# Orbia

## First Quarter 2024 Earnings Results

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**CORPORATE PARTICIPANTS**

**Diego Echave**– *Vice President of Investor Relations*

**Sameer Bharadwaj** – *Chief Executive Officer*

**Jim Kelly** – *Senior Vice President and Chief Financial Officer*

**PRESENTATION**

**Operator**
Good morning, and welcome to Orbia's First Quarter 2024 Earnings Conference Call. As we turn to slide 1, all participants will be in listen-only mode. Should you need assistance, please signal a conference specialist by pressing the star key followed by zero. After today's presentation, there will be an opportunity to ask questions. To ask a question, you may press star then one on your touchtone phone. To withdraw your question, please press star then two. Please note, this event is being recorded.

I would now like to turn the call over to Diego Echave, Orbia's Vice President of Investor Relations. Please go ahead, sir.

**Diego Echave**
Thank you, operator. Good morning, and welcome to Orbia's first quarter 2024 earnings call. We appreciate your time and participation. Joining me today are Sameer Bharadwaj, CEO, and Jim Kelly, CFO.

Before we continue, a friendly reminder that some of our comments today will contain forward-looking statements based on our current view of our business, and actual future results may differ materially. Today's call should be considered in conjunction with cautionary statements contained in our earnings release and in our most recent Bolsa Mexicana de Valores report. The Company disclaims any obligation to update or revise any such forward-looking statements.

Now, I would like to turn the call over to Sameer.

**Sameer Bharadwaj**
Thank you, Diego, and good morning, everyone. First, I would like to thank our more than 24,000 employees operating in over 50 countries worldwide for their steadfast commitment to serving our customers and creating value for our stakeholders as we work to advance life together. We are harnessing the power of material science and innovation to develop solutions that enable the energy transition, enhance food security, provide clean water and sanitation, improve infrastructure resilience, and increase information access and connectivity.

Orbia wouldn't be Orbia without our community of dreamers, doers, and builders who bring purpose to life everywhere they are, and the world has started to understand how distinctive this is. Orbia was recently recognized by the Women's Choice Awards for being a top company for women and millennials in the U.S. as well as by the Reagan Awards amongst a global roster of blue-chip B2B and B2C companies for the launch of our first employer brand that has activated our internal community, excited interest from external talent, and conveyed our truth as the place where purpose comes to life.

Now moving on to slide 3, I will share a high-level overview of our first quarter 2024 performance. For the quarter, revenues of $1.9 billion decreased 18% and EBITDA of $253 million decreased 46% compared to the prior year's quarter. The first quarter results were in line with guidance for the first half of 2024, which we provided last quarter. We continue to navigate persistent high interest rates around the world which have impacted demand for our products across most of our end markets especially those related to construction and infrastructure.

In addition, excess PVC supply from China and the U.S. has reduced PVC prices globally impacting our Polymer Solutions business. Nonetheless, our business fundamentals are robust. We remain committed to achieving our long-term targets and creating value for our shareholders through executing our strategy and developing differentiated and truly innovative products and solutions that tackle the world's toughest challenges.

I will now turn the call over to Jim to go over our financial performance in further detail.

**Jim Kelly**
Thank you, Sameer, and good morning, everyone. I'll start by discussing our overall first quarter results. I'll remind you that the year-ago comparisons for the first quarter of 2024 are against a particularly strong first quarter of 2023.

Turning to slide 4, on a consolidated basis, net revenues of $1.9 billion were down 18% year-over-year reflecting lower sales across all business segments. The results were impacted by ongoing demand weakness across many of our key markets due to the continued high interest rate environment.

EBITDA of $253 million decreased 46% year-over-year largely due to lower volumes and decreased prices across our businesses. Operating cash flow of negative $50 million decreased by $217 million compared to the prior year quarter primarily due to lower EBITDA, and free cash flow in the quarter was negative $201 million, a decrease of $202 million year-over-year. Both cash flow measures reflect normal seasonal increases in working capital. Our effective tax rate was negative 47% for the quarter as compared to approximately 64% in the prior year period.

The decrease was primarily due to the earnings mix, appreciation of the Mexican peso against the U.S. dollar, and inflation, partially offset by a reduction in tax reserves. Consistent with previous years, there were no dividend payments during the first quarter. The Annual Shareholders Meeting held on April 9, 2024, approved a $160 million ordinary dividend to be paid in four installments with the first installment of $40 million already paid on April 23, 2024.

