Origin Materials, Inc.
2Q23 Earnings Conference Call Script
August 9, 2023

Operator

Thank you for standing by, this is the conference operator. Welcome to the Origin Materials Second Quarter 2023 Earnings Call. As a reminder, all participants are in listen-only mode and the conference is being recorded. After the presentation, there will be an opportunity to ask questions. To join the question queue, you may press * then 1 on your telephone keypad. Should you need assistance during the conference call you may signal an operator by pressing * and 0.

I would now like to turn the conference over to Ashish Gupta, Investor Relations. Please go ahead.

Ashish Gupta, Investor Relations

Thank you and welcome everyone to Origin Materials' Second Quarter 2023 Earnings Conference Call. Joining the call today from Origin Materials are Co-CEO Rich Riley, Co-CEO and Co-founder John Bissell, and CFO Nate Whaley.

Ahead of this call, Origin has issued its second quarter press release and presentation which we will refer to today. These can be found on the Investor Relations section of our website at originmaterials.com.

Please note on this call, we will be making forward-looking statements based on current expectations and assumptions, which are subject to risks and uncertainties. These statements reflect our views as of today, should not be relied upon as representative about views of any subsequent date, and we undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements in light of new information or future events. These statements are subject to a variety of risks and uncertainties that could cause actual results to differ materially from expectations. For further discussion on the material risks and other important factors that could affect our financial results, please refer to our filings with the SEC including our Quarterly Report on Form 10-Q filed on August 9, 2023.

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In addition, during today's call, we will discuss non-GAAP financial measures, which we believe are useful as supplemental measures of Origin Materials' performance. These non-GAAP measures should be considered in addition to and not as a substitute for, or in isolation from GAAP results. You will find additional disclosures regarding the non-GAAP financial measures discussed on today's call in our press release issued this afternoon and our filings with the SEC, each of which is posted on our website. The webcast of this call will also be available on the Investor Relations section of our company website.

With that, I will turn the call over to John.

John Bissell, Co-CEO and Co-founder, Origin Materials

Thank you, Ashish, and thanks to everyone joining us. Today, we will be referring to the slides that were posted to the Investor Relations section of our website earlier this afternoon. I will begin with a discussion of our Origin 1 start-up, provide an update on Origin 2, and discuss product development. Rich will then review our Q2 highlights and provide a commercial and regulatory update. Nate will conclude with a financial overview.

Regarding Origin 1, and the continued progress made by our team, I would like to point you to a new video that we posted today to the investor relations section of our website, providing a closer look at plant start-up.

I will begin on slide 5, with an update for Origin 1.

In late June, we announced that Origin 1, the world's first commercial-scale plant to produce Origin's intermediates – CMF, HTC, and oils and extractives – had initiated start-up in-line with prior guidance. This is a tremendous milestone in our journey to decarbonize the world's materials. It is also a testament to the strength of our team, which faced considerable COVID-19 and other related supply-chain headwinds. Origin 1, located in Sarnia, Ontario, Canada, scales up our core technology platform

for converting sustainable wood residues into intermediate chemicals, and we expect the power of our platform intermediates to be transformative for the chemical industry and how the world makes physical goods. Origin 1 is first and foremost a strategic asset to qualify applications for our intermediates. Apart from para-xylene and bio-PET, using product from Origin 1, we plan to explore or qualify FDCA, epoxies, resins, surfactants, sustainable carbon black, bio-asphalt, and biofuels. We expect to gradually ramp up Origin 1 operations, and we aim to optimally fulfill customer demand while we produce samples and qualify materials. We remain confident that we will be able to meet our production goals to support our revenue guidance.

Origin 1 enables the commercial-scale production of CMF, a versatile chemical building-block that can be used to make numerous downstream products, including para-xylene, which is the precursor to PET plastic, and FDCA, which can be used in numerous sustainable products and materials such as the next-gen polymer PEF. The commercialization of a molecule like CMF is historic – on the order of the commercialization of the ethylene molecule. After working with CMF for over a decade, we couldn't be more enthusiastic.

Turning to slide 7, we say that "CMF is a new chemical building block." But, what do we mean by that? An important chemical building block has a low cost of production, high versatility across applications, and differentiated performance. What we've seen historically is that when you combine those 3 qualities, you have a high impact building block. Throughout history, a relatively small number of key chemicals have unlocked and transformed the chemical industry. The most recent ones – polycarbonate, acrylate, and urethanes – were commercialized in the 1980s.

