AMYRIS, INC.
Form 10-Q
August 09, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington D.C. 20549

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Transition Period from to

Commission File Number: 001-34885

AMYRIS, INC.

(Exact name of registrant as specified in its charter)

Delaware **55-0856151**

(State or other jurisdiction of (I.R.S. Employer

incorporation or organization) Identification No.)

Amyris, Inc.

5885 Hollis Street, Suite 100

Emeryville, CA 94608

(510) 450-0761

(Address and telephone number of principal executive offices)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuance to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer.

Large accelerated filer Accelerated filer
Non-accelerated filer Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	**Outstanding at July 31, 2016**
Common Stock, $0.0001 par value per share	235,022,696

AMYRIS, INC.

QUARTERLY REPORT ON FORM 10-Q

For the Quarterly Period Ended June 30, 2016

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PART I

ITEM 1. FINANCIAL STATEMENTS

Amyris, Inc.

Condensed Consolidated Balance Sheets

(In Thousands, Except Shares and Per Share Amounts)

(Unaudited)

	June 30, 2016	December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents	$822	$11,992
Restricted cash	275	216
Short-term investments	1,685	1,520
Accounts receivable, net of allowance of $479 and $479, respectively	4,070	4,004
Related party accounts receivable, net of allowance of $410 and $490, respectively	587	1,176
Inventories, net	9,996	10,886
Prepaid expenses and other current assets	4,043	4,583
Total current assets	21,478	34,377
Property, plant and equipment, net	65,200	59,797
Restricted cash	5,958	957
Equity and loans in affiliates	34	68
Other assets	12,633	10,357
Goodwill and intangible assets	560	560
Total assets	$105,863	$106,116
Liabilities and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$9,808	$7,943
Deferred revenue	7,717	6,509
Accrued and other current liabilities	30,858	24,268
Capital lease obligation, current portion	1,370	523
Debt, current portion	54,421	36,281
Related party debt	25,558	—
Total current liabilities	129,732	75,524
Capital lease obligation, net of current portion	99	176
Long-term debt, net of current portion	62,150	72,854
Related party debt	39,263	42,839
Deferred rent, net of current portion	9,338	9,682
Deferred revenue, net of current portion	4,469	4,469
Derivative liabilities	6,752	51,439
Other liabilities	3,244	7,589
Total liabilities	255,047	264,572

Mezzanine equity		
Contingently redeemable common stock	5,000	—
Commitments and contingencies (Note 6)		
Stockholders’ deficit:		
Preferred stock - $0.0001 par value, 5,000,000 shares authorized, none issued and outstanding	—	—
Common stock - $0.0001 par value, 500,000,000 and 400,000,000 shares authorized as of June 30, 2016 and December 31, 2015, respectively; 228,418,370 and 206,130,282 shares issued and outstanding as of June 30, 2016 and December 31, 2015, respectively	22	21
Additional paid-in capital	949,803	926,216
Accumulated other comprehensive loss	(37,917)	(47,198)
Accumulated deficit	(1,065,978)	(1,037,104)
Total Amyris, Inc. stockholders’ deficit	(154,070)	(158,065)
Noncontrolling interest	(114)	(391)
Total stockholders' deficit	(154,184)	(158,456)
Total liabilities, mezzanine equity and stockholders' deficit	$ 105,863	$ 106,116

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Operations

(In Thousands, Except Shares and Per Share Amounts)

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Revenues				
Renewable product sales	$4,922	$3,340	$8,062	$5,435
Grants and collaborations revenue	4,677	4,503	10,347	10,280
Total revenues	9,599	7,843	18,409	15,715
Cost and operating expenses				
Cost of products sold	7,891	10,959	19,068	17,602
Research and development	13,176	11,168	25,082	23,178
Sales, general and administrative	11,408	14,375	23,674	28,756
Total cost and operating expenses	32,475	36,502	67,824	69,536
Loss from operations	(22,876)	(28,659)	(49,415)	(53,821)
Other income (expense):				
Interest income	82	58	139	144
Interest expense	(9,704)	(45,986)	(18,062)	(54,468)
Gain (loss) from change in fair value of derivative instruments	20,934	28,834	42,612	11,422
Loss upon extinguishment of debt	(433)	—	(649)	—
Other expense, net	(1,431)	(667)	(3,246)	(1,036)
Total other income (expense)	9,448	(17,761)	20,794	(43,938)
Loss before income taxes and loss from investments in affiliates	(13,428)	(46,420)	(28,621)	(97,759)
Provision for income taxes	(138)	(121)	(253)	(236)
Net loss before loss from investments in affiliates	(13,566)	(46,541)	(28,874)	(97,995)
Loss from investments in affiliates	—	(621)	—	(1,429)
Net loss	(13,566)	(47,162)	(28,874)	(99,424)
Net loss attributable to noncontrolling interest	—	32	—	54
Net loss attributable to Amyris, Inc. common stockholders	$(13,566)	$(47,130)	$(28,874)	$(99,370)
Net loss per share attributable to common stockholders:				
Basic	$(0.06)	$(0.59)	$(0.13)	$(1.25)
Diluted	$(0.11)	$(0.62)	$(0.23)	$(1.25)
Weighted-average shares of common stock outstanding used in computing net loss per share of common stock:				
Basic	223,112,019	80,041,152	216,393,705	79,633,864

Diluted	262,896,140	87,421,439	258,809,405	79,633,864

See the accompanying notes to the unaudited condensed consolidated financial statements.

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Amyris, Inc.

Condensed Consolidated Statements of Comprehensive Loss

(In Thousands)

(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Comprehensive loss:				
Net loss	$(13,566)	$(47,162)	$(28,874)	$(99,424)
Foreign currency translation adjustment, net of tax	4,593	3,142	9,281	(8,103)
Total comprehensive loss	(8,973)	(44,020)	(19,593)	(107,527)
Loss attributable to noncontrolling interest	—	32	—	54
Foreign currency translation adjustment attributable to noncontrolling interest	—	19	—	(248)
Comprehensive loss attributable to Amyris, Inc.	$(8,973)	$(43,969)	$(19,593)	$(107,721)

See the accompanying notes to the unaudited condensed consolidated financial statements.

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Amyris, Inc.

Condensed Consolidated Statements of Stockholders' Deficit and Mezzanine Equity

(In Thousands, Except Shares)

(Unaudited)

	Common Stock							
	Shares	Amount	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Deficit	Mezzanine Equity
December 31, 2015	206,130,282	$ 21	$926,216	$(1,037,104)	$ (47,198)	$ (391)	$(158,456)	$ —
Issuance of common stock upon exercise of stock options, net of restricted stock	134	—	—	—	—	—	0	—
Issuance of common stock upon conversion of debt	8,219,876	1	8,637	—	—	—	8,638	—
Issuance of common stock for settlement of debt principal payments	8,490,725	—	3,289	—	—	—	3,289	—
Issuance of warrants with debt private placement	—	—	3,971	—	—	—	3,971	—
Shares issued from restricted stock settlement	964,566	—	(201)	—	—	—	(201)	—
Stock-based compensation	—	—	3,840	—	—	—	3,840	—
Contribution upon restructuring of Fuels JV	—	—	4,251	—	—	—	4,251	—
Issuance of contingently redeemable common stock	4,385,964	—	—	—	—	—	—	5,000
Shares issued upon ESPP purchase	226,823	—	123	—	—	—	123	—
Acquisition of noncontrolling interest	—	—	(323)	—	—	277	(46)	—

Foreign currency translation adjustment	—	—		—	9,281		9,281	—
Net loss	—	—	—	(28,874)	—	—	(28,874)	—
June 30, 2016	228,418,370	$ 22	$949,803	$(1,065,978)	$(37,917)	$(114)	$(154,184)	$5,000

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Condensed Consolidated Statements of Cash Flows

(In Thousands)

(Unaudited)

	Six Months Ended June 30, 2016	2015
Operating activities		
Net loss	$(28,874)	$(99,424)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	5,720	6,840
(Gain)/loss on disposal of property, plant and equipment	(122)	101
Stock-based compensation	3,840	4,708
Amortization of debt discount and issuance costs	7,415	43,144
Loss upon extinguishment of debt	649	—
Change in fair value of derivative instruments	(42,612)	(11,422)
Loss on foreign currency exchange rates	1,083	—
Loss from investments in affiliates	—	1,429
Changes in assets and liabilities:		
Accounts receivable	(183)	6,023
Related party accounts receivable	587	174
Inventories, net	1,910	3,352
Prepaid expenses and other assets	1,695	(2,298)
Accounts payable	1,190	2,966
Accrued and other liabilities	8,132	6,715
Deferred revenue	939	5,143
Deferred rent	(344)	(242)
Net cash used in operating activities	(38,975)	(32,791)
Investing activities		
Purchase of short-term investments	(2,366)	(1,175)
Maturities of short-term investments	2,585	1,195
Change in restricted cash	7	(10)
Change in restricted cash related to contingently redeemable equity	(5,000)	—
Purchases of property, plant and equipment, net of disposals	(400)	(1,812)
Net cash used in investing activities	(5,174)	(2,873)
Financing activities		
Proceeds from exercise of common stock, net of repurchase	123	—
Employees' taxes paid upon vesting of restricted stock units	(201)	(313)
Proceeds from issuance of contingently redeemable equity	5,000	—

Principal payments on capital leases	(506)	(432)
Proceeds from debt issued, net of discounts and issuance costs	9,950	—
Proceeds from debt issued to related parties	25,000	10,850
Principal payments on debt	(6,573)	(6,596)
Net cash provided by financing activities	32,793	5,544
Effect of exchange rate changes on cash and cash equivalents	186	(1,049)
Net decrease in cash and cash equivalents	(11,170)	(31,169)
Cash and cash equivalents at beginning of period	11,992	42,047
Cash and cash equivalents at end of period	$822	$10,878

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Amyris, Inc.

Condensed Consolidated Statements of Cash Flows—(Continued)

(In Thousands)

	Six Months Ended June 30,	
	2016	2015
Supplemental disclosures of cash flow information:		
Cash paid for interest	$3,735	$4,957
Supplemental disclosures of non-cash investing and financing activities:		
Acquisitions of property, plant and equipment under accounts payable, accrued liabilities and notes payable	$(521)	$—
Financing of equipment	$1,276	$303
Financing of insurance premium under notes payable	$(315)	$(161)
Interest capitalized to debt	$2,052	$6,354
Issuance of common stock upon conversion of debt	$8,638	$—
Issuance of common stock for settlement of debt principal payments	$3,289	$—
Cancellation of debt and accrued interest on disposal of interest in affiliate	$4,252	$—
Non-cash investment in joint venture	$600	$(401)

See the accompanying notes to the unaudited condensed consolidated financial statements.

Amyris, Inc.

Notes to Unaudited Condensed Consolidated Financial Statements

1. The Company

Amyris, Inc. (or "the Company") was incorporated in California on July 17, 2003 and reincorporated in Delaware on June 10, 2010 for the purpose of leveraging breakthroughs in bioscience technology to develop and provide renewable compounds for a variety of markets. The Company is currently applying its industrial synthetic biology platform to engineer, manufacture and sell high performance, low cost products into a variety of consumer and industrial markets, including cosmetics, flavors & fragrances (or "F&F"), solvents and cleaners, polymers, lubricants, healthcare products and fuels, and it is seeking to apply its technology to the development of pharmaceutical products. The Company's first commercialization efforts have been focused on a renewable hydrocarbon molecule called farnesene (Biofene®), which forms the basis for a wide range of products including emollients, flavors and fragrance oils and diesel fuel. While the Company's platform is able to use a wide variety of feedstocks, the Company has focused on Brazilian sugarcane because of its abundance, low cost and relative price stability. The Company has established two principal operating subsidiaries, Amyris Brasil Ltda. (formerly Amyris Brasil S.A., or "Amyris Brasil") for production in Brazil, and Amyris Fuels, LLC (or "Amyris Fuels").

The Company's renewable products business strategy is to focus on direct commercialization of specialty products while moving established commodity products into collaboration or joint venture arrangements with leading industry partners. To commercialize its products, the Company must be successful in using its technology to manufacture products at commercial scale and on an economically viable basis (i.e., low per unit production costs) and developing sufficient sales volume for those products to support its operations. The Company's prospects are subject to risks, expenses and uncertainties frequently encountered by companies in this stage of development.

Liquidity

The Company expects to fund its operations for the foreseeable future with cash and investments currently on hand, cash inflows from collaborations and grants, cash contributions from product sales, and proceeds from new debt and equity financings as well as strategic asset divestments. The Company's planned 2016 and 2017 working capital needs and its planned operating and capital expenditures are dependent on significant inflows of cash from new and existing collaboration partners and from cash generated from renewable product sales, and will also require additional funding from debt or equity financings as well as proceeds from strategic asset divestments.

The Company has incurred significant operating losses since its inception and believes that it will continue to incur losses and negative cash flow from operations into at least 2017. As of June 30, 2016, the Company had negative working capital of $108.3 million, an accumulated deficit of $1,066.0 million, and cash, cash equivalents and short term investments of $2.5 million. The Company will need to raise cash from additional financings or strategic asset divestments as early as the third quarter of 2016 to support its liquidity needs. These factors raise substantial doubt about the Company’s ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. If the Company is unable to continue as a going concern, it may be unable to meet its obligations under its existing debt facilities, which could result in an acceleration of its obligation to repay all amounts outstanding under those facilities, and it may be forced to liquidate its assets.

As of June 30, 2016, the Company's debt, net of discount and issuance costs of $44.7 million, totaled $181.4 million, of which $80.0 million is classified as current. In addition to upcoming debt maturities, the Company's debt service obligations over the next twelve months are significant, including $21.0 million of anticipated cash interest payments. The Company's debt agreements contain various covenants, including certain restrictions on the Company's business that could cause the Company to be at risk of defaults, such as the requirement to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under its loan facility with Stegodon Corporation (or “Stegodon”), as assignee of Hercules Capital, Inc. As discussed below, the Company has received a waiver of compliance with such covenant through October 31, 2016. A failure to comply with the covenants and other provisions of the Company’s debt instruments, including any failure to make a payment when required would generally result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under the Company’s other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of such indebtedness as a result of acceleration or otherwise would consume current cash on hand such that the Company would not have those funds available for use in its business or for payment of other outstanding indebtedness. Please refer to Note 5, “Debt” and Note 6, “Commitments and Contingencies” for further details regarding the Company's debt service obligations and commitments. The Company also has significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments.

In addition to the need for financing described above, the Company may take the following actions to support its liquidity needs through the remainder of 2016 and into 2017:

- Effect significant headcount reductions, particularly with respect to employees not connected to critical or contracted activities across all functions of the Company, including employees involved in general and administrative, research and development, and production activities.
- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts.
- Reduce production activity at the Company’s Brotas manufacturing facility to levels only sufficient to satisfy volumes required for product revenues forecast from existing products and customers.
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors.
- Reduce or delay uncommitted capital expenditures, including non-essential facility and lab equipment, and information technology projects.
- Closely monitor the Company’s working capital position with customers and suppliers, as well as suspend operations at pilot plants and demonstration facilities.

Implementing this plan could have a negative impact on the Company's ability to continue its business as currently contemplated, including, without limitation, delays or failures in its ability to:

- Achieve planned production levels;
- Develop and commercialize products within planned timelines or at planned scales; and
- Continue other core activities.

Furthermore, any inability to scale-back operations as necessary, and any unexpected liquidity needs, could create pressure to implement more severe measures. Such measures could have an adverse effect on the Company's ability to meet contractual requirements, including obligations to maintain manufacturing operations, and increase the severity of the consequences described above.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying interim condensed consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States of America (or “GAAP”) and with the instructions for Form 10-Q and Regulation S-X. Accordingly, they do not include all of the information and notes required for complete financial statements. These interim condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto contained in the Company’s Form 10-K for the fiscal year ended December 31, 2015 as filed with the Securities and Exchange Commission (or the “SEC”) on March 30, 2016. The unaudited condensed consolidated financial statements include the accounts of the Company and its consolidated subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

The Company uses the equity method to account for investments in companies, if its investments provide it with the ability to exercise significant influence over operating and financial policies of the investee. Consolidated net income or loss includes the Company's proportionate share of the net income or loss of these companies. Judgments made by the Company regarding the level of influence over each equity method investment include considering key factors such as the Company's ownership interest, representation on the board of directors, participation in policy-making decisions and material intercompany transactions.

Principles of Consolidation

The condensed consolidated financial statements of the Company include the accounts of Amyris, Inc., its subsidiaries and two consolidated variable interest entities (or "VIEs"), with respect to which the Company is considered the primary beneficiary, after elimination of intercompany accounts and transactions. Disclosure regarding the Company's participation in the VIEs is included in Note 7, "Joint Ventures and Noncontrolling Interest."

Variable Interest Entities

The Company has interests in joint venture entities that are VIEs. Determining whether to consolidate a VIE requires judgment in assessing (i) whether an entity is a VIE and (ii) if the Company is the entity's primary beneficiary and thus required to consolidate the entity. To determine if the Company is the primary beneficiary of a VIE, the Company evaluates whether it has (i) the power to direct the activities that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. The Company's evaluation includes identification of significant activities and an assessment of its ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding and financing and other applicable agreements and circumstances. The Company's assessment of whether it is the primary beneficiary of its VIEs requires significant assumptions and judgment.

Use of Estimates

In preparing the unaudited condensed consolidated financial statements, management must make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the unaudited condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Unaudited Interim Financial Information

The accompanying interim condensed consolidated financial statements and related disclosures are unaudited, have been prepared on the same basis as the annual consolidated financial statements, except for the impact of adoption of certain accounting standards as described below, and in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for a fair statement of the results of operations for the periods presented. In the quarter ended March 31, 2016 the Company adopted Accounting Standards Update (“ASU”) No. 2015-01, *Simplifying Income Statement Presentation by Eliminating the Concept of Extraordinary Items,* ASU No. 2015-02, *Consolidation* (Topic 810), ASU No. 2015-03, *Interest - Imputation of Interest* (Subtopic 835-30): *Simplifying the Presentation of Debt Issuance Costs*, ASU 2015-05, *Intangibles - Goodwill and Other - Internal-Use Software* (Subtopic 350-40) and ASU No. 2015-15, *Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*. Refer to Note 5. "Debt" for the impact of adoption of ASU No. 2015-03 on the Company's condensed consolidated financial statements. None of the other ASU’s adopted had a material impact on the Company’s condensed consolidated financial statements.

The year-end condensed consolidated balance sheet data was derived from audited financial statements, but does not include all disclosures required by GAAP. The condensed consolidated results of operations for any interim period are not necessarily indicative of the results to be expected for the full year or for any other future year or interim period.

Recent Accounting Pronouncements

In June 2016, the Financial Accounting Standards Board (or "FASB") issued ASU No. 2016-13, *Allowance for Loan and Lease Losses (Financial Instruments - Credit Losses Topic 326.)*. New impairment guidance for certain financial instruments (including trade receivables) will replace the current "incurred loss" model for estimating credit losses with a forward looking "expected loss" model. The ASU is effective for the Company for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early application is permitted as of the fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company is evaluating the impact of this standard on its consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*. This ASU identifies areas for simplification involving several aspects of accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, an option to recognize gross stock compensation expense with actual forfeitures recognized as they occur, as well as certain classifications on the statement of cash flows. This ASU will be effective for fiscal years beginning after December 15, 2016, and interim periods within those annual periods. The Company is currently assessing the potential impact of this ASU on its consolidated financial statements. Early adoption is permitted. The Company is currently assessing the potential impact of this ASU on its consolidated financial statements. Early adoption is permitted.

In March 2016, the FASB issued ASU No. 2016-06, *Contingent Put and Call Options in Debt Instruments*. The amendments in this ASU clarify the requirements for assessing whether contingent call (put) options that can accelerate the payment of principal on debt instruments are clearly and closely related to their debt hosts. An entity performing the assessment under the amendments in this ASU is required to assess the embedded call (put) options solely in accordance with the four-step decision sequence. The ASU is effective for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. Early adoption is permitted. The Company is currently assessing the potential impact of this ASU on its financial statements.

In February 2016, the FASB issued Accounting Standards Update (or "ASU") 2016-02-*Leases* with fundamental changes to how entities account for leases. Lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. Additional disclosures for leases will also be required. The standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted. The new standard must be adopted using a modified retrospective transition, and provides for certain practical expedients. The new standard may materially impact the Company’s financial statements.

In January 2016, the FASB issued ASU 2016-01 *Financial Instruments-Overall*, which address certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. The amendments in this Update are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Earlier application is permitted under specific circumstances. The Company is currently assessing the potential impact of this standard on its consolidated financial statements.

In July 2015, the FASB issued ASU 2015-11, *Simplifying the Measurement of Inventory*, which requires that inventory within the scope of the guidance be measured at the lower of cost and net realizable value. The new standard is being issued as part of the simplification initiative. Prior to the issuance of the standard, inventory was measured at the lower of cost or market (where market was defined as replacement cost, with a ceiling of net realizable value and floor of net realizable value less a normal profit margin). The new guidance will be effective for fiscal years beginning after December 15, 2016, including interim periods within those years. Prospective application is required and early adoption is permitted. The Company is currently assessing the impact of adopting this new accounting standard on its financial statements.

In August 2014, the FASB issued new guidance related to the disclosure around going concern. The new standard provides guidance around management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosure if substantial doubt exists. The new standard is effective for annual periods ending after December 15, 2016 and for annual periods and interim periods thereafter. Early adoption is permitted. The adoption of this standard is not expected to have a material impact on the Company's financial statements.

In May 2014, the FASB issued new guidance related to revenue recognition. In March, April and May 2016, the FASB issued additional amendments to the new revenue guidance relating to reporting revenue on a gross versus net basis, identifying performance obligations, licensing arrangements, collectability, noncash consideration, presentation of sales tax, and transition. This new standard will replace all current GAAP guidance on this topic and eliminate all industry-specific guidance. The new revenue recognition update guidance provides a unified model to determine how revenue is recognized. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The FASB has issued several updates to the standard which i) clarify the application of the principal versus agent guidance (ASU 2016-08); ii) clarify the guidance on inconsequential and perfunctory promises and licensing (ASU 2016-10) and iii) narrow-scope improvements and practical expedients (ASU 2016-12). On July 9, 2015, the FASB voted to defer the effective date by one year to December 15, 2017 for interim and annual reporting periods beginning after that date and permitted early adoption of the standard, but not before the original effective date of December 15, 2016. Therefore, the new standard will be effective commencing with our quarter ending March 31, 2018. The Company is currently assessing the potential impact of this new standard on its consolidated financial statements.

3. Fair Value of Financial Instruments

The inputs to the valuation techniques used to measure fair value are classified into the following categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

There were no transfers between the levels, and as of June 30, 2016, the Company’s financial assets and financial liabilities at fair value were classified within the fair value hierarchy as follows (in thousands):

	Level 1	Level 2	Level 3	Balance as of June 30, 2016

Financial Assets				
Money market funds	$1,121	$—	$—	$1,121
Certificates of deposit	1,685	—	—	1,685
Total financial assets	$2,806	$—	$—	$2,806
Financial Liabilities				
Loans payable [(1)]	$—	$29,263	$—	$29,263
Credit facilities [(1)]	—	22,851	—	22,851
Convertible notes [(1)]	—	—	121,931	121,931
Compound embedded derivative liabilities	—	—	3,266	3,266
Currency interest rate swap derivative liability	—	3,486	—	3,486
Total financial liabilities	$—	$55,600	$125,197	$180,797

[(1)] These liabilities are carried on the condensed consolidated balance sheet on a historical cost basis.

The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. The fair values of money market funds and certificates of deposit are based on fair values of identical assets. The fair values of the loans payable, convertible notes, credit facilities and currency interest rate swaps are based on the present value of expected future cash flows and assumptions about current interest rates and the creditworthiness of the Company. The method of determining the fair value of the compound embedded derivative liabilities is described subsequently in this note. Market risk associated with the fixed and variable rate long-term loans payable, credit facilities and convertible notes relates to the potential reduction in fair value and negative impact to future earnings, from an increase in interest rates. Market risk associated with the compound embedded derivative liabilities relates to the potential reduction in fair value and negative impact to future earnings from a decrease in interest rates.

The carrying amounts of certain financial instruments, such as cash equivalents, accounts receivable, accounts payable and accrued liabilities, approximate fair value due to their relatively short maturities and low market interest rates, if applicable.

As of December 31, 2015, the Company's financial assets and financial liabilities are presented below at fair value and were classified within the fair value hierarchy as follows (in thousands):

	Level 1	Level 2	Level 3	Balance as of December 31, 2015
Financial Assets				
Money market funds	$2,078	$—	$—	$2,078
Certificates of deposit	1,520	—	—	1,520
Total financial assets	$3,598	$—	$—	$3,598
Financial Liabilities				
Loans payable [1]	$—	$9,541	$—	$9,541
Credit facilities [1]	—	34,893	—	34,893
Convertible notes [1]	—	—	96,291	96,291
Compound embedded derivative liabilities	—	—	46,430	46,430
Currency interest rate swap derivative liability	—	5,009	—	5,009
Total financial liabilities	$—	$49,443	$142,721	$192,164

[1] These liabilities are carried on the consolidated balance sheet on a historical cost basis (noting that the Remaining Notes subject to the Maturity Treatment Agreement were revalued to fair value on July 29, 2015, see Note 5 "Debt" for details).

The following table provides a reconciliation of the beginning and ending balances for the convertible notes disclosed at fair value using significant unobservable inputs (Level 3) (in thousands):

	2016
Balance at January 1	$96,291
Additions of convertible notes	9,143
Conversion/extinguishment of convertible notes	(3,672)
Change in fair value of convertible notes	20,169
Balance at June 30	$121,931

Derivative Instruments

The following table provides a reconciliation of the beginning and ending balances for the compound embedded derivative liabilities measured at fair value using significant unobservable inputs (Level 3) (in thousands):

	2016
Balance at January 1	$46,430
Derecognition on conversion/extinguishment	(2,672)
Gain from change in fair value of derivative liabilities	(40,492)
Balance at June 30	$3,266

The compound embedded derivative liabilities represent the fair value of the equity conversion options and "make-whole" provisions, as well as the down round conversion price adjustment or conversion rate adjustment provisions of the R&D Notes, the Tranche I Notes, the Tranche II Notes, the 2014 144A Notes, the 2015 144A Notes and the 2016 Convertible Notes (see Note 5, "Debt"). There is no current observable market for these types of derivatives and, as such, the Company determined the fair value of the embedded derivatives using a Monte Carlo simulation valuation model for the R&D Notes and the binomial lattice model for the Tranche I Notes, the Tranche II Notes, the 2014 144A Notes, the 2015 144A Notes and the 2016 Convertible Notes (collectively, "the Convertible Notes"). A Monte Carlo simulation valuation model combines expected cash outflows with market-based assumptions regarding risk-adjusted yields, stock price volatility, probability of a change of control and the trading information of the Company's common stock into which the notes are or may be convertible. A binomial lattice model generates two probable outcomes - one up and another down - arising at each point in time, starting from the date of valuation until the maturity date. A lattice model was used to determine if the Convertible Notes would be converted, called or held at each decision point. Within the lattice model, the following assumptions are made: (i) the Convertible Notes will be converted early if the conversion value is greater than the holding value and (ii) the Convertible Notes will be called if the holding value is greater than both (a) redemption price and (b) the conversion value at the time. If the Convertible Notes are called, then the holder will maximize their value by finding the optimal decision between (1) redeeming at the redemption price and (2) converting the Convertible Notes. Using this lattice method, the Company valued the embedded derivatives using the "with-and-without method", where the fair value of the Convertible Notes including the embedded derivative is defined as the "with", and the fair value of the Convertible Notes excluding the embedded derivatives is defined as the "without". This method estimates the fair value of the embedded derivatives by looking at the difference in the values between the Convertible Notes with the embedded derivatives and the fair value of the Convertible Notes without the embedded derivatives. The lattice model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. The Company marks the compound embedded derivatives to market due to the conversion price not being indexed to the Company's own stock. As of June 30, 2016 and December 31, 2015, included in "Derivative Liabilities" on the condensed consolidated balance sheet are the Company's compound embedded derivative liabilities of $3.3 million and $46.4 million, respectively.

The market-based assumptions and estimates used in valuing the compound embedded derivative liabilities include amounts in the following ranges/amounts:

	June 30, 2016			June 30, 2015		
Risk-free interest rate	0.30%	-	0.69%	0.30%	-	1.30%
Risk-adjusted yields	23.00%	-	27.50%	21.80%	-	31.90%
Stock-price volatility		45%			45%	
Probability of change in control		5%			5%	
Stock price		$0.45			$1.95	
Credit spread	22.35%	-	27.20%	20.61%	-	30.60%
Estimated conversion dates	2016	-	2019	2015	-	2019

Changes in valuation assumptions can have a significant impact on the valuation of the embedded derivative liabilities. For example, all other things being equal, a decrease/increase in the Company’s stock price, probability of change of control, credit spread, term to maturity/conversion or stock price volatility decreases/increases the valuation of the liabilities, whereas a decrease/increase in risk adjusted yields or risk-free interest rates increases/decreases the valuation of the liabilities. The conversion price of certain of the Convertible Notes also include conversion price adjustment features and for example, issuances of common stock by the Company at prices lower than the conversion price result in a reset of the conversion price of such notes, which increases the value of the embedded derivative liabilities. See Note 5, "Debt" for further details of conversion price adjustment features.

In June 2012, the Company entered into a loan agreement with Banco Pine S.A. (or "Banco Pine") under which Banco Pine provided the Company with a loan (or the "Banco Pine Bridge Loan") (see Note 5, "Debt"). At the time of the Banco Pine Bridge Loan, the Company also entered into a currency interest rate swap arrangement with Banco Pine with respect to the repayment of R$22.0 million (approximately US$6.9 million based on the exchange rate as of June 30, 2016) of the Banco Pine Bridge Loan. The swap arrangement exchanges the principal and interest payments under the Banco Pine Bridge Loan for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real. The swap has a fixed interest rate of 3.94%. Changes in the fair value of the swap are recognized in “Gain (loss) from change in fair value of derivative instruments" in the condensed consolidated statements of operations are as follows (in thousands):

	Income Statement Classification	Three Months Ended June 30,		Six Months Ended June 30,	
Type of Derivative Contract		2016	2015	2016	2015
Currency interest rate swap	Gain (loss) from change in fair value of derivative instruments	$1,275	$310	$2,120	$(1,405)

Derivative instruments measured at fair value as of June 30, 2016 and December 31, 2015, and their classification on the condensed consolidated balance sheets are as follows (in thousands):

	June 30, 2016	December 31, 2015
Fair market value of compound embedded derivative liabilities	$3,266	$46,430
Fair value of swap obligations	3,486	5,009
Total derivative liabilities	$6,752	$51,439

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4. Balance Sheet Components

Inventories, net

Inventories, net are stated at the lower of cost or market and comprise of the following (in thousands):

	June 30, 2016	December 31, 2015
Raw materials	$2,865	$2,204
Work-in-process	1,898	3,583
Finished goods	5,233	5,099
Inventories, net	$9,996	$10,886

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Property, Plant and Equipment, net

Property, plant and equipment, net is comprised of the following (in thousands):

	June 30, 2016	December 31, 2015
Machinery and equipment	$84,764	$72,876
Leasehold improvements	38,809	38,519
Computers and software	9,541	9,117
Buildings	4,772	3,922
Furniture and office equipment	2,340	2,234
Vehicles	197	215
Construction in progress	6,708	5,736
	147,131	132,619
Less: accumulated depreciation and amortization	(81,931)	(72,822)
Property, plant and equipment, net	$65,200	$59,797

The Company's first, purpose-built, large-scale Biofene production plant in southeastern Brazil commenced operations in December 2012. This plant is located at Brotas in the state of São Paulo, Brazil and is adjacent to an existing sugar and ethanol mill, Tonon Bioenergia S.A. (or “Tonon”) (formerly Paraíso Bioenergia) with which the Company has an agreement to purchase a certain number of tons of sugarcane per year, along with specified water and vapor volumes.