Turning to slide 5, I'll go through our performance by business group. In Polymer Solutions, first quarter revenue was $658 million, a decline of 15% year-over-year largely due to significantly lower PVC and caustic soda prices driven by weaker demand and oversupply in the export markets. First quarter EBITDA was $86 million, a decrease of 41% year-over-year, with an EBITDA margin of 13%. The volume and pricing factors noted above were partially offset by decreased input costs from lower ethane prices in the U.S. and lower electricity costs in Europe.

In Building & Infrastructure, first quarter revenues were $622 million, a decline of 10% year-over-year. The lower revenues were due to lower volume and prices with challenging market conditions across parts of Western and Northern Europe while Latin America remained largely stable. First quarter EBITDA was $65 million, a decrease of 7% year-over-year with an EBITDA margin of 10%. The decline in EBITDA was largely driven by the lower volumes and prices I just mentioned partially offset by benefits from business optimization efforts.

Moving on to Precision Agriculture, first quarter revenues were $256 million, a decrease of 7% as a result of lower demand mainly in Turkey and the U.S., partially offset by higher demand in China, India, and parts of Latin America. First quarter EBITDA was $29 million, up slightly year-over-year with an EBITDA margin of 11%, an increase of 90 basis points versus the prior year period. The EBITDA margin improvement was mainly due to operational efficiencies.

In Connectivity Solutions, first quarter revenue was $197 million, a decline of 43% year-over-year as compared to one of the business's strongest quarters ever last year. This was driven by lower volumes due to customer inventory management, projects that were deferred due to high interest rates, and unfavorable product mix. Slower than expected rollout of federal funding programs is also impacting near-term demand. First quarter EBITDA decreased 79% to $24 million with an EBITDA margin of 12%. This decline was driven by the reductions in volumes and unfavorable mix and lower absorption of fixed costs in existing and new facilities partially offset by benefits from cost optimization efforts.

Finally, in Fluor & Energy Materials, first quarter revenues were $190 million, a decrease of 22% year-over-year. These results were primarily driven by lower refrigerant volumes which were primarily due to step downs in F-gas quotas in the U.S. and Europe. In addition, we experienced certain delays in mineral shipments. This was partially offset by pricing resilience across all product groups.

First quarter EBITDA was $54 million, a decrease of 47% year-over-year with an EBITDA margin of 29%. The EBITDA results for the quarter were due to the lower revenues and the impact from the strengthening of the Mexican peso which were partially offset by cost control efforts.

In summary, we have started the year as we intend to continue it, controlling what we can control by focusing on commercial and operational excellence and fiscal discipline. Our business is resilient with strong cash flows over time and a healthy balance sheet, and we've proven our ability to navigate challenging market environments.

With that, I'll now turn the call back over to Sameer.

**Sameer Bharadwaj**
Thank you, Jim. At Orbia, we firmly believe that what is good for the world is also good for our business. On slide 6, I would like to share some of the highlights from our 15th Annual Impact Report which was released in March. This year's issue encompasses the Company's overall performance as well as key accomplishments in advancing sustainable solutions.

Additionally, the report includes sustainability milestones we have achieved across our three strategic pillars: low-impact operations, sustainability solutions, and investments in high-impact ventures including more detailed information on clean technology investments across the business groups and through Orbia Ventures. There is also Orbia's first double materiality assessment completed in accordance with new emerging ESG regulation, an updated climate risk and opportunity assessment, details on the Company's Net Zero road map, a new water positive framework, a new Orbia supplier code of conduct, among many more highlights.

We are also proud of the continued expansion of our sustainable solutions portfolio including Fluor & Energy Materials' new low global warming potential refrigerants, Precision Agriculture's innovative digital farming add-ons, and Connectivity Solutions' launch of the FuturePath ECO and MicroDuct ECO conduit in North America to name just a few offerings. Demonstrating the Company's commitment to sustainability, three of Orbia Ventures' portfolio companies, Ascend Elements, Verdagy, and Tortuga AgTech, earned recognition from *Time* magazine as top GreenTech innovators for 2024.