Introducing a new building block chemical is hard and takes time, but it is worth the effort. In 1942, ethylene reached a major milestone: the first production of ethylene through the catalytic cracking of ethane. What followed was decades of process

improvements, market penetration, and the rise of ethylene to a $125 billion dollar market. CMF is a similarly powerful molecule due to its low cost of production, high versatility, and differentiated performance. In the case of CMF, the differentiation is the low carbon intensity when it's produced from biomass using the Origin process, and the performance advantages of some of its applications.

Over the next decade, growing CMF will be analogous to growing an oak tree. For the first few years, most of an oak growth occurs underground as the root system is established. Only then does the tree get taller, stronger, grow branches, and become a mature oak. Similarly, in the chemical building block business, the first phase is to establish a foundation for long-term growth. We are engaged in these foundation-building activities every day, and we are excited about and committed to the journey ahead of us.

Turning to slide 8, we see CMF's versatility and transformative power. Here, a simplified chemical product manifold describes some of the chemistry that CMF makes possible on an industrial scale. From CMF, we can develop new classes of diols, amines, and diacids, in addition to drop-in molecules like para-xylene which you are familiar with as the precursor to PET plastic. Those chemical families, in turn, can be used to produce a range of surfactants, epoxies, polyurethanes, polyamides, and more. Growing and cultivating the branches of our CMF tree is the job of R&D and the work we do in collaboration with our partners.

Turning to slide 9, we are excited to announce the mass production of FDCA, a high-value downstream application for CMF, that will move forward to Origin 2, rather than Origin 3 as initially planned in April 2021. We are bringing FDCA forward for several reasons.

- First, we have seen stronger FDCA commercialization progress than we anticipated two years ago.

- Second, FDCA applications tend to be performance advantaged, and thus, offer higher margins than para-xylene and PET.

- Third, we have validated the drop-in deployment of FDCA within the PET market, providing a clear pathway to commercialization that is on-strategy for us and our customers.

- Fourth, we are excited for the potential of FDCA in other polyester nylon applications, and we look forward to providing updates on these as appropriate.

In summary, we are seeing broad support and momentum for FDCA commercialization. Indeed, the U.S. Department of Energy has previously shortlisted FDCA as one of the most promising bio-chemicals of the future.

Turning to slide 10, our FDCA go-to-market strategy is to begin with drop-in applications before moving into higher-margin applications requiring additional development work. These drop-in applications are not expected to require meaningful retooling of existing methods of production. We expect to develop FDCA within existing PET markets with the following phased approach:

1. Commercialize drop-in, “next gen” hybrid PET/F polymers offering performance advantages compared with traditional PET.

2. Commercialize the advanced polymer PEF, which also offers performance advantages compared with traditional PET.

Today, we are providing an update for Origin 2, our second commercial plant, to be built in Geismar, Louisiana. As just mentioned, we continue to make progress developing products and applications related to the design of Origin 2, including FDCA, PEF, and liquid biofuels derived from our oils and extractives stream.

While Origin 2 will focus primarily on FDCA production, and some of our PET customers have already begun expanding their orders to include FDCA, we remain committed to providing para-xylene for our bio-PET customers and plan to bring commercial quantities of para-xylene to the market before 2030. While our current plan is a rational prioritization of Origin's resources towards more profitable, typically performance-enhanced chemical applications at Origin 2, we also see massive demand for our drop-in bio-para-xylene. We believe that the best way to meet this demand will be through collaborations with others. We have been in active discussions with multiple strategic partners who are interested in licensing or co-developing low carbon bio-para-xylene plants using Origin's technology, both in the U.S. and across the globe, and most of which are large, well-capitalized industrial producers of petro-PTA, PET, and other downstream products who recognize the need for more sustainable products.

We are also updating our previously disclosed capital budget and construction timeline for Origin 2. As we first indicated in May 2022, we are facing a higher cost capital project environment than in early 2021, when we announced the initial plan for Origin 2. As such, we are revising the plant’s outlook and introducing a phased approach to construction. Adapting in this manner to the high-cost environment helps to reduce project risk as we move forward on the path to profitability.

Turning to slide 11, since Origin became publicly traded in 2021, we have witnessed profound market shifts, presenting both opportunities and challenges. Factors influencing our updated plan include:

- Significantly higher than anticipated demand for higher-margin products including FDCA, PEF, and liquid biofuels.
- Increased cost of labor, materials, process inputs, and metallurgy due to volatile global materials markets, requiring engineering re-work.