Property, plant and equipment, net includes $2.3 million and $2.7 million of machinery and equipment under capital leases as of June 30, 2016 and December 31, 2015, respectively. Accumulated amortization of assets under capital leases totaled $0.3 million and $0.5 million as of June 30, 2016 and December 31, 2015, respectively.

Depreciation and amortization expense, including amortization of assets under capital leases was $2.8 million and $3.4 million for the three months ended June 30, 2016 and 2015, respectively, and $5.7 million and $6.8 million for the six months ended June 30, 2016 and 2015, respectively.

Other Assets (non-current)

Other assets are comprised of the following (in thousands):

	June 30, 2016	December 31, 2015
Recoverable taxes from Brazilian government entities	$10,940	$8,887
Deposits on property and equipment, including taxes	296	243
Other	1,397	1,227
Total other assets	$12,633	$10,357

Accrued and Other Current Liabilities

Accrued and other current liabilities are comprised of the following (in thousands):

	June 30, 2016	December 31, 2015
Withholding tax related to conversion of related party notes	$4,858	$4,723
Professional services	5,723	4,017
SMA relocation accrual	4,430	3,641
Accrued interest	5,205	1,984
Tax-related liabilities	2,588	2,505
Accrued vacation	2,194	2,023
Payroll and related expenses	2,775	3,122
Deferred rent, current portion	1,111	1,111
Contractual obligations to contract manufacturers	768	—
Other	1,205	1,142
Total accrued and other current liabilities	$30,857	$24,268

5. Debt and Mezzanine Equity

Debt is comprised of the following (in thousands):

	June 30, 2016	December 31, 2015
Senior secured loan facility	$28,344	$31,590
BNDES credit facility	1,785	1,956
FINEP credit facility	864	840
Total credit facilities	30,993	34,386
Convertible notes	72,402	61,233
Related party convertible notes	42,837	42,749
Related party loan payable	21,957	—
Loans payable	13,203	13,606
Total debt	181,392	151,974
Less: current portion	(79,979)	(36,281)
Long-term debt	$101,413	$115,693
Mezzanine equity[(1)]	$5,000	$—

(1) See Note 8, "Significant Agreements" for details regarding the Bill & Melinda Gates Foundation Investment, classified as mezzanine equity.

Senior Secured Loan Facility

In March 2014, the Company entered into a Loan and Security Agreement with Hercules Technology Growth Capital, Inc. (or “Hercules”) to make available to Amyris a loan facility in the aggregate principal amount of up to $25.0 million (or the "Senior Secured Loan Facility"), which loan facility was fully drawn at the closing. The initial loan of $25.0 million under the Senior Secured Loan Facility accrues interest at a rate per annum equal to the greater of either the prime rate reported in the Wall Street Journal plus 6.25% or 9.50%. The Company may repay the outstanding amounts under the Senior Secured Credit Facility before the maturity date (February 1, 2017) if it pays an additional fee of 1% of the outstanding loans. The Company was also required to pay a 1% facility charge at the closing of the Senior Secured Credit Facility, and is required to pay a 10% end of term charge with respect to the initial loan of $25.0 million. In connection with the execution of the Senior Secured Loan Facility, Amyris agreed to certain customary representations and warranties and covenants, as well as certain covenants that were subsequently amended (as described below).

In June 2014, the Company and Hercules entered into a first amendment of the Senior Secured Loan Facility. Pursuant to the first amendment, the parties agreed to adjust the term loan maturity date from May 31, 2015 to February 1, 2017 and remove (i) a requirement for the Company to pay a forbearance fee of $10.0 million in the event certain covenants were not satisfied, (ii) a covenant that the Company maintain positive cash flow commencing with the fiscal quarter beginning October 1, 2014, (iii) a covenant that, beginning with the fiscal quarter beginning July 1, 2014, the Company and its subsidiaries achieve certain projected cash product revenues and projected cash product gross profits, and (iv) an obligation for the Company to file a registration statement on Form S-3 with the SEC by no later than June 30, 2014 and complete an equity financing of more than $50.0 million by no later than September 30, 2014. The Company further agreed to include a new covenant requiring the Company to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount then outstanding under the Senior Secured Loan Facility and borrow an additional $5.0 million. The additional $5.0 million borrowing was completed in June 2014, and accrues interest at a rate per annum equal to the greater of (i) the prime rate reported in the Wall Street Journal plus 5.25% and (ii) 8.5%.

In March 2015, the Company and Hercules entered into a second amendment of the Senior Secured Loan Facility. Pursuant to the second amendment, the parties agreed to, among other things, establish an additional credit facility in the principal amount of up to $15.0 million, which would be available to be drawn by the Company through the earlier of March 31, 2016 or such time as the Company raised an aggregate of at least $20.0 million through the sale of new equity securities. Under the terms of the second amendment, the Company agreed to pay Hercules a 3.0% facility availability fee on April 1, 2015. The Company had the ability to cancel the additional facility at any time prior to June 30, 2015 at its own option, and the additional facility would terminate upon the Company securing a new equity financing of at least $20.0 million. If the facility was not canceled, and any outstanding borrowings were not repaid, before June 30, 2015, an additional 5.0% facility fee would become payable on June 30, 2015. The Company did not cancel the facility prior to June 30, 2015, and the 5.0% facility fee became payable as of June 30, 2015. The Company did not pay the additional facility fee and thereafter received a waiver from Hercules with respect thereto. The additional facility was cancelled undrawn upon the completion of the Company’s private offering of common stock and warrants in July 2015.

In November 2015, the Company and Hercules entered into a third amendment of the Senior Secured Loan Facility. Pursuant to the third amendment, the Company borrowed $10,960,000 (or the “Third Amendment Borrowed Amount”) from Hercules on November 30, 2015. As of December 1, 2015, after the funding of the Third Amendment Borrowed Amount (and including repayment of $9.1 million of principal that had occurred prior to the third amendment), the aggregate principal amount outstanding under the Senior Secured Loan Facility was approximately $31.7 million. The Third Amendment Borrowed Amount accrues interest at a rate per annum equal to the greater of (i) 9.5% and (ii) the prime rate reported in the Wall Street Journal plus 6.25%, and, like the previous loans under the Senior Secured Loan Facility, has a maturity date of February 1, 2017. Upon the earlier of the maturity date, prepayment in full or such obligations otherwise becoming due and payable, in addition to repaying the outstanding Third Amendment Borrowed Amount (and all other amounts owed under the Senior Secured Loan Facility, as amended), the Company is also required to pay an end-of-term charge of $767,200. Pursuant to the third amendment, the Company also paid Hercules fees of $1.0 million, $750,000 of which was owed in connection with the expired $15.0 million facility under the second amendment and $250,000 of which was related to the Third Amendment Borrowed Amount. Under the third amendment, the parties agreed that the Company would, commencing on December 1, 2015, be required to pay only the interest accruing on all outstanding loans under the Senior Secured Loan Facility until February 29, 2016. Commencing on March 1, 2016, the Company would have been required to begin repaying principal of all loans under the Senior Secured Loan Facility, in addition to the applicable interest. However, pursuant to the third amendment, the

Company could, by achieving certain cash inflow targets in 2016, extend the interest-only period to December 1, 2016. Upon the issuance by the Company of $20.0 million of unsecured promissory notes and warrants in a private placement in February 2016 for aggregate cash proceeds of $20.0 million, the Company satisfied the conditions for extending the interest-only period to May 31, 2016. On June 1, 2016, the Company commenced the repayment of outstanding principal under the Senior Secured Loan Facility. In June 2016, the Company was notified by Hercules that it had transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon Corporation (or “Stegodon”). On June 29, 2016, the Company received a deferment from Stegodon of all scheduled principal repayments under the Senior Secured Loan Facility through October 31, 2016. Refer to Note 8, “Significant Agreements” for additional details.

As of June 30, 2016, $28.3 million was outstanding under the Senior Secured Loan Facility, net of discount and issuance costs of $0.2 million. The Senior Secured Loan Facility is secured by liens on the Company's assets, including on certain Company intellectual property. The Senior Secured Loan Facility includes customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. If an event of default occurs, Stegodon may require immediate repayment of all amounts outstanding under the Senior Secured Loan Facility. The Senior Secured Loan Facility also requires the Company to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under the Senior Secured Loan Facility. The Company has received a waiver of compliance with such covenant through October 31, 2016. Refer to Note 8, "Significant Agreements" for additional details. Stegodon did not accelerate the amounts due to it and the Company was in compliance with the other covenants under the Senior Secured Loan Facility as of June 30, 2016. In addition, the balance sheet classification of the Company's other debt instruments was not impacted by the breach of the covenant.

BNDES Credit Facility

In December 2011, the Company entered into a credit facility with the Brazilian Development Bank (or "BNDES" and such credit facility is the "BNDES Credit Facility") in the amount of R$22.4 million (approximately US$7.0 million based on the exchange rate as of June 30, 2016). This BNDES Credit Facility was extended as project financing for a production site in Brazil. The credit line was divided into an initial tranche of up to approximately R$19.1 million and an additional tranche of approximately R$3.3 million that would become available upon delivery of additional guarantees. The credit line was cancelled in 2013.

The principal of the loans under the BNDES Credit Facility is required to be repaid in 60 monthly installments, with the first installment paid in January 2013 and the last due in December 2017. Interest was due initially on a quarterly basis with the first installment due in March 2012. From and after January 2013, interest payments are due on a monthly basis together with principal payments. The loaned amounts carry interest of 7% per annum. Additionally, there is a credit reserve charge of 0.1% on the unused balance from each credit installment from the day immediately after it is made available through its date of use, when it is paid.

The BNDES Credit Facility is collateralized by a first priority security interest in certain of the Company's equipment and other tangible assets totaling R$24.9 million (approximately $7.8 million based on the exchange rate as of June 30, 2016). The Company is a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, the Company was required to provide a bank guarantee equal to 10% of the total approved amount (R$22.4 million in total debt) available under the BNDES Credit Facility. For advances of the second tranche (above R$19.1 million), the Company is required to provide additional bank guarantees equal to 90% of each such advance, plus additional Company guarantees equal to at least 130% of such advance. The BNDES Credit Facility contains customary events of default, including payment failures, failure to satisfy other obligations under this credit facility or related documents, defaults in respect of other indebtedness, bankruptcy, insolvency and inability to pay debts when due, material judgments, and changes in control of Amyris Brasil. If any event of default occurs, BNDES may terminate its commitments and declare immediately due all borrowings under the facility. As of June 30, 2016 and December 31, 2015, the Company had R$5.7 million (approximately US$1.8 million based on the exchange rate as of June 30, 2016) and R$7.6 million (approximately US$1.9 million based on the exchange rate as of December 31, 2015), respectively, in outstanding advances under the BNDES Credit Facility.

FINEP Credit Facility

In November 2010, the Company entered into a credit facility with Financiadora de Estudos e Projetos (or the “FINEP Credit Facility”). The FINEP Credit Facility was extended to partially fund expenses related to the Company’s research and development project on sugarcane-based biodiesel (or the “FINEP Project”) and provided for loans of up to an aggregate principal amount of R$6.4 million (approximately US$2.0 million based on the exchange rate as of June 30, 2016), which is secured by a chattel mortgage on certain equipment of Amyris Brasil as well as by bank letters of guarantee. All available credit under this facility is fully drawn.

Interest on loans drawn under the FINEP Credit Facility is fixed at 5% per annum. In case of default under or non-compliance with the terms of the agreement, the interest on loans will be dependent on the long-term interest rate as published by the Central Bank of Brazil (such rate, the “TJLP”). If the TJLP at the time of default is greater than 6%, then the interest will be 5% plus a TJLP adjustment factor, otherwise the interest will be 11% per annum. In addition, a fine of up to 10% shall apply to the amount of any obligation in default. Interest on late balances will be 1% per month, levied on the overdue amount. Payment of the outstanding loan balance is being made in 81 monthly installments, which commenced in July 2012 and extends through March 2019. Interest on loans drawn and other charges are paid on a monthly basis and commenced in March 2011. As of June 30, 2016 and December 31, 2015, the total outstanding loan balance under this credit facility was R$2.8 million (approximately US$0.9 million based on the exchange rate as of June 30, 2016) and R$3.4 million (approximately US$0.9 million based on exchange rate as of December 31, 2015), respectively.

Convertible Notes

Fidelity

In February 2012, the Company completed the sale of senior unsecured convertible promissory notes in an aggregate principal amount of $25.0 million pursuant to a securities purchase agreement, between the Company and certain investment funds affiliated with FMR LLC (or the "Fidelity Securities Purchase Agreement"). The offering consisted of the sale of 3% senior unsecured convertible promissory notes with a March 1, 2017 maturity date and an initial conversion price equal to $7.0682 per share of the Company's common stock, subject to proportional adjustment for adjustments to outstanding common stock and anti-dilution provisions in case of dividends and distributions (or the "Fidelity Notes"). In October 2015, the Company issued $57.6 million of convertible senior notes and used approximately $8.8 million of the proceeds therefrom to repurchase $9.7 million aggregate principal amount of outstanding Fidelity Notes. As of June 30, 2016, the Fidelity Notes were convertible into an aggregate of up to 2,165,898 shares of the Company's common stock. The holders of the Fidelity Notes have a right to require repayment of 101% of the principal amount of the Fidelity Notes in an acquisition of the Company, and the Fidelity Notes provide for payment of unpaid interest on conversion following such an acquisition if the note holders do not require such repayment. The Fidelity Securities Purchase Agreement and Fidelity Notes include covenants regarding payment of interest, maintaining the Company's listing status, limitations on debt, maintenance of corporate existence, and timely filing of SEC reports. The Fidelity Notes include standard events of default resulting in acceleration of indebtedness, including failure to pay, bankruptcy and insolvency, cross-defaults and breaches of the covenants in the Fidelity Securities Purchase Agreement and Fidelity Notes, with default interest rates and associated cure periods applicable to the covenant regarding SEC reporting. Furthermore, the Fidelity Notes include restrictions on the amount of debt the Company is permitted to incur. With exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the Fidelity Notes provide that the Company's total outstanding debt at any time cannot exceed the greater of $200.0 million or 50% of its consolidated total assets and its secured debt cannot exceed the greater of $125.0 million or 30% of its consolidated total assets. In connection with the Company’s closing of a short-term bridge loan for $35.0 million in October 2013, holders of the Fidelity Notes waived compliance with the debt limitations outlined above as to the $35.0 million bridge loan (or the “Temasek Bridge Note”) and the August 2013 Financing (defined below). In consideration for such waiver, the Company granted to holders of the Fidelity Notes or their affiliates the right to purchase up to an aggregate of $7.6 million worth of convertible promissory notes in the first tranche of the August 2013 Financing.

Pursuant to a Securities Purchase Agreement among the Company, Maxwell (Mauritius) Pte Ltd (or “Temasek”) and Total, dated as of August 8, 2013 (or, as amended, the “August 2013 SPA”), as amended in October 2013 to include certain entities affiliated with FMR LLC (or the “Fidelity Entities”), the Company sold and issued certain senior convertible notes (or the “Tranche I Notes”) pursuant to a financing (or the “August 2013 Financing”) exempt from registration under the Securities Act of 1933, as amended (or the “Securities Act”), in an aggregate principal amount of $7.6 million to the Fidelity Entities. See "Related Party Convertible Notes" in this Note 5, "Debt."

2014 Rule 144A Convertible Note Offering

In May 2014, the Company entered into a Purchase Agreement with Morgan Stanley & Co. LLC, as the initial purchaser (or the “Initial Purchaser”), relating to the sale of $75.0 million aggregate in principal amount of its 6.50% Convertible Senior Notes due 2019 (or the "2014 144A Notes") to the Initial Purchaser in a private placement, and for initial resale by the Initial Purchaser to certain qualified institutional buyers (or the "2014 144A Convertible Note Offering"). In addition, the Company granted the Initial Purchaser an option to purchase up to an additional $15.0 million aggregate principal amount of 2014 144A Notes, which option expired unexercised according to its terms. Under the terms of the purchase agreement for the 2014 144A Notes, the Company agreed to customary indemnification of the Initial Purchaser against certain liabilities. The Notes were issued pursuant to an Indenture, dated as of May 29, 2014 (or the “2014 Indenture”), between the Company and Wells Fargo Bank, National Association, as trustee. The net proceeds from the offering of the 2014 144A Notes were approximately $72.0 million after payment of the Initial Purchaser’s discounts and offering expenses. In addition, in connection with obtaining a waiver from Total of its preexisting contractual right to exchange certain senior secured convertible notes previously issued by the Company for new notes issued in the 2014 144A Convertible Note Offering, the Company used approximately $9.7 million of the net proceeds to repay previously issued notes (representing the amount of 2014 144A Notes purchased by Total from the Initial Purchaser). Certain of the Company's affiliated entities purchased $24.7 million in aggregate principal amount of 2014 144A Notes from the Initial Purchaser (described further below under "Related Party Convertible Notes"). In October 2015, the Company issued $57.6 million of convertible senior notes and used approximately $18.3 million of the net proceeds therefrom to repurchase $22.9 million aggregate principal amount of outstanding 2014 144A Notes. The 2014 144A Notes bear interest at a rate of 6.50% per year, payable semiannually in arrears on May 15 and November 15 of each year, beginning November 15, 2014. The 2014 144A Notes mature on May 15, 2019, unless earlier converted or repurchased. The 2014 144A Notes are convertible into shares of the Company's common stock at any time prior to the close of business day on May 15, 2019, at the initial conversion rate of 267.037 shares of Common Stock per $1,000 principal amount of 2014 144A Notes (subject to adjustment in certain circumstances). This represents an effective conversion price of approximately $3.74 per share of common stock. For any conversion on or after May 15, 2015, in the event that the last reported sale price of the Company’s common stock for 20 or more trading days (whether or not consecutive) in a period of 30 consecutive trading days ending within five trading days immediately prior to the date the Company receives a notice of conversion exceeds the then-applicable conversion price per share on each such trading day, the holders, in addition to the shares deliverable upon conversion, noteholders will be entitled to receive a cash payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2014 144A Notes being converted from the conversion date to the earlier of the date that is three years after the date the Company receives such notice of conversion and maturity (May 15, 2019), which will be computed using a discount rate of 0.75%. In the event of a fundamental change, as defined in the 2014 Indenture, holders of the 2014 144A Notes may require the Company to purchase all or a portion of the 2014 144A Notes at a price equal to 100% of the principal amount of the 2014 144A Notes, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. In addition, holders of the 2014 144A Notes who convert their 2014 144A Notes in connection with a make-whole fundamental change will, under certain circumstances, be entitled to an increase in the conversion rate. Refer to the “Exchange” and “Maturity Treatment Agreement” sections of this Note 5, "Debt", for details of the impact of the Maturity Treatment and Exchange agreements on the 2014 144A Notes.

2015 Rule 144A Convertible Note Offering

In October 2015, the Company entered into a purchase agreement with certain qualified institutional buyers relating to the sale of $57.6 million aggregate principal amount of its 9.50% Convertible Senior Notes due 2019 (or the “2015 144A Notes”) to the purchasers in a private placement (or the “2015 144A Offering”). The Notes were issued pursuant to an Indenture, dated as of October 20, 2015 (or the “2015 Indenture”), between the Company and Wells Fargo Bank, National Association, as trustee. The net proceeds from the offering of the 2015 144A Notes were approximately $54.4 million after payment of the estimated offering expenses and placement agent fees. The Company used approximately $18.3 million of the net proceeds to repurchase $22.9 million aggregate principal amount of outstanding 2014 144A Notes and approximately $8.8 million to repurchase $9.7 million aggregate principal amount of outstanding Fidelity Notes, in each case held by purchasers of the 2015 144A Notes. The 2015 144A Notes bear interest at a rate of 9.50% per year, payable semiannually in arrears on April 15 and October 15 of each year, beginning April 15, 2016. Interest on the 2015 144A Notes is payable, at the Company’s option, entirely in cash or entirely in common stock. The Company elected to make the April 15, 2016 interest payment in shares of common stock. The 2015 144A Notes will mature on April 15, 2019 unless earlier converted or repurchased.

The 2015 144A Notes are convertible into shares of the Company's common stock at any time prior to the close of business on April 15, 2019. The 2015 144A Notes had an initial conversion rate of 443.6557 shares of Common Stock per $1,000 principal amount of 2015 144A Notes (subject to adjustment in certain circumstances). This represented an initial effective conversion price of approximately $2.25 per share of common stock. Following the issuance by the Company of warrants to purchase common stock in a private placement transaction in February 2016, as described below, the conversion rate of the 2015 144A Notes was adjusted to 445.2552 shares of Common Stock per $1,000 principal amount of 2015 144A Notes. For any conversion on or after November 27, 2015, in addition to the shares deliverable upon conversion, noteholders will be entitled to receive a payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2015 144A Notes being converted from the conversion date to the earlier of the date that is three years after the date the Company receives such notice of conversion and maturity (April 15, 2019), which will be computed using a discount rate of 0.75%. The Company may make such payment (the "Early Conversion Payment") either in cash or in common stock, at its election, provided that it may only make such payment in common stock if such common stock is not subject to restrictions on transfer under the Securities Act by persons other than the Company's affiliates. If the Company elects to pay an Early Conversion Payment in common stock, then the stock will be valued at 92.5% of the simple average of the daily volume-weighted average price per share for the 10 trading days ending on and including the trading day immediately preceding the conversion date. In the event of a fundamental change, as defined in the 2015 Indenture, holders of the 2015 144A Notes may require the Company to purchase all or a portion of the 2015 144A Notes at a price equal to 100% of the principal amount of the 2015 144A Notes, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date. In addition, holders of the 2015 144A Notes who convert their 2015 144A Notes in connection with a make-whole fundamental change will, under certain circumstances, be entitled to an increase in the conversion rate. The issuance of shares of common stock upon conversion of the 2015 144A Notes, upon the Company's election to pay interest on the 2015 144A Notes in shares of common stock and upon the Company's election to pay the Early Conversion Payment in shares of common stock in an aggregate amount in excess of 38,415,626 shares of the Company's common stock was subject to stockholder approval, which was obtained on May 17, 2016. With exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the 2015 144A Notes provide that, as long as the aggregate outstanding principal amount of the 2015 144A Notes exceeds $25.0 million, the Company's outstanding unsecured debt at any time cannot exceed $200.0 million and its secured debt cannot exceed the greater of $65.0 million or 30% of its consolidated total assets.

May 2016 Convertible Note Offering

In May 2016, the Company entered into a securities purchase agreement (or the "May 2016 Purchase Agreement") between the Company and a private investor relating to the sale of up to $15.0 million aggregate principal amount of convertible notes (or the "2016 Convertible Notes") that are convertible into shares of the Company's common stock at an initial conversion price of $1.90 per share. The conversion price will be subject to adjustment in the event of any stock split, reverse stock split, recapitalization, reorganization or similar transaction. The May 2016 Purchase Agreement includes customary representations, warranties and covenants by the Company. The May 2016 Purchase Agreement also provides the purchaser with a right of first refusal with respect to any variable rate transaction on the same terms and conditions as are offered to a third-party purchaser for as long as the purchaser holds any 2016 Convertible Notes or shares of the Company's common stock underlying the 2016 Convertible Notes.

The 2016 Convertible Notes will be issued and sold in two separate closings. The initial closing occurred on May 10, 2016. At the initial closing, the Company issued and sold a 2016 Convertible Note in a principal amount of $10.0 million to the purchaser, resulting in net proceeds to the Company of approximately $9.9 million. The second closing will occur on the first trading day following the completion of the first three installment periods under the 2016 Convertible Notes and the satisfaction or waiver of certain other closing conditions, including certain equity conditions, such as that no Triggering Event (as defined below) has occurred. At the second closing, the Company will issue and sell a 2016 Convertible Note in a principal amount of $5.0 million to the purchaser, resulting in expected net proceeds to the Company of approximately $5.0 million.

The 2016 Convertible Notes and the common stock underlying the 2016 Convertible Notes are being offered and sold pursuant to a prospectus filed with the Securities and Exchange Commission (or the “SEC”) on April 9, 2015 and a prospectus supplement dated May 10, 2016, in connection with a takedown from the Company’s effective shelf registration statement on Form S-3 (File No. 333-203216) declared effective by the SEC on April 15, 2015.

The 2016 Convertible Notes are general unsecured obligations of the Company. Unless earlier converted or redeemed, the 2016 Convertible Notes will mature on the 18-month anniversary of their respective issuance, subject to the rights of the holders to extend the maturity date in certain circumstances.

The 2016 Convertible Notes will be payable in monthly installments, in either cash at 118% of such installment amount or, at the Company’s option, subject to the satisfaction of certain equity conditions, shares of common stock at a discount to the then-current market price, subject to a price floor. In addition, in the event that the Company elects to pay all or any portion of a monthly installment in common stock, the holders of the 2016 Convertible Notes shall have the right to require that the Company repay in common stock an additional amount of the 2016 Convertible Notes not to exceed 50% of the cumulative sum of the aggregate amounts by which the dollar-weighted trading volume of the Company’s common stock for all trading days during the applicable installment period exceeds $200,000. The Company elected to make the June installment payment in shares of common stock.

The 2016 Convertible Notes contain customary terms and covenants, including certain events of default after which the holders may require the Company to redeem all or any portion of their 2016 Convertible Notes in cash at a price equal to the greater of (i) 118% of the amount being redeemed and (ii) the intrinsic value of the shares of common stock issuable upon an installment payment of the amount being redeemed in shares.

In the event of a Fundamental Transaction (as defined in the 2016 Convertible Notes), holders of the 2016 Convertible Notes may require the Company to redeem all or any portion of their 2016 Convertible Notes at a price equal to the greater of (i) 118% of the amount being redeemed and (ii) the intrinsic value of the shares of common stock issuable upon an installment payment of the amount being redeemed in shares.

The Company has the right to redeem the 2016 Convertible Notes for cash, in whole, at any time, or in part, from time to time, at a redemption price equal to 118% of the principal amount of the 2016 Convertible Notes being redeemed. In addition, if the volume-weighted average price of the Company’s common stock is (i) less than $1.00 for 30 consecutive trading days or (ii) less than $0.50 for five consecutive trading days (each, a “Triggering Event”) within four months of the issuance of any 2016 Convertible Notes, the Company will have the option to redeem such 2016 Convertible Notes in whole for cash at a redemption price equal to 112% of the principal amount of such 2016 Convertible Notes.

Related Party Convertible Notes

Total R&D Convertible Notes

In July 2012 and December 2013, the Company entered into a series of agreements (or the "Total Fuel Agreements") with Total Energies Nouvelles Activités USA (formerly known as Total Gas & Power USA, SAS, and referred to as “Total”) to establish a research and development program (or the "Program") and form a joint venture (or the "Fuels JV") with Total to produce and commercialize farnesene- or farnesane-based diesel and jet fuels, and established a convertible debt structure for the collaboration funding from Total.

The purchase agreement for the notes related to the funding from Total (or the “Total Purchase Agreement”) provided for the sale of an aggregate of $105.0 million in 1.5% Senior Unsecured Convertible Notes due March 2017 (the “Unsecured R&D Notes”) as follows:

- As part of an initial closing under the purchase agreement (which was completed in two installments), (i) on July 30, 2012, the Company sold an Unsecured R&D Note with a principal amount of $38.3 million, including $15.0 million in new funds and $23.3 million in previously-provided diesel research and development funding by Total, and (ii) on September 14, 2012, the Company sold another Unsecured R&D Note for $15.0 million in new funds from Total. These Unsecured R&D Notes had an initial conversion price of $7.0682 per share.

- At a second closing under the Total Purchase Agreement (also completed in two installments) the Company sold additional Unsecured R&D Notes for an aggregate of $30.0 million in new funds from Total ($10.0 million in June 2013 and $20.0 million in July 2013). These Unsecured R&D Notes had an initial conversion price of $3.08 per share, as described below.

- At a third closing under the Total Purchase Agreement (also completed in two installments) the Company sold additional Unsecured R&D Notes for an aggregate of $21.7 million in new funds from Total ($10.85 million in July 2014 and $10.85 million in January 2015) (or the “Third Closing Notes”). These Unsecured R&D Notes had an initial conversion price of $4.11 per share, as described below.

In March 2013, the Company entered into a letter agreement with Total (or the March 2013 Letter Agreement) under which Total agreed to waive its right to cease its participation in the parties' fuels collaboration at the July 2013 decision point and committed to proceed with the July 2013 funding tranche of $30.0 million (subject to the Company's satisfaction of the relevant closing conditions for such funding in the Total Purchase Agreement). As consideration for this waiver and commitment, the Company agreed to:

- reduce the conversion price for the $30.0 million in principal amount of Unsecured R&D Notes to be issued in connection with the second closing of the Unsecured R&D Notes (as described above) from $7.0682 per share to a price per share equal to the greater of (i) the consolidated closing bid price of the Company's common stock on the date of the March 2013 Letter Agreement, plus $0.01, and (ii) $3.08 per share, provided that the conversion price would not be reduced by more than the maximum possible amount permitted under the rules of The NASDAQ Stock Market (or “NASDAQ”) such that the new conversion price would require the Company to obtain stockholder consent; and

- grant Total a senior security interest in the Company's intellectual property, subject to certain exclusions and subject to release by Total when the Company and Total enter into final documentation regarding the establishment of the Fuels JV.

In addition to the waiver by Total described above, Total also agreed that, at the Company's request and contingent upon the Company meeting its obligations described above, it would pay advance installments of the amounts otherwise payable at the second closing.

In June 2013, the Company sold and issued $10.0 million in principal amount of Unsecured R&D Notes to Total pursuant to the second closing of the Unsecured R&D Notes as discussed above. In accordance with the March 2013 Letter Agreement, this Unsecured R&D Note had an initial conversion price equal to $3.08 per share of the Company's common stock.

In July 2013, the Company sold and issued $20.0 million in principal amount of Unsecured R&D Notes to Total pursuant to the Total second closing of the Unsecured R&D Notes as discussed above. This purchase and sale completed Total's commitment to purchase $30.0 million of the Unsecured R&D Notes in the second closing by July 2013. In accordance with the March 2013 Letter Agreement, this Unsecured R&D Note has an initial conversion price equal to $3.08 per share of the Company's common stock.