Additionally, we announced that following a very successful beta launch in 2023, our Fluor & Energy Materials business will be scaling up its custom electrolyte offering for critical non-electric vehicle applications. Our high-quality lithium-ion battery electrolytes are domestically produced at our new facility in Madison, Wisconsin and are commercially available.

Finally, I am proud to have participated in the groundbreaking of the PVDF manufacturing facility in Augusta, Georgia with our joint venture partner, Syensqo. We are happy to be partnering with the global leader in the manufacturing and commercialization of PVDF to transform the North American lithium-ion battery supply chain, and we expect that this plant will begin operations in late 2026.

The entire Orbia team is working for a positive global impact and a world where future generations thrive. I'm proud of their many achievements.

Turning to slide 7, I will now provide an update to our outlook for the coming year. We remain cautious regarding our results for the year due to the limited visibility around inflation persistence and the possibility of interest rates remaining higher for longer across the world. Therefore, we are revising EBITDA guidance for the full year 2024 to $1.3 billion to $1.4 billion, and we will continue to update the outlook as the year progresses. Total capital expenditures are expected to be approximately $600 million for 2024 which includes maintenance investments and strategic growth-related investments. The effective tax rate for the year is expected to be between 29% and 32%.

Now looking ahead in each of our business segments for the coming quarter and the remainder of the year. Beginning with Polymer Solutions, we expect stable general resin and caustic soda prices with the possibility of marginal improvement in demand driven mainly by a recovery in building and construction demand. However, we are maintaining a cautious outlook due to the impact of oversupplied export markets, a slower pace of interest rate reductions, and global logistics challenges. We will continue to maximize operating rates, tightly control discretionary spending, and focus on markets with better margins.

In Building & Infrastructure, we expect continued headwinds across parts of Europe and stable conditions in most of Latin America. We will continue to focus on strengthening our presence in recently entered geographies, advancing the development of new products and applications, and executing cost optimization initiatives.

In Precision Agriculture, we are continuing to see weakness in the U.S. and Turkey offset by strength in parts of Latin America, China, and India. We remain focused on growth in extensive crops scaling the roll out of our digital farming solution, GrowSphere, and introducing new and differentiated products.

In Connectivity Solutions, we are seeing volumes grow month-over-month with a gradual improvement in the product mix, and further improvement is expected as customers finalize their inventory management initiatives. We also anticipate an uptick in activity as US government infrastructure programs such as BEAD are funded, which at this time, appears to be likely late in 2024.

Finally, in Fluor & Energy Materials, we expect stabilization as refrigerant markets adjust to new quota levels and strength in product segments across the board. As we ramp up investments related to planned energy materials projects, we will maintain strict control on fixed and operating costs.

In closing, as we move forward into 2024, we remain intensely focused on operational, commercial and financial discipline. We will continue to execute our long-term strategy of creating value for our shareholders through disciplined capital allocation. We will provide an investor update on our long-term plan in the summer. Confirmation of the date and time will be forthcoming. Thank you for joining us today and for your continued interest in Orbia.

Operator, we are ready to take questions at this time.

## QUESTIONS AND ANSWERS

**Operator**
Thank you. We will now begin the question-and-answer session. To ask a question, you may press star then one on your telephone keypad. If you are using a speakerphone, please pick up your handset before pressing the keys. To withdraw your question, please press star then two. We will now pause momentarily to assemble our roster.

Today’s first question comes from Pablo Monsivais with Barclays. Please go ahead.

**Pablo Monsivais**
Hi. Good morning, Sameer, Jim, and Diego. Thanks for taking my question. Just kind of a follow-up to your remarks, Sameer. What incremental views do you have from last quarter to current on which sectors can we see more decisive steps towards a major improvement? In other words, which sectors could perhaps surprise us on the upsides soon? Thank you.

**Sameer Bharadwaj**
Good morning, Pablo, and thank you for your question. Let me actually take it business-by-business. In Polymer Solutions, as we've said, we've seen some stabilization of pricing. PVC prices are now in the range of between $750 to $900 depending on what part of the world you're in, and we've seen some improvement in caustic soda pricing as well, and this, coupled with lower ethane costs and lower energy costs in Europe is providing some stability to the business. In fact, in the first quarter, our Polymer Solutions business did quite well, and the numbers you're seeing are despite a restructuring charge to our announced closure of a facility in the U.S.