- Inflation and higher interest rates, and
- Higher costs due to COVID-related supply chain constraints and additional value engineering requirements that have extended project timelines.

Turning to slide 12, we now expect Origin 2 to be completed in two phases, with Phase 1 estimated to be completed in late 2026 to 2027, and Phase 2 estimated to be completed in 2028, compared with our initial expectation for a mid-2025 completion.

During Phase 1, the Company expects to achieve profitability from its oils and extractives stream. From this stream, Origin plans to produce a drop-in biofuel with potential applications including marine fuel and heat and power generation. Potential benefits include improved energy density compared with existing renewable alternatives and the sustainability benefits of increased bio-content – value propositions expected to be in high demand given, among other things, the decarbonization goals set out by the International Maritime Organization, a body of the United Nations. Phase 2 will expand production to include the mass production of platform chemicals CMF and HTC. Phasing the plant is intended to enhance overall efficiency while improving short-term and long-term economics.

The capital budget for Phase 1 of Origin 2 is expected to be up to $400 million while the capital budget for Phase 2 is projected to be up to $1.2 billion. This compares to the original $1.07 billion dollar aggregate capital budget estimate first provided in February 2021.

As Nate will discuss in more detail, we are exploring multiple opportunities to finance Origin 2 including a combination of existing cash, previously indicated traditional project financing, federal and state government programs, licensing agreements, and strategic partnerships. We expect capital expenditures of up to $50 million for

2024, with the majority of Origin 2 capital spend to occur following the project's final investment decision, or FID, in 2025.

In summary, the Origin 2 project represents a significant scale-up of our technology, core process, and capabilities. This scale-up will be instrumental in enabling Origin to execute on its mission, and greatly expands our ability to deliver product and address customer demand. We remain deeply committed to the project and we will do the work, make the investment, and build the relationships to make Origin 2 a success.

With that, I would like to turn it over to Rich who will review our Q2 highlights, and provide a commercial and regulatory update.

Rich Riley, Co-CEO, Origin Materials

Thanks, John. Moving to slide 13, customer demand remains strong, with offtake and capacity reservations now exceeding $10 billion dollars, up from $9.3 billion in February 2023. We are excited to have crossed this significant milestone and to highlight that the majority of the growth in demand was for FDCA, which is where our team has been focused. As mentioned in prior calls, we do not plan to provide updates on this number every quarter, but will provide updates as appropriate.

We are maintaining 2023 guidance for revenue of $40 million to $60 million dollars and Adjusted EBITDA loss of $50 million to $60 million dollars.

We are also pleased that revenue, generated by joint development agreements and our supply chain activation program, continued to grow in the second quarter, in-line with guidance.

We continue to see strong positive tailwinds for our technology and business model. Origin continues to explore several programs funded by the IRA, or Inflation Reduction Act, including the Department of Energy's Advanced Industrial Facilities Deployment Program, or AIFD, which we expect to hear feedback on by the end of

the year, and the Section 48C Advanced Manufacturing Tax Credit. We remain optimistic that these programs could provide meaningful support for the construction of Origin's plants.

Turning to slide 14, in early August, we were excited to announce a strategic partnership with Sustainea Bioglycols, a joint venture between Braskem, the largest thermoplastic resin producer in the Americas and a global pioneer in biopolymers, and Sojitz Corporation, a Japanese global trading company with wide-ranging market networks and a strong presence in Asia. Our partnership centers on advanced bio-based materials, and as part of the partnership, Sustainea signed two multi-year capacity reservation agreements to purchase renewable chemicals from Origin, including bio-based PTA and bio-based FDCA.

Turning to slide 15, in late July, we were pleased to announce that Origin and Husky, a pioneering technology provider of injection molding equipment and services to the food and beverage packaging and consumer products industries, had achieved a milestone in the commercialization of PET incorporating the sustainable chemical FDCA for advanced packaging and other applications.