In December 2013, in connection with the Company's entry into a Shareholders Agreement dated December 2, 2013 and License Agreement dated December 2, 2013 (or, collectively, the “JV Documents”) with Total and Total Amyris BioSolutions B.V. (or “TAB”) relating to the establishment of TAB (see Note 7, "Joint Ventures and Noncontrolling Interest"), the Company (i) exchanged the $69.0 million of the then-outstanding Unsecured R&D Notes issued pursuant to the Total Purchase Agreement for replacement 1.5% Senior Secured Convertible Notes due March 2017 (or the “Secured R&D Notes”, or together with the Unsecured R&D Notes, the “R&D Notes”), in principal amounts equal to the principal amount of each cancelled note and with substantially similar terms except that such replacement notes were secured, (ii) granted to Total a security interest in and lien on all Amyris’ rights, title and interest in and to Company’s shares in the capital of TAB and (iii) agreed that any securities to be purchased and sold at the third closing under the Total Purchase Agreement by Total would be Secured R&D Notes instead of Unsecured R&D Notes. As a consequence of executing the JV Documents and forming TAB, the security interest in all of the Company's intellectual property, granted by the Company in favor of Total, Temasek, and certain Fidelity Entities pursuant to the Restated Intellectual Property Security Agreement dated as of October 16, 2013, were automatically terminated effective as of December 2, 2013 upon Total’s and the Company’s joint written notice to Temasek and the Fidelity Entities.

In April 2014, the Company and Total entered into a letter agreement dated as of March 29, 2014 (or the “March 2014 Total Letter Agreement”) to amend the Amended and Restated Master Framework Agreement entered into as of December 2, 2013 (included as part of JV Documents) and the Total Purchase Agreement. Under the March 2014 Total Letter Agreement, the Company agreed to, (i) amend the conversion price of the Secured R&D Notes to be issued in the third closing under the Total Purchase Agreement from $7.0682 per share to $4.11 per share subject to stockholder approval at the Company's 2014 annual meeting (which was obtained in May 2014), (ii) extend the period during which Total may exchange for other Company securities Secured R&D Notes issued under the Total Fuel Agreements from June 30, 2014 to the later of December 31, 2014 and the date on which the Company shall have raised $75.0 million of equity and/or convertible debt financing (excluding any convertible promissory notes issued pursuant to the Total Purchase Agreement), (iii) eliminate the Company’s ability to qualify, in a disclosure letter to Total, certain of the representations and warranties that the Company must make at the closing of any third closing sale, and (iv) beginning on March 31, 2014, provide Total with monthly reporting on the Company’s cash, cash equivalents and short-term investments. In consideration of these agreements, Total agreed to waive its right not to consummate the closing of the issuance of the Third Closing Notes if it had decided not to proceed with the collaboration and had made a "No-Go" decision with respect thereto.

In July 2014, the Company sold and issued a Secured R&D Note to Total with a principal amount of $10.85 million with a March 1, 2017 maturity date pursuant to the Total Purchase Agreement. This purchase and sale constituted the initial installment of the $21.7 million third closing described above. In accordance with the March 2014 Total Letter Agreement, this convertible note had an initial conversion price equal to $4.11 per share of the Company's common stock.

In January 2015, the Company sold and issued a Secured R&D Note to Total with a principal amount of $10.85 million with a March 1, 2017 maturity date pursuant to the Total Purchase Agreement. This purchase and sale constituted the final installment of the $21.7 million third closing described above. In accordance with the March 2014 Total Letter Agreement, this convertible note had an initial conversion price equal to $4.11 per share of the Company's common stock.

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In July 2015, Total exchanged all but $5.0 million of R&D Notes then held by Total, such cancelled notes having an aggregate principal amount of $70 million, in exchange for approximately 30.4 million shares of the Company’s common stock in connection with the Exchange. Refer to the “Exchange” section of this Note 5, "Debt", for additional details of the impact of the Exchange Agreement on the R&D Notes.

In March 2016, in connection with the restructuring of the Fuels JV (see Note 7, "Joint Ventures and Noncontrolling Interest"), the Company sold to Total one half of the Company’s ownership stake in the Fuels JV (giving Total an aggregate ownership stake of 75% of the Fuels JV and giving the Company an aggregate ownership stake of 25% of the Fuels JV) in exchange for Total cancelling (i) approximately $1.3 million of R&D Notes, plus all paid-in-kind and accrued interest under all outstanding R&D Notes ($2.8 million, including all such interest that was outstanding as of July 29, 2015) and (ii) a note in the principal amount of Euro 50,000, plus accrued interest, issued to Total in connection with the original capitalization of the Fuels JV. To satisfy its purchase obligation above, Total surrendered to the Company the remaining R&D Note of approximately $5.0 million in principal amount, and the Company executed and delivered to Total a new, Unsecured R&D Note in the principal amount of $3.7 million. The disposal of the 25% ownership stake in the Fuels JV resulted in a gain to the Company of $4.2 million, which was recognized as a capital contribution from Total within equity.

As of June 30, 2016 and December 31, 2015, $3.7 million and $5.0 million, respectively, of R&D Notes were outstanding, net of debt discount of $0.0 million and $0.0 million, respectively. The R&D Notes have a maturity date of March 1, 2017, an initial conversion price equal to $3.08 per share for the Unsecured R&D Notes, subject to certain adjustments as described below. The R&D Notes bear interest of 1.5% per annum (with a default rate of 2.5%), accruing from the date of issuance and payable at maturity or on conversion or a change of control where Total exercises the right to require the Company to repay the notes, as described below.

The R&D Notes become convertible into the Company's common stock (i) within 10 trading days prior to maturity, (ii) on a change of control of the Company, and (iii) on a default by the Company. The conversion price of the R&D Notes are subject to adjustment for proportional adjustments to outstanding common stock and under anti-dilution provisions in case of certain dividends and distributions. Total has a right to require repayment of 101% of the principal amount of the R&D Notes in the event of a change of control of the Company and the R&D Notes provide for payment of unpaid future interest through the maturity date on conversion following such a change of control if Total does not require such repayment. The Total Purchase Agreement and Unsecured R&D Notes include covenants regarding payment of interest, maintenance of the Company's listing status, limitations on debt, maintenance of corporate existence, and filing of SEC reports. The R&D Notes include standard events of default resulting in acceleration of indebtedness, including failure to pay, bankruptcy and insolvency, cross-defaults, and breaches of the covenants in the Total Purchase Agreement and R&D Notes, with added default interest rates and associated cure periods applicable to the covenant regarding SEC reporting. Furthermore, with exceptions for certain existing debt, refinancing of such debt and certain other exclusions and waivers, the R&D Notes provided that the Company's total outstanding debt at any time may not exceed the greater of $200.0 million or 50% of its consolidated total assets and its secured debt may not exceed the greater of $125.0 million or 30% of its consolidated total assets.

August 2013 Financing Convertible Notes and Temasek Bridge Note

In connection with the August 2013 Financing, the Company entered into the August 2013 Share Purchase Agreement with Total and Temasek to sell up to $73.0 million in convertible promissory notes in private placements, with such notes to be sold and issued over a period of up to 24 months from the date of signing. The August 2013 SPA provided for the August 2013 Financing to be divided into two tranches (the first tranche for $42.6 million and the second tranche for $30.4 million), each with differing closing conditions. Of the total possible purchase price in the financing, $25.0 million was paid in the form of cash by Temasek ($25.0 million in the second tranche), $35.0 million was paid by the exchange and cancellation of the Temasek Bridge Note, as described below, and $13.0 million was paid by the exchange and cancellation of outstanding convertible promissory notes held by Total in connection with its exercise of pro rata rights ($7.6 million in the first tranche and $5.4 million in the second tranche). The August 2013 SPA included requirements that the Company meet certain production milestones before the second tranche would become available, obtain stockholder approval prior to completing any closing of the transaction, and issue a warrant to Temasek to purchase 1,000,000 shares of the Company's common stock at an exercise price of $0.01 per share, exercisable only if Total converts notes previously issued to Total in the second closing under the Total Purchase Agreement. In September 2013, prior to the initial closing of the August 2013 Financing, the Company's stockholders approved the issuance in the private placement of up to $110.0 million aggregate principal amount of senior convertible promissory notes, the issuance of a warrant to purchase 1,000,000 shares of the Company's common stock and the issuance of the common stock issuable upon conversion or exercise of such notes and warrant, which approval included the transactions contemplated by the August 2013 Financing.

In October 2013, the Company sold and issued a senior secured promissory note to Temasek (the "Temasek Bridge Note") in exchange for a bridge loan of $35.0 million. The Temasek Bridge Note was due on February 2, 2014 and accrued interest at a rate of 5.5% quarterly from the October 4, 2013 date of issuance. The Temasek Bridge Note was cancelled on October 16, 2013 as payment for Temasek's purchase of Tranche I Notes in the first tranche of the August 2013 Financing, as further described below.

In October 2013, the Company amended the August 2013 SPA to include the investment by the Fidelity Entities in the first tranche of the August 2013 Financing of $7.6 million, and to proportionally increase the amount of first tranche notes acquired by exchange and cancellation of outstanding R&D Notes held by Total in connection with its exercise of pro rata rights up to $9.2 million in the first tranche. Also in October 2013, the Company completed the closing of the first tranche of the August 2013 Financing, issuing a total of $51.8 million in Tranche I Notes for cash proceeds of $7.6 million and cancellation of outstanding convertible promissory notes of $44.2 million, of which $35.0 million resulted from cancellation of the Temasek Bridge Note and the remaining $9.2 million from the exchange and cancellation of an outstanding Total Note. As a result of the exchange and cancellation of the $35.0 million Temasek Bridge Note and the $9.2 million Total Note for the Tranche I Notes, the Company recorded a loss from extinguishment of debt of $19.9 million. The Tranche I Notes are due sixty months from the date of issuance and were initially convertible into the Company's common stock at a conversion price equal to $2.44, which represents a 15% discount to a trailing 60-day weighted-average closing price of the common stock on The NASDAQ Stock Market (or "NASDAQ") through August 7, 2013, subject to certain adjustments, as described below. The Tranche I Notes are convertible at the option of the holder: (i) at any time after 18 months from the date of the August 2013 SPA, (ii) on a change of control of the Company and (iii) upon the occurrence of an event of default. Each Tranche I Note accrues interest from the date of issuance until the earlier of the date that such Tranche I Note is converted into the Company's common stock or is repaid in full. Interest accrues at a rate of 5% per six months, compounded semiannually (with graduated interest rates of 6.5% applicable to the first 180 days and 8% applicable thereafter as the sole remedy should the Company fail to maintain NASDAQ listing status or at 6.5% for all other defaults). Interest for the first 30 months is payable in kind and added to the principal every six months and thereafter, the Company may continue to pay interest in kind by adding to the principal every six months or may elect to pay interest in cash. To date, the Company has elected to pay interest on the Tranche I Notes in kind. The Tranche I Notes may be prepaid by the Company on the 30-month anniversary of the issuance date, and thereafter every six months at the date of payment of the semi-annual coupon.

In January 2014, the Company sold and issued, for face value, approximately $34.0 million of convertible promissory notes in the second tranche of the August 2013 Financing (or the "Tranche II Notes"). At the closing, Temasek purchased $25.0 million of the Tranche II Notes and funds affiliated with Wolverine Asset Management, LLC purchased $3.0 million of the Tranche II Notes, each for cash. Total purchased approximately $6.0 million of the Tranche II Notes through cancellation of the same amount of principal of previously outstanding R&D Notes held by Total. As a result of the exchange and cancellation of the $6.0 million Total Note for the Tranche II Notes, the Company recorded a loss from extinguishment of debt of $9.4 million. The Tranche II Notes will be due sixty months from the date of issuance and were initially convertible into shares of common stock at a conversion price equal to $2.87 per share, which represents a trailing 60-day weighted-average closing price of the common stock on NASDAQ through August 7, 2013, subject to certain adjustments, as described below. Specifically, the Tranche II Notes are convertible at the option of the holder (i) at any time 12 months after issuance, (ii) on a change of control of the Company, and (iii) upon the occurrence of an event of default. Each Tranche II Note will accrue interest from the date of issuance until the earlier of the date that such Tranche II Note is converted into common stock or repaid in full. Interest will accrue at a rate per annum equal to 10%, compounded annually (with graduated interest rates of 13%

applicable to the first 180 days and 16% applicable thereafter as the sole remedy should the Company fail to maintain NASDAQ listing status or at 12% for all other defaults). Interest for the first 36 months shall be payable in kind and added to principal every year following the issue date and thereafter, the Company may continue to pay interest in kind by adding to principal on every year anniversary of the issue date or may elect to pay interest in cash. To date, the Company has elected to pay interest on the Tranche II Notes in kind.

The conversion prices of the Tranche I Notes and Tranche II Notes are subject to adjustment (i) according to proportional adjustments to outstanding common stock of the Company in case of certain dividends and distributions, (ii) according to anti-dilution provisions, and (iii) with respect to notes held by any purchaser other than Total, in the event that Total exchanges existing convertible notes for new securities of the Company in connection with future financing transactions in excess of its pro rata amount. Notwithstanding the foregoing, holders of a majority of the principal amount of the notes outstanding at the time of conversion may waive any anti-dilution adjustments to the conversion price. The purchasers have a right to require repayment of 101% of the principal amount of the notes in the event of a change of control of the Company and the notes provide for payment of unpaid interest on conversion following such a change of control if the purchasers do not require such repayment. The August 2013 SPA, Tranche I Notes and Tranche II Notes include covenants regarding payment of interest, maintenance of the Company's listing status, limitations on debt and on certain liens, maintenance of corporate existence, and filing of SEC reports. The Tranche Notes include standard events of default including failure to pay, bankruptcy and insolvency, cross-defaults, and breaches of the covenants in the August 2013 SPA, Tranche I Notes and Tranche II Notes, after which the Tranche Notes may be due and payable immediately, as well as associated with default interest rates as set forth above.

In July 2015, Temasek exchanged all of the Tranche I and Tranche II Notes then held by Temasek, such notes having an aggregate principal amount of $71.0 million, in exchange for approximately 30.86 million shares of the Company's common stock in connection with the Exchange. Refer to the "Exchange" section of this Note 5, "Debt", for additional details of the impact of the Exchange Agreement on the R&D Notes.

The conversion price of the Tranche I Notes and Tranche II Notes was reduced to $1.42 per share upon the completion of a private placement of common stock and warrants to purchase common stock in July 2015, as described below. Following the issuance by the Company of warrants to purchase common stock in a private placement transaction in February 2016, as described below, the conversion price of the Tranche I Notes and Tranche II Notes was further adjusted to $1.40 per share, and following the sale by the Company of shares of common stock to the Bill & Melinda Gates Foundation in May 2016, as described below, the conversion price of the Tranche I Notes and Tranche II Notes was further adjusted to $1.14 per share.

As of June 30, 2016 and December 31, 2015, the related party convertible notes outstanding under the Tranche I Notes and Tranche II Notes were $24.5 million and $23.3 million, respectively, net of debt discount of $0.0 million and $0.0 million, respectively. Refer to the "Exchange" and "Maturity Treatment Agreement" sections of this Note 5, "Debt", for details of the impact of the Maturity Treatment and Exchange agreements on the Tranche I and II Notes.

2014 144A Notes Sold to Related Parties

As of June 30, 2016 and December 31, 2015, the related party convertible notes outstanding under the 2014 Rule 144A Convertible Note Offering were $14.8 million and $14.6 million, respectively, net of discount and issuance costs of $1.6 million and $1.6 million, respectively.

As of June 30, 2016 and December 31, 2015, the total related party convertible notes outstanding were $42.8 million and $42.8 million, respectively, net of discount and issuance costs of $1.7 million and $1.9 million, respectively.

Loans Payable

In July 2012, the Company entered into a Note of Bank Credit and a Fiduciary Conveyance of Movable Goods Agreement (together, the "July 2012 Bank Agreements") with each of Nossa Caixa Desenvolvimento (or “Nossa Caixa”) and Banco Pine S.A. (or “Banco Pine”). Under the July 2012 Bank Agreements, the Company pledged certain farnesene production assets as collateral for the loans of R$52.0 million. The Company's total acquisition cost for such pledged assets was approximately R$68.0 million (approximately US$21.2 million based on the exchange rate as of June 30, 2016). The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements. Under the July 2012 Bank Agreements, the Company could borrow an aggregate of R$52.0 million (approximately US$16.2 million based on the exchange rate as of June 30, 2016) as financing for capital expenditures relating to the Company's manufacturing facility located in Brotas, Brazil. Specifically, Banco Pine, agreed to lend R$22.0 million and Nossa Caixa agreed to lend R$30.0 million. The funds for the loans are provided by BNDES, but are guaranteed by the lenders. The loans have a final maturity date of July 15, 2022 and bear a fixed interest rate of 5.5% per year. The loans are also subject to early maturity and delinquency charges upon occurrence of certain events including interruption of manufacturing activities at the Company's manufacturing facility in Brotas, Brazil for more than 30 days, except during the sugarcane off-season. For the first two years that the loans are outstanding, the Company is required to pay interest only on a quarterly basis. Since August 15, 2014, the Company has been required to pay equal monthly installments of both principal and interest for the remainder of the term of the loans. As of June 30, 2016 and December 31, 2015, a principal amount of R$39.5 million (approximately US$12.3 million based on the exchange rate as of June 30, 2016) and R$43.0 million (approximately US$11.0 million based on the exchange rate as of June 30, 2016), respectively, was outstanding under these loan agreements.

In March 2014, the Company entered into an export financing agreement with Banco ABC Brasil S.A. (or "ABC") for approximately $2.2 million to fund exports through March 2015. This loan is collateralized by future exports from the Company's subsidiary in Brazil. In April, 2015, we entered into an additional export financing agreement with ABC for approximately $1.6 million to fund exports through March 2016. This loan is collateralized by future exports from the Company's subsidiary in Brazil. As of June 30, 2016, the aggregate principal amount outstanding under the ABC financing agreements was zero ($1.6 million at December 31, 2015). The Company was also a parent guarantor for the payment of the outstanding balance under these loan agreements.

Exchange (debt conversion)

On July 29, 2015, the Company closed the "Exchange" pursuant to that certain Exchange Agreement, dated as of July 26, 2015 (or the "Exchange Agreement"), among the Company, Temasek and Total.

Under the Exchange Agreement, at the closing, Temasek exchanged $71.0 million in principal amount of outstanding Tranche I and Tranche II Notes (including paid-in-kind and accrued interest through July 29, 2015) and Total exchanged $70.0 million in principal amount of outstanding R&D Notes for shares of the Company's common stock. The exchange price was $2.30 per share (the "Exchange Price") and was paid by the exchange and cancellation of such outstanding convertible promissory notes, and Temasek and Total received 30,860,633 and 30,434,782 shares of the Company's common stock, respectively, in the Exchange. As a result of the Exchange, accretion of debt discount was accelerated based on the Company's estimate of the expected conversion date, resulting in an additional interest expense of $39.2 million for the year ended December 31, 2015.

Under the Exchange Agreement, Total also received the following warrants, each with a five-year term, at the closing:

- A warrant to purchase 18,924,191 shares of the Company's Common Stock (or the "Total Funding Warrant").

- A warrant to purchase 2,000,000 shares of the Company's common stock that will only be exercisable if the Company fails, as of March 1, 2017, to achieve a target cost per liter to manufacture farnesene (or the "Total R&D Warrant"). The Total Funding Warrant and the Total R&D Warrant are collectively referred to as the "Total Warrants."

Additionally, under the Exchange Agreement, Temasek received the following warrants:

- A warrant to purchase 14,677,861 shares of the Company's common stock. (the "Temasek Exchange Warrant").

A warrant exercisable for that number of shares of the Company’s common stock equal to (1) (A) the number of shares for which Total exercises the Total Funding Warrant plus (B) the number of additional shares for which the certain convertible notes remaining outstanding following the completion of the Exchange may become exercisable as a result of a reduction in the conversion price of such remaining notes as of a result of and/or subsequent to the date of the Exchange plus (C) that number of additional shares in excess of 2,000,000, if any, for which the Total R&D Warrant becomes exercisable multiplied by a fraction equal to 30.6% divided by 69.4% plus (2) (A) the number of any additional shares for which certain other outstanding convertible promissory notes may become exercisable as a result of a reduction to the conversion price of such notes multiplied by (B) a fraction equal to 13.3% divided by 86.7% (or the “Temasek Funding Warrant”).

- A warrant exercisable for that number of shares of the Company’s common stock equal to 880,339 multiplied by a fraction equal to the number of shares for which Total exercises the Total R&D Warrant divided by 2,000,000. If Total is entitled to, and does, exercise the Total R&D Warrant in full, this warrant would be exercisable for 880,339 shares (or the “Temasek R&D Warrant”).

The Temasek Exchange Warrant, the Temasek Funding Warrant and the Temasek R&D Warrant each have ten-year terms and are referred to herein as the “Temasek Warrants” and, the Temasek Warrants and Total Warrants are hereinafter collectively referred to as the “Exchange Warrants”. All of the Exchange Warrants have an exercise price of $0.01 per share.

In addition to the grant of the Exchange Warrants, a warrant issued by the Company to Temasek in October 2013 in conjunction with a prior convertible debt financing (the “2013 Warrant”) became exercisable in full upon the completion of the Exchange. There were 1,000,000 shares underlying the 2013 Warrant, with an exercise price of $0.01 per share.

The exercisability of all of the Exchange Warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In February and May 2016, as a result of the adjustments to the Tranche I and Tranche II Notes conversion price discussed above under “Related Party Convertible Notes”, the Temasek Funding Warrant became exercisable for an additional 127,194 and 2,335,342 shares of common stock, respectively.

As of June 30, 2016, the Total Funding Warrant, the Temasek Exchange Warrant, and the 2013 Warrant had been fully exercised and Temasek had exercised the Temasek Funding Warrant with respect to 12,700,244 shares of common stock. Neither the Total R&D Warrant nor the Temasek R&D Warrant were exercisable as of June 30, 2016. 2,462,536 of the Temasek Funding Warrant were unexercised as of June 30, 2016.

Maturity Treatment Agreement

At the closing of the Exchange, the Company, Total and Temasek also entered into a Maturity Treatment Agreement, dated as of July 29, 2015, pursuant to which Total and Temasek agreed to convert any Tranche I Notes, Tranche II Notes or 2014 144A Notes held by them that were not cancelled in the Exchange (the “Remaining Notes”) into shares of the Company’s common stock in accordance with the terms of such Remaining Notes upon maturity, provided that certain events of default have not occurred with respect to the applicable Remaining Notes prior to such maturity. As of immediately following the closing of the Exchange, Temasek held $10.0 million in aggregate principal amount of Remaining Notes (consisting of 2014 144A Notes) and Total held approximately $25.0 million in aggregate principal amount of Remaining Notes (consisting of $9.7 million of 2014 144A Notes and $15.3 million of Tranche I and II

Notes).

February 2016 Private Placement

On February 12, 2016, the Company entered into a Note and Warrant Purchase Agreement (the “February 2016 Purchase Agreement”) with the purchasers named therein for the sale of $18.0 million in aggregate principal amount of unsecured promissory notes (the “February 2016 Notes”) to the purchasers, as well as warrants to purchase 2,571,428 shares of the Company’s common stock at an exercise price of $0.01 per share, representing aggregate proceeds to the Company of $18 million (the “Initial Sale”). On February 15, 2016, an additional purchaser joined the Purchase Agreement and purchased $2.0 million in aggregate principal amount of the February 2016 Notes, as well as warrants to purchase 285,714 shares of the Company’s common stock at an exercise price of $0.01 per share, representing aggregate proceeds to the Company of $2 million (the “Subsequent Sale” and together with the Initial Sale, the “February 2016 Private Placement”). The February 2016 Notes and the warrants were issued in a private placement pursuant to the exemption from registration under Section 4(2) of the Securities Act and Regulation D promulgated under the Securities Act. The purchasers are existing stockholders of the Company and affiliated with certain members of the Company’s Board of Directors: Foris Ventures, LLC (an entity affiliated with director John Doerr of Kleiner Perkins Caufield & Byers, a current stockholder), which purchased $16.0 million aggregate principal amount of the Notes and warrants to purchase 2,285,714 shares of the Company’s common stock; Naxyris S.A. (an investment vehicle owned by Naxos Capital Partners SCA Sicar; director Carole Piwnica is Director of NAXOS UK, which is affiliated with Naxos Capital Partners SCA Sicar), which purchased $2.0 million aggregate principal amount of the Notes and warrants to purchase 285,714 shares of the Company’s common stock; and Biolding Investment SA, a fund affiliated with director HH Sheikh Abdullah bin Khalifa Al Thani, which purchased $2.0 million aggregate principal amount of the Notes and warrants to purchase 285,714 shares of the Company’s common stock. The Initial Sale closed on February 12, 2016, and the Subsequent Sale closed on February 15, 2016.

The February 2016 Notes are unsecured obligations of the Company and are subordinate to the Company's obligations under the Senior Secured Loan Facility pursuant to a Subordination Agreement, dated as of February 12, 2016, by and among the Company, the purchasers and the administrative agent under the Senior Secured Loan Facility. Interest will accrue on the February 2016 Notes from and including, with respect to the Initial Sale, February 12, 2016, and with respect to the Subsequent Sale, February 15, 2016, at a rate of 13.50% per annum and is payable on May 15, 2017, the maturity date of the February 2016 Notes, unless the February 2016 Notes are prepaid in accordance with their terms prior to such date. The February 2016 Purchase Agreement and the February 2016 Notes contain customary terms, provisions, representations and warranties, including certain events of default after which the February 2016 Notes may be due and payable immediately, as set forth in the February 2016 Notes.

The exercisability of the warrants issued in the February 2016 Private Placement, which each have a term of five years, was subject to stockholder approval, which was obtained on May 17, 2016. As of June 30, 2016, the carrying amount of the February 2016 Notes was $17.0 million.

June 2016 Private Placement

On June 24, 2016, the Company entered into a Note Purchase Agreement (the "June 2016 Purchase Agreement") with Foris Ventures, LLC for the sale of $5.0 million in aggregate principal amount of secured promissory notes (the "June 2016 Notes") to Foris Ventures, LLC in exchange for aggregate proceeds to the Company of $5.0 million (the "June 2016 Private Placement"). The June 2016 Notes were issued in a private placement pursuant to the exemption from registration under Section 4(2) of the Securities Act of 1933, as amended and Regulation D promulgated under the Securities Act. The June 2016 Private Placement closed on June 24, 2016.

The June 2016 Notes are collateralized by a second priority lien on the assets securing the Company's obligations under the Senior Secured Loan Facility, and are subordinate to the Company's obligations under the Senior Secured Loan Facility pursuant to a Subordination Agreement, dated as of June 24, 2016, by and among the Company, Foris Ventures, LLC and the administrative agent under the Company's Senior Secured Loan Facility. Interest will accrue on the June 2016 Notes from and including June 24, 2016 at a rate of 13.50% per annum and is payable in full on May 15, 2017, the maturity date of the June 2016 Notes, unless the June 2016 Notes are prepaid in accordance with their terms prior to such date. The June 2016 Purchase Agreement and the June 2016 Notes contain customary terms, provisions, representations and warranties, including certain events of default after which the June 2016 Notes may be due and payable immediately, as set forth in the June 2016 Notes.

Letters of Credit

In June 2012, the Company entered into a letter of credit agreement for $1.0 million under which it provided a letter of credit to the landlord of its headquarters in Emeryville, California, in order to cover the security deposit on the lease.

This letter of credit is secured by a certificate of deposit. Accordingly, the Company has $1.0 million as restricted cash under this arrangement as of June 30, 2016 and December 31, 2015.

Future minimum payments under the debt agreements as of June 30, 2016 are as follows (in thousands):

Years ending December 31:	Related Party Convertible Debt	Convertible Debt	Loans Payable	Related Party Loans payable	Credit Facility	Total
2016 (remaining six months)	$ 764	$ 12,471	$ 2,465	$ 1,688	$ 33,717	$ 51,105
2017	4,865	28,980	2,588	26,257	1,569	64,259
2018	12,579	17,909	2,479	—	326	33,293
2019	25,105	81,814	2,369	—	79	109,367
2020	—	—	2,259	—	—	2,259
Thereafter	—	—	3,351	—	—	3,351
Total future minimum payments	43,313	141,174	15,511	27,945	35,691	263,634
Less: amount representing interest[1]	(5,975)	(68,797)	(2,308)	(5,988)	(4,698)	(87,766)
Present value of minimum debt payments	37,338	72,377	13,203	21,957	30,993	175,868
Less: current portion present value of minimum debt payments	(3,601)	(21,666)	(2,909)	(21,957)	(29,848)	(79,981)
Add: fair value change due to conversions	5,526	—	—	—	—	5,526
Noncurrent portion of debt	$ 39,263	$ 50,711	$ 10,294	$ —	$ 1,145	$ 101,413

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[1] Including debt discount of $41.2 million related to the embedded derivatives associated with the related party and non-related party debt which will be accreted to interest expense under the effective interest method over the term of the debt and debt issuance costs of $3.6 million.

In the quarter ended March 31, 2016, the Company adopted ASU 2015-03, *Interest - Imputation of Interest: Simplifying the Presentation of Debt Issuance Costs*, which requires debt issuance costs previously reported as a deferred charge within other noncurrent assets and prepaid expenses and other current assets to be presented as a direct reduction from the carrying amount of debt, consistent with debt discounts, applied retrospectively for all periods presented. As of December 31, 2015, this resulted in the reduction of noncurrent debt by $2.8 million, current debt by $1.4 million, other noncurrent assets by $2.8 million and prepaid expenses and other current assets by $1.4 million.

6. Commitments and Contingencies

Lease Obligations

The Company leases certain facilities and finances certain equipment under operating and capital leases, respectively. Operating leases include leased facilities and capital leases include leased equipment (see Note 4, "Balance Sheet Components"). The Company recognizes rent expense on a straight-line basis over the non-cancellable lease term and records the difference between rent payments and the recognition of rent expense as a deferred rent liability. Where leases contain escalation clauses, rent abatements, and/or concessions, such as rent holidays and landlord or tenant incentives or allowances, the Company applies them as a straight-line rent expense over the lease term. The Company has non-cancellable operating lease agreements for office, research and development, and manufacturing space that expire at various dates, with the latest expiration in February 2031. Rent expense under operating leases was $1.4 million and $1.3 million for the three months ended June 30, 2016 and 2015, respectively, and was $2.7 million and $2.6 million for the six months ended June 30, 2016 and 2015, respectively.

Future minimum payments under the Company's lease obligations as of June 30, 2016, are as follows (in thousands):

	Capital Leases	Operating Leases	Total Lease Obligations
2016 (remaining six months)	$954	$3,496	$ 4,450
2017	524	6,828	7,352
2018	28	6,841	6,869
2019	—	6,766	6,766
2020	—	7,002	7,002
Thereafter	—	18,173	18,173
Total future minimum lease payments	1,506	$49,106	$ 50,612
Less: amount representing interest	(37)		
Present value of minimum lease payments	1,469		
Less: current portion	(1,370)		
Long-term portion	$99		

Guarantor Arrangements

The Company has agreements whereby it indemnifies its officers and directors for certain events or occurrences while the officer or directors are serving in their official capacities. The indemnification period remains enforceable for the officer's or director's lifetime. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited; however, the Company has a director and officer insurance policy that limits its exposure and enables the Company to recover a portion of any future payments. As a result of its insurance policy coverage, the Company believes the estimated fair value of these indemnification agreements is minimal. Accordingly, the Company had no liabilities recorded for these agreements as of June 30, 2016 and December 31, 2015.