Now, we are seeing the stability continue over the rest of the year, but demand overall remains weak, and there is an overhang of PVC inventories from China, and so we are not expecting massive improvements over the course of the year, but so far, things look quite steady. If interest rates come down sooner, that would be a significant catalyst and a significant boost because we know that there is pent-up demand in our end markets. Our specialty compounds business actually is seeing a very strong return in demand in our core wire and cable segments and medical segments, and so we are seeing that momentum continue.

Moving on to Building & Infrastructure, the weak spots remain Germany and Western Europe, some of the Scandinavian countries, coupled with a stable market environment in Latin America.

In Precision Agriculture, we'd like to see a turnaround in the U.S., and unfortunately, our core high-value crops, basically almonds, walnuts, pistachios which use heavy wall drip equipment, that hasn't seen a rebound yet with the low crop prices. However, we have done quite well growing our thin wall business, but that mix is not as good as the heavy wall business. So, we have seen growth in our thin wall and in extensive crops, good performance in China, in India, and Latin America, and then when our core heavy wall markets improve, we should see significant recovery in our Precision Agriculture business.

Now, perhaps the one that's on everyone's mind is Connectivity Solutions, and there what we really saw was an inventory correction at our customers, and as our customers are working through their inventories, we are seeing order activity pick up. In fact, our lead times are now up to four weeks, and now we are rushing to add capacity or labor so that we can get orders out of the door. So, we are seeing growth in volumes week-over-week, month-over-month, and we'd like to see the mix improve as well at the same time, and so we'll see how the year develops. Our expectation is we'll still have a somewhat weak environment in Q2, and as we get later in the year, things should get better and better.

Then, finally, in Fluor, as I've mentioned before, this is a transition year with a quota step down, and when the F-gas quota steps down, and this has happened both in the U.S. and Europe, the volumes will obviously decrease, and you would expect that to be offset by an increase in prices, but there is a time lag for that. That time lag could be several months or quarters. Having said that, we have a stable and strong pricing environment across the board in our Fluor chain, and so I'm not concerned about that for the full year.

At a high level, I know we have revised our guidance slightly a bit, and that's purely given the outlook for interest rates staying higher for longer. We've just been conservative in our guidance because it's really hard to call how things will evolve in the second half of the year. Hopefully, that addresses your questions, Pablo.

**Pablo Monsivais**
It does, Sameer. Thank you very much.

**Operator**
Thank you. The next question comes from Tasso Souza with UBS. Please go ahead.

**Tasso Souza**
Hi, Sameer. Hi, Jim. Thanks for taking my questions. I think I had two on my side. First, we know that market dynamics have been challenging, not just for Orbia but for several players, and you have seen other players seeking some, [indiscernible] in this challenging environment. Could this be the case for Orbia as well? Is the company considering divesting entirely or maybe a part of some of these businesses to raise funding?

My second question, if you could provide your expectations for China and Asia. We know there is this excess of supply from PVC coming from the country, and of course, some of uncertainties on the country and the region growth in the upcoming years as well. By when should we expect a greater normalization on the supply and demand mainly coming from China and Asia, and how may this impact Orbia's 2028 plan, of course, mainly on the investments you had guided in the PVC business? Those are my questions. Thank you.

**Sameer Bharadwaj**
Very good, Tasso. Let me make sure I understand the first question. It's about if we are considering any portfolio moves partially or in whole in any of our businesses. Is that correct?

**Tasso Souza**
Yes, that's it. Maybe, I don't know, divesting earlier. I state from some of the businesses to get a better funding in the short term.

**Sameer Bharadwaj**
I see. Okay. Very good. So, look, let me take the first part of your question. Right now, markets, I'd say they are—it's a weak environment, but things are coming off the bottom, and we are seeing steady improvement. Month-over-month, we are seeing an improvement across the board in all of our businesses, and our focus is really on fiscal discipline, driving the top line and the bottom line, managing our cash flow and our capex, and delivering strong bottom line results, and positioning our business strongly for a recovery when the recovery comes.

So, we have done well relative to our peers in terms of maintaining our market position or even growing our market position in a very tough environment, and so in that context, it's a stable environment. It's a strong, stable environment with a very tight control on fiscal and operating discipline, and of course, we are taking significant actions in terms of optimizing our assets and cost base and so on.

