's other ways to skin that cat. So I think we'll just -- we'll watch those markets as well.

Craig Edward Irwin, Analyst

Great. So then high protein, can you maybe describe for us the breadth of feed trials that you're doing right now? I know you have your own sophisticated aquaculture lab at Shenandoah and that they're doing great work to help educate your customers and show quantitatively what hi-pro can do. But where do we stand right now as far as active trials and potential trials for products you're developing with Novozymes and other partners? And what's the body of work we need to see before some of these large potential customers start beating much higher prices than what we've seen? I mean is there -- are there specific milestones you can share with us that we should look for?

Todd A. Becker, President, CEO & Director

Yes. I think we're going to do a lot more of that in the next several conference calls as we continue to get the results. We have ongoing aqua trials today. Thus far, all the trials, both commercially at customer sites as well as in our lab, have proven successful in terms of rate of gain taste, texture and things like that using high pro alone or as well as high pro, combined with our partner's technology. We've seen better flay colors already in terms of what we're getting out of a traditional aqua diet by using high protein, ultra high-protein that we produce in Shenandoah. We already are seeing that. Customers are seeing that. They're already seeing better taste profiles. We'll get much more deep into the technology side of the business in the next several quarters.

In Q1, we are starting palatability trials, continued our increases in palatability trials for pets because I think this product will get fully -- the first several of our plants could fully stay into the pet food market. They're really trying to innovate and reformulate around this product, especially as we move into higher protein. Remember, this is a yeast product. While we talk about protein, this is 25% use. So we're really feeding it for yeast, a dried distillers yeast inclusive of ultra high-protein beyond that. We're going to have our first yeast for aqua in the Second Quarter that's going on. We continue to work with every single one of our partners, whether it's dairy, whether it's aqua, whether it's pet on innovating around these products. What that really means is that it's not just going to be around levels of protein. We can sit there with a customer today with our partners from Novozymes, especially in Hayashikane [ph] and go to a pet food customer and say what characteristics do you need so that it increases palatability or it increases gain or those type of things. So while people look at Novozymes to say oh, Novozymes just going to help you increase protein levels, that's very shortsighted. I mean basically, today we're already mechanically able to produce 54 and working with our partners at Fluid Quip, we believe we're going to be able to mechanically increase before you even have to worry about enzymatic increases at all. So really, it's about now bringing in the Novozymes library on top of that to help our aqua and our pet customers develop and formulate products that -- and we can also innovate with them.

And I think that's really where you start to think about the transformation of Green Plains. Look, if you think about a wet mill, as I gave you the example, they still make ethanol, but nobody really cares about that. It's just a product that they make because they have the other 199 products that they make are all very high-value products. I think that's where we're going to head in dry milling over a long period of time. Not everybody is going to adopt this. It takes a lot of capital, and it takes a lot of commitment. I mean you just can't roll out ultra high-protein without having nutritionists, without having sales teams, without having marketing, without having innovation, without having partnerships like we've announced and more that are coming, I can assure you. So I think we're really on a path. Look, in the meantime, we are transitory. You saw it last quarter. We had a lot of negative cost absorption. I think we'll get a lot less this quarter. In fact, I know we will.

Going into 2021, as we continue to roll out Project 24, our negative absorption continues to go down. We really want to get Madison started back up. But we -- State of Illinois is going to give us our permit to get Project 24 done, and we haven't been running that plant. We're still looking at our total portfolio to say is there things we would swap out. And even within our portfolio as well, things that don't really fit. There is still a market for ethanol plants, I can tell you. We've seen active participation in -- a more active participation in the long-term thinking about ethanol, and I don't think anybody is transacting at this point. But if you think about even Ethanol's contribution to renewable diesel, there's a lot of potential partnerships that are going to take place there as well.

So look, as I said, we are transitory. It's going to take a little while. We're going to have a lot of noise. We are in some of the best financial shape we've ever been in. I think we'll have plenty of access to capital that we will need to build out the rest of this high protein, and we continue to talk with partners on that. I think we're on a really good path, notwithstanding the fact that we're going to have noise in quarters like this. But if you think about this quarter, what's the most important thing, we generated free cash flow. You can look at all the numbers or accounting numbers, but in a quarter like that, we are positive EBITDA and cash flow positive.

Operator

Our next question comes from Ben Bienvenu with Stephens.

Benjamin Shelton Bienvenu, Analyst

I've got one short-term question and one long-term question. On the short-term question, the $0.06 of negative absorption, you called out three buckets: the scheduled maintenance, the Project 24 upgrades and the regional market conditions. Any way that you can size those within the $0.06? Then, Todd, you kind of teased this in the last answer, but how much of that $0.06 should we expect to linger into Fourth Quarter? Or is it all going away?