The Company entered into the FINEP Credit Facility to finance a research and development project on sugarcane-based biodiesel (see Note 5, "Debt"). The FINEP Credit Facility is guaranteed by a chattel mortgage on certain equipment of the Company. The Company's total acquisition cost for the equipment under this guarantee is approximately R$6.0 million (approximately US$1.9 million based on the exchange rate as of June 30, 2016).

The Company entered into the BNDES Credit Facility to finance a production site in Brazil (see Note 5, "Debt").The BNDES Credit Facility is collateralized by a first priority security interest in certain of the Company's equipment and other tangible assets with a total acquisition cost of R$24.9 million (approximately US$7.8 million based on the exchange rate as of June 30, 2016). The Company is a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, the Company is required to provide certain bank guarantees under the BNDES Credit Facility.

The Company entered into loan agreements and security agreements whereby the Company pledged certain farnesene production assets as collateral (the fiduciary conveyance of movable goods) with each of Nossa Caixa and Banco Pine (see Note 5, "Debt"). The Company's total acquisition cost for the farnesene production assets pledged as collateral under these agreements is approximately R$68.0 million (approximately US$21.2 million based on the exchange rate as of June 30, 2016). The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements.

The Company had an export financing agreement with Banco ABC Brasil S.A for approximately $2.2 million for a one year term to fund exports through March 2015. As of June 30, 2016, the loan was fully repaid. On April 8, 2015, the Company entered into another export financing agreement with the same bank for approximately $1.6 million for a one year term to fund exports through March 2016. The loan was fully repaid as of June 30, 2016. This loan is collateralized by future exports from Amyris Brasil. The Company is also a parent guarantor for the payment of the outstanding balance under these loan agreements.

In October 2013, the Company entered into a letter agreement with Total relating to the Temasek Bridge Note and to the closing of the August 2013 Financing (or the "Amendment Agreement") (see Note 5, "Debt"). In the August 2013 Financing, the Company was required to provide the purchasers under the August 2013 SPA with a security interest in the Company’s intellectual property if Total still held such security interest as of the initial closing of the August 2013 Financing. Under the terms of a previous Intellectual Property Security Agreement by and between the Company and Total (or the "Security Agreement"), the Company had previously granted a security interest in favor of Total to secure the obligations of the Company under the R&D Notes issued and issuable to Total under the Total Purchase Agreement. The Security Agreement provided that such security interest would terminate if Total and the Company entered into certain agreements relating to the formation of the Fuels JV. In connection with Total’s agreement to (i) permit the Company to grant the security interest under the Temasek Bridge Note and the August 2013 Financing and (ii) waive a secured debt limitation contained in the outstanding R&D Notes issued pursuant to the Total Purchase Agreement and held by Total, the Company entered into the Amendment Agreement. Under the Amendment Agreement, the Company agreed to reduce, effective December 2, 2013, the conversion price for the R&D Notes issued in 2012 from $7.0682 per share to $2.20, the market price per share of the Company’s common stock as of the signing of the Amendment Agreement, as determined in accordance with applicable NASDAQ rules, unless the Company and Total entered into the JV Documents on or prior to December 2, 2013. The Company and Total entered into the JV agreements on December 2, 2013 and the Amendment Agreement and all security interests thereunder were automatically terminated and the conversion price of such R&D Notes remained at $7.0682 per share.

In December 2013, in connection with the execution of JV Documents entered into by and among Amyris, Total and TAB relating to the establishment of TAB (see Note 5, "Debt" and Note 7, "Joint Venture and Noncontrolling Interests"), the Company agreed to exchange the $69.0 million outstanding R&D Notes issued pursuant to the Total Purchase Agreement for replacement 1.5% Senior Secured Convertible Notes due March 2017, and grant a security interest to Total in and lien on all the Company’s rights, title and interest in and to the Company’s shares in the capital of TAB. Following execution of the JV Documents, all Unsecured R&D Notes that had been issued were exchanged for Secured R&D Notes. Further, the $10.85 million in principal amount of such notes issued in the initial tranche of the third closing under the Total Purchase Agreement in July 2014 and the $10.85 million in principal amount of such notes issued in the second tranche of the third closing were Secured R&D Notes instead of Unsecured R&D Notes. "See Note 5,"Debt" for details regarding the impact of the Exchange and Maturity Treatment Agreement on the R&D Notes. In March 2016, as a result of the restructuring of TAB discussed under Note 5, "Debt" and Note 7, "Joint Venture and Noncontrolling Interests," the remaining Secured R&D Notes were exchanged for an unsecured R&D Note in the principal amount of $3.7 million.

The Senior Secured Loan Facility and the June 2016 Notes (see Note 5, "Debt") are secured by first and second priority liens, respectively, on the Company's assets, including certain Company intellectual property.

Purchase Obligations

As of June 30, 2016 and December 31, 2015, the Company had $1.4 million and $1.3 million, respectively, in purchase obligations which included $0.6 million and $0.5 million, respectively, of non-cancellable contractual obligations and construction commitments.

Other Matters

Certain conditions may exist as of the date the financial statements are issued, which may result in a loss to the Company but will only be recorded when one or more future events occur or fail to occur. The Company's management assesses such contingent liabilities, and such assessment inherently involves an exercise of judgment. In assessing loss contingencies related to legal proceedings that are pending against and by the Company or unasserted claims that may result in such proceedings, the Company's management evaluates the perceived merits of any legal proceedings or unasserted claims as well as the perceived merits of the amount of relief sought or expected to be sought.

If the assessment of a contingency indicates that it is probable that a material loss has been incurred and the amount of the liability can be estimated, then the estimated liability would be accrued in the Company's financial statements. If the assessment indicates that a potential material loss contingency is not probable but is reasonably possible, or is probable but cannot be reasonably estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material would be disclosed. Loss contingencies considered to be remote by management are generally not disclosed unless they involve guarantees, in which case the guarantee would be disclosed. The Company has levied indirect taxes on sugarcane-based biodiesel sales by Amyris Brasil to customers in Brasil based on advice from external legal counsel. In the absence of definitive rulings from the Brazilian tax authorities on the appropriate indirect tax rate to be applied to such product sales, the actual indirect rate to be applied to such sales could differ from the rate we levied.

The Company is subject to disputes and claims that arise or have arisen in the ordinary course of business and that have not resulted in legal proceedings or have not been fully adjudicated. Such matters that may arise in the ordinary course of business are subject to many uncertainties and outcomes are not predictable with reasonable assurance and therefore an estimate of all the reasonably possible losses cannot be determined at this time. Therefore, if one or more of these legal disputes or claims resulted in settlements or legal proceedings that were resolved against the Company for amounts in excess of management’s expectations, the Company’s consolidated financial statements for the relevant reporting period could be materially adversely affected.

7. Joint Ventures and Noncontrolling Interests

Novvi LLC

In September 2011, the Company and Cosan US, Inc. (or “Cosan U.S.”) formed Novvi LLC (or “Novvi”), a U.S. entity that is jointly owned by the Company and Cosan U.S. In March 2013, the Company and Cosan U.S. entered into agreements to (i) expand their base oils joint venture to also include additives and lubricants and (ii) operate their joint venture exclusively through Novvi. Specifically, the parties entered into an Amended and Restated Operating Agreement for Novvi (or the “Operating Agreement”), which sets forth the governance procedures for Novvi and the parties' initial contribution. The Company also entered into an IP License Agreement with Novvi (as amended in March 2016, the “IP License Agreement”) under which the Company granted Novvi (i) an exclusive (subject to certain limited exceptions for the Company), worldwide, royalty-free license to develop, produce and commercialize base oils, additives, and lubricants derived from Biofene for use in automotive, commercial, and industrial lubricants markets, and (ii) a non-exclusive, royalty free license, subject to certain conditions, to manufacture Biofene solely for its own products. In addition, both the Company and Cosan U.S. granted Novvi certain rights of first refusal with respect to alternative base oil and additive technologies that may be acquired by the Company or Cosan U.S. during the term of the IP License Agreement. Under these agreements, through June 30, 2016 the Company and Cosan U.S. each owned 50% of Novvi and each party shared equally in any costs and any profits ultimately realized by the joint venture. Novvi is governed by a six member Board of Managers (or the “Board of Managers”). The Board of Managers appoints the officers of Novvi, who are responsible for carrying out the daily operating activities of Novvi as directed by the Board of Managers. The IP License Agreement has an initial term of 20 years from the date of the agreement, subject to standard early termination provisions such as uncured material breach or a party's insolvency. Under the terms of the Operating Agreement, Cosan U.S. was obligated to fund its initial 50% ownership share of Novvi in cash in the amount of $10.0 million and the Company was obligated to fund its initial 50% ownership share of Novvi through the granting of an IP License to develop, produce and commercialize base oils, additives, and lubricants derived from Biofene for use in the automotive, commercial and industrial lubricants markets, which Cosan U.S. and Amyris agreed was valued at $10.0 million. In March 2013, the Company measured its initial contribution of intellectual property to Novvi at the Company's carrying value of the licenses granted under the IP License Agreement, which was zero.

In April 2014, the Company, via its forgiveness of existing receivables due from Novvi related to rent and other services performed by the Company, purchased additional membership units of Novvi for a purchase price of $0.2 million. Concurrently, Cosan U.S. purchased an equal amount of additional membership units of Novvi. Also in April

2014, the Company and Cosan U.S. each contributed $2.1 million in cash in exchange for receiving additional membership units in Novvi. Following such transactions, the Company and Cosan U.S. continued to each own 50% of Novvi's issued and outstanding membership units.

In September 2014, the Company and Cosan U.S. entered into a member senior loan agreement to grant Novvi a loan amounting to approximately $3.7 million. The loan is due on September 1, 2017 and bears interest at a rate of 0.36% per annum. Interest accrues daily and is due and payable in arrears on September 1, 2017. The Company and Cosan U.S. each agreed to provide 50% of the loan. The Company's share of approximately $1.8 million was disbursed in two installments. The first installment of $1.2 million was made in September 2014 and the second installment of $0.6 million was made in October 2014. In November 2014, the Company and Cosan U.S. entered into a second member senior loan agreement to grant Novvi a loan of approximately $1.9 million on the same terms as the loan issued in September 2014, except that the due date is November 10, 2017. The Company and Cosan U.S. each agreed to provide 50% of the loan. The Company disbursed its share of the loan (i.e., approximately $1.0 million) in November 2014. In May 2015, the Company and Cosan U.S. entered into a third member senior loan agreement to grant Novvi a loan of approximately $1.1 million on the same terms as the loan issued in September 2014, except that the due date is May 14, 2018. The Company and Cosan U.S. each agreed to provide 50% of the loan.

In the fourth quarter of 2015, the Company and Cosan U.S. entered into four additional member senior loan agreements to grant Novvi an aggregate loan of approximately $1.6 million on the same terms as the loan issued in September 2014, except that the respective due dates are August 19, 2018, October 15, 2018, November 12, 2018 and December 17, 2018. The Company and Cosan U.S. each agreed to provide 50% of each of these four loans. In July 2016, the Company contributed all outstanding amounts owing by Novvi to the Company under the seven member senior loan agreements in exchange for receiving additional membership units in Novvi. Refer to Note 18, “Subsequent Events” for further details.

In February 2016, the Company purchased additional membership units of Novvi for an aggregate purchase price of approximately $0.6 million in the form of forgiveness of existing receivables due from Novvi related to rent and other services performed by the Company, and Cosan U.S. purchased an equal number of additional membership units in Novvi for approximately $0.6 million in cash. Following such transactions, each member continued to own 50% of Novvi's issued and outstanding membership units.

In July 2016, American Refining Group, Inc. (or “ARG”) agreed to make a capital contribution to Novvi of up to $10.0 million in cash, subject to certain conditions, in exchange for a one third ownership share in Novvi. Refer to Note 18, “Subsequent Events” for further details. Assuming such capital contribution is made in full, each member of Novvi (i.e., ARG, the Company and Cosan U.S.) will own one third of Novvi’s issued and outstanding membership units and will each be represented by two members of the Board of Managers.

Additional funding requirements to finance the ongoing operations of Novvi are expected to happen through revolving credit or other loan facilities provided by unrelated parties (i.e., such as financial institutions); cash advances or other credit or loan facilities provided by Novvi’s members or their affiliates; or additional capital contributions by the existing Novvi members or new investors.

The Company has identified Novvi as a VIE and determined that the power to direct activities, which most significantly impact the economic success of the joint venture (i.e., continuing research and development, marketing, sales, distribution and manufacturing of Novvi products), the Company and Cosan U.S. Accordingly, the Company is not the primary beneficiary and therefore accounts for its investment in Novvi under the equity method of accounting. The Company will continue to reassess its primary beneficiary analysis of Novvi if there are changes in events and circumstances impacting the power to direct activities that most significantly affect Novvi's economic success. Under the equity method, the Company's share of profits and losses and impairment charges on investments in affiliates are included in “Loss from investments in affiliates” in the condensed consolidated statements of operations. The carrying amount of the Company's equity investment in Novvi as of June 30, 2016 and December 31, 2015 was zero and the Company recognized zero and $0.6 million losses for the three months ended June 30, 2016 and 2015, respectively, and zero and $1.4 million for the six months ended June 30, 2016 and 2015, respectively.

Total Amyris BioSolutions B.V.

In November 2013, the Company and Total formed Total Amyris BioSolutions B.V. (or “TAB”), a joint venture to produce and commercialize farnesene- or farnesane-based jet and diesel fuels. Prior to the restructuring of TAB in March 2016 as described below, the common equity of TAB was owned equally by the Company and Total, and TAB’s purpose was limited to executing the License Agreement dated December 2, 2013 between the Company, Total and TAB and maintaining such licenses under it, unless and until either (i) Total elected to go forward with either the full (diesel and jet fuel) TAB commercialization program or the jet fuel component of the TAB commercialization program (or a “Go Decision”), (ii) Total elected to not continue its participation in the R&D Program and TAB (or a “No-Go Decision”), or (iii) Total exercised any of its rights to buy out the Company’s interest in TAB. Following a Go Decision, the articles and shareholders’ agreement of TAB would be amended and restated to be consistent with the shareholders’ agreement contemplated by the Total Fuel Agreements (see Note 5, "Debt" and Note 8, "Significant Agreements").

In July 2015, the Company and Total entered into a Letter Agreement (or, as amended in February 2016, the “TAB Letter Agreement”) regarding the restructuring of the ownership and rights of TAB (or the “Restructuring”), pursuant to which the parties agreed to, among other things, enter into an Amended & Restated Jet Fuel License Agreement between the Company and TAB (or the “Jet Fuel Agreement”), a License Agreement regarding Diesel Fuel in the European Union (or the “EU”) between the Company and Total (or the “EU Diesel Fuel Agreement”), and an Amended and Restated Shareholders’ Agreement among the Company, Total and TAB, and file a Deed of Amendment of Articles of Association of TAB, all in order to reflect certain changes to the ownership structure of TAB and license grants and related rights pertaining to TAB.

On February 12, 2016, the Company and Total entered into an amendment to the TAB Letter Agreement, pursuant to which the parties agreed that, upon the closing of the Restructuring, Total would cancel R&D Notes in an aggregate principal amount of approximately $1.3 million, plus all paid-in-kind and accrued interest as of the closing of the Restructuring under all outstanding R&D Notes (including all such interest that was outstanding as of July 29, 2015), and a note in the principal amount of Euro 50,000, plus accrued interest, issued by the Company to Total in connection with the existing TAB capitalization, in exchange for an additional 25% ownership interest of TAB (giving Total an aggregate ownership stake of 75% of TAB and giving the Company an aggregate ownership stake of 25% of TAB). In connection therewith, Total would surrender to the Company the remaining R&D Notes and the Company would provide to Total a new unsecured senior convertible note, containing substantially similar terms and conditions, in the principal amount of $3.7 million (collectively, the “TAB Share Purchase”).

On March 21, 2016, the Company, Total and TAB closed the Restructuring and the TAB Share Purchase. See Note 5. “Debt” for further details of the impact of this transaction on the Company’s condensed consolidated financial statements.

Under the Jet Fuel Agreement, (a) the Company granted exclusive (co-exclusive in Brazil), world-wide, royalty-free rights to TAB for the production and commercialization of farnesene- or farnesane-based jet fuel, (b) the Company granted TAB the option, until March 1, 2018, to purchase the Company's Brazil jet fuel business at a price based on the fair value of the commercial assets and on the Company's investment in other related assets, (c) the Company granted TAB the right to purchase farnesene or farnesane for its jet fuel business from the Company on a "most-favored" pricing basis and (d) all rights to farnesene- or farnesane-based diesel fuel previously granted to TAB by the Company reverted back to the Company. As a result of the Jet Fuel Agreement, the Company generally no longer has an independent right to make or sell, without the approval of TAB, farnesene- or farnesane-based jet fuels outside of Brazil.

Upon all farnesene-or farnesane-based diesel fuel rights reverting back to the Company, the Company granted to Total, pursuant to the EU Diesel Fuel Agreement, (a) an exclusive, royalty-free license to offer for sale and sell farnesene- or farnesane-based diesel fuel in the EU, (b) the non-exclusive right to make farnesene or farnesane anywhere in the world, but Total must (i) use such farnesene or farnesane to produce only diesel fuel to offer for sale or sell in the EU and (ii) pay the Company a to-be-negotiated, commercially reasonable, “most-favored” basis royalty and (c) the right to purchase farnesene or farnesane for its EU diesel fuel business from the Company on a “most-favored” pricing basis. As a result of the EU Diesel Fuel Agreement, the Company generally no longer has an independent right to make or sell, without the approval of TAB, farnesene- or farnesane-based diesel fuels in the EU.

As a result of, and in order to reflect, the changes to the ownership structure of TAB described above, on March 21, 2016, (a) the Company, Total and TAB entered into an Amended and Restated Shareholders’ Agreement and filed a Deed of Amendment of Articles of Association of TAB and (b) the Company and Total terminated the Amended and Restated Master Framework Agreement, dated December 2, 2013 and amended on April 1, 2015, between the Company and Total.

As of June 30, 2016, the common equity of TAB was owned 25% by the Company and 75% by Total. TAB has a capitalization as of June 30, 2016 of €0.1 million (approximately US$0.1 million based on the exchange rate as of June 30, 2016). The Company has identified TAB as a VIE and determined that the Company is not the primary beneficiary and therefore accounts for its investment in TAB under the equity method of accounting. Under the equity method, the Company's share of profits and losses are included in “Loss from investment in affiliate” in the consolidated statements of operations.

SMA Indústria Química S.A.

In April 2010, the Company established SMA Indústria Química (or "SMA"), a joint venture with São Martinho S.A. (or "SMSA"), to build a production facility in Brazil. SMA is located at the SMSA mill in Pradópolis, São Paulo state. The joint venture agreements establishing SMA have a 20 year initial term.

SMA was initially managed by a three member executive committee, of which the Company appointed two members, one of whom is the plant manager who is the most senior executive responsible for managing the construction and operation of the facility. SMA was initially governed by a four member board of directors, of which the Company and SMSA each appointed two members. The board of directors had certain protective rights which include final approval of the engineering designs and project work plan developed and recommended by the executive committee.

The joint venture agreements required the Company to fund the construction costs of the new facility and SMSA would reimburse the Company up to R$61.8 million (approximately US$19.3 million based on the exchange rate as of June 30, 2016) of the construction costs after SMA commences production. After commercialization, the Company would market and distribute Amyris renewable products produced by SMA and SMSA would sell feedstock and provide certain other services to SMA. The cost of the feedstock to SMA would be a price that is based on the average return that SMSA could receive from the production of its current products, sugar and ethanol. The Company would be required to purchase the output of SMA for the first four years at a price that guarantees the return of SMSA's investment plus a fixed interest rate. After this four year period, the price would be set to guarantee a break-even price to SMA plus an agreed upon return.

Under the terms of the joint venture agreements, if the Company became controlled, directly or indirectly, by a competitor of SMSA, then SMSA would have the right to acquire the Company's interest in SMA. If SMSA became controlled, directly or indirectly, by a competitor of the Company, then the Company would have the right to sell its interest in SMA to SMSA. In either case, the purchase price would be determined in accordance with the joint venture agreements, and the Company would continue to have the obligation to acquire products produced by SMA for the remainder of the term of the supply agreement then in effect even though the Company would no longer be involved in SMA's management.

The Company initially had a 50% ownership interest in SMA. The Company has identified SMA as a VIE pursuant to the accounting guidance for consolidating VIEs because the amount of total equity investment at risk is not sufficient to permit SMA to finance its activities without additional subordinated financial support, as well as because the related commercialization agreement provides a substantive minimum price guarantee. Under the terms of the joint venture agreement, the Company directed the design and construction activities, as well as production and distribution. In addition, the Company had the obligation to fund the design and construction activities until commercialization was achieved. Subsequent to the construction phase, both parties equally would fund SMA for the term of the joint venture. Based on those factors, the Company was determined to have the power to direct the activities that most significantly impact SMA's economic performance and the obligation to absorb losses and the right to receive benefits. Accordingly, the financial results of SMA are included in the Company's consolidated financial statements and amounts pertaining to SMSA's interest in SMA are reported as noncontrolling interests in subsidiaries.

The Company completed a significant portion of the construction of the new facility in 2012. The Company suspended construction of the facility in 2013 in order to focus on completing and operating the Company's smaller production facility in Brotas, Brazil. In February 2014, the Company entered into an amendment to the joint venture agreement with SMSA which updated and documented certain preexisting business plan requirements related to the recommencement of construction at the joint venture operated plant and sets forth, among other things, (i) the extension of the deadline for the commencement of operations at the joint venture operated plant to no later than 18 months following the construction of the plant no later than March 31, 2017, and (ii) the extension of an option held by SMSA to build a second large-scale farnesene production facility to no later than December 31, 2018 with the commencement of operations at such second facility to occur no later than April 1, 2019. On July 1, 2015 SMSA filed a material fact document with CVM, the Brazilian securities regulator, that announced that certain contractual targets undertaken by the Company have not been achieved, which affects the feasibility of the project. Therefore, SMSA decided not to approve continuing construction of the plant for the joint venture with the Company and its Brazilian subsidiary Amyris Brasil. In July 2015, the Company announced that it was in discussions with SMSA regarding the continuation of the joint venture. In December 2015, the Company and SMSA entered into a Termination Agreement and a Share Purchase and Sale Agreement (SPA) relating to the termination of the joint venture. Under the Termination Agreement, the parties agreed that the joint venture would be terminated effective upon the closing of a purchase by Amyris Brasil of SMSA’s shares of SMA. Under the SPA, Amyris Brasil agreed to purchase, for R$50,000 (approximately US$15,577 based on the exchange rate as of June 30, 2016), 50,000 shares of SMA (representing all the outstanding shares of SMA held by SMSA), which purchase and sale was consummated on January 11, 2016. The Share Purchase and Sale Agreement also provides that the Company and Amyris Brasil will have 12 months following the closing of the share purchase to remove assets from SMSA’s site, and enter into an extension of the lease for such 12 month period for monthly rental payments of R$9,853 (approximately US$3,070 based on the exchange rate as of June 30, 2016). The SPA also clarified that the Company and Amyris Brasil would not be required to demolish or remove the foundations of the plant at the SMSA site.

Glycotech

In January 2011, the Company entered into a production service agreement (or the "Glycotech Agreement") with Glycotech, Inc. (or "Glycotech"), under which Glycotech provides process development and production services for the manufacturing of various Company products at its leased facility in Leland, North Carolina. The Company products manufactured by Glycotech are owned and distributed by the Company. Pursuant to the terms of the Glycotech Agreement, the Company is required to pay the manufacturing and operating costs of the Glycotech facility, which is dedicated solely to the manufacture of Amyris products. The initial term of the Glycotech Agreement was for a two year period commencing on February 1, 2011 and the Glycotech Agreement renews automatically for successive one-year terms, unless terminated by the Company. Concurrent with the Glycotech Agreement, the Company also entered into a Right of First Refusal Agreement with the lessor of the facility and site leased by Glycotech (or the "ROFR Agreement"). Per conditions of the ROFR Agreement, the lessor agreed not to sell the facility and site leased by Glycotech during the term of the Glycotech Agreement. In the event that the lessor is presented with an offer to sell or decides to sell an adjacent parcel, the Company has the right of first refusal to acquire it.

The Company has determined that the arrangement with Glycotech qualifies as a VIE. The Company determined that it is the primary beneficiary of this arrangement since it has the power through the management committee over which it has majority control to direct the activities that most significantly impact Glycotech's economic performance. In addition, the Company is required to fund 100% of Glycotech's actual operating costs for providing services each month while the facility is in operation under the Glycotech Agreement. Accordingly, the Company consolidates the financial results of Glycotech. The carrying amounts of Glycotech's assets and liabilities were not material to the Company's condensed consolidated financial statements.

The table below reflects the carrying amount of the assets and liabilities of the consolidated VIE for which the Company is the primary beneficiary at June 30, 2016 (two at December 31, 2015). As of June 30, 2016 and December 31, 2015, the assets include $0.1 million and $5.2 million in property, plant and equipment, respectively, $0.5 million and $1.5 million in current assets, respectively, and zero and $0.3 million in other assets as of June 30, 2016 and December 31, 2015 include, respectively. As of June 30, 2016 and December 31, 2015, the liabilities include $0.3 million and $1.1 million, respectively, in accounts payable and accrued current liabilities, and $0.1 million and $0.1 million, respectively, in loan obligations by Glycotech to its shareholders that are non-recourse to the Company. The creditors of each consolidated VIE have recourse only to the assets of that VIE.

(In thousands)	June 30, 2016	December 31, 2015
Assets	$615	$ 6,993
Liabilities	$379	$ 1,221

The change in noncontrolling interest for the six months ended June 30, 2016 and 2015, is summarized below (in thousands):

	2016	2015
Balance at January 1	$391	$611
Foreign currency translation adjustment	—	(248)
Income attributable to noncontrolling interest	—	54
Acquisition of noncontrolling interest	(277)	—
Balance at June 30	$114	$417

8. Significant Agreements

Research and Development Activities

Total Collaboration Arrangement

In June 2010, the Company entered into a technology license, development, research and collaboration agreement (or the “Total Collaboration Agreement”) with Total Gas & Power USA Biotech, Inc., an affiliate of Total. This agreement provided for joint collaboration on the development of products through the use of the Company’s synthetic biology platform. In November 2011, the Company entered into a first amendment of the Total Collaboration Agreement with respect to development and commercialization of Biofene for fuels. This represented an expansion of the initial collaboration with Total, and established a global, exclusive collaboration for the development of Biofene for fuels and a framework for the creation of a joint venture to manufacture and commercialize Biofene for diesel. In addition, a limited number of other potential products were subject to development by the joint venture on a non-exclusive basis.

The first amendment provided for an exclusive strategic collaboration for the development of renewable diesel products and contemplated that the parties would establish a joint venture (or the "JV") for the production and commercialization of such renewable diesel products on an exclusive, worldwide basis. In addition, the first amendment contemplated providing the JV with the right to produce and commercialize certain other chemical products on a non-exclusive basis. The first amendment further provided that definitive agreements to form the JV had to be in place by March 31, 2012 or such other date as agreed to by the parties or the renewable diesel program, including any further collaboration payments by Total related to the renewable diesel program, would terminate. In the second quarter of 2012, the parties extended the deadline to June 30, 2012, and, through June 30, 2012, the parties were engaged in discussions regarding the structure of future payments related to the program, until the first amendment was superseded by a second amendment in July 2012 (as further described below).

Pursuant to the first amendment, Total agreed to fund the following amounts: (i) the first $30.0 million in research and development costs related to the renewable diesel program incurred since August 1, 2011, which amount would be in addition to the $50.0 million in research and development funding contemplated by the Total Collaboration Agreement, and (ii) for any research and development costs incurred following the JV formation date that were not covered by the initial $30.0 million, an additional $10.0 million in 2012 and up to an additional $10.0 million in 2013, which amounts would be considered part of the $50.0 million contemplated by the Total Collaboration Agreement. In addition to these payments, Total further agreed to fund 50% of all remaining research and development costs for the renewable diesel program under the Amendment.

In July 2012, the Company entered into a second amendment of the Total Collaboration Agreement that expanded Total's investment in the Biofene collaboration, incorporated the development of certain JV products for use in diesel and jet fuel into the scope of the collaboration, and changed the structure of the funding from Total for the collaboration by establishing a convertible debt structure for the collaboration funding (see Note 5, "Debt"). In connection with such second amendment Total and the Company also executed certain other related agreements. Under these agreements (collectively referred to as the "Total Fuel Agreements"), the parties would grant exclusive manufacturing and commercial licenses to the JV for the JV products (diesel and jet fuel from Biofene) when the JV was formed. The licenses to the JV were to be consistent with the principle that development, production and commercialization of the JV products in Brazil would remain with Amyris unless Total elected, after formation of the operational JV, to have such business contributed to the joint venture. Further, as part of the Total Fuel Agreements, Total's royalty option contingency related to diesel was removed and the jet fuel collaboration was combined with the expanded Biofene collaboration. As a result, $46.5 million of payments previously received from Total that had been recorded as an advance from Total were no longer contingently repayable. Of this amount, $23.3 million was treated as a repayment by the Company and included as part of the senior unsecured convertible promissory note issued to Total in July 2012 and the remaining $23.2 million was recorded as a contract to perform research and development services, which was offset by the reduction of the capitalized deferred charge asset of $14.4 million resulting in the Company recording revenue from a related party of $8.9 million in 2012. On March 21, 2016, the Company and Total consummated a restructuring of the JV pursuant to a letter agreement dated July 26, 2015, as amended on February 12, 2016, which restructuring included, among other things, the parties amending certain of the Total Fuel Agreements and the Company selling part of its ownership stake in the JV to Total in exchange for Total cancelling certain outstanding indebtedness issued to Total by the Company. In July 2016, the Company and Total agreed to extend the term of the Total Collaboration Agreement from July 31, 2016 to March 1, 2017 pursuant to the terms of the Total Collaboration Agreement. See Note 5, "Debt" and Note 7, "Joint Ventures and Noncontrolling Interest" for further details of the Company's relationship with Total.

F&F Collaboration Agreement

In March 2013, the Company entered into a Master Collaboration Agreement (or, as amended in July 2015, the "F&F Collaboration Agreement") with a collaboration partner to establish a collaboration arrangement for the development and commercialization of multiple renewable flavors and fragrances compounds. Under the F&F Collaboration Agreement, except for rights granted under pre-existing collaboration relationships, the Company granted the collaboration partner exclusive access to specified Company intellectual property for the development and commercialization of flavors and fragrances compounds in exchange for research and development funding and a profit sharing arrangement. The F&F Collaboration Agreement superseded and expanded the November 2010 Master Collaboration and Joint Development Agreement between the Company and the collaboration partner.