Now, in terms of funding for our growth initiatives, our key growth project, which will be funded this year, is our PVDF facility that will be partly in St. Gabriel and partly in Augusta, Georgia, and I was actually at the groundbreaking ceremony in the Syensqo facility in Augusta, Georgia yesterday. This is a huge milestone for the U.S. in terms of securing the North American supply chains, and this project, we are well on track to get this project executed in the timeframe that we have outlined. We have no concerns about funding these growth investments at this time.

We have subsequent investments coming up in our Fluor business as well, which as of yet, haven't been approved by the Board, and we'll soon be taking it to the Board for approval, in particular, the LiPF6 project also in St. Gabriel. Once again, these are marquee projects which will significantly change the earnings power of Orbia and will be a key part of our growth plan for the long term.

So, in that context, we are well positioned today to manage our core businesses, drive the top line and bottom line, and yet be able to fund our growth projects for the long term.

On your question on China, as I mentioned in the previous call, we actually sent a team to China to meet with a number of people there, particularly people in the PVC supply chain, to understand the dynamics. What is clear is with the real estate bust in China, consumption has come down significantly which makes available 2 million to 4 million tons of PVC available for export, and this overhang we believe will last for at least a couple of years.

Now of course, PVC from China does not find its way to all places in the world. We don't see a lot of PVC from China, for example, coming into the U.S. or Europe. They need to meet REACH regulations, but you do see a significant amount of PVC coming into other markets, in particular in Asia, which has depressed prices worldwide. So, I would expect that to continue for the next year or two.

Our long-term thesis on supply and balance on PVC remains unchanged, and so while this might push it out by a couple of years, long-term the world still needs an additional 1.5 million tons of capacity every year, and over the next five to six years, the gap between supply and demand will close and utilization levels will go higher. So, the world will eventually need more PVC capacity, and as I've mentioned in the last call, we have put our investment on hold, and we will evaluate at the right time whether it makes sense to resume that investment. So, at this time, it is not a priority.

Finally, in terms of our strategic plan for 2028, obviously, with the exclusion of the large PVC project, that has a material impact on the magnitude of that plan and its contribution. The absence of that project also significantly reduces the amount of capital over that planned period, and meanwhile, we are replacing that project with many other attractive projects of very high value in some of our other businesses and in particular, in the fluorine chain, and so you heard about PVDF and LiPF6, but there are many other projects in the pipeline that are at early stages that we haven't talked about, and we will share glimpses of that in the strategic plan update later in the summer. Hopefully, that addresses your questions, Tasso.

**Tasso Souza**
It does. Thank you.

**Operator**
Thank you. As a reminder, to ask a question, you may press star then one on your telephone keypad. The next question comes from Andres Cardona with Citi. Please go ahead.

**Andres Cardona**
Good morning, Sameer, Jim. Thanks for the presentation. I have two questions following on Tasso's point. First, just to clarify, you said the excess supply from China is between 2 million to 4 million tons, just to clarify the number. I remember in the previous quarter you said 2 million, and now you have a wider range.

The second question, maybe changing the angle that Tasso proposed, from a relative basis, I agree with you, Sameer. You have relatively strong balance sheet versus competitors, and certainly the environment for chemicals has not been easy. There may be some inorganic growth opportunities out there. May you consider to do some M&A in this challenging context, maybe opportunistic M&A, given the relative strength of your balance sheet? Thank you.

**Sameer Bharadwaj**
Very good, Andres. So, let me clarify China. China has a significant part of the world's PVC capacity, and that's been roughly, the nameplate capacity is around 28 million tons, of which the available capacity is more like 23 million, 24 million tons. So, not all of the nameplate capacity is actually usable, and there, they have been running at around 70%, 80% utilization. Now, their domestic demand is about 18 million

tons and historically, they've been exporting about 2 million tons per year which leaves another potential 1 million to 2 million tons available for export.