Todd A. Becker, President, CEO & Director

Yes. I'll just comment on and Patrich will comment on more of that. But one thing, I think we also missed is, some of our quarter was impacted by the role of our high-quality alcohol from quarter-to-quarter. I think that was part of it. But I'll let Patrich talk about the other three buckets. Go ahead, Patrich.

George P. Simpkins, CFO

Yes. I think look, generally, as you break down the absorption, 2/3 of it is plants purposely offline relative to market conditions, 1/3 of it relative to Project 24. However when you think of that other 2/3, remember, those plants will actually get Project 24. So if you're thinking about it in terms of future, those are plants that actually would have been on that negative absorption would not have been there, had they had Project 24, which, in fact, they will. So it's a little bit of chicken and egg. I mean if you just look at the strict numbers with respect to Q3, that's the breakup. But when you think about actually layering on Project 24, that negative absorption effectively goes away in 2021.

Benjamin Shelton Bienvenu, Analyst

Got it. Okay. My long-term or intermediate-term question is as it relates to hi-pro and the financing of these projects. Just based on the current pace, which has been a solid pace of getting these projects up and going, it seems like you could kind of get to self-funding by mid or late 2022. Is that too early? Is that a realistic time line? How are you thinking about the threshold at which you start to be able to self-fund these projects?

Todd A. Becker, President, CEO & Director

I think we'll -- yes, if we go slower, we could probably self-fund the projects by the middle of 2022. But it also depends on the protein price. If we move up the J-curve quicker, they sell fund quicker, but we want to build them quicker. I think our goal would be to get, obviously Wood River done, Obion done, and we want to get a fourth or a fifth even done in 2021. So that would be five total done, try to do five the next year. Those probably kind of self-fund themselves, but they will probably need some excess funding as well. So we want to move as fast as we can because the demand is so deep. Remember, the numerator for world protein demand is 325 million to 350 million tons by the time we get there. That's the denominator. That's what we believe the addressable market we will be able to go into. If Green Plains builds out their total platform, we're going to add 700,000 tons of supply total into a 12 million to 15 million ton growing market per year on a 325 million to 350 million ton total addressable market. So we can't build it fast enough. Our customers are telling us, you can't build it fast enough. You need redundancy. You need volume. So to reformulate, you have to have volume and redundancies. So we're talking to major feeders, major industry participants that they don't want 40,000 tons from Shenandoah. They want 250,000 tonnes a year, and they won't reformulate until you get volume and you get redundancy. That's why we can't move fast enough.

So while we could certainly start self-funding sometime in 2022, obviously we want to be well under construction on projects 5 through 10 by the time we get there.

Operator

Our next question comes from Ken Zaslow with Bank of Montreal.

Kenneth Bryan Zaslow, Analyst

So when you get through these projects in -- over the next three, four years, what's the endgame? Are you looking to just stay as is and just kind of run this or expand or be sold? Like what is the end goal here as you develop? You have a very concrete plan that has an end to it. Then what happens after that?

Todd A. Becker, President, CEO & Director

Well I think that's just to get you to all of our plants built out, but that doesn't include additional value-added from optimal aqua as well. So I mean we want to be an end-to-end solution for customers that are growing -- the growing demand in diets and protein around the world. I mean we don't want to make -- we don't want to grow the fish necessarily, but we want to -- as we see the increase in inland fish production, they're going to need unique products to continue to innovate and what they do as well. So I think what you're seeing, number one, the question is, how far do we go up the J-curve on protein? Then number two, what products move on the next level of formulation? So I mean optimal aqua, which we've talked about, is all about feed production, ingredient production and innovation, especially with the Hayashikane [ph] partnerships. I mean somebody needs to meet the challenges of RIS, and there's not a lot of innovation that's taking place.

In addition, somebody has to meet the challenges of the fact that when you grow aquaculture systems inland, there's a taste challenge. We believe that's the importance of our partnership with our Hayashikane as well as Novozymes is that we already believe we have products to address some of those today. So while certainly, you have to have your baseload of products and your baseload of earnings, there's addressable businesses beyond that, which we're already starting to build with our partners. So I think it's more of let's get this done first. Obviously on parallel path, we're building an ingredient production business as well and innovation business because you have to do both at the same time. Where it leads, if we can get all the way up to the top of the J curve. That -- you know that, that number, obviously is very large. On top of that, you can continue to innovate ingredients. I just think there's -- Ken, as you know, and you've seen it in soy crushing, there's a big protein hole in the world today and there's not enough protein production in the next five years to meet it. You're seeing it play out this year as China steps up their purchases. You have a very good chance of having not very many soybeans left in the United States and maybe not a lot of meal left in the world to sell. I think that's the -- if you think about it, there's not -- a soybean crushing plant isn't innovating to higher proteins like we are today. So we're not just filling the 48% protein gap that's existing, and that's why soy crush margins have enjoyed the last five years of demand pull from protein and will probably enjoy the next five years after that. We're innovating to higher proteins, and you're not seeing that anywhere else in any other industry today.