The F&F Collaboration Agreement provided for annual, up-front funding to the Company by the collaboration partner of $10.0 million for each of the first three years of the collaboration. Payments of $10.0 million were received by the Company in each of March 2013, 2014 and 2015. The F&F Collaboration Agreement contemplates additional funding by the collaboration partner of up to $5.0 million under four potential milestone payments, as well as additional funding by the collaboration partner on a discretionary basis. Through June 2016, the Company had achieved the third performance milestone under the F&F Collaboration Agreement and recognized collaboration revenues of $1.3 million under the F&F Collaboration Agreement for the three months ended June 30, 2016 and $4.3 million for the six months ended June 30, 2016. The F&F Collaboration Agreement does not impose any specific research and development obligations on either party after year six, but provides that if the parties mutually agree to perform research and development activities after year six, the parties will fund such activities equally.

Under the F&F Collaboration Agreement, the parties agreed to jointly select target compounds, subject to final approval of compound specifications by the collaboration partner. During the development phase, the Company would be required to provide labor, intellectual property and technology infrastructure and the collaboration partner would be required to contribute downstream polishing expertise and market access. The F&F Collaboration Agreement provides that the Company will own research and development and strain engineering intellectual property, and the collaboration partner will own blending and, if applicable, chemical conversion intellectual property. Under certain circumstances, such as the Company’s insolvency, the collaboration partner would gain expanded access to the Company’s intellectual property. The F&F Collaboration Agreement contemplates that, following development of flavors and fragrances compounds, the Company will manufacture the initial target molecules for the compounds and the collaboration partner will perform any required downstream polishing and distribution, sales and marketing. The F&F Collaboration Agreement provides that the parties will mutually agree on a supply price for each compound developed under the agreement and, subject to certain exceptions, will share product margins from sales of each such compound on a 70/30 basis (70% for the collaboration partner) until the collaboration partner receives $15.0 million more than the Company in the aggregate from such sales, after which time the parties will share the product margins 50/50. The Company also agreed to pay a one-time success bonus to the collaboration partner of up to $2.5 million if certain commercialization targets are met.

In September 2014, the Company entered into a supply agreement with the collaboration partner for a compound developed under the F&F Collaboration Agreement. The Company recognized $2.6 million and zero of revenues from product sales under this agreement for the three months ended June 30, 2016 and 2015, respectively and $4.6 million and zero for the six months ended June 30, 2016 and 2015.

Michelin and Braskem Collaboration Agreements

In June 2014, the Company entered into a collaboration agreement with Braskem S.A. (or “Braskem”) and Manufacture Francaise de Pnematiques Michelin (or “Michelin”) to collaborate to develop the technology to produce and possibly commercialize renewable isoprene. The term of the collaboration agreement commenced on June 30, 2014 and will continue, unless earlier terminated in accordance with the agreement, until the first to occur of (i) the date that is three years following the actual date on which a work plan is completed, which date is estimated to occur on or about December 30, 2020, or (ii) the date of the commencement of commissioning of a production plant for the production of renewable isoprene. The June 2014 collaboration agreement terminated and superseded the September 2011 collaboration agreement between the Company and Michelin and, as a result of the signing of the June 2014 collaboration agreement, the upfront payment by Michelin of $5.0 million under the September 2011 collaboration agreement was rolled forward into the new collaboration agreement as Michelin’s funding towards the research and development activities to be performed under the new collaboration agreement. Braskem contributed $4.0 million of funding to the research and development activities under the June 2014 collaboration agreement, of which $2.0 million was received in July 2014 and $2.0 million was received in January 2015.

For this collaboration agreement, the Company recognized collaboration revenues of zero and $0.9 million for the three months ended June 30, 2016 and 2015, respectively, and $0.1 million and $1.9 million for the six months ended June 30, 2016 and 2015, respectively. As of June 30, 2016 and 2015, $6.5 million and $6.3 million, respectively, of deferred revenues were recorded in the condensed consolidated balance sheet related to these agreements.

Kuraray Collaboration Agreement and Securities Purchase Agreement

In March 2014, the Company entered into the Second Amended and Restated Collaboration Agreement with Kuraray Co., Ltd (or “Kuraray”) in order to extend the term of the original collaboration agreement between the Company and Kuraray dated July 21, 2011 for an additional two years and add additional fields and products to the scope of development. In consideration for the Company’s agreement to extend the term of the original collaboration agreement and add additional fields and products, Kuraray agreed to pay the Company $4.0 million in two equal installments of $2.0 million. The first installment was paid on April 30, 2014 and the second installment was due on April 30, 2015. In connection with entering into the Second Amended and Restated Collaboration Agreement, Kuraray signed a Securities Purchase Agreement in March 2014 to purchase 943,396 shares of the Company's common stock at a price per share of $4.24 per share, which shares were sold and issued in April 2014 for aggregate cash proceeds to the Company of $4.0 million. In March 2015, the Company and Kuraray entered into the First Amendment to the Second Amended and Restated Collaboration Agreement to extend the term of the original collaboration agreement until

December 31, 2016 and to accelerate payment to the Company of the second installment of $2.0 million due from Kuraray under the Second Amended and Restated Collaboration Agreement to March 31, 2015.

The Company recognized collaboration revenues of $0.4 million for each of the three months ended June 30, 2016 and 2015, and $0.8 million and $0.9 million for the six months ended June 30, 2016 and 2015, respectively, under this agreement.

DARPA

In September 2015, the Company entered into a Technology Investment Agreement (or the “2015 TIA”) with The Defense Advanced Research Projects Agency (or “DARPA”), under which the Company, with the assistance of five specialized subcontractors, will work to create new research and development tools and technologies for strain engineering and scale-up activities. The program that is the subject of the 2015 TIA will be performed and funded on a milestone basis, where DARPA, upon the Company’s successful completion of each milestone event in the 2015 TIA, will pay the Company the amount set forth in the 2015 TIA corresponding to such milestone event. Under the 2015 TIA, the Company and its subcontractors could collectively receive DARPA funding of up to $35.0 million over the program’s four year term if all of the program’s milestones are achieved. In conjunction with DARPA’s funding, the Company and its subcontractors are obligated to collectively contribute approximately $15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). The Company can elect to retain title to the patentable inventions it produces under the program, but DARPA receives certain data rights as well as a government purposes license to certain of such inventions. Either party may, upon written notice and subject to certain consultation obligations, terminate the 2015 TIA upon a reasonable determination that the program will not produce beneficial results commensurate with the expenditure of resources.

The Company recognized collaboration revenues of $2.3 million and zero under this agreement for the three months ended June 30, 2016 and 2015, respectively, and $3.5 million and zero for the six months ended June 30, 2016 and 2015, respectively.

Givaudan Collaboration Agreement

In June 2016, the Company entered into a Collaboration Agreement with Givaudan International, SA (or “Givaudan”), a global flavors and fragrances company, to establish a collaboration for the development and commercialization of certain renewable compounds for use in the fields of active cosmetics and flavors. Under this collaboration agreement, the Company will use its labor, intellectual property and technology infrastructure to develop and commercialize certain compounds for Givaudan. In exchange, Givaudan will pay to the Company $12.0 million in semi-annual installments of $3.0 million each, beginning on June 30, 2016. The Company received the first installment of $3.0 million on June 30, 2016 and this amount was recognized in deferred revenue as of that date.

Pursuant to this collaboration agreement, the Company will grant to Givaudan an exclusive license to the intellectual property that the Company generates under the agreement. Such license will include the rights to make, use and sell compounds in the active cosmetics and flavors fields, and is subject to certain ‘claw back’ rights by the Company if a compound is not commercialized by Givaudan during the term of the agreement. The Company will also grant to Givaudan non-exclusive rights to certain portions of the Company’s existing intellectual property in order to facilitate activities under the agreement. Givaudan, on the other hand, will grant to the Company a non-exclusive license to the intellectual property that is generated under the agreement. Such non-exclusive license will include the rights to make, use and sell compounds in all fields except active cosmetics and flavors.

Subject to certain rights granted to a third party, Givaudan will have the exclusive right to commercialize the compounds in the active cosmetics and flavors markets during the term of the agreement. Further, the Company has agreed that it will not assist any third party in the development or commercialization of other compounds for sale or use in the active cosmetics or flavors markets during the term of the agreement. In addition, the agreement contemplates that the Company will be the primary supplier of commercial quantities of the compounds to Givaudan pursuant to supply agreements to be mutually negotiated by the parties.

The Company did not recognize collaboration revenue under this agreement for the three months ended June 30, 2016.

Ginkgo Initial Strategic Partnership Agreement

In June 2016, the Company entered into an Initial Strategic Partnership Agreement (or the “Initial Ginkgo Agreement”) with Ginkgo Bioworks, Inc. (or “Ginkgo”), pursuant to which the Company licensed certain intellectual property to Ginkgo in exchange for a fee of $20,000,000, to be paid by Ginkgo to the Company in two installments, and a ten percent royalty. The first installment of $15.0 million was received on July 25, 2016. The second installment, in the amount of $5.0 million is to be received, based upon the satisfaction of certain conditions, by March 30, 2017.

In addition, pursuant to the Initial Ginkgo Agreement, the Company and Ginkgo agreed to pursue the negotiation and execution of a definitive partnership agreement (or the “Subsequent Ginkgo Agreement”) setting forth the terms of a long-term commercial partnership and collaboration arrangement between the parties (or the “Partnership”). Under the Partnership, the parties would collaborate to develop, manufacture and sell commercial products and would share in the value of such products.

The Initial Ginkgo Agreement expires on the earlier to occur of (i) the execution by the parties of the Subsequent Ginkgo Agreement and (ii) August 15, 2016, subject to the rights of the parties to extend the term of the Initial Ginkgo Agreement by mutual agreement and subject to the right of the parties to terminate the Initial Ginkgo Agreement by mutual agreement or upon the occurrence of a material breach or default by the other party that remains uncured 10 days after notice thereof. See Note 18, “Subsequent Events” for further details regarding the Company’s relationship with Ginkgo.

The Company did not recognize collaboration revenue under the Initial Ginkgo Agreement for the three months ended June 30, 2016.

Financing Agreements

Bill & Melinda Gates Foundation Investment

On April 8, 2016, the Company entered into a Securities Purchase Agreement with the Bill & Melinda Gates Foundation (the "Gates Foundation"), pursuant to which the Company agreed to sell and issue 4,385,964 shares of its common stock to the Gates Foundation in a private placement at a purchase price per share equal to $1.14, the average of the daily closing price per share of the Company's common stock on the NASDAQ Stock Market for the twenty consecutive trading days ending on April 7, 2016, for aggregate proceeds to the Company of approximately $5,000,000 (the "Gates Foundation Investment"). The Securities Purchase Agreement includes customary representations, warranties and covenants of the parties. The closing of the Gates Foundation Investment occurred on May 10, 2016.

In connection with the entry into the Securities Purchase Agreement, on April 8, 2016, the Company and the Gates Foundation entered into a Charitable Purposes Letter Agreement, pursuant to which the Company agreed to use the proceeds from the Gates Foundation Investment to develop a yeast strain that produces artemisinic acid and/or amorphadiene at a low cost and to supply such artemisinic acid and amorphadiene to companies qualified to convert artemisinic acid and amorphadiene to artemisinin for inclusion in artemisinin combination therapies used to treat malaria. If the Company defaults in its obligation to use the proceeds from the Gates Foundation Investment as set forth above or defaults under certain other commitments in the Charitable Purposes Letter Agreement, the Gates Foundation will have the right to request that the Company redeem, or facilitate the purchase by a third party of, the Gates Foundation Investment shares then held by the Gates Foundation at a price per share equal to the greater of (i) the closing price of the Company's common stock on the trading day prior to the redemption or purchase, as applicable, or (ii) an amount equal to $1.14 plus a compounded annual return of 10%. The funding received is classified as mezzanine equity and restricted cash long-term.

May 2016 Convertible Note Offering

See Note 5, "Debt" for details regarding the May 2016 Convertible Note Offering.

February and June 2016 Private Placements

See Note 5, "Debt" for details regarding the February and June 2016 Private Placements.

At Market Issuance Sales Agreement

On March 8, 2016, the Company entered into an At Market Issuance Sales Agreement (the "ATM Sales Agreement") with FBR Capital Markets & Co. and MLV & Co. LLC (the "Agents") under which the Company may issue and sell shares of its common stock having an aggregate offering price of up to $50.0 million (the "ATM Shares") from time to time through the Agents, acting as its sales agents, under the Company's Registration Statement on Form S-3 (File No. 333-203216), effective April 15, 2015. Sales of the ATM Shares through the Agents, if any, will be made by any method that is deemed an "at the market offering" as defined in Rule 415 under the Securities Act, including by means of ordinary brokers' transactions at market prices, in block transactions, or as otherwise agreed by the Company and the Agents. Each time that the Company wishes to issue and sell ATM Shares under the ATM Sales Agreement, the Company will notify one of the Agents of the number of ATM Shares to be issued, the dates on which such sales are anticipated to be made, any minimum price below which sales may not be made and other sales parameters as the Company deems appropriate. The Company will pay the designated Agent a commission rate of up to 3.0% of the gross proceeds from the sale of any ATM Shares sold through such Agent as agent under the ATM Sales Agreement. The ATM Sales Agreement contains customary terms, provisions, representations and warranties. The ATM Sales Agreement includes no commitment by other parties to purchase shares the Company offers for sale.

During the six months ended June 30, 2016, the Company did not sell any shares of common stock under the ATM Sales Agreement. As of the date hereof, $50.0 million remained available for future sales under the ATM Sales Agreement.

9. Goodwill and Intangible Assets

The following table presents the components of the Company's intangible assets (in thousands):

		June 30, 2016			December 31, 2015		
	Useful Life in Years	Gross Carrying Amount	Accumulated Amortization/ Impairment	Net Carrying Value	Gross Carrying Amount	Accumulated Amortization/ Impairment	Net Carrying Value
In-process research and development	Indefinite	$8,560	$ (8,560)	$ —	$8,560	$ (8,560)	$ —
Acquired licenses and permits	2	772	(772)	—	772	(772)	—
Goodwill	Indefinite	560	—	560	560	—	560
		$9,892	$ (9,332)	$ 560	$9,892	$ (9,332)	$ 560

The in-process research and development (IPR&D) of $8.6 million was acquired through the acquisition of Draths in October 2011 and was treated as indefinite lived intangible assets pending completion or abandonment of the projects to which the IPR&D related. The IPR&D was fully impaired in 2015.

The Company has a single reportable segment (see Note 15, “Reporting Segments” for further details). Consequently, all of the Company's goodwill is attributable to that single reportable segment.

10. Stockholders’ Deficit

Unexercised Common Stock Warrants

As of June 30, 2016 and 2015, the Company had 9,663,411 and 1,021,087, respectively, of unexercised common stock warrants with exercise prices ranging from $0.01 to $10.67 per warrant and a weighted average remaining maturity of 6.4 years.

11. Stock-Based Compensation

The Company’s stock option activity and related information for the six months ended June 30, 2016 was as follows:

	Number Outstanding	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
				(in thousands)
Outstanding - December 31, 2015	12,930,112	$ 4.77	7.39	$ 22
Options granted	2,997,275	$ 0.60	—	—
Options exercised	(134)	$ 0.28	—	—
Options cancelled	(1,698,221)	$ 6.57	—	—
Outstanding - June 30, 2016	14,229,032	$ 3.68	7.46	—
Vested and expected to vest after June 30, 2016	12,720,966	$ 3.95	7.23	—
Exercisable at June 30, 2016	6,679,859	$ 6.00	5.55	—

The aggregate intrinsic value of options exercised under all option plans was zero for each of the three months ended June 30, 2016 and 2015, and $0.0 million and $0.0 million for the six months ended June 30, 2016 and 2015, respectively, determined as of the date of option exercise.

The Company’s restricted stock units (or "RSUs") and restricted stock activity and related information for the six months ended June 30, 2016 was as follows:

	RSUs	Weighted-Average Grant-Date Fair Value	Weighted Average Remaining Contractual Life (Years)
Outstanding - December 31, 2015	5,554,844	$ 2.03	1.61
Awarded	4,127,559	$ 0.61	—
Vested	(1,175,011)	$ 2.43	—
Forfeited	(698,372)	$ 1.58	—
Outstanding - June 30, 2016	7,809,020	$ 1.26	1.72
Expected to vest after June 30, 2016	6,103,477	$ 3.02	1.55

The following table summarizes information about stock options outstanding as of June 30, 2016:

	Options Outstanding			Options Exercisable	
Exercise Price	Number of Options	Weighted-Average Remaining Contractual Life (Years)	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price
$0.28 - $0.57	45,254	9.26	$ 0.55	3,254	$ 0.28
$0.59 - $0.59	2,701,575	9.88	$ 0.59	—	$ —
$0.81 - $1.73	2,176,063	9.10	$ 1.64	105,863	$ 1.57
$1.75 - $1.96	1,626,458	8.73	$ 1.91	455,140	$ 1.90
$1.98 - $2.79	1,484,883	6.74	$ 2.61	1,061,320	$ 2.67
$2.81 - $3.44	1,479,665	6.58	$ 3.02	1,166,113	$ 3.01
$3.51 - $3.51	1,667,435	7.57	$ 3.51	929,853	$ 3.51
$3.55 - $4.31	1,790,703	4.16	$ 3.97	1,705,729	$ 3.98
$4.35 - $26.84	1,196,996	4.11	$ 17.45	1,192,587	$ 17.50
$30.17 - $30.17	60,000	4.71	$ 30.17	60,000	$ 30.17
$0.28 - $30.17	14,229,032	7.46	$ 3.68	6,679,859	$ 6.00

Stock-Based Compensation Expense

Stock-based compensation expense related to options and restricted stock units granted to employees and nonemployees was allocated to research and development expense and sales, general and administrative expense as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Research and development	$485	$530	$976	$1,246
Sales, general and administrative	1,304	1,526	2,864	3,462
Total stock-based compensation expense	$1,789	$2,056	$3,840	$4,708

As of June 30, 2016, there was unrecognized compensation expense of $6.1 million and $6.9 million related to stock options and RSUs, respectively. The Company expects to recognize this expense over a weighted average period of 3.10 years and 3.02 years, respectively.

Stock-based compensation expense for RSUs is measured based on the closing fair market value of the Company's common stock on the date of grant. Stock-based compensation expense for stock options and employee stock purchase plan rights is estimated at the grant date and offering date, respectively, based on their fair-value using the Black-Scholes option pricing model. The fair value of employee stock options is being amortized on a straight-line basis over the requisite service period of the awards. The fair value of employee stock options was estimated using the following weighted-average assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Expected dividend yield	— %	— %	— %	— %
Risk-free interest rate	1.4 %	2 %	1.4 %	2 %
Expected term (in years)	6.16	6.01	6.16	6.00
Expected volatility	72.5%	74 %	72.5%	74 %

Expected Dividend Yield—The Company has never paid dividends and does not expect to pay dividends.

Risk-Free Interest Rate—The risk-free interest rate was based on the market yield currently available on United States Treasury securities with maturities approximately equal to the option’s expected term.

Expected Term—Expected term represents the period that the Company’s stock-based awards are expected to be outstanding. The Company’s assumptions about the expected term have been based on that of companies that have similar industry, life cycle, revenue, and market capitalization and the historical data on employee exercises.

Expected Volatility—The expected volatility is based on a combination of historical volatility for the Company's stock and the historical stock volatilities of several of the Company’s publicly listed comparable companies over a period equal to the expected terms of the options, as the Company does not have a long trading history.

Forfeiture Rate—The Company estimates its forfeiture rate based on an analysis of its actual forfeitures and will continue to evaluate the adequacy of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior, and other factors. The impact from a forfeiture rate adjustment will be recognized in full in the period of adjustment, and if the actual number of future forfeitures differs from that estimated by the Company, the Company may be required to record adjustments to stock-based compensation expense in future periods.

Each of the inputs discussed above is subjective and generally requires significant management and director judgment.

12. Employee Benefit Plan

The Company established a 401(k) Plan to provide tax deferred salary deductions for all eligible employees. Participants may make voluntary contributions to the 401(k) Plan up to 90% of their eligible compensation, limited by certain Internal Revenue Service (or the "IRS") restrictions. Effective January 2014, the Company implemented a discretionary employer match plan whereby the Company will match employee contributions up to the IRS limit or 90% of compensation, with a minimum one year of service required for vesting. The total matching amount for each of the three months ended June 30, 2016 and 2015 was $0.1 million and $0.2 million, respectively, and $0.3 million for each of the six months ended June 30, 2016 and 2015.

13. Related Party Transactions

Related Party Financings

See Note 5, “Debt” for a description of the June 2016 Private Placement transaction with Foris Ventures, LLC, a related party of the Company. In addition, see Note 5, “Debt” for a description of the February 2016 Private Placement transaction with Foris Ventures, LLC, Naxyris S.A. and Biolding SA, each a related party of the Company, and the March 2016 R&D Note transaction with Total.

As of June 30, 2016 and December 31, 2015, convertible notes and loans with related parties were outstanding in aggregate amount of $64.8 million and $43.0 million, respectively, net of debt discount and issuance costs of $4.7 million and $1.9 million, respectively.

The fair value of the derivative liability related to the related party convertible notes as of June 30, 2016 and December 31, 2015 was $1.3 million and $7.9 million, respectively. The Company recognized a gain from change in fair value of the derivative instruments of $3.9 million and $23.1 million for the three months ended June 30, 2016 and 2015, respectively, and a gain from change in fair value of the derivative instruments of $8.4 million and $11.7 million for the six months ended June 30, 2016 and 2015, respectively (see Note 3, "Fair Value of Financial Instruments" for further details).

Related Party Revenues

The Company recognized no related party revenues from product sales to Total for each of the three and six months ended June 30, 2016 and 2015. Related party accounts receivable from Total as of June 30, 2016 and December 31, 2015, were $0.6 million and $1.2 million, respectively.

Loans to Related Parties

See Note 7, "Joint Ventures and Noncontrolling Interest" and Note 18, “Subsequent Events” for details of the Company's transactions with its affiliate, Novvi LLC.

Joint Venture with Total

In November 2013, the Company and Total formed TAB as discussed above under Note 7, "Joint Ventures and Noncontrolling Interest."

Pilot Plant Agreements

In May 2014, the Company received the final consents necessary for a Pilot Plant Services Agreement (or the “Pilot Plant Services Agreement”) and a Sublease Agreement (or the “Sublease Agreement”), each dated as of April 4, 2014 (collectively the “Pilot Plant Agreements”), between the Company and Total. The Pilot Plant Agreements generally have a term of five years. Under the terms of the Pilot Plant Services Agreement, the Company agreed to provide certain fermentation and downstream separations scale-up services and training to Total in exchange foran aggregate annual fee payable by Total for all services in the amount of up to approximately $0.9 million per annum. In July 2015, Total and the Company entered into Amendment #1 (the "Pilot Plant Agreement Amendment") to the Pilot Plant Services Agreement, whereby the Company agreed to waive a portion of these fees, up to approximately $2.0 million, over the term of the Pilot Plant Services Agreement in connection with the restructuring of TAB discussed above in Note 7, "Joint Ventures and Noncontrolling Interest." Under the Sublease Agreement, the Company receives an annual base rent payable by Total of approximately $0.1 million per annum.

As of June 30, 2016, the Company had received $1.7 million in cash under the Pilot Plant Agreements from Total. In connection with these arrangements, sublease payments and service fees of $0.0 million and $0.5 million for the three months ended June 30, 2016 and 2015, respectively, and zero and $0.7 million for the six months ended June 30, 2016 and 2015, respectively, were offset against costs and operating expenses.

14. Income Taxes

The Company recorded a provision for income taxes of $0.1 million for each of the three months ended June 30, 2016 and 2015 and $0.2 million for each of the six months ended June 30, 2016 and 2015. The provision for income taxes for the six months ended June 30, 2016 and 2015 consisted of an accrual of Brazilian withholding tax on interest on intercompany loans. Other than the above mentioned provision for income tax, no additional provision for income taxes has been made, net of the valuation allowance, due to cumulative losses since the commencement of the Company's operations.

On December 15, 2011, the IRS completed its audit of the Company for tax year 2008 which concluded that there were no adjustments resulting from the audit. While the statutes are closed for tax year 2008, the US federal tax carryforwards (net operating losses and tax credits) may be adjusted by the IRS in the year in which the carryforward is utilized.

15. Reporting Segments

The chief operating decision maker for the Company is the chief executive officer. The chief executive officer reviews financial information presented on a consolidated basis, accompanied by information about revenue by geographic region, for purposes of allocating resources and evaluating financial performance. The Company has one business activity comprised of research and development and sales of fuels and farnesene-derived products and there are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, the Company has determined that it has a single reportable segment and operating segment structure.

Revenues by geography are based on the location of the customer. The following tables set forth revenue and long-lived assets by geographic area (in thousands):

Revenues

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Europe	$4,257	$847	$8,628	$1,679
United States	3,989	4,151	7,451	9,373
Asia	1,323	943	1,914	1,778
Brazil	14	1,902	389	2,885
Other	16	—	27	—
Total	$9,599	$7,843	$18,409	$15,715

Long-Lived Assets (Property, Plant and Equipment)

	June 30, 2016	December 31, 2015
Brazil	$48,662	$41,093
United States	16,267	18,401
Europe	271	303
Total	$65,200	$59,797

16. Comprehensive Loss

Comprehensive loss represents all changes in stockholders' deficit except those resulting from investments or contributions by stockholders. The Company's foreign currency translation adjustments represent the components of comprehensive loss excluded from the Company's net loss and have been disclosed in the condensed consolidated statements of comprehensive loss for the periods presented.

The components of accumulated other comprehensive loss are as follows (in thousands):

	June 30, 2016	December 31, 2015
Foreign currency translation adjustment, net of tax	$(37,917)	$(47,198)
Total accumulated other comprehensive loss	$(37,917)	$(47,198)

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17. Net Loss Attributable to Common Stockholders and Net Loss per Share

The Company computes net loss per share in accordance with ASC 260, “Earnings per Share.” Basic net loss per share of common stock is computed by dividing the Company’s net loss attributable to Amyris, Inc. common stockholders by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share of common stock is computed by giving effect to all potentially dilutive securities, including stock options, restricted stock units, common stock warrants and convertible promissory notes using the treasury stock method or the as converted method, as applicable. For the six months ended June 30, 2015, basic net loss per share was the same as diluted net loss per share because the inclusion of all potentially dilutive securities outstanding was anti-dilutive. As such, the numerator and the denominator used in computing both basic and diluted net loss was the same for that period.

The following table presents the calculation of basic and diluted net loss per share of common stock attributable to Amyris, Inc. common stockholders (in thousands, except share and per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Numerator:				
Net loss attributable to Amyris, Inc. common stockholders	$(13,566)	$(47,130)	$(28,874)	$(99,370)
Interest on convertible debt	1,591	498	3,501	—
Accretion of debt discount	1,846	365	3,479	—
Gain from change in fair value of derivative instruments	(19,116)	(8,260)	(37,803)	—
Net loss attributable to Amyris, Inc. common stockholders after assumed conversion	$(29,245)	$(54,527)	$(59,697)	$(99,370)
Denominator:				
Weighted average shares of common stock outstanding for basic EPS	223,112,019	80,041,152	216,393,705	79,633,864
Basic and diluted loss per share	$(0.06)	$(0.59)	$(0.13)	$(1.25)
Weighted average shares of common stock outstanding	223,112,019	80,041,152	216,393,705	79,633,864
Effect of dilutive securities:				
Convertible promissory notes	39,784,121	7,380,287	42,415,700	—
Weighted common stock equivalents	39,784,121	7,380,287	42,415,700	—
Diluted weighted-average common shares	262,896,140	87,421,439	258,809,405	79,633,864
Diluted loss per share	$(0.11)	$(0.62)	$(0.23)	$(1.25)

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share of common stock because including them would have been anti-dilutive:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Period-end stock options to purchase common stock	14,229,032	11,666,389	14,229,032	11,666,389
Convertible promissory notes[1]	67,346,144	67,634,387	67,346,144	75,007,016
Period-end common stock warrants	2,901,426	1,021,087	2,901,426	1,021,087
Period-end restricted stock units	7,809,020	3,609,095	7,809,020	3,609,095
Total	92,285,622	83,930,958	92,285,622	91,303,587

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(1) The potentially dilutive effect of convertible promissory notes was computed based on conversion ratios in effect as of the respective period end dates. A portion of the convertible promissory notes issued carries a provision for a reduction in conversion price under certain circumstances, which could potentially increase the dilutive shares outstanding. Another portion of the convertible promissory notes issued carries a provision for an increase in the conversion rate under certain circumstances, which could also potentially increase the dilutive shares outstanding.

18. Subsequent Events

Novvi Transactions

On July 18, 2016, American Refining Group, Inc. (or “ARG”) agreed to make a capital contribution of up to $10.0 million in cash to Novvi, subject to certain conditions, in exchange for a one third ownership stake in Novvi. In connection with such investment, the Company agreed to contribute all outstanding amounts owed by Novvi to the Company under the seven existing member senior loan agreements between the Company and Novvi, as well as certain existing receivables due from Novvi to the Company related to rent and other services performance by the Company, in exchange for receiving additional membership units in Novvi. Likewise, Cosan U.S. contributed an equal amount to Novvi as the Company in exchange for receiving an equal amount of additional membership interests in Novvi. Following the ARG investment, assuming it is made in full, and the capital contributions of the Company and Cosan U.S., each of Novvi’s three members (i.e., ARG, the Company and Cosan U.S.) will own one third of Novvi’s issued and outstanding membership units. In order to reflect the ARG investment in Novvi and related transactions, the Amended and Restated Operating Agreement of Novvi was amended and restated on July 18, 2016. In addition, the IP License Agreement between Novvi and the Company was also amended on July 18, 2016. See Note 7, “Joint Ventures and Noncontrolling Interest” for additional information regarding Novvi.

Ginkgo Warrant

On August 6, 2016, the Company issued to Ginkgo Bioworks, Inc. (or “Ginkgo”) a warrant to purchase 5,000,000 shares of the Company’s common stock at an exercise price of $0.50 per share, exercisable for one year from the date of issuance. Pursuant to the Initial Strategic Partnership Agreement, dated June 28, 2016, between the Company and Ginkgo, such warrant was contemplated to be issued in connection with the execution of a definitive partnership agreement by the Company and Ginkgo setting forth the terms of a long-term commercial partnership and collaboration arrangement between the parties. The warrant was issued prior to the execution of such definitive partnership agreement in connection with the transfer of certain information technology from Ginkgo to the Company. See Note 8, “Significant Agreements” for additional information regarding the Company’s relationship with Ginkgo.

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Forward-Looking Statements

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the related notes that appear elsewhere in this Form 10-Q. These discussions contain forward-looking statements reflecting our current expectations that involve risks and uncertainties which are subject to safe harbors under the Securities Act of 1933, as amended, or the Securities Act, and the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward looking statements include, but are not limited to, statements concerning our strategy of achieving a significant reduction in net cash outflows in 2016, future production capacity and other aspects of our future operations, ability to improve our production efficiencies, future financial position, future revenues, projected costs, expectations regarding demand and acceptance for our technologies, growth opportunities and trends in the market in which we operate, prospects and plans and objectives of management. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward looking statements. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks set forth in Part II, Item 1A, "Risk Factors," in this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission. We do not assume any obligation to update any forward-looking statements.

Trademarks

Amyris, the Amyris logo, Biofene, Biossance, Dial-A-Blend, Diesel de Cana, Evoshield, µPharm, Muck Daddy, Myralene, Neossance and No Compromise are trademarks or registered trademarks of Amyris, Inc. This report also contains trademarks and trade names of other businesses that are the property of their respective holders.