Now, keep in mind that a big part of Chinese capacity is coal-based PVC. Roughly 65% to 70% of the capacity is based on coal, and of that, another 15% to 20% are non-integrated coal players, and those non-integrated coal players, their cost structure is above $1,000 a ton, and they are not likely to play in the export market. So, when you put this all together, today we are seeing about 2 million tons of PVC being exported, but there is room for another maybe 1 million to 2 million tons of PVC for export if some of these companies choose to export below cash cost. Hopefully, that helps you understand that situation.

In terms of M&A, clearly with a strong balance sheet and a weak market environment for many of potential M&A targets, it could be an opportunity to find some good assets, and we are, of course, constantly looking for potential opportunities that might be either a geographic complement to our footprint or a technology complement to our existing technology base, and so we are constantly looking for opportunities, but the bar is very high.

So, when you do M&A, typically you have to pay significant multiples of EBITDA whether it's 8 times, 10 times, 12 times, and you would have to expect or believe in significant growth or synergies for those M&A investments to be accretive or to pay off over the long term. At this moment in time, we have a very strong portfolio of organic growth projects across all of our businesses, not just in our energy materials opportunities, but there are significant opportunities in next-gen refrigerants, in next-gen medical propellants in Fluor, in Building & Infrastructure business with the new frontiers we have opened in the U.S., India, and Indonesia, the urban climate resilience and indoor climate systems portfolio in our Building & Infrastructure business, the extensive crops effort and digital farming effort in Precision Agriculture.

So, we have organic growth projects, which frankly, they come at a multiple of EBITDA of 2x to 3x. In that context for us to do M&A, it would have to be a very, very compelling opportunity for us to do M&A.

**Andres Cardona**
Thank you, Sameer. Totally agree with your last point. Just wanted to check if something has changed in the last month. Thanks for the answers.

**Operator**
Thank you. The next question comes from Viviana Vite with GBM. Please go ahead.

**Viviana Vite**
Hello. Thanks for taking my question, Sameer and Jim. My first question, just to clarify your previous comment, are you taking out of the equation your PVC expansion project until further notice? My second is about you mentioned Dura-Line's EBITDA was affected by unfavorable product mix, but could you explain just further on this? Thank you.

**Sameer Bharadwaj**
Okay, so Viviana, let me make sure I understand both of the questions. One is about the PVC expansion, and the second one was about the product mix in Connectivity Solutions.

**Viviana Vite**
Yes.

**Sameer Bharadwaj**
Okay, so yes. The PVC expansion, as we had said in the last earnings call, we have put that project on hold, and given the supply demand situation in the world today and the dynamics with China, it doesn't make good sense from a capital allocation standpoint to proceed with the project at this point of time. So,

as I have said earlier, we see the peak of the cycle, it's going to be at least two to three years further out, and we will reevaluate the investment if the market conditions improve and the business case makes sense.

Then, in terms of the product mix for Connectivity Solutions, a lot of our volumes in the first quarter were driven by our standard ducts and our advanced products, which are MicroDuct and FuturePath the volumes of those products have been lower in the first quarter, and this is largely driven by the inventory situation at many of our key accounts. As the inventory correction is completed at our key accounts and they begin to start ordering again, the product mix is also expected to improve.

**Viviana Vite**
Thank you very much.

**Sameer Bharadwaj**
Thank you.

**Operator**
Thank you. The next question is from Alejandro Lavin with Santander. Please go ahead.

**Alejandro Lavin**
Hi. Good morning everyone. Thank you for taking my question. I have just a quick one on your EV batteries project. I mean, we have seen some news headlines recently that the demand for electric vehicles has slowed down. So, I'm wondering how does that change the trajectory of the opportunity of this project that you have that was and probably remains very exciting for the next couple of years? Has that changed over the last couple of months, and what are your thoughts on the market today?

**Sameer Bharadwaj**
Excellent, Alejandro. That's a fantastic question, and there's a lot of press out there about the decline in the growth of EVs and a slowdown in adoption and some announcements of slowdown from some of the large automakers, which frankly, is not surprising to us. So, while I was actually at the groundbreaking ceremony of our PVDF joint venture at the Syensqo site in Augusta, Georgia yesterday where we had representatives from the Department of Energy and from the White House, as well as many customers. And in conversations with the customers, one thing is clear, from a long-term standpoint, transportation will go to electric vehicles. The transition is going to take some time for two reasons.