Kenneth Bryan Zaslow, Analyst

Another question just the short term. What percentage of the capacity do you think will not come back after we get through all this? I've heard a variety of answers and curious to see what your answer would be.

Todd A. Becker, President, CEO & Director

Well there's a lot of capacity that can still probably come back if the demand increases. So if we get into thinking about the politics of what we're seeing today there's a president today that is in office that favors the internal combustion engine, which I think is good for Green Plains and good for the Iowa farmer. There's a potential president if the other guy wins that favors obviously EV, but I think also favors the low carbon fuel standard, which potentially means less gasoline but more ethanol because what we're seeing today is ethanol is reducing CIs all over the place, whether it's through carbon sequestration, whether it's through what we're doing on Project 24, which we already lowered our CI stores and less energy use, less water use or even our ability to supply renewable diesel with a very low CI corn oil. I think what we're seeing is that as the economies recover around the world and people drive more, there's still 250 million internal combustion engines on the road or more in the U.S. and all over the world. While EV is coming, I think depending who make -- who comes into office, it's all probably pretty good for ethanol demand longer, at least for the next three to five years in either party. But more importantly, I think what ethanol will become part of is potentially a California as low carbon fuel standard movement, but albeit that is an expensive thing to do, and we'll see if that really happens. But I think overall, as the economy recovers out of COVID, and we get back to more normal driving patterns and more normal demand, and I think we'll get there, obviously. I think that's all probably pretty good for supply -- for demand growth for ethanol, especially with higher blends. But don't -- let's not kid ourselves. The ethanol industry has capacity, and they can move very quickly with that capacity and hasn't shown a lot of discipline over the years, but maybe this time we will.

Operator

Our next question comes from Jordan Levy with Truist Securities.

Jordan Levy, Analyst

Todd, to touch on something you just hit on as well. As kind of Project 24 gets wrapped up and what that does to the carbon intensity of the plant and the fuel coming out of it, is there a potential there to target specific markets on the fuel ethanol side, whether it's looking to get those to California and realizing the uplift pay [ph] or something along those lines? Or do the economics just makes sense to just sell the way you guys normally do?

Todd A. Becker, President, CEO & Director

What we've seen is the traditional ethanol industry made too much low CI for the California market and gave away a lot of that margin. I think that LCFS spreads, potential spreads, then there probably won't -- there'll be an opportunity to earn more of that margin back on low CI scores. Today we're focused more on protein and protein development and let ethanol be what ethanol is, and it will be a contributor, but it won't be the story. So we're not going to spend a lot of money right upfront on deciding we want to just be the lowest CI producer because that really hasn't paid off yet, although there are several CO2 projects that are starting to take shape. We've seen them in Texas. We've seen some up north. I think that will help lower the CI scores a lot. But again it's going to be about discipline and where does the margin go to. I think what we've seen is, obviously in bio and renewable diesel, they keep a lot of that. In ethanol, we haven't been able to, but because we just make too much.

So overall, we're not going to put our bet around low CI as much as we are about putting all of our future into protein and innovation. We have a big -- ethanol is a very classic ESG industry that doesn't get any credit for it. We use less power. We use less gas. We use less water. We do a horrible job of telling our ESG story to the world as an industry. We're trying to change that. I think the industry needs to start to change that because we are really the lowest-carbon fuel, one of the lowest-carbon fuels produced in the world today and get no credit for that because our story was hijacked, as you've heard me say in the past. So we're going to try and do a lot more around our ESG story and what we're doing at Green Plains is so significant. Even think about protein. Let's go back to protein and talk about ESG and what we're doing. Remember, the more we replace our product into aquaculture. If you think about land use, it takes a little over one pound of feed to make one pound of gain in aquaculture versus the cattle business we just sold is like five, six pounds of feed to make one pound of gain. Think about the land use reduction in making protein out of our high-protein products that we can even discuss as part of our story. It's a pretty big part of the story. I think that's part of the reason why we have such attractiveness from not only our customers but potential investors and even financing around our lower ESG, our better ESG story. I think you're going to see more and more of that come out, especially out of Green Plains. We're excited to tell that part of the story. But I think it's a land use play around ESG with this high protein as much as it is. I would put my investment into that before I just think low CI towards is the way to Nervana.