Overview

Amyris, Inc. (referred to as the "Company," "Amyris," "we," "us," or "our") is a leading integrated industrial biotechnology company applying its technology platform to engineer, manufacture and sell high performance, low cost products into a variety of consumer and industrial markets, including cosmetics, flavors & fragrances (or F&F), solvents and cleaners, polymers, lubricants, healthcare products and fuels, and we are seeking to apply our technology to the development of pharmaceutical products. Our proven technology platform allows us to rapidly engineer microbes and use them as living factories to metabolize renewable, plant-sourced sugars into large volume, high-value hydrocarbon molecules. Using yeast as these living factories, our industrial fermentation process replaces existing complex and expensive chemical manufacturing processes. We believe industrial synthetic biology represents a third industrial revolution, bringing together biology and engineering to generate new, more sustainable materials to meet the growing global demand for bio-based replacements for petroleum, animal-or plant-derived chemicals. We continue to work to build demand for our current portfolio of products through a network of distributors and through direct sales, and are engaged in collaborations across a variety of markets, including personal care, performance chemicals and industrials, to drive additional product sales and partnership opportunities.

Amyris was founded in 2003 in the San Francisco Bay Area by a group of scientists from the University of California, Berkeley. Our first major milestone came in 2005 when, through a grant from the Bill & Melinda Gates Foundation, we developed technology capable of creating microbial strains that produce artemisinic acid - a precursor of artemisinin, an effective anti-malarial drug. In 2008, we granted royalty-free licenses to allow Sanofi-Aventis (or "Sanofi") to produce artemisinic acid using our technology. Since 2013, Sanofi has been distributing millions of artemisinin-based anti-malarial treatments incorporating this artemisinic acid. Building on our success with artemisinic acid, in 2007 we began applying our technology platform to develop, manufacture and sell sustainable alternatives to a broad range of materials.

We focused our initial development efforts primarily on the production of Biofene®, our brand of renewable farnesene, a long-chain, branched hydrocarbon molecule that we manufacture through fermentation using engineered microbes. Using farnesene as a first commercial building block molecule, we have developed a wide range of renewable products for our various target markets, including cosmetics, F&F, healthcare products and fuels, and we are pursuing opportunities for the application of our technology in the pharmaceuticals market. Our technology platform allows us to rapidly develop microbial strains to produce other target molecules, and, in 2014, we began manufacturing additional molecules for the F&F industry.

Amyris' proprietary microbial engineering and screening technologies have industrialized bioengineering of microbes, and most of our efforts to date have been focused on engineering yeast. Our platform provides predictable and efficient "living factories" that allow us to convert plant-sourced sugars, primarily sugarcane syrup, through fermentation, into high-value hydrocarbon molecules instead of low-value alcohol. We are able to use a wide variety of feedstocks for production, but have focused on accessing Brazilian sugarcane for our large-scale production because of its renewability, low cost and relative price stability. We have also successfully used other feedstocks such as sugar beets, corn dextrose, sweet sorghum and cellulosic sugars at various manufacturing facilities.

We are currently producing four molecules at our industrial fermentation plant: artemisinic acid, farnesene and two fragrance molecules. We and our partners develop products from these molecules for several target markets, including cosmetics, F&F, solvents, polymers, industrials and healthcare products, and we are pursuing arrangements with a number of drug companies for their use of our molecules to develop pharmaceutical products. We are engaged in collaborations with multiple companies that are leaders within their respective markets, including affiliates of Total S.A., the international energy company (or "Total"), and worldwide leaders in specialty chemicals, consumer care, F&F, food ingredients and health, and who sell our ingredients to hundreds of brands that serve millions of consumers.

Our mission is to apply inspired science to deliver sustainable solutions for a growing world. We seek to become the world's leading provider of renewable, high-performance alternatives to non-renewable products. In the past, choosing a renewable product often required producers to compromise on performance or price. With our technology, leading consumer brands can develop products made from renewable sources that offer equivalent or better performance and stable supply with competitive pricing. We call this our No Compromise® value proposition. We aim to improve the world one molecule at a time by providing the best alternatives to non-renewable products.

We have developed and are operating our company under a business model that generates cash from both collaborations and from product sales. We believe this combination will enable us to realize our vision of becoming the world's leading renewable products company.

Relationship with Total

In July 2012 and December 2013, we entered into a series of agreements (or the “Total Fuel Agreements”) to establish a research and development program and form a joint venture with Total Energies Nouvelles Activités USA (formerly known as Total Gas & Power USA, SAS, and referred to as “Total”) to produce and commercialize farnesene- or farnesane-based diesel and jet fuels, and formed such joint venture, Total Amyris BioSolutions B.V. (or “TAB”), in November 2013. With an exception for our fuels business in Brazil, the collaboration and joint venture established the exclusive means for us to develop, produce and commercialize farnesene- or farnesane-based diesel and jet fuels. We initially granted TAB exclusive licenses under certain of our intellectual property to make and sell joint venture products. We also granted TAB, in the event of a buy-out of our interest in the joint venture by Total (which Total was entitled to do under certain circumstances), a non-exclusive license to optimize or engineer yeast strains used by us to produce farnesene for the joint venture’s diesel and jet fuels. As a result of these licenses, we generally no longer had an independent right to make or sell farnesene- or farnesane-based diesel and jet fuels fuels outside of Brazil without the approval of TAB.

In addition, our agreements with Total relating to our fuels collaboration created a convertible debt financing structure for funding the research and development program. The Total Fuel Agreements contemplated approximately $105.0 million in financing (or “R&D Notes”) for the collaboration, which as of January 2015, had been completely funded by Total.

In July 2015, we entered into a Letter Agreement with Total (or, as amended in February 2016, the “TAB Letter Agreement”) regarding the restructuring of the ownership and rights of TAB (or the “Restructuring”), pursuant to which the parties agreed to enter into an Amended & Restated Jet Fuel License Agreement between us and TAB (or the “Jet Fuel Agreement”), a License Agreement regarding Diesel Fuel in the European Union (or the “EU”) between us and Total (or the “EU Diesel Fuel Agreement” and together with the Jet Fuel Agreement, the “Commercial Agreements”), and an Amended and Restated Shareholders’ Agreement among us, Total and TAB (or, together with the Commercial Agreements, the “Restructuring Agreements”), and file a Deed of Amendment of Articles of Association of TAB, all in order to reflect certain changes to the ownership structure of TAB and license grants and related rights pertaining to TAB.

Additionally, in connection with the proposed Restructuring, in July 2015, we and Total entered into Amendment #1 (or the "Pilot Plant Agreement Amendment") to that certain Pilot Plant Services Agreement dated as of April 4, 2014 (or, as amended, the "Pilot Plant Agreement") whereby we and Total agreed to restructure the payment obligations of Total under the Pilot Plant Agreement. Under the Pilot Plant Agreement, for a five year period, we are providing certain fermentation and downstream separations scale-up services and training to Total and, as originally contemplated, we were to receive an aggregate annual fee payable by Total for all services in the amount of up to approximately $900,000 per annum. Such annual fee was due in three equal installments payable on March 1, July 1 and November 1 each year during the term of the Pilot Plant Agreement. Under the Pilot Plant Agreement Amendment, in connection with the restructuring of TAB discussed above, we agreed to waive a portion of these fees up to approximately $2.0 million, over the term of the Pilot Plant Agreement.

On March 21, 2016, we, Total and TAB closed the Restructuring and entered into the Restructuring Agreements.

Under the Jet Fuel Agreement, (a) we granted exclusive (co-exclusive in Brazil), world-wide, royalty-free rights to TAB for the production and commercialization of farnesene- or farnesane-based jet fuel, (b) we granted TAB the option, until March 1, 2018, to purchase our Brazil jet fuel business at a price based on the fair value of the commercial assets and on our investment in other related assets, (c) we granted TAB the right to purchase farnesene or farnesane for its jet fuel business from us on a “most-favored” pricing basis and (d) all rights to farnesene- or farnesane-based diesel fuel previously granted to TAB by us reverted back to us.

Upon all farnesene- or farnesane-based diesel fuel rights reverting back to us, we granted to Total, pursuant to the EU Diesel Fuel Agreement, (a) an exclusive, royalty-free license to offer for sale and sell farnesene- or farnesane-based diesel fuel in the EU, (b) the non-exclusive right to make farnesene or farnesane anywhere in the world, but Total must (i) use such farnesene or farnesane to produce only diesel fuel to offer for sale or sell in the EU and (ii) pay us a to-be-negotiated, commercially reasonable, “most-favored” basis royalty and (c) the right to purchase farnesene or farnesane for its EU diesel fuel business from us on a “most-favored” pricing basis.

As a result of these licenses, we generally no longer have an independent right to make or sell, without the approval of Total, farnesene- or farnesane-based jet fuels outside of Brazil or farnesane-based diesel fuels in the EU.

In addition, as part of the closing of the Restructuring and pursuant the TAB Letter Agreement, on March 21, 2016, we sold to Total one half of our ownership stake in TAB (giving Total an aggregate ownership stake of 75% of TAB and giving us an aggregate ownership stake of 25% of TAB) in exchange for Total cancelling (i) approximately $1.3 million of R&D Notes, plus all paid-in-kind and accrued interest under all outstanding R&D Notes (including all such interest that was outstanding as of July 29, 2015) and (ii) a note in the principal amount of Euro 50,000, plus accrued interest, issued to Total in connection with the original TAB capitalization. To satisfy its purchase obligation above, Total surrendered to us the remaining R&D Note of approximately $5 million in principal amount, and we executed and delivered to Total a new, senior convertible note, containing substantially similar terms and conditions other than it is unsecured and its payment terms are severed from TAB's business performance, in the principal amount of $3.7 million.

As a result of, and in order to reflect, the changes to the ownership structure of TAB described above, on March 21, 2016, (a) we, Total and TAB entered into an Amended and Restated Shareholders' Agreement and filed a Deed of Amendment of Articles of Association of TAB and (b) we and Total terminated the Amended and Restated Master Framework Agreement, dated December 2, 2013 and amended on April 1, 2015, between us and Total. See Note 5, "Debt", "Note 7, "Joint Ventures and Noncontrolling Interest" and Note 13, "Related Party Transactions" for additional details regarding our relationship with Total.

Sales and Revenues

Our revenues are comprised of product revenues and grants and collaborations revenues. We generate the substantial majority of our product revenues from sales to distributors or collaborators and only a small portion from direct sales, although we have begun to market and sell some of our products directly to end-consumers, initially in the cosmetics and industrial cleaning markets. To commercialize our initial Biofene-derived product, squalane, in the cosmetics sector for use as an emollient, we have entered into certain marketing and distribution agreements in Europe, Asia, and North America. As an initial step towards commercialization of Biofene-based diesel, we entered into agreements with municipal fleet operators in Brazil. Pursuant to our agreements with Total, future commercialization of our jet fuel products outside of Brazil and our diesel fuel products in the EU would generally occur exclusively through certain agreements entered into by and among Amyris, Total and TAB. For the industrial lubricants market, we established a joint venture with Cosan U.S. for the worldwide development, production and commercialization of renewable base oils in the lubricant sector. We have also entered into certain supply agreements with customers in the F&F industry to commercialize products derived from our fragrance molecules. In addition, we have entered into research and development collaboration arrangements pursuant to which we receive payments from our collaborators, which include Total, Manufacture Francaise de Pnematiques Michelin, The Defense Advanced Research Projects Agency, Givaudan International, SA and Cosan US, Inc. Some of such collaboration arrangements include advance payments in consideration for grants of exclusivity or research efforts to be performed by us. Once a collaboration agreement has been signed, receipt of payments may depend on our achievement of milestones. See Note 8, “Significant Agreements” for more details regarding these agreements and arrangements.

Financing

In 2015, and through the second quarter of 2016, we completed multiple financings involving loans, convertible debt, non-convertible debt, mezzanine equity and equity offerings.

In January 2015, we closed a second installment of the $21.7 million in convertible notes from Total under the Total Fuel Agreements, as described in more detail in Note 5, "Debt", in the amount of $10.85 million.

In July 2015, we sold to certain purchasers 16,025,642 shares of our common stock at a price per share of $1.56, for aggregate proceeds to us of $25 million. We also granted to the purchasers warrants exercisable at an exercise price of $0.01 per share for the purchase of an aggregate of 1,602,562 shares of our common stock. The exercisability of these warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In October 2015, we issued $57.6 million aggregate principal amount of 9.50% Convertible Senior Notes due 2019 to certain qualified institutional buyers, as described in more detail in Note 5, “Debt.”

In February 2016, we issued to certain purchasers an aggregate of $20.0 million of unsecured promissory notes and warrants for the purchase, at an exercise price of $0.01 per share, of an aggregate of 2,857,142 shares of our common stock, as described in more detail in Note 5, “Debt.” The exercisability of these warrants was subject to stockholder approval, which was obtained on May 17, 2016.

In March 2016, we sold to Total one half of our ownership stake in TAB in exchange for Total cancelling $1.3 million of R&D Notes and certain other indebtedness, as described in more detail under “Relationship with Total” above and in Note 5, “Debt” and Note 7, “Joint Ventures and Noncontrolling Interest.”

In May 2016, we sold and issued 4,385,964 shares of common stock to the Bill & Melinda Gates Foundation at a purchase price per share of $1.14, as described in more detail in Note 8, “Significant Agreements.”

In May 2016, we sold and issued $10.0 million in aggregate principal amount of convertible promissory notes to a private investor, as described in more detail in Note 5, “Debt.”

In June 2016, we sold and issued $5.0 million in aggregate principal amount of secured promissory notes to Foris Ventures, LLC, as described in more detail in Note 5, “Debt.”

Exchange (debt conversion)

On July 29, 2015, we closed the "Exchange" pursuant to that certain Exchange Agreement, dated as of July 26, 2015 (the “ Exchange Agreement ”), among us, Maxwell (Mauritius) Pte Ltd (or “Temasek”) and Total.

Under the Exchange Agreement, at the closing, Temasek exchanged approximately $71.0 million of outstanding convertible promissory notes (including paid-in-kind and accrued interest through July 29, 2015) and Total exchanged $70.0 million in principal amount of outstanding convertible promissory notes for shares of the Company’s common stock. The exchange price was $2.30 per share (the “Exchange Price”) and was paid by the exchange and cancellation of such outstanding convertible promissory notes, and Temasek and Total received 30,860,633 and 30,434,782 shares of the Company’s common stock, respectively, in the Exchange.

Under the Exchange Agreement, Total also received the following warrants, each with a five-year term, at the closing:

- A warrant to purchase 18,924,191 shares of our common stock (the “Total Funding Warrant”).

- A warrant to purchase 2,000,000 shares of our common stock that will only be exercisable if we fail, as of March 1, 2017, to achieve a target cost per liter to manufacture farnesene (the “Total R&D Warrant”). The Total Funding Warrant and the Total R&D Warrant are collectively referred to as the “Total Warrants.”

Additionally, under the Exchange Agreement, Temasek received the following warrants:

- A warrant to purchase 14,677,861 shares of our common stock.

- A warrant exercisable for that number of shares of our common stock equal to (1) (A) the number of shares for which Total exercises the Total Funding Warrant plus (B) the number of additional shares for which the certain convertible notes remaining outstanding following the completion of the Exchange may become exercisable as a result of a reduction in the conversion price of such remaining notes as a result of and/or subsequent to the date of the Exchange plus (C) that number of additional shares in excess of 2,000,000, if any, for which the Total R&D Warrant becomes exercisable multiplied by a fraction equal to 30.6% divided by 69.4% plus (2) (A) the number of any additional shares for which certain other outstanding convertible promissory notes may become exercisable as a result of a reduction to the conversion price of such notes multiplied by (B) a fraction equal to 13.3% divided by 86.7% (the "Temasek Funding Warrant").

- A warrant exercisable for that number of shares of our common stock equal to 880,339 multiplied by a fraction equal to the number of shares for which Total exercises the Total R&D Warrant divided by 2,000,000. If Total is entitled to, and does, exercise the Total R&D Warrant in full, this warrant would be exercisable for 880,339 shares (the "Temasek R&D Warrant").

The Temasek Exchange Warrant, the Temasek Funding Warrant and the Temasek R&D Warrant each have ten-year terms and are referred to herein as the "Temasek Warrants" and, the Temasek Warrants and Total Warrants are hereinafter collectively referred to as the "Exchange Warrants". All of the Exchange Warrants have an exercise price of $0.01 per share.

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In addition to the grant of the Exchange Warrants, a warrant issued by the Company to Temasek in October 2013 in conjunction with a prior convertible debt financing (the “2013 Warrant”) became exercisable in full upon the completion of the Exchange. There were 1,000,000 shares underlying the 2013 Warrant, which was exercised in full at the exercise price of $0.01 per share.

The exercisability of all of the Exchange Warrants was subject to stockholder approval, which was obtained on September 17, 2015.

In February and May 2016, as a result of the adjustments to the conversion price of our senior convertible notes issued in October 2013 (the “Tranche I Notes”) and January 2014 (the “Tranche II Notes”) discussed in Note 5, “Debt,” the Temasek Funding Warrant became exercisable for an additional 127,194 and 2,335,342 shares of common stock, respectively.

As of June 30, 2016, the Total Funding Warrant, the Temasek Exchange Warrant, and the 2013 Warrant had been fully exercised, and Temasek had exercised the Temasek Funding Warrant with respect to 12,700,244 shares of our common stock. Neither the Total R&D Warrant nor the Temasek R&D Warrant were exercisable as of June 30, 2016.

Maturity Treatment Agreement

At the closing of the Exchange, we, Total and Temasek also entered into a Maturity Treatment Agreement, dated as of July 29, 2015, pursuant to which Total and Temasek agreed to convert any of our convertible promissory notes held by them that were not cancelled in the Exchange (the “Remaining Notes”) into shares of our common stock in accordance with the terms of such Remaining Notes upon maturity, provided that certain events of default have not occurred with respect to the applicable Remaining Notes prior to such maturity. As of immediately following the closing of the Exchange and June 30, 2016, Temasek held $10.0 million in aggregate principal amount of Remaining Notes and Total held approximately $25.0 million and $28.9 million, respectively, in aggregate principal amount of Remaining Notes.

Liquidity

We have incurred significant losses since our inception and believe that we will continue to incur losses and negative cash flow from operations through at least 2017. As of June 30, 2016, we had an accumulated deficit of $1,066.0 million and had cash, cash equivalents and short term investments of $2.5 million. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments. Refer to "Liquidity and Capital Resources" for further details.

Results of Operations

Comparison of Three Months Ended June 30, 2016 and 2015

Revenues

	Three Months Ended June 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Revenues				
Renewable product sales	$4,922	$3,340	$ 1,582	47 %
Grants and collaborations revenue	4,677	4,503	174	4 %
Total revenues	$9,599	$7,843	$ 1,756	22 %

Our total revenues increased by $1.8 million to $9.6 million for the three months ended June 30, 2016, as compared to the same period in the prior year, primarily due to a $1.6 million increase in product sales.

Product sales increased by $1.6 million to $4.9 million for the three months ended June 30, 2016, as compared to the same period in the prior year, primarily driven by the shipment of a new fragrance product, as well as Neossance® squalane sales.

Grants and collaborations revenues were $4.7 million for the three months ended June 30, 2016, consistent with the same period in the prior year.

Cost and Operating Expenses

	Three Months Ended June 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Cost of products sold	$7,891	$10,959	$ (3,068)	(28)%
Research and development	13,176	11,168	2,008	18 %
Sales, general and administrative	11,408	14,375	(2,967)	(21)%
Total cost and operating expenses	$32,475	$36,502	$ (4,027)	(11)%

Our cost of products sold includes cost of raw materials, labor and overhead, amounts paid to contract manufacturers, period costs related to inventory write-downs resulting from applying lower of cost or market inventory valuations, and costs related to scale-up in production of such products. Our cost of products sold decreased by $3.1 million to $7.9 million for the three months ended June 30, 2016, as compared to the same period in the prior year, primarily driven by product mix, and lower inventory provisions.

Research and Development Expenses

Our research and development expenses increased by $2.0 million to $13.2 million for the three months ended June 30, 2016, as compared to the same period in the prior year, primarily as a result of increases of $0.9 million in consulting and outside services expenses, $0.6 million from facilities expenses and $0.4 million in salaries and benefits.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses decreased by $3.0 million to $11.4 million for the three months ended June 30, 2016, as compared to the same period in the prior year, primarily as a result of our overall cost reduction efforts. The decrease was attributable to a $1.9 million reduction in consulting and outside services, $0.6 million reduction in facilities expenses and $0.5 million reductions in salaries and benefits and depreciation expense.

Other Income (Expense)

	Three Months Ended June 30, 2016	2015	Period-to-period Change	Percentage Change
	(Dollars in thousands)			
Other income (expense):				
Interest income	$82	$58	$ 24	41 %
Interest expense	(9,704)	(45,986)	36,282	-79 %
Gain/(loss) from change in fair value of derivative instruments	20,934	28,834	(7,900)	(27)%
Loss upon extinguishment of debt	(433)	—	(433)	nm
Other income (expense), net	(1,431)	(667)	(764)	115 %
Total other income (expense)	$9,448	$(17,761)	$ 27,209	(153)%

Total other income increased by approximately $27.2 million to $9.4 million for the three months ended June 30, 2016, as compared to the same period in the prior year. The increase was primarily attributable to a $36.3 million decrease in interest expense due to lower accelerated interest accretion, offset by a decrease of $7.9 million in the gain from change in fair value of derivative instruments, attributed to the compound embedded derivative liabilities associated with our senior convertible promissory notes and the change in fair value of our interest rate swap derivative liability. The change was driven by fluctuation of various inputs used in the valuation models from one reporting period to another, such as stock price, credit risk rate and estimated stock volatility.

Comparison of Six Months Ended June 30, 2016 and 2015

Revenues

	Six Months Ended June 30, 2016	2015	Period-to-period Change	Percentage Change
	(Dollars in thousands)			
Revenues				
Renewable product sales	$8,062	$5,435	$ 2,627	48 %
Grants and collaborations revenue	10,347	10,280	67	1 %
Total revenues	$18,409	$15,715	$ 2,694	17 %

Our total revenues increased by $2.7 million to $18.4 million for the six months ended June 30, 2016, as compared to the same period in the prior year, primarily due to a $2.6 million increase in product sales.

Product sales increased by $2.6 million to $8.1 million for the six months ended June 30, 2016, as compared to the same period in the prior year, primarily driven by increased sales of personal care products, mainly in flavors & fragrances.

Grants and collaborations revenues were $10.3 million for the six months ended June 30, 2016, consistent with the same period in the prior year.

Cost and Operating Expenses

	Six Months Ended June 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Cost of products sold	$19,068	$17,602	$ 1,466	8 %
Research and development	25,082	23,178	1,904	8 %
Sales, general and administrative	23,674	28,756	(5,082)	(18)%
Total cost and operating expenses	$67,824	$69,536	$ (1,712)	(2)%

Our cost of products sold includes cost of raw materials, labor and overhead, amounts paid to contract manufacturers, period costs related to inventory write-downs resulting from applying lower of cost or market inventory valuations, and costs related to scale-up in production of such products. Our cost of products sold increased by $1.5 million to $19.1 million for the six months ended June 30, 2016, as compared to the same period in the prior year, primarily driven by product mix and higher excess capacity charges based on timing of production at our manufacturing facilities.

Research and Development Expenses

Our research and development expenses increased by $1.9 million to $25.1 million for the six months ended June 30, 2016, as compared to the same period in the prior year, primarily as a result of an increase of $1.2 million in consulting and outside services and $0.7 million in facilities and rent expense.

Sales, General and Administrative Expenses

Our sales, general and administrative expenses decreased by $5.1 million to $23.7 million for the six months ended June 30, 2016, as compared to the same period in the prior year, primarily as a result of decreases of $2.2 million in consulting and outside services expenses, $1.6 million in salaries and benefits, $0.8 million from facilities expenses and $0.5 million in stock-based compensation expense.

Other Income (Expense)

	Six Months Ended June 30,		Period-to-period Change	Percentage Change
	2016	2015		
	(Dollars in thousands)			
Other income (expense):				
Interest income	$139	$144	$ (5)	(3)%
Interest expense	(18,062)	(54,468)	36,406	(67)%
Gain/(loss) from change in fair value of derivative instruments	42,612	11,422	31,190	273 %
Loss upon extinguishment of debt	(649)	—	(649)	nm
Other income (expense), net	(3,246)	(1,036)	(2,210)	213 %
Total other income (expense)	$20,794	$(43,938)	$ 64,732	(147)%

Total other income increased by approximately $64.7 million to $20.8 million for the six months ended June 30, 2016, as compared to the same period in the prior year. The increase was primarily attributable to a $36.4 million decrease in interest expense, and an increase of $31.2 million in the gain from change in fair value of derivative instruments, attributed to the compound embedded derivative liabilities associated with our senior secured convertible promissory notes and the change in fair value of our interest rate swap derivative liability. The change was driven by fluctuation of various inputs used in the valuation models from one reporting period to another, such as stock price, credit risk rate and estimated stock volatility.

Liquidity and Capital Resources

	June 30, 2016	December 31, 2015
	(Dollars in thousands)	
Working capital deficit, excluding cash and cash equivalents	$(109,076)	$(53,139)
Cash and cash equivalents and short-term investments	$2,507	$13,512
Debt and capital lease obligations	$182,861	$156,755
Accumulated deficit	$(1,065,978)	$(1,037,104)

	Six Months Ended June 30, 2016	2015
	(Dollars in thousands)	
Net cash used in operating activities	$(38,975)	$(32,791)
Net cash used in investing activities	$(5,174)	$(2,873)
Net cash provided by financing activities	$32,793	$5,544

Working Capital Deficit. Our working capital deficit, excluding cash and cash equivalents, was $109.1 million at June 30, 2016, which represents an increase of $55.9 million compared to a working capital deficit of $53.1 million at December 31, 2015. The increase of $55.9 million in working capital deficit during the six months ended June 30, 2016 was primarily due to an increase of $43.7 million in current portion of debt, $6.6 million in accrued and other current liabilities, $1.9 million in accounts payable $1.2 million in deferred revenue and $0.8 million in current capital lease obligation, together with decreases of $0.9 million in inventory, $0.5 million in other prepaid expense and $0.5 million in accounts receivable, offset by $0.2 million increase in short term investments.

To support production of our products in contract manufacturing and dedicated production facilities, we have incurred, and we expect to continue to incur, capital expenditures as we invest in these facilities. We plan to continue to seek external debt and equity financing from U.S. and Brazilian sources to help fund our investment in these contract manufacturing and dedicated production facilities.

We expect to fund our operations for the foreseeable future with cash and investments currently on hand, cash inflows from collaboration and grant funding, cash contributions from product sales, and proceeds from new debt and equity financings as well as strategic asset divestments. Some of our anticipated financing sources, such as research and development collaborations, debt and equity financings and strategic asset divestments, are subject to risk that we cannot meet milestones, are not yet subject to definitive agreements or mandatory funding commitments and, if needed, we may not be able to secure additional types of financing in a timely manner or on reasonable terms, if at all. Our planned 2016 working capital needs and our planned operating and capital expenditures for 2016 are dependent on significant inflows of cash from renewable product revenues, existing collaboration partners and funds under existing equity facilities, as well as additional funding from new collaborations, new debt and equity financings and expected proceeds from strategic asset divestments. We will continue to need to fund our research and development and related activities and to provide working capital to fund production, storage, distribution and other aspects of our business.

Liquidity. We have incurred significant losses since our inception and believe that we will continue to incur losses and have negative cash flow from operations through at least 2017. As of June 30, 2016, we had an accumulated deficit of $1,066.0 million and had cash, cash equivalents and short term investments of $2.5 million. In March 2016, we entered into an At Market Issuance Sales Agreement under which we may issue and sell shares of our common stock having an aggregate offering price of up to $50.0 million from time to time in “at the market” offerings under our Registration Statement on Form S-3 (File No. 333-203216). This agreement includes no commitment by other parties to purchase shares we offer for sale. See Note 8, “Significant Agreements” for further details. As of the date hereof, $50.0 million remained available for future issuance under this facility. In addition, on May 10, 2016, we sold and issued 4,385,964 shares of our common stock to the Bill & Melinda Gates Foundation at a purchase price per share equal to $1.14, for proceeds of approximately $5.0 million (recorded as restricted cash-long term at June 30, 2016) and also sold and issued $10.0 million in convertible promissory notes to a private investor, and on June 24, 2016, we sold and issued $5.0 million of secured promissory notes to Foris Ventures, LLC. Refer to Note 5, “Debt” and Note 8, “Significant Agreements” for further details. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments.

As of June 30, 2016, our debt, net of discount and issuance costs of $44.7 million, totaled to $181.4 million, of which $80.0 million is classified as current. In addition to upcoming debt maturities, our debt service obligations over the next twelve months are significant, including $21.0 million of anticipated interest payments. Our debt agreements also contain various covenants, including restrictions on our business that could cause us to be at risk of defaults, such as the requirement to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under our Senior Secured Loan Facility. As discussed above, we have received a waiver of compliance with such covenant through October 31, 2016. A failure to comply with the covenants and other provisions of our debt instruments, including any failure to make a payment when required would generally result in events of default under such instruments, which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of our indebtedness as a result of acceleration or otherwise would lower our current cash on hand such that we would not have those funds available for use in our business or for payment of other outstanding indebtedness. Refer to Note 5, "Debt" and Note 6, “Commitments and Contingencies” for further details of our debt arrangements.

Our condensed consolidated financial statements as of and for the six months ended June 30, 2016 have been prepared on the basis that the Company will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. Our ability to continue as a going concern will depend, in large part, on our ability to obtain necessary financing, which is uncertain. The financial statements do not include any adjustments that might result from the outcome of this uncertainty, which could have a material adverse effect on our financial condition. In addition, if we are unable to continue as a going concern, we may be unable to meet our obligations under our existing debt facilities, which could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and we may be forced to liquidate our assets. In such a scenario, the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

Our operating plan for 2016 contemplates a significant reduction in our net cash outflows, resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, (iii) increased cash inflows from collaborations, (iv) reduced operating expenses, (v) access to various financing commitments, and (vi) strategic asset divestments (see Note 5, “Debt” and Note 8, “Significant Agreements” for details of financing commitments).

If we are unable to generate sufficient cash contributions from product sales, payments from existing and new collaboration partners and strategic asset divestments and draw sufficient funds from certain financing commitments due to contractual restrictions and covenants, we will need to obtain additional funding from equity or debt financings, agree to burdensome covenants, grant further security interests in our assets, enter into collaboration and licensing arrangements that require us to relinquish commercial rights, or grant licenses on terms that are not favorable.

If we are unable to raise additional financing, or if other expected sources of funding are delayed or not received, our ability to continue as a going concern would be jeopardized and we would take the following actions to support our liquidity needs through the remainder of 2016 and into 2017:

- Effect significant headcount reductions, particularly with respect to employees not connected to critical or contracted activities across all functions of the Company, including employees involved in general and administrative, research and development, and production activities.

- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts.

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- Reduce production activity at our Brotas manufacturing facility to levels only sufficient to satisfy volumes required for product revenues forecast from existing products and customers.

- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors.

- Reduce or delay uncommitted capital expenditures, including non-essential facility and lab equipment, and information technology projects.

- Closely monitor our working capital position with customers and suppliers, as well as suspend operations at pilot plants and demonstration facilities.

Implementing this plan could have a negative impact on our ability to continue our business as currently contemplated, including, without limitation, delays or failures in our ability to:

- Achieve planned production levels;

- Develop and commercialize products within planned timelines or at planned scales; and

- Continue other core activities.

Furthermore, any inability to scale-back operations as necessary, and any unexpected liquidity needs, could create pressure to implement more severe measures. Such measures could have an adverse effect on our ability to meet contractual requirements, including obligations to maintain manufacturing operations, and increase the severity of the consequences described above.

Collaboration Funding. For the six months ended June 30, 2016, we received $7.8 million in cash from collaborations, including $4.8 million under flavors and fragrances collaboration agreements.

We depend on collaboration funding to support our research and development and operating expenses. While part of this funding is committed based on existing collaboration agreements, we will be required to identify and obtain funding from additional collaborations. In addition, some of our existing collaboration funding is subject to our achievement of milestones or other funding conditions.

If we cannot secure sufficient collaboration funding to support our operating expenses in excess of cash contributions from product sales, existing debt and equity financings and strategic asset divestments, we may need to issue additional preferred and/or discounted equity, agree to onerous covenants, grant further security interests in our assets, enter into collaboration and licensing arrangements that require us to relinquish commercial rights or grant licenses on terms that are not favorable to us. If we fail to secure such funding, we could be forced to curtail our operations, which would have a material adverse effect on our ability to continue with our business plans.

Government Contracts. In September 2015, we entered into a Technology Investment Agreement (the "TIA") with The Defense Advanced Research Project Agency (or "DARPA") under which we, with the assistance of five specialized subcontractors, will work to create new research and development tools and technologies for strain engineering and scale-up activities. The program that is the subject of the TIA is being performed and funded on a milestone basis. Under the TIA, we and our subcontractors could collectively receive DARPA funding of up to $35.0 million over the program's four year term if all of the program's milestones are achieved. In conjunction with DARPA's funding, we and our subcontractors are obligated to collectively contribute approximately $15.5 million toward the program over its four year term (primarily by providing specified labor and/or purchasing certain equipment). We can elect to retain title to the patentable inventions we produce in the program, but DARPA receives certain data rights as well as a government purposes license to certain of such inventions. Either party may, upon written notice and subject to certain consultation obligations, terminate the TIA upon a reasonable determination that the program will not produce beneficial results commensurate with the expenditure of resources. We recognized $3.5 million in revenue under this agreement during the six months ended June 30, 2016. Total cash received under this agreement as of June 30, 2016 was $1.7 million during the six months ended June 30, 2016.

Convertible Note Offerings. In February 2012, we sold $25.0 million in principal amount of senior unsecured convertible promissory notes due March 1, 2017 as described in more detail in Note 5, "Debt."

In July and September 2012, we issued $53.3 million worth of 1.5% Senior Unsecured Convertible Notes to Total under the July 2012 Agreements for an aggregate of $30.0 million in cash proceeds and our repayment of $23.3 million in previously-provided research and development funds pursuant to the Total Purchase Agreement as described in more detail under "Related Party Convertible Notes" in Note 5, "Debt." As part of our December 2012 private placement, we issued 1,677,852 shares of our common stock in exchange for the cancellation of $5.0 million of an outstanding senior unsecured convertible promissory note held by Total.

In June 2013, we issued a 1.5% Senior Unsecured Convertible Note to Total with a principal amount of $10.0 million with a March 1, 2017 maturity date pursuant to the Total Fuel Agreements. In July 2013, we sold and issued a 1.5% Senior Unsecured Convertible Note to Total with a principal amount of $20.0 million with a March 1, 2017 maturity date pursuant to the Total Fuel Agreements.

In August 2013, we entered into an agreement with Total and Temasek to issue up to $73.0 million in convertible promissory notes in private placements over a period of up to 24 months from the date of signing as described in more detail in Note 5, "Debt" (such agreement referred to as the August 2013 SPA and such financing referred to as the August 2013 Financing). The August 2013 Financing was divided into two tranches (one for $42.6 million and one for $30.4 million). Of the total possible purchase price in the financing, $25.0 million was to be paid in the form of cash by Temasek $25.0 million in the second tranche), $35.0 million was paid by the exchange and cancellation of the Temasek Bridge Note, as described below, and $13.0 million was to be paid by cancellation of outstanding convertible promissory notes held by Total in connection with its exercise of pro rata rights ($7.6 million in the first tranche and $5.4 million in the second tranche).

In September 2013, prior to the initial closing of the August 2013 Financing, our stockholders approved the issuance in the private placement of up to $110.0 million aggregate principal amount of senior convertible promissory notes, the issuance of a warrant to purchase 1,000,000 shares of our common stock and the issuance of the common stock issuable upon conversion or exercise of such notes and warrant.

On October 4, 2013, we issued a senior secured promissory note in the principal amount of $35.0 million (or the "Temasek Bridge Note") to Temasek for cash proceeds of $35.0 million. The Temasek Bridge Note was due on February 2, 2014 and accrued interest at a rate of 5.5% per month from October 4, 2013. The Temasek Bridge Note was cancelled as payment for Temasek's purchase of a first tranche convertible note in the initial closing of the August 2013 Financing, as described below.

In October 2013, we amended the August 2013 SPA to include certain entities affiliated with FMR LLC (or the “Fidelity Entities”) in the first tranche closing (participating for a principal amount of $7.6 million), and to proportionally increase the amount acquired by exchange and cancellation of outstanding convertible promissory notes by Total to $14.6 million ($9.2 million in the first tranche and up to $5.4 million in the second tranche). Also in October 2013, we completed the closing of the Tranche I Notes for cash proceeds of $7.6 million and cancellation of outstanding convertible promissory notes of $44.2 million, of which $35.0 million resulted from the cancellation of the Temasek Bridge Note. In December 2013, we amended the August 2013 SPA to sell $3.0 million of senior convertible notes under the second tranche of the August 2013 Financing to funds affiliated with Wolverine Asset Management, LLC and we elected to call $25.0 million in additional funds from Temasek pursuant to its previous commitment to purchase such amount of convertible promissory notes in the second tranche. Additionally, pursuant to that amendment, we sold approximately $6.0 million of convertible promissory notes in the second tranche to Total through cancellation of the same amount of principal of previously outstanding convertible notes held by Total (in respect of Total’s preexisting contractual right to maintain its pro rata ownership position through such cancellation of indebtedness). The closing of the sale of such Tranche II Notes under the December amendment to the August 2013 SPA occurred in January 2014. The August 2013 Financing is more fully described in Note 5, "Debt."

In December 2013, in connection with our entry into agreements establishing our joint venture with Total, we exchanged the $69.0 million of the then-outstanding Total unsecured convertible notes issued pursuant to the Total Fuel Agreements for replacement 1.5% Senior Secured Convertible Notes, in principal amounts equal to the principal amount of the cancelled notes.

In the 2014 144A Offering in May 2014, we issued $75.0 million in aggregate principal amount of 6.50% Convertible Senior Notes due 2019 to Morgan Stanley & Co. LLC as the Initial Purchaser in a private placement, and for initial resale by the Initial Purchaser to qualified institutional buyers pursuant to Rule 144A of the Securities Act. The 2014 144A Offering is described in more detail in Note 5, "Debt."

In each of July 2014 and January 2015, we issued 1.5% Senior Secured Convertible Notes to Total pursuant to the Total Fuel Agreements. The aggregate principal amount of these two notes was $21.7 million and each of such notes has a March 1, 2017 maturity date.

On October 20, 2015, we issued $57.6 million in aggregate principal amount of the Company's 9.50% Convertible Senior Notes due 2019 (the “2015 144A Notes”), which were sold only to qualified institutional buyers and institutional accredited investors in a private placement (the “2015 144A Offering”) under the Securities Act. The 2015 144A Offering is described in more detail in Note 5, "Debt."

In March 2016, we sold to Total one half of our ownership stake in TAB in exchange for Total cancelling $1.3 million of R&D Notes and certain other indebtedness, as described in more detail under “Relationship with Total” above and in Note 5, “Debt” and Note 7, “Joint Ventures and Noncontrolling Interest.”

In May 2016, we issued $10.0 million in aggregate principal amount of convertible promissory notes to a private investor in an offering registered under the Securities Act, as described in more detail in Note 5, “Debt.”

Export Financing with ABC Brasil. In March 2013, we entered into a one-year export financing agreement with ABC for approximately $2.5 million to fund exports through March 2014. This loan was collateralized by future exports from our subsidiary in Brazil. As of June 30, 2016, the loan was fully paid.

In March 2014, we entered into an additional one-year-term export financing agreement with ABC for approximately $2.2 million to fund exports through March 2015. This loan is collateralized by future exports from our subsidiary in Brazil. As of June 30, 2016, the loan was fully paid.

In April 2015, we entered into an additional one-year-term export financing agreement with ABC for approximately $1.6 million to fund exports through April 2016. This loan is collateralized by future exports from our subsidiary in Brazil. As of June 30, 2016, the loan was fully paid.

Banco Pine/Nossa Caixa Financing. In July 2012, we entered into a Note of Bank Credit and a Fiduciary Conveyance of Movable Goods agreement with each of Nossa Caixa and Banco Pine. Under these instruments, we borrowed an aggregate of R$52.0 million (approximately US$16.2 million based on the exchange rate as of June 30, 2016) as financing for capital expenditures relating to our manufacturing facility in Brotas, Brazil. Under the loan agreements, Banco Pine agreed to lend R$22.0 million and Nossa Caixa agreed to lend R$30.0 million. The loans have a final maturity date of July 15, 2022 and bear a fixed interest rate of 5.5% per year. The loans are also subject to early maturity and delinquency charges upon occurrence of certain events including interruption of manufacturing activities at our manufacturing facility in Brotas, Brazil for more than 30 days, except during sugarcane off-season. The loans are secured by certain of our farnesene production assets at the manufacturing facility in Brotas, Brazil and we were required to provide parent guarantees to each of the lenders. As of June 30, 2016 and December 31, 2015, a principal amount of $12.3 million and $11.0 million, respectively, was outstanding under these loan agreements.

BNDES Credit Facility. In December 2011, we entered into a credit facility with Banco Nacional de Desenvolvimento Econômico e Social (or BNDES), a government-owned bank headquartered in Brazil (or the "BNDES Credit Facility") to finance a production site in Brazil. The BNDES Credit Facility was for R$22.4 million (approximately US$7.0 million based on the exchange rate as of June 30, 2016). The credit line is divided into an initial tranche for up to approximately R$19.1 million and an additional tranche of approximately R$3.3 million that becomes available upon delivery of additional guarantees. As of June 30, 2016 and December 31, 2015, we had R$5.7 million (approximately US$1.8 million based on the exchange rate as of June 30, 2016) and R$7.6 million (approximately US$1.9 million based on the exchange rate as of December 31, 2015), respectively, in outstanding advances under the BNDES Credit Facility.

The principal of loans under the BNDES Credit Facility is required to be repaid in 60 monthly installments, with the first installment due in January 2013 and the last due in December 2017. Interest was initially due on a quarterly basis with the first installment due in March 2012. From and after January 2013, interest payments are due on a monthly basis together with principal payments. The loaned amounts carry interest of 7% per year. Additionally, there is a credit reserve charge of 0.1% on the unused balance from each credit installment from the day immediately after it is made available through its date of use, when it is paid.

The BNDES Credit Facility is collateralized by first priority security interest in certain of our equipment and other tangible assets totaling R$24.9 million (approximately US$7.8 million based on the exchange rate as of December 31, 2015). We are a parent guarantor for the payment of the outstanding balance under the BNDES Credit Facility. Additionally, we were required to provide a bank guarantee equal to 10% of the total approved amount (R$22.4 million in total debt) available under the BNDES Credit Facility. For advances in the second tranche (above R$19.1 million), we are required to provide additional bank guarantees equal to 90% of each such advance, plus additional Amyris guarantees equal to at least 130% of such advance. The BNDES Credit Facility contains customary events of default, including payment failures, failure to satisfy other obligations under the credit facility or related documents, defaults in respect of other indebtedness, bankruptcy, insolvency and inability to pay debts when due, material judgments, and changes in control of Amyris Brasil. If any event of default occurs, BNDES may terminate its commitments and declare immediately due all borrowings under the facility.

FINEP Credit Facility. In November 2010, we entered into a credit facility with Financiadora de Estudos e Projetos (or "FINEP"), a state-owned company subordinated to the Brazilian Ministry of Science and Technology (or the “FINEP Credit Facility”) to finance a research and development project on sugarcane-based biodiesel (or the “FINEP Project”) and provided for loans of up to an aggregate principal amount of R$6.4 million (approximately US$2.0 million based on the exchange rate as of June 30, 2016) which are secured by a chattel mortgage on certain equipment of Amyris as well as by bank letters of guarantee. All available credit under this facility was fully drawn. As of June 30, 2016, the total outstanding loan balance under this credit facility was R$2.8 million (approximately US$0.9 million based on the exchange rate as of June 30, 2016).

Interest on loans drawn under the FINEP Credit Facility is fixed at 5.0% per annum. In case of default under, or non-compliance with, the terms of the agreement, the interest on loans will be dependent on the long-term interest rate as published by the Central Bank of Brazil (such rate, the “TJLP”). If the TJLP at the time of default is greater than 6%, then the interest will be 5.0% plus a TJLP adjustment factor otherwise the interest will be at 11.0% per annum. In addition, a fine of up to 10.0% will apply to the amount of any obligation in default. Interest on late balances will be 1.0% interest per month, levied on the overdue amount. Payment of the outstanding loan balance is being made in 81 monthly installments, which commenced in July 2012 and extends through March 2019. Interest on loans drawn and other charges are paid on a monthly basis and commenced in March 2011.

Senior Secured Loan Facility. In March 2014, we entered into the Senior Secured Loan Facility to make available a loan facility in the aggregate principal amount of up to $25.0 million, which loan facility was fully drawn at the closing. The initial loan of $25.0 million under the Senior Secured Loan Facility accrues interest at a rate per annum equal to the greater of either the prime rate reported in the Wall Street Journal plus 6.25% or 9.5%. We may repay the outstanding amounts under the Senior Secured Credit Facility before the maturity date (February 1, 2017) if we pay an additional fee of 1% of the outstanding amounts. We were also required to pay a 1% facility charge at the closing of the Senior Secured Credit Facility, and are required to pay a 10% end of term charge with respect to the initial loan of $25.0 million. In connection with the original Senior Secured Loan Facility, Amyris agreed to certain customary representations and warranties and covenants, as well as certain covenants that were subsequently amended (as described below).

In June 2014, we and Hercules entered into a first amendment of the Senior Secured Loan Facility. Pursuant to the first amendment, the parties agreed to adjust the term loan maturity date from May 31, 2015 to February 1, 2017 and remove (i) a requirement for us to pay a forbearance fee of $10.0 million in the event certain covenants were not satisfied, (ii) a covenant that we maintain positive cash flow commencing with the fiscal quarter beginning October 1, 2014, (iii) a covenant that, beginning with the fiscal quarter beginning July 1, 2014, we and our subsidiaries achieve certain projected cash product revenues and projected cash product gross profits, and (iv) an obligation for us to file a registration statement on Form S-3 with the SEC by no later than June 30, 2014 and complete an equity financing of more than $50.0 million by no later than September 30, 2014. We further agreed to include a new covenant requiring us to maintain unrestricted, unencumbered cash in an amount equal to at least 50% of the principal amount then outstanding under the Senior Secured Loan Facility and borrow an additional $5.0 million. The additional $5.0 million borrowing was completed in June 2014, and accrues interest at a rate per annum equal to the greater of (i) the prime rate reported in the Wall Street Journal plus 5.25% and (ii) 8.5%.

In March 2015, the Company and Hercules entered into a second amendment of the Senior Secured Loan Facility. Pursuant to the second amendment, the parties agreed to, among other things, establish an additional credit facility in the principal amount of up to $15.0 million, which would be available to be drawn by the Company through the earlier of March 31, 2016 or such time as the Company raised an aggregate of at least $20.0 million through the sale of new equity securities. The additional facility was cancelled undrawn upon the completion of our private stock and warrant offering in July 2015.

In November 2015, the Company and Hercules entered into a third amendment of the Senior Secured Loan Facility. Pursuant to the third amendment, the Company borrowed an additional $10,960,000 (or the “Third Amendment Borrowed Amount”) from Hercules on November 30, 2015. As of December 1, 2015, after the funding of the Third Amendment Borrowed Amount (and including repayment of $9.1 million of principal that had occurred prior to the third amendment), the aggregate principal amount outstanding under the Senior Secured Loan Facility was approximately $31.7 million. The Third Amendment Borrowed Amount accrues interest at a rate per annum equal to the greater of (i) 9.5% and (ii) the prime rate reported in the Wall Street Journal plus 6.25%, and, like the previous loans under the Senior Secured Loan Facility, has a maturity date of February 1, 2017. Upon the earlier of the maturity date, prepayment in full or such obligations otherwise becoming due and payable, in addition to repaying the outstanding Third Amendment Borrowed Amount (and all other amounts owed under the Senior Secured Loan Facility, as amended), the Company is also required to pay an end-of-term charge of $767,200. Pursuant to the third amendment, the Company also paid Hercules fees of $1.0 million, $750,000 of which was owed in connection with the expired $15.0 million facility under the second amendment and $250,000 of which was related to the Third Amendment Borrowed Amount. Under the third amendment, the parties agreed that the Company would, commencing on December 1, 2015, be required to pay only the interest accruing on all outstanding loans under the Senior Secured Loan Facility until February 29, 2016. Commencing on March 1, 2016, the Company would have been required to begin repaying principal of all loans under the Senior Secured Loan Facility, in addition to the applicable interest. However, pursuant to the third amendment, the Company could, by achieving certain cash inflow targets in 2016, extend the interest-only period to December 1, 2016. Upon the issuance by the Company of $20.0 million of unsecured promissory notes and warrants in a private placement in February 2016 for aggregate cash proceeds of $20.0 million, the Company satisfied the conditions for extending the interest-only period to May 31, 2016. On June 1, 2016, the Company commenced the repayment of outstanding principal under the Senior Secured Loan Facility. In June 2016, the Company was notified by Hercules that it had transferred and assigned its rights and obligations under the Senior Secured Loan Facility to Stegodon. On June 29, 2016, the Company received a deferment of all scheduled principal repayments under the Senior Secured Loan Facility through October 31, 2016. Refer to Note 8, “Significant

Agreements” for additional details.

As of June 30, 2016, $28.3 million was outstanding under the Senior Secured Loan Facility, net of discount and issuance cost of $0.2 million. The Senior Secured Loan Facility is secured by liens on our assets, including on certain of our intellectual property. The Senior Secured Loan Facility includes customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. If an event of default occurs, Stegodon may require immediate repayment of all amounts outstanding under the Senior Secured Loan Facility. The Senior Secured Loan Facility also requires the Company to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under the Senior Secured Loan Facility. The Company has received from Stegodon a waiver of compliance with such covenant through October 31, 2016. Refer to Note 8, “Significant Agreements” for additional details.

February 2016 Private Placement. In February 2016, we sold and issued to certain purchasers an aggregate of $20.0 million of unsecured promissory notes and warrants for the purchase, at an exercise price of $0.01 per share, of an aggregate of 2,857,142 shares of our common stock, as described in more detail in Note 5, “Debt.” The exercisability of these warrants was subject to stockholder approval, which was obtained on May 17, 2016.

June 2016 Private Placement. In June 2016, we sold and issued $5.0 million in aggregate principal amount of secured promissory notes to Foris Ventures, LLC, as described in more detail in Note 5, “Debt.”

Common Stock Offerings. In December 2012, we completed a private placement of 14,177,849 shares of our common stock for aggregate cash proceeds of $37.2 million, of which $22.2 million was received in December 2012 and $15.0 million was received in January 2013. Of the 14,177,849 shares issued in the private placement, 1,677,852 of such shares were issued to Total in exchange for cancellation of $5.0 million of an outstanding convertible promissory note we previously issued to Total.

In March 2013, we completed a private placement of 1,533,742 of our common stock to Biolding for aggregate proceeds of $5.0 million. This private placement represented the final tranche of Biolding's preexisting contractual obligation to fund $15.0 million upon satisfaction by us of certain criteria associated with the commissioning of our production plant in Brotas, Brazil.

In March 2014, we completed a private placement of 943,396 shares of our common stock to Kuraray for aggregate proceeds of $4.0 million.

In July 2015, we entered into a Securities Purchase Agreement with certain purchasers under which we agreed to sell 16,025,642 shares of our common stock at a price of $1.56 per share, for aggregate proceeds to the Company of $25 million. The sale of common stock under the Securities Purchase Agreement was completed on July 29, 2015. Pursuant to the Securities Purchase Agreement, the Company granted to each of the purchasers a warrant exercisable at an exercise price of $0.01 per share for the purchase of a number of shares of the Company's common stock equal to 10% of the shares purchased by such investor. The exercisability of the warrants was subject to stockholder approval, which was obtained on September 17, 2015.

On May 10, 2016, we sold and issued 4,385,964 shares of our common stock to the Bill & Melinda Gates Foundation in a private placement at a purchase price per share equal to $1.14, for aggregate proceeds to the Company of approximately $5.0 million, as described in more detail in Note 8, "Significant Agreements."

Cash Flows during the Six Months Ended June 30, 2016 and 2015

Cash Flows from Operating Activities

Our primary uses of cash from operating activities are costs related to production and sales of our products and personnel-related expenditures, offset by cash received from product sales, grants and collaborations. Cash used in operating activities was $39.0 million and $32.8 million for the six months ended June 30, 2016 and 2015, respectively.

Net cash used in operating activities of $39.0 million for the six months ended June 30, 2016 was attributable to our net loss of $28.9 million, offset by net non-cash charges of $24.0 million and net change in our operating assets and liabilities of $13.9 million. Net non-cash charges of $24.0 million for the six months ended June 30, 2016 consisted primarily of a $42.6 million change in the fair value of derivative instruments related to the embedded derivative liabilities associated with our senior secured convertible promissory notes and currency interest rate swap derivative liability, offset by $5.7 million of depreciation and amortization expenses, $7.4 million of amortization of debt discount and issuance costs, $3.8 million of stock-based compensation, $1.1 million in loss on foreign currency exchange rates and $0.6 million on loss from extinguishment of debt. Net change in operating assets and liabilities of $13.9 million for the six months ended June 30, 2016 primarily consisted of $8.1 million increase in accrued other liabilities and $1.9 million increase in inventory, $1.7 million increase in prepaid expense, $1.2 million increase in accounts payable and other assets and $1.0 million increase in deferred revenue.

Net cash used in operating activities of $32.8 million for the six months ended June 30, 2015 was attributable to our net loss of $99.4 million, offset by net non-cash charges of $44.8 million and net change in our operating assets and liabilities of $21.8 million. Net non-cash charges of $44.8 million for the six months ended June 30, 2015 consisted primarily of $43.1 million of amortization of debt discount, including a $36.6 million charge due to acceleration of accretion of debt discount on the Total and Temasek convertible notes converted to equity in July 2015, $6.8 million of depreciation and amortization expenses, $4.7 million of stock-based compensation, $1.5 million of loss from investment in affiliate and $0.1 million of loss on disposition of property, plant and equipment, offset by a $11.4 million change in the fair value of derivative instruments related to the embedded derivative liabilities associated with our senior secured convertible promissory notes and currency interest rate swap derivative liability. Net change in operating assets and liabilities of $21.8 million for the six months ended June 30, 2015 primarily consisted of $9.7 million increase in accounts payable and accrued other liabilities, $6.2 million increase in accounts receivable and related party accounts receivable, $5.1 million increase in deferred revenue related to the funds received under a collaboration agreement and $3.3 million increase in inventory, offset by $2.5 million decrease in prepaid expenses and other assets and deferred rent.

Cash Flows from Investing Activities

Our investing activities consist primarily of capital expenditures and other investment activities. Net cash used in investing activities of $5.2 million for the six months ended June 30, 2016, resulted from $5.0 million of change in restricted cash related to contingently redeemable equity and $0.2 million in purchases of short-term investments.

Our investing activities consist primarily of capital expenditures and other investment activities. Net cash used in investing activities of $2.9 million for the six months ended June 30, 2015, resulted from $1.8 million of purchases of property, plant and equipment and a $1.1 million loan made to our equity method investee, Novvi.

Cash Flows from Financing Activities

Net cash provided by financing activities of $32.8 million for the six months ended June 30, 2016, was a result of the receipt of $25.0 million of proceeds from debt issued to related parties, $9.9 million of proceeds from debt issued, net of discounts and issuance costs and $5.0 million from proceeds from issuance of contingently redeemable equity, offset by $6.6 million of principal payments on debt and $0.5 million of principal payments on capital leases.

Net cash provided by financing activities of $5.5 million for the six months ended June 30, 2015, was a result of the receipt of $10.9 million from debt issued to a related party, which related to the closing of the final installment of the Senior Secured Convertible Notes issued to Total under the July 2012 Agreements and $1.6 million of proceeds from a one-year term export financing agreement with ABC, offset by $6.6 million of principal payments on debt and $0.4 million of principal payments on capital leases.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any material off-balance sheet arrangements, as defined under SEC rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our condensed consolidated financial statements.

Contractual Obligations

The following is a summary of our contractual obligations as of June 30, 2016 (in thousands):

	Total	2016	2017	2018	2019	2020	Thereafter
Principal payments on debt	$220,589	$27,421	$58,961	$22,967	$106,008	$2,025	$3,207
Interest payments on debt, fixed rate(1)	48,570	12,988	15,993	13,694	5,516	234	145
Operating leases	49,106	3,496	6,828	6,841	6,766	7,002	18,173
Principal payments on capital leases	1,469	934	508	27	—	—	—
Interest payments on capital leases	37	20	16	1	—	—	—
Terminal storage costs	0	0	—	—	—	—	—
Purchase obligations(2)	1,431	594	808	29	—	—	—
Total	$321,202	$45,453	$83,114	$43,559	$118,290	$9,261	$21,525

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(1) Does not include any obligations related to make-whole interest or downround provisions. The fixed interest rates are more fully described in Note 5, "Debt" of our condensed consolidated financial statements.

(2) Purchase obligations include noncancellable contractual obligations and construction commitments of $0.6 million, of which zero have been accrued as loss on purchase commitments.

Recent Accounting Pronouncements

The information contained in Note 2 to the Unaudited Condensed Consolidated Financial Statements under the heading "Recent Accounting Pronouncements" is hereby incorporated by reference into this Part I, Item 2.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The market risk inherent in our market risk sensitive instruments and positions is the potential loss arising from adverse changes in: commodity market prices, foreign currency exchange rates, and interest rates as described below.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and our outstanding debt obligations (including embedded derivatives therein). We generally invest our cash in investments with short maturities or with frequent interest reset terms. Accordingly, our interest income fluctuates with short-term market conditions. As of June 30, 2016, our investment portfolio consisted primarily of money market funds and certificates of deposit, all of which are highly liquid investments. Due to the short-term nature of our investment portfolio, we do not believe that an immediate 10% increase in interest rates would have a material effect on the fair value of our portfolio. Since we believe we have the ability to liquidate this portfolio, we do not expect our operating results or cash flows to be materially affected to any significant degree by a sudden change in market interest rates on our investment portfolio. Additionally, as of June 30, 2016, 100% of our outstanding debt is in fixed rate instruments or instruments which have capped rates. Therefore, our exposure to the impact of variable interest rates is limited. Changes in interest rates may significantly change the fair value of our embedded derivative liabilities.

Foreign Currency Risk

Most of our sales contracts are principally denominated in U.S. dollars and, therefore, our revenues are currently not subject to significant foreign currency risk. The functional currency of our wholly-owned consolidated subsidiary in Brazil is the local currency (Brazilian real) in which recurring business transactions occur. We do not use currency exchange contracts as hedges against amounts permanently invested in our foreign subsidiary. The amount we consider permanently invested in our foreign subsidiary and translated into U.S. dollars using the June 30, 2016 exchange rate is $121.2 million as of June 30, 2016 and $99.5 million at December 31, 2015. The increase in the permanent investments in our foreign subsidiary between December 31, 2015 and June 30, 2016 is due to the depreciation of the U.S. dollar versus the Brazilian real. The potential loss in value, which would be principally recognized in Other Comprehensive Loss, resulting from a hypothetical 10% adverse change in quoted Brazilian real exchange rates, is $1.7 million and $4.9 million as of June 30, 2016 and December 31, 2015, respectively. Actual results may differ.

We make limited use of derivative instruments, which include currency interest rate swap agreements, to manage the Company's exposure to foreign currency exchange rate and interest rate fluctuations related to the Company's Banco Pine loan. In June 2012, we entered into a currency interest rate swap arrangement with Banco Pine for R$22.0 million (approximately US$6.9 million based on the exchange rate as of June 30, 2016). The swap arrangement exchanges the principal and interest payments under the Banco Pine loan entered into in July 2012 for alternative principal and interest payments that are subject to adjustment based on fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real. The swap has a fixed interest rate of 3.94%. This arrangement hedges the fluctuations in the foreign exchange rate between the U.S. dollar and Brazilian real.

We analyzed our foreign currency exposure to identify assets and liabilities denominated in other currencies. For those assets and liabilities, we evaluated the effects of a 10% shift in exchange rates between those currencies and the U.S. dollar. We have determined that there would be an immaterial effect on our results of operations from such a shift.

Commodity Price Risk

Our primary exposure to market risk for changes in commodity prices currently relates to our purchases of sugar feedstocks. When possible, we manage our exposure to this risk primarily through the use of supplier pricing agreements.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer (or "CEO") and chief financial officer (or "CFO"), evaluated the effectiveness of our disclosure controls and procedures pursuant to Rules 13a-15 and 15d-15(e) under the Securities Exchange Act of 1934, as amended (or the "Exchange Act"), as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, our CEO and CFO concluded that, as of June 30, 2016, our disclosure controls and procedures are designed and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during our second fiscal quarter ended June 30, 2016 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on the Effectiveness of Internal Controls

The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute assurances. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. We intend to continue to monitor and upgrade our internal controls as necessary or appropriate for our business, but cannot assure you that such improvements will be sufficient to provide us with effective internal control over financial reporting.

PART II

ITEM 1. LEGAL PROCEEDINGS

We may be involved, from time to time, in legal proceedings and claims arising in the ordinary course of our business. Such matters are subject to many uncertainties and there can be no assurance that legal proceedings arising in the ordinary course of business or otherwise will not have a material adverse effect on our business, results of operations, financial position or cash flows.

ITEM 1A. RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information set forth in this Quarterly Report on Form 10-Q, which could materially affect our business, financial condition or future results. If any of the following risks actually occurs, our business, financial condition, results of operations and future prospects could be materially and adversely harmed. The trading price of our common stock could decline due to any of these risks, and, as a result, you may lose all or part of your investment.

Risks Related to Our Business

We have incurred losses to date, anticipate continuing to incur losses in the future, and may never achieve or sustain profitability.