Specifically, Origin successfully polymerized the bio-based sustainable chemical FDCA into the common recyclable plastic, PET. Husky then molded the resulting "PET/F" hybrid polymer into preforms that were then blown into bottles. The companies used Husky's injection molding technologies and manufacturing equipment, a commercial manufacturing-scale level of processing demonstrating the ability of PET/F, a polymer made with FDCA, to be integrated into existing PET production systems. This innovation demonstrates a pathway for the drop-in market adoption of FDCA to produce superior polymers cost-effectively from biomass using Origin technology. Our PET/F polymers offer improved performance compared with traditional PET plastic, with properties like enhanced mechanical performance and superior barrier properties controlled by adjusting manufacturing conditions and the quantity of the FDCA copolymer.

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Turning to slide 16, in early August, we announced a strategic partnership with Terphane, a global leader in specialty PET polyester films, to produce sustainable, high-performance bio-polymer films. As part of the partnership, Terphane signed a multi-year capacity reservation agreement to purchase the advanced bio-polymer PEF for use in film applications, including food and beverage packaging and high-value industrial applications.

Turning to slide 17, in early August we announced a strategic partnership with Proman, a leader in natural gas-derived products and one of the world's leading producers of methanol, centered on low-carbon biofuel production utilizing Origin's technology platform and Proman's worldwide fuels capabilities and expertise. As part of the partnership, Proman and Origin Materials signed an agreement to explore the production and global distribution of low-carbon biofuels.

Low-carbon-intensity biofuels made from wood waste reflect the future of biofuels as the industry moves aggressively towards decarbonization. Origin's technology platform is uniquely positioned to deliver these renewable fuels using our 'oils and extractives' intermediate stream. We are excited to partner with Proman, a company that brings significant expertise across engineering, procurement, and construction related to world-scale sustainable technology development. Over the long-term, we see the potential for biomass-derived, low-carbon-intensity fuels to be used in marine and other transportation fuels, industrial applications, heat and power generation, and more.

Turning to slide 18, in early August, we announced a recyclability innovation and new product line with Origin's "all PET" bottle caps and closures. In 2021, the global caps and closures market was $65 billion. This market is expected to grow to approximately $100 billion by the end of the decade. Today, caps are typically made from a different material than bottles, presenting challenges for recycling and separating material streams and putting a ceiling on the amount of recycled content that can go into a bottle. The industry has long sought a "mono-material" solution

for caps and bottles, and so we are thrilled to have launched our "all PET" bottle caps and closures business. Apart from improving post-consumer recycling, our design and manufacturing innovation makes "made with 100% recycled PET" possible from cap to bottle. Origin's PET caps may be cost-competitively produced with any type of PET, from recycled PET to Origin's 100% bio-based, carbon-negative virgin PET. Notably, PET performs better than HDPE and PP, common cap materials, offering improved oxygen and CO_2 barriers.

With our PET caps business, we identified a global sustainability challenge and an opportunity to solve it. An all-PET bottle and cap and closure system is an obvious, necessary next step in beverage packaging and recycling. We are proud that our team's expertise in PET led to this tremendous advancement for recycling, and we look forward to providing updates on this new business line.

I'd like to take a moment to spotlight how our platform is stronger today than when we first became public, and provide a look ahead. Turning to slide 19, over the last two years our platform evolution can be summarized in one word: Performance. When we first listed on the Nasdaq, we called ourselves the world's leading carbon negative materials platform, emphasizing our competitive cost of production and powerful carbon advantage. Since then, we have developed higher margin, higher-performance products, such as carbon black for automotive tires and products such as FDCA, PEF, and our hybrid polymer PET/F. Reflecting this strong pace of innovation, we now hold intellectual property across 31 patent families, more than a 50% increase since February 2021. Our performance-advantaged products carry all the benefits of our platform in terms of competitive cost of production and low carbon footprint, but include additional benefits specific to their applications. Because of our success in these developmental efforts, today we are proud to say: "High performance. Low carbon. Better materials start with Origin."

Turning to slide 20, the Origin platform stands apart from other technologies by offering the best value uplift for biomass. Origin is fundamentally economically

advantaged compared to other biomass conversion technologies. This is because of the simplicity of our technology, which is able to chemically convert woody biomass into chemicals – a more direct means of producing intermediate chemicals than alternative processes like pyrolysis – with almost zero carbon loss during the conversion. Our products can command a premium for their sustainability and performance characteristics across a wide array of applications. The result is that our platform – which acts something like a petrochemical refinery, except utilizing biomass as the key feedstock instead of oil – is able to deliver several times the margin of competing technologies.