Jordan Levy, Analyst

Certainly. Makes a lot of sense. Then just as my follow-up, on the optimal and the recent agreement as well on the aquaculture market. In terms of the high protein, how the plants roll out, is there -- is there a time where you get to that point of redundancy in volumes where you're at the scale you need? Or is that something that can be done as Wood River gets brought online, and you don't need a ton of plants online to really target specific customers in that market?

Todd A. Becker, President, CEO & Director

I mean I'll give you an example. It really just depends on how many products that we're going into. But for example, one of the largest poultry companies really doesn't even notice you until you have 1,000 tonnes a day of something as an industry. Today the U.S. ethanol -- or we don't across all of our plants and others that are building, we're getting closer to 1,000 tonnes a day but that's just 800 to 1,000 tons a day that's just one customer. So I don't know that we'll ever get to a point in order to even need to get to a point where all of our plants have to be running. But I would tell you, the more we produce, the more we see inclusion rates. We can't really even get into big time animal production systems with our product because we don't have the redundancies. And at Green Plains, our first three or four or five plants could end up in pet and maybe into aqua before we even get into other markets, although I will tell you, we are developing the other markets and would sell those markets as well. I think we will do some of that, especially dairy.

There's really a big dairy impact in terms of milk yields from our methionine levels and our amino acid levels that we're already seeing milk yields go higher and we can already replace high-value products like a blood meal or something like that in dairy. So we've run -- we worked on the Cornell studies. This is truly what we think is traditional dairy feeds has soy pass in it because of the way that it's structured, this has actually performed better than soy pass and dairy trials as well. So we're very excited about it. I think that it's going to be -- even our 700,000 tonnes doesn't make a dent on the world protein demand or world protein supply, but it makes a dent on our company. And even if the whole industry rolled this out, which I don't think they will because I think it takes billions and billions of dollars to do that. So it'll take a long time. Even if the whole industry rolled this out, we probably produce somewhere between 7 million and 8 million tons total as an industry in a 15 million ton growing demand per year. So we can only produce as an industry, half the total demand growth in protein per year. I think that's why we're so excited about this. And again it's just like if you think about a wet mill, there's 100 and 200 products, and we're going to have five and six now, and one of those products competes with some of the high protein that they do, but the demand is so big.

Operator

And our next question comes from Eric Stine with Craig-Hallum.

Eric Andrew Stine, Analyst

You've covered a lot side. So I'll just go with one. But you mentioned on USP and at Europe, you'd be upgrading to GNS. Just curious on thoughts on doing that at Wood River and when you may -- if you do that, when that may come online?

Todd A. Becker, President, CEO & Director

Yes. I think from the industrial alcohol business, upgrading G&S is necessary, especially at York because the cost -- it just doesn't cost very much because it was already a beverage-grade facility. Our quality of our product is so good even before we do anything that we know we'll get there very quick with some of the highest quality. And hopefully, at that point, we're going to protect the relationships for sure that we have, the customers that have really helped us along as we develop this, they're going to have long-term potential, and we're going to really try and make sure that we maintain those relationships first. But I think beyond that, I don't see us hiring a bunch of GNS salespeople. I think we'll work with other companies that do this, and we're talking to others about just basically using their distribution channels because I don't see us, again putting a bunch of GNS salespeople out there, but I do believe that we'll participate in some of those end-use markets that take the highest quality market -- highest-quality alcohol, whether drinking or pharmaceutical or even beyond that.

In terms of Wood River, we're going to go to USP first. We'll see how we do in the G&S markets. There's plenty of USP demand in consumer products today that we're seeing that -- or I'm sorry, USP demand that we're seeing in consumer products today. We have a lot of these major CPG companies that have done business with us now that are waiting for the upgrade in Wood River as well. So I don't think we need to go all the way there because it's going to be costly to do that. If we see the value to do that, we will. Again the benefit for us was the fact that York was already a beverage-grade facility at one point and makes such a high-quality product already that our path to GNS is much faster and cheaper than it would be taking Wood River there.

Operator

And sir, I'm not showing any further questions in the queue.

Todd A. Becker, President, CEO & Director

All right, everybody, thanks for coming on the call. I know we talked a lot, probably spend a little more on our future than we have in the past in terms of outlining the numbers. But I think it's important for everybody to see that. There's a lot of other information around Page 10 that we'd love to share with you. We continue to make great progress on our sales programs and the interest and innovation. And again a lot of transitory stuff going on as well, but we're on a path, and we believe in the path. I think we're going to accelerate as quickly as we can to transform and hopefully, can read back through what we presented today. And any questions, please give us a call, and we're very excited about the future. So thanks a lot for coming on the call today and we'll talk to you next quarter.

Operator

Thank you. Ladies and gentlemen, for participating in today's conference. You may now disconnect.

Have a wonderful day.