One, the charging infrastructure needs to catch up, and also in that context, because today the batteries have a range of about 300 miles, so the hesitation in consumers buying EVs comes from a range anxiety as well as lack of EV charging infrastructure. What we've seen is that a commitment from the White House and many other stakeholders to significantly advance its charging infrastructure and that should catch up, and there have been significant advances in battery technology. Just yesterday, CATL announced a battery that can go 600 miles and be recharged in ten minutes. So, these will evolve.

Now, what we hear from the customers is that plug-in hybrids will play a very important role in this transition, and so today, you have hybrids where basically it's an internal combustion engine vehicle with a small battery. This will transition to plug-in hybrids, which will be a car with a big battery and a very small engine, and then finally, it goes to battery electric vehicles. It is very clear that from an energy efficiency standpoint, an internal combustion engine has an efficiency of only 15%. Most of the energy is lost as heat, whereas with a fully electric vehicle, even if you use the same gasoline to make electricity and you put it in the battery, that's a 70% efficiency. So, there's a 4 times energy efficiency arbitrage, and as the cost of batteries go down, that will completely outweigh the benefits of an internal combustion engine vehicle, but the transition is going to take its time.

The view for battery capacity by the end of the decade that we are working with is about 800 gigawatt hours to 1 terawatt hour, which is very conservative, and even if it were half of that, the amount of capacity that we are planning to put in is going to be a small portion of the market. So, for us, our key value proposition is that we are the only ones that can secure the North American value chain for lithium-ion batteries, and we can do it cost competitively with China. That's a very compelling value proposition, and that's what makes us excited about these projects. Now, of course, the journey is a transition, and it will have its hiccups over the next several years.

**Alejandro Lavin**
Okay. Understood. Sounds good. So, I guess we're all on the same page that the direction of travel has not changed. Maybe it's just going to be maybe a slower transition, and at the same time, just a follow-up question. So, with the recent nearshoring, reshoring trends, do you think that gives also a competitive advantage in the North America chain of all these projects given the need for the United States security on own supply chains especially in this important industry?

**Sameer Bharadwaj**
That I can tell you, the senior White House advisor who was there yesterday clearly acknowledges how Mexico plays a very critical role in the nearshoring and in this transition, and so Orbia is extremely well positioned with our mine in Mexico, our assets on the border in Matamoros for making HF, and then our specialty materials, energy materials plant that we are planning to build in Louisiana. That really secures our North American value chain for batteries, and then eventually, we will be looking at semiconductors which will be a little bit in the future.

**Alejandro Lavin**
Okay. Sounds good. Thanks a lot.

**Operator**
Thank you. This concludes our question-and-answer session. I would like to turn the—please excuse me, we have a follow-up question from Viviana Vite with GBM. Please go ahead.

**Viviana Vite**
Thank you very much. My last question is related to your 2024 guidance. Would you consider revising it to the upside or downside given an interest rate decrease slowdown?

**Sameer Bharadwaj**
I mean that's a fair question, Viviana. I wish I could forecast the future, but what I can tell you is Orbia is a very resilient company. Each of the segments we operate in have very favorable long-term macro trends in terms of clean water, sanitation, housing shortages, the telecom infrastructure, energy transition, and a reduction in interest rates will significantly capitalize all of our end markets. It's really hard to predict when this might happen.

Meanwhile, we run the business with very tight discipline, and we remain focused on our long-term high-value growth projects and should business conditions improve significantly we'll be transparent with the market about our outlook and whether it's upwards or downwards. Right now, the outlook just expresses some concern about the high interest rate environment, and should that change sooner than expected and we see improvement in the marketplace, we will share that update with you.

**Viviana Vite**
Thank you very much.

**Sameer Bharadwaj**
Thank you.

## CONCLUSION

**Operator**
Thank you. This concludes our question-and-answer session. I would now like to turn the call back over to Sameer Bharadwaj for closing comments.

**Sameer Bharadwaj**
Thank you very much. I thank everybody for joining the call. Once again, we will be doing a strategy update sometime in early summer, and the date for this will be forthcoming, and at this update, we will share with you our revision of the long-term strategic plan in the areas of focus and the excitement that we have about the future of Orbia. Thank you very much for being investors and thank you for your interest. Look forward to talking to you again soon.

**Operator**
The conference has now concluded. Thank you for your participation. You may now disconnect your lines.