Turning to slide 21, we expect the gross margins of our intermediate streams to grow stronger with time. Product development, the versatility of our intermediates, and economies of scale will drive long-term value creation. For those who have followed our story, you have already witnessed our platform evolve to take advantage of higher margin opportunities, most notably with the acceleration of FDCA to Origin 2. This is just one example of our strategy of pursuing the highest value, most impactful opportunities for our versatile platform.

Turning to slide 22, often, we are asked who our competition is. The answer is simple: Capacity is our competition. The chemical industry, our supply chain partners, consumer brands – all of us are working together to achieve the same goal: better materials that help fight climate change. Our ability to grow our business is not limited by competition. It's enhanced by cooperation. The way we win is to bring on additional capacity as quickly, intelligently, and safely as we can.

Our strategy is twofold: Build and license. While we plan to build, own, and operate Origin 1 and Origin 2, licensing is key to our ability to scale rapidly. Last quarter, we announced our first potential licensing agreement with SCGP. We continue to explore other licensing agreements with many of our customers and we are well-positioned to take advantage of a host of strategic opportunities around the world, to increase production strategically in a way that plays to local strengths, whether

it's feedstock availability, government incentives, skilled industrial talent, converting existing facilities, or other opportunities.

Turning to slide 23, in early June, we were thrilled to announce the appointment of Jim Stephanou to the Origin Board of Directors. Jim's proven track record leading manufacturing and technology initiatives for global companies is highly complementary to the skill set of our Board and will prove invaluable as we ramp up Origin 1 operations throughout the year and begin commercial production. Jim brings to Origin over thirty years of experience in manufacturing operations and engineering, including his current role as CEO of Integrated Project Services, an engineering and construction services provider to the life sciences sector.

With that, I will turn it over to Nate to discuss some of the financial details.

Nate Whaley, CFO, Origin Materials

Thanks, Rich.

I will begin with commentary on our second quarter results, then provide our financing expectations for Origin 2, and finish with an update on our 2023 outlook.

Speaking to slide 24, we reported quarterly revenue for the second quarter of $6.9 million dollars associated with JDAs and Origin's supply chain activation program compared to no revenue in the prior-year period.

Second quarter operating expenses were $14.4 million dollars compared to $8.7 million dollars during the same period in the prior year.

Net loss was $6.3 million dollars for the second quarter compared to net income of $46.9 million dollars in the same period in the prior year.

Adjusted EBITDA loss was $11.7 million dollars for the second quarter compared to a loss of $6.9 million dollars in the same period of the prior year.

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Turning to our balance sheet, Origin ended the second quarter with $217.7 million dollars in cash and cash equivalents and marketable securities. A meaningful portion of Q2 cash expenditures were related to the completion of Origin 1 and are therefore non-recurring.

Regarding the financing of Origin 2, in early January, we announced that the Louisiana State Bond Commission unanimously passed a resolution granting its final approval of the issuance of up to $1.5 billion dollars of tax-exempt bonds to support the construction and commissioning of the plant. This amount is inclusive of and builds on the strong foundation of the previously announced expected $400 million dollars in Private Activity Bond volume cap allocation. Bank of America has been engaged by Origin to underwrite the bonds and market them to investors. We continue to believe the debt financing of Origin 2 could be achieved using entirely tax-exempt bonds.

Origin continues to work with leading financial institutions on other forms of traditional private financing and federal loan programs, including through the United States Department of Agriculture and Department of Energy, and to pursue other local, state, and federal incentives programs to optimize the financing of Origin 2. These include certain 2021 Infrastructure Investment and Jobs Act and 2022 Inflation Reduction Act provisions, including the Department of Energy's Advanced Industrial Facilities Deployment Program, or AIFD, and the Section 48C Advanced Manufacturing Tax Credit. Finally, given Origin's ongoing global technology licensing effort and an active governmental affairs team, we anticipate strategic partnerships as well as state and federal incentives programs will play a meaningful role in the financing of Origin 2.

I will wrap up with our 2023 outlook. We are maintaining our guidance for revenue of $40 million to $60 million dollars and an adjusted EBITDA loss of $50 to $60 million dollars.

And, with that, I will turn it back to Rich for closing remarks.

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Rich Riley, Co-CEO, Origin Materials

Thank you, Nate. In closing, I would like to thank our customers, our team, and our partners for their contributions to our company's success, and our shareholders for their support. I am proud of our team's continued execution as we draw closer to commercial production and take the next step in the world's "once in a planet" transition to sustainable materials.

And with that, I will ask the operator to open the line for questions.