We have incurred significant losses in each year since our inception and believe that we will continue to incur losses and negative cash flow from operations into at least 2017. As of June 30, 2016, we had an accumulated deficit of $1,066.0 million and had cash, cash equivalents and short term investments of $2.5 million. We have significant outstanding debt and contractual obligations related to capital and operating leases, as well as purchase commitments of $1.4 million. As of June 30, 2016, our debt totaled $181.4 million, net of discount and issuance cost of $44.7 million, of which $80.0 million is classified as current. Our debt service obligations over the next twelve months are significant, including approximately $21.0 million of anticipated interest payments (excluding interest paid in kind by adding to outstanding principal) and may include potential early conversion payments of up to approximately $13.7 million (assuming all note holders convert) under our outstanding convertible promissory notes sold on October 20, 2015 pursuant to Rule 144A of the Securities Act (or the "2015 144A Notes"). Furthermore, our debt agreements contain various financial and operating covenants, including restrictions on business that could cause us to be at risk of defaults. We expect to incur additional costs and expenses related to the continued development and expansion of our business, including construction and operation of our manufacturing facilities, contract manufacturing, research and development operations, and operation of our pilot plants and demonstration facility. There can be no assurance that we will ever achieve or sustain profitability on a quarterly or annual basis.

Our unaudited condensed consolidated financial statements as of and for the six months ended June 30, 2016 have been prepared on the basis that we will continue as a going concern, which contemplates the realization of assets and satisfaction of liabilities in the normal course of business. We have incurred significant losses since our inception and we expect that we will continue to incur losses as we aim to successfully execute our business plan and will be dependent on additional public or private financings, collaborations or licensing arrangements with strategic partners, or through additional credit lines or other debt financing sources to fund continuing operations. Based on our cash balances, recurring losses since inception and our existing capital resources to fund our planned operations for a twelve month period, there is substantial doubt about our ability to continue as a going concern. Our operating plan for 2016 contemplates a significant reduction in our net cash outflows resulting from (i) revenue growth from sales of existing and new products with positive gross margins, (ii) reduced production costs as a result of manufacturing and technical developments, (iii) increased cash inflows from collaborations, (iv) reduced operating expenses, (v) access to various financing commitments, and (vi) strategic asset divestments. In addition, as noted below, for our 2016 operating plan, we are dependent on funding from sources that are not subject to existing commitments. We will need to obtain additional funding from equity or debt financings, which may require us to agree to burdensome covenants, grant further security interests in our assets, enter into collaboration and licensing arrangements that require us to relinquish commercial rights, or grant licenses on terms that are not favorable. No assurance can be given at this time as to whether we will be able to achieve our expense reduction or fundraising objectives, regardless of the terms. If we are unable to raise additional financing, or if other expected sources of funding are delayed or not received, our ability to continue as a going concern would be jeopardized and we may be forced to delay, scale back or eliminate some of our general and administrative, research and development, or production activities or other operations and reduce investment in new product and commercial development efforts in an effort to provide sufficient funds to continue our operations. If any of these events occurs, our ability to achieve our development and commercialization goals would be adversely affected. In addition, if we are unable to continue as a going concern, we may be unable to meet our obligations under our existing debt facilities, which could result in an acceleration of our obligation to repay all amounts outstanding under those facilities, and we may be forced to liquidate our assets. In such a scenario, the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

Our financial statements do not include any adjustments that might result from the outcome of this uncertainty, which could have a material adverse effect on our financial condition and cause investors to suffer the loss of all or a substantial portion of their investment.

We have limited experience producing our products at commercial scale and may not be able to commercialize our products to the extent necessary to sustain and grow our current business.

To commercialize our products, we must be successful in using our yeast strains to produce target molecules at commercial scale and at a commercially viable cost. If we cannot achieve commercially-viable production economics for enough products to support our business plan, including through establishing and maintaining sufficient production scale and volume, we will be unable to achieve a sustainable integrated renewable products business. Virtually all of our production capacity is through a purpose-built, large-scale production plant in Brotas, Brazil. This plant commenced operations in 2013, and scaling and running the plant has been, and continues to be, a time-consuming, costly, uncertain and expensive process. Given our limited experience commissioning and operating our own manufacturing facilities and our limited financial resources, we cannot be sure that we will be successful in achieving production economics that allow us to meet our plans for commercialization of various products we intend to offer. In addition, until recently we have only produced Biofene at the Brotas plant. Our attempts to scale production of new molecules at the plant are subject to uncertainty and risk. For example, even to the extent we successfully complete product development in our laboratories and pilot and demonstration facilities, and at contract manufacturing facilities, we may be unable to translate such success to large-scale, purpose-built plants. If this occurs, our ability to commercialize our technology will be adversely affected and we may be unable to produce and sell any significant volumes of our products. Also, with respect to products that we are able to bring to market, we may not be able to lower the cost of production, which would adversely affect our ability to sell such products profitably.

We will require significant inflows of cash from financing and collaboration transactions to fund our anticipated operations and to service our debt obligations and may not be able to obtain such financing and collaboration funding on favorable terms, if at all.

Our planned 2016 and 2017 working capital needs, our planned operating and capital expenditures for 2016 and 2017, and our ability to service our outstanding debt obligations are dependent on significant inflows of cash from existing and new collaboration partners and cash contribution from growth in renewable product sales. We will continue to need to fund our research and development and related activities and to provide working capital to fund production, storage, distribution and other aspects of our business. Some of our anticipated financing sources, such as research and development collaborations, are subject to the risk that we cannot meet milestones, that the collaborations may end prematurely for reasons that may be outside of our control (including technical infeasibility of the project or a collaborator's right to terminate without cause), or the collaborations are not yet subject to definitive agreements or mandatory funding commitments and, if needed, we may not be able to secure additional types of financing in a timely manner or on reasonable terms, if at all. The inability to generate sufficient cash flow, as described above, could have an adverse effect on our ability to continue with our business plans and our status as a going concern.

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If we are unable to raise additional financing, or if other expected sources of funding are delayed or not received, our ability to continue as a going concern would be jeopardized and we would take the following actions to support our liquidity needs through the remainder of 2016 and into 2017:

- Effect significant headcount reductions, particularly with respect to employees not connected to critical or contracted activities across all functions of the Company, including employees involved in general and administrative, research and development, and production activities.
- Shift focus to existing products and customers with significantly reduced investment in new product and commercial development efforts.
- Reduce production activity at our Brotas manufacturing facility to levels only sufficient to satisfy volumes required for product revenues forecast from existing products and customers.
- Reduce expenditures for third party contractors, including consultants, professional advisors and other vendors.
- Reduce or delay uncommitted capital expenditures, including non-essential facility and lab equipment, and information technology projects.
- Closely monitor the Company's working capital position with customers and suppliers, as well as suspend operations at pilot plants and demonstration facilities.

Implementing this plan could have a negative impact on our ability to continue our business as currently contemplated, including, without limitation, delays or failures in our ability to:

- Achieve planned production levels;
- Develop and commercialize products within planned timelines or at planned scales; and
- Continue other core activities.

Furthermore, any inability to scale-back operations as necessary, and any unexpected liquidity needs, could create pressure to implement more severe measures. Such measures could have an adverse effect on our ability to meet contractual requirements, including obligations to maintain manufacturing operations, and increase the severity of the consequences described above.

Future revenues are difficult to predict, and our failure to predict revenue accurately may cause our results to be below our expectations or those of analysts or investors and could result in our stock price declining.

Our revenues are comprised of product revenues and grants and collaborations revenues. We generate the substantial majority of our product revenues from sales to distributors or collaborators and only a small portion from direct sales. Our collaboration and distribution agreements do not include any specific purchase obligations. The sales volume of our products in any given period has been difficult to predict. A significant portion of our product sales is dependent upon the interest and ability of third party distributors to create demand for, and generate sales of, such products to end-users. For example, if such distributors are unsuccessful in creating pull-through demand for our products with their customers, such distributors may purchase less of our products from us than we expect. In addition, many of our new and novel products are intended to be a component of other companies' products; therefore, sales of our products may be contingent on our collaborators' and/or customers' timely and successful development and commercialization of end-use products that incorporate our products. Furthermore, we have begun to market and sell some of our products directly to end-consumers, initially in the cosmetics and industrial cleaning markets. Because we have no prior experience in marketing and selling directly to consumers, it is difficult to predict how successful our efforts will be and we may not achieve the product sales we expect to achieve in the timeline we anticipate (if at all).

In addition, we have entered into research and development collaboration arrangements pursuant to which we receive payments from our collaborators. Some of such collaboration arrangements include advance payments in consideration for grants of exclusivity or research efforts to be performed by us. It has in the past been difficult for us to know with certainty when we will sign a new collaboration arrangement. As a result, achievement of our quarterly and annual goals, expressed in part via a non-GAAP financial measure that we refer to as cash revenue inflows consisting of GAAP product revenues plus cash payments from collaborations and grants, has been difficult to predict with certainty. Once a collaboration agreement has been signed, receipt of payments and/or recognition of related revenues may depend on our achievement of milestones. In addition, a portion of the revenue we report each quarter results from the recognition of deferred revenue from advance payments we have received from these collaborators during previous quarters. Since our business model depends in part on collaboration agreements with advance payments that we recognize over time, it may also be difficult for us to rapidly increase our revenues through additional collaborations in any period, as revenue from such new collaborations will often be recognized over multiple quarters or years.

These factors have made it difficult to predict future revenues and have resulted in our revenues being below our previously announced guidance or analysts' estimates. We continue to face these risks in the future, which may cause our stock price to decline.

A limited number of distributors, customers and collaboration partners account for a significant portion of our revenue, and the loss of major distributors, customers or collaboration partners could harm our operating results.

Our revenues have varied significantly from quarter to quarter and are dependent on sales to, and collaborations with, a limited number of distributors, customers and/or collaboration partners. We cannot be certain that distributors, customers and/or collaboration partners that have accounted for significant revenue in past periods, individually or as a group, will continue to generate similar revenue in any future period. If we fail to renew with, or if we lose a major distributor, customer or collaborator or group of distributors, customers or collaborators, our revenue could decline if we are unable to replace the lost revenue with revenue from other sources.

Our existing financing arrangements may cause significant risks to our stockholders and may impact our ability to pursue certain transactions and operate our business.

As of June 30, 2016, our debt totaled $181.4 million, net of discount and issuance costs of $44.7 million, of which $80.0 million is classified as current. Our cash balance is substantially less than the principal amount of our outstanding debt, and we will be required to generate cash from operations or raise additional working capital through future financings or sales of assets to enable us to repay this indebtedness as it becomes due. There can be no assurance that we will be able to do so.

In addition, we have agreed to significant covenants in connection with our debt financing transactions. For example, our loan facility with Stegodon Corporation (or "Stegodon"), as assignee of Hercules Capital, Inc. requires us to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under this facility. We have received a waiver from Stegodon of compliance with such covenant through October 31, 2016. We will also be required to pay an approximately 10% end of term charge under such facility. The Stegodon loan facility also includes customary events of default, including failure to pay amounts due, breaches of covenants and warranties, material adverse effect events, certain cross defaults and judgments, and insolvency. A failure to comply with the covenants and other provisions of our debt instruments, including any failure to make a payment when required would generally result in events of default under such instruments, which could permit acceleration of such indebtedness and could result in a material adverse effect events on us. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of our indebtedness as a result of acceleration or otherwise would lower our current cash on hand such that we would not have those funds available for use in our business or for payment of other outstanding indebtedness.

If we are at any time unable to generate sufficient cash flow from operations to service our indebtedness when payment is due, we may be required to attempt to renegotiate the terms of the instruments relating to the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us. Any debt financing that is available could cause us to incur substantial costs and subject us to covenants that significantly restrict our ability to conduct our business. If we seek to complete additional equity financings, the interests of existing equity holders may be diluted.

In addition, the covenants in our debt agreements materially limit our ability to take certain actions, including our ability to incur indebtedness, pay dividends, make certain investments and other payments, undertake certain mergers and consolidations, and encumber and dispose of assets. For example, the purchase agreement for convertible notes that we sold in separate closings in October 2013 and January 2014, which we refer to as the Tranche Notes, requires us to obtain the consent of a majority of the purchasers of these notes before completing any change-of-control transaction, or purchasing assets in one transaction or a series of related transactions in an amount greater than $20.0 million, in each case while the Tranche Notes are outstanding. The holders of the Tranche Notes also have pro rata rights to invest in, and under which they could cancel up to the full amount of their outstanding Tranche Notes to pay for, equity securities that we issue in certain financings, which could delay or prevent us from completing such financings.

Our substantial leverage could adversely affect our ability to fulfill our obligations under our existing indebtedness and may place us at a competitive disadvantage in our industry.

We continue to have substantial debt outstanding and we may incur additional indebtedness from time to time to finance working capital, product development efforts, strategic acquisitions, investments and alliances, capital expenditures or other general corporate purposes, subject to the restrictions contained in our existing indebtedness and in any other agreements under which we incur indebtedness. Our significant indebtedness and debt service requirements could adversely affect our ability to operate our business and may limit our ability to take advantage of potential business opportunities. For example, our high level of indebtedness presents the following risks:

- we will be required to use a substantial portion of our cash flow from operations to pay principal and interest on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, product development efforts, acquisitions, investments and strategic alliances and other general corporate requirements;

- our substantial leverage increases our vulnerability to economic downturns and adverse competitive and industry conditions and could place us at a competitive disadvantage compared to those of our competitors that are less leveraged;

- our debt service obligations could limit our flexibility in planning for, or reacting to, changes in our business and our industry and could limit our ability to pursue other business opportunities, borrow more money for operations or capital in the future and implement our business strategies;

- our level of indebtedness and the covenants within our debt instruments may restrict us from raising additional financing on satisfactory terms to fund working capital, capital expenditures, product development efforts, strategic acquisitions, investments and alliances, and other general corporate requirements; and

- our substantial leverage may make it difficult for us to attract additional financing when needed.

If we are at any time unable to generate sufficient cash flow from operations to service our indebtedness when payment is due, we may be required to attempt to renegotiate the terms of the instruments relating to the indebtedness, seek to refinance all or a portion of the indebtedness or obtain additional financing. There can be no assurance that we will be able to successfully renegotiate such terms, that any such refinancing would be possible or that any additional financing could be obtained on terms that are favorable or acceptable to us.

A failure to comply with the covenants and other provisions of our debt instruments, including any failure to make a payment when required, could result in events of default under such instruments, and which could permit acceleration of such indebtedness. If such indebtedness is accelerated, it could also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness. Any required repayment of our indebtedness as a result of acceleration or otherwise would lower our current cash on hand such that we would not have those funds available for use in our business or for payment of other outstanding indebtedness.

Our GAAP operating results could fluctuate substantially due to the accounting for the early conversion payment features of outstanding convertible promissory notes.

Several of our outstanding convertible debt instruments are accounted for under Accounting Standards Codification 815, Derivatives and Hedging (or "ASC 815") as an embedded derivative. For instance, with respect to the 2015 144A Notes, if the holders elect convert their 2015 144A Notes, such converting holders will receive an early conversion payment equal to the present value of the remaining scheduled payments of interest that would have been made on the 2015 144A Notes being converted from the earlier of the date that is three years after the date we receive such notice of conversion and the maturity of the 2015 144A Notes. Our 6.50% Convertible Senior Notes due 2019 (or the "2014 144A Notes") contain a similar early conversion payment feature, provided that the last reported sale price of our common stock for 20 or more trading days (whether or not consecutive) in a period of 30 consecutive trading days ending within five trading days immediately prior to the date we receive a notice of such election to convert exceeds the conversion price in effect on each such trading day. The early conversion payment features of the 2014 144A Notes and the 2015 144A Notes are accounted for under ASC 815 as embedded derivatives. ASC 815 requires companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments according to certain criteria. The fair value of the derivative is remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative being charged to earnings (loss). We have determined that we must bifurcate and account for the early conversion payment features of the 2014 144A Notes and the 2015 144A Notes, as well as certain other features of our other convertible debt instruments, as embedded derivatives in accordance with ASC 815. We have recorded these embedded derivative liabilities as non-current liabilities on our consolidated balance sheet with a corresponding debt discount at the date of issuance that is netted against the principal amount of the 2014 144A Notes, the 2015 144A Notes or other convertible debt instrument, as applicable. The derivative liabilities are remeasured to fair value at each balance sheet date, with a resulting non-cash gain or loss related to the change in the fair value of the derivative liabilities being recorded in other income or loss. There is no current observable market for this type of derivative and, as such, we determine the fair value of the embedded derivatives using the binomial lattice model. The valuation model uses the stock price, conversion price, maturity date, risk-free interest rate, estimated stock volatility and estimated credit spread. Changes in the inputs for these valuation models may have a significant impact on the estimated fair value of the embedded derivative liabilities. For example, an increase in the Company's stock price results in an increase in the estimated fair value of the embedded derivative liabilities. The embedded derivative liabilities may have, on a GAAP basis, a substantial effect on our balance sheet from quarter to quarter and it is difficult to predict the effect on our future GAAP financial results, since valuation of these embedded derivative liabilities are based on factors largely outside of our control and may have a negative impact on our earnings and balance sheet.

If our major production facilities do not successfully commence or scale up operations, our customer relationships, business and results of operations may be adversely affected.

A substantial component of our planned production capacity in the near and long term depends on successful operations at our large-scale production plant in Brazil. We are currently operating our first purpose-built, large-scale production plant in Brotas, Brazil and may complete construction of certain other facilities in the coming years. Delays or problems in the construction, start-up or operation of these facilities will cause delays in our ramp-up of production and hamper our ability to reduce our production costs. Delays in construction can occur due to a variety of factors, including regulatory requirements and our ability to fund construction and commissioning costs. For example, in 2012 we determined it was necessary to delay further construction of our large-scale manufacturing facility with São Martinho in order to focus on the construction and commissioning of our Brotas facility. We have since permanently ceased construction of the São Martinho facility, and expect to need to identify additional production capacity as early as 2017 based on anticipated volume requirements. Once our large-scale production facilities are built, we must successfully commission them and they must perform as we have designed them. If we encounter significant delays, cost overruns, engineering issues, contamination problems, equipment or raw material supply constraints, unexpected equipment maintenance requirements, safety issues, work stoppages or other serious challenges in bringing these facilities online and operating them at commercial scale, we may be unable to produce our initial renewable products in the time frame we have planned. Industrial scale fermentation is an emerging field and it is difficult to predict the effects of scaling up production to commercial scale, which involves various risks to the quality and consistency of our molecules. In addition, in order to produce molecules at our plant at Brotas, we have been and will be required to perform thorough transition activities, and modify the design of the plant. Any modifications to the production plant could cause complications in the operations of the plant, which could result in delays or failures in production. We may also need to continue to use contract manufacturing sources more than we expect (e.g., if the modifications to the Brotas plant are not successful or have a negative impact on the plant's operations), which would reduce our anticipated gross margins and may prevent us from accessing certain markets for our products. Further, if our efforts to increase (or commence, as the case may be) production at these facilities are not successful, other mill owners in Brazil or elsewhere may decide not to work with us to develop additional production facilities, demand more favorable terms or delay their commitment to invest capital in our production.

Our reliance on the large-scale production plant in Brotas, Brazil subjects us to execution and economic risks.

Our decision to focus our efforts for production capacity on the manufacturing facility in Brotas, Brazil means that we have limited manufacturing sources for our products in 2016 and beyond. Accordingly, any failure to establish operations at that plant could have a significant negative impact on our business, including our ability to achieve commercial viability for our products. With the facility in Brotas, Brazil, we are, for the first time, operating a commercial fermentation and separation facility ourselves. We may face unexpected difficulties associated with the operation of the plant. For example, we have in the past, at certain contract manufacturing facilities and at the Brotas facility, encountered delays and difficulties in ramping up production based on contamination in the production process, problems with plant utilities, lack of automation and related human error, issues arising from process modifications to reduce costs and adjust product specifications or transition to producing new molecules, and other similar challenges. We cannot be certain that we will be able to remedy all of such challenges quickly or effectively enough to achieve commercially viable near-term production costs and volumes.

To the extent we secure collaboration arrangements with new or existing partners, we may be required to make significant capital investments at our existing or new facilities in order to produce molecules or other products for such collaborations. Any failure or difficulties in establishing, building up or retooling our operations for these new collaboration arrangements could have a significant negative impact on our business, including our ability to achieve commercial viability for our products, lead to the inability to meet our contractual obligations and could cause us to allocate capital, personnel and other resources from our organization which could adversely affect our business and reputation.

As part of our arrangement to build the plant in Brotas, Brazil we have an agreement with Tonon Bioenergia S.A. (or "Tonon") to purchase from Tonon sugarcane juice corresponding to a certain number of tons of sugarcane per year, along with specified water and vapor volumes. Until this annual volume is reached, we are restricted from purchasing sugarcane juice for processing in the facility from any third party, subject to limited exceptions, unless we pay the premium to Tonon that we would have paid if we bought the juice from them. As such, we will be relying on Tonon to supply such juice and utilities on a timely basis, in the volumes we need, and at competitive prices. If a third party can offer superior prices and Tonon does not consent to our purchasing from such third party, we would be required to pay Tonon the applicable premium, which would have a negative impact on our production cost. Furthermore, we agreed to pay a price for the juice that is based on the lower of the cost of two other products produced by Tonon using such juice, plus a premium. Tonon may not want to sell sugarcane juice to us if the price of one of the other products is substantially higher than the one setting the price for the juice we purchase. While the agreement provides that Tonon would have to pay a penalty to us if it fails to supply the agreed-upon volume of juice for a given month, the penalty may not be enough to compensate us for the increased cost if third-party suppliers do not offer competitive prices. Also, if the prices of the other products produced by Tonon increase, we could be forced to pay those increased prices for production without a related increase in the price at which we can sell our products, reducing or eliminating any margins we can otherwise achieve. If in the future these supply terms no longer provide a viable economic structure for the operation in Brotas, Brazil we may be required to renegotiate our agreement, which could result in manufacturing disruptions and delays. In December 2015, Tonon filed for bankruptcy protection in Brazil. If Tonon is unable to supply sugarcane juice, water and steam in accordance with our agreement, we may not be able to obtain substitute supplies from third parties in necessary quantities or at favorable prices, or at all. In such event, our ability to manufacture our products in a timely or cost-effective manner, or at all, would be negatively affected, which would have a material adverse effect on our business.

Furthermore, as we continue to scale up production of our products, both through contract manufacturers and at our large-scale production plant in Brotas, Brazil, we may be required to store increasing amounts of our products for varying periods of time and under differing temperatures or other conditions that cannot be easily controlled, which may lead to a decrease in the quality of our products and their utility profiles and could adversely affect their value. If our stored products degrade in quality, we may suffer losses in inventory and incur additional costs in order to further refine our stored products or we may need to make new capital investments in shipping, improved storage or sales channels and related logistics.

Loss or termination of contract manufacturing relationships could harm our ability to meet our production goals.

As we have focused on building and commissioning our own plant and improving our production economics, we have reduced our use of contract manufacturing and have terminated relationships with some of our contract manufacturing partners. The failure to have multiple available supply options for farnesene or other target molecules could create a risk for us if a single source or a limited number of sources of manufacturing runs into operational issues. In addition, if we are unable to secure the services of contract manufacturers when and as needed, we may lose customer opportunities and the growth of our business may be impaired. We cannot be sure that contract manufacturers will be available when we need their services, that they will be willing to dedicate a portion of their capacity to our projects, or that we will be able to reach acceptable price and other terms with them for the provision of their production services. If we shift priorities and adjust anticipated production levels (or cease production altogether) at contract manufacturing facilities, such adjustments or cessations could also result in disputes or otherwise harm our business relationships with contract manufacturers. In addition, reducing or stopping production at one facility while increasing or starting up production at another facility generally results in significant losses of production efficiency, which can persist for significant periods of time. Also, in order for production to commence under our contract manufacturing arrangements, we generally must provide equipment, and we cannot be assured that such equipment can be ordered or installed on a timely basis, at acceptable costs, or at all. Further, in order to establish new manufacturing facilities, we need to transfer our yeast strains and production processes from lab to commercial plants controlled by third parties, which may pose technical or operational challenges that delay production or increase our costs.

Our use of contract manufacturers exposes us to risks relating to costs, contractual terms and logistics.

While we have commenced commercial production at the Brotas, Brazil plant, we continue to commercially produce, process and manufacture some specialty molecules through the use of contract manufacturers, and we anticipate that we will continue to use contract manufacturers for the foreseeable future for chemical conversion and production of end-products and, to mitigate cost and volume risks at our large-scale production facilities, for production of Biofene and other fermentation target compounds. Establishing and operating contract manufacturing facilities requires us to make significant capital expenditures, which reduces our cash and places such capital at risk. Also, contract manufacturing agreements may contain terms that commit us to pay for capital expenditures and other costs incurred or expected to be earned by the plant operators and owners, which can result in contractual liability and losses for us even if we terminate a particular contract manufacturing arrangement or decide to reduce or stop production under such an arrangement.

The locations of contract manufacturers can pose additional cost, logistics and feedstock challenges. If production capacity is available at a plant that is remote from usable chemical finishing or distribution facilities, or from customers, we will be required to incur additional expenses in shipping products to other locations. Such costs could include shipping costs, compliance with export and import controls, tariffs and additional taxes, among others. In addition, we may be required to use feedstock from a particular region for a given production facility. The feedstock available in a particular region may not be the least expensive or most effective feedstock for production, which could significantly raise our overall production cost or reduce our product's quality until we are able to optimize the supply chain.

If we are unable to reduce our production costs, we may not be able to produce our products at competitive prices and our ability to grow our business will be limited.

In order to be competitive in the markets we are targeting, our products must have superior qualities or be competitively priced relative to alternatives available in the market. Currently, our costs of production are not low enough to allow us to offer some of our planned products at competitive prices relative to alternatives available in the market. Our production costs depend on many factors that could have a negative effect on our ability to offer our planned products at competitive prices, including, in particular, our ability to establish and maintain sufficient production scale and volume, and feedstock cost. For example, see "*We have limited experience producing our products at commercial scale and may not be able to commercialize our products to the extent necessary to sustain and grow our current business,*" "*Our manufacturing operations require sugar feedstock, energy and steam, and the inability to obtain such feedstock, energy and steam in sufficient quantities or in a timely manner, or at reasonable prices, may limit our ability to produce products profitably or at all,*" and "*The price of sugarcane and other feedstocks can be volatile as a result of changes in industry policy and may increase the cost of production of our products.*"

We face financial risk associated with scaling up production to reduce our production costs. To reduce per-unit production costs, we must increase production to achieve economies of scale and to be able to sell our products with positive margins. However, if we do not sell production output in a timely manner or in sufficient volumes, our investment in production will harm our cash position and generate losses. Additionally, we may incur added costs in storage and we may face issues related to the decrease in quality of our stored products, which could adversely affect the value of such products. Since achieving competitive product prices generally requires increased production volumes and our manufacturing operations and cash flows from sales are in their early stages, we have had to produce and sell products at a loss in the past, and may continue to do so as we build our business. If we are unable to achieve adequate revenues from a combination of product sales and other sources, we may not be able to invest in production and we may not be able to pursue our business plans.

Key factors beyond production scale and feedstock cost that impact our production costs include yield, productivity, separation efficiency and chemical process efficiency. Yield refers to the amount of the desired molecule that can be produced from a fixed amount of feedstock. Productivity represents the rate at which our product is produced by a given yeast strain. Separation efficiency refers to the amount of desired product produced in the fermentation process that we are able to extract and the time that it takes to do so. Chemical process efficiency refers to the cost and yield for the chemical finishing steps that convert our target molecule into a desired product. In order to successfully enter transportation fuels and certain chemical markets, we must produce those products at significantly lower costs, which will require both substantially higher yields than we have achieved to date and other significant improvements in production efficiency, including in productivity and in separation and chemical process efficiencies. There can be no assurance that we will be able to make these improvements or reduce our production costs sufficiently to offer our planned products at competitive prices, and any such failure could have a material adverse impact on our business and prospects.

Our ability to establish substantial commercial sales of our products is subject to many risks, any of which could prevent or delay revenue growth and adversely impact our customer relationships, business and results of operations.

There can be no assurance that our products will be approved or accepted by customers, that customers will choose our products over competing products, or that we will be able to sell our products profitably at prices and with features sufficient to establish demand. The markets we have entered first are primarily those for specialty chemical products used by large consumer products or specialty chemical companies. In entering these markets, we have sold and we intend to sell our products as alternatives to chemicals currently in use, and in some cases the chemicals that we seek to replace have been used for many years. The potential customers for our molecules generally have well developed manufacturing processes and arrangements with suppliers of the chemical components of their products and may have a resistance to changing these processes and components. These potential customers frequently impose lengthy and complex product qualification procedures on their suppliers, influenced by consumer preference, manufacturing considerations such as process changes and capital and other costs associated with transitioning to alternative components, supplier operating history, established business relationships and agreements, regulatory issues, product liability and other factors, many of which are unknown to, or not well understood by, us. Satisfying these processes may take many months or years. Additionally, we may be subject to product safety testing and may be required to meet certain regulatory and/or product safety standards. Meeting these standards can be a time consuming and expensive process, and we may invest substantial time and resources into such qualification efforts without ultimately securing approval. If we are unable to convince these potential customers (and the consumers who purchase products containing such chemicals) that our products are comparable to the chemicals that they currently use or that the use of our products is otherwise to their benefits, we will not be successful in entering these markets and our business will be adversely affected.

We expect to face competition for our specialty chemical and transportation fuels products from providers of petroleum-based products and from other companies seeking to provide alternatives to these products, and if we cannot compete effectively against these companies or products we may not be successful in bringing our products to market or further growing our business after we do so.

We expect that our renewable products will compete with both the traditional, largely petroleum-based specialty chemical and fuels products that are currently being used in our target markets and with the alternatives to these existing products that established enterprises and new companies are seeking to produce.

In the specialty chemical markets that we are initially entering, and in other chemical markets that we may seek to enter in the future, we will compete primarily with the established providers of chemicals currently used in products in these markets. Producers of these incumbent products include global oil companies, large international chemical companies and companies specializing in specific products, such as squalane or essential oils. We may also compete in one or more of these markets with products that are offered as alternatives to the traditional petroleum-based or other traditional products being offered in these markets.

In the transportation fuels market, we expect to compete with independent and integrated oil refiners, advanced biofuels companies and biodiesel companies. Refiners compete with us by selling traditional fuel products and some are also pursuing hydrocarbon fuel production using non-renewable feedstocks, such as natural gas and coal, as well as processes using renewable feedstocks, such as vegetable oil and biomass. We also expect to compete with companies that are developing the capacity to produce diesel and other transportation fuels from renewable resources in other ways. These include advanced biofuels companies using specific enzymes that they have developed to convert cellulosic biomass, which is non-food plant material such as wood chips, corn stalks and sugarcane bagasse, into fermentable sugars. Similar to us, some companies are seeking to use engineered microbes, such as yeast, bacteria and algae, to convert sugars, in some cases from cellulosic biomass and in others from more refined sugar sources, into renewable diesel and other fuels. Biodiesel companies convert vegetable oils and animal oils into diesel fuel and some are seeking to produce diesel and other transportation fuels using thermochemical methods to convert biomass into renewable fuels.

With the emergence of many new companies seeking to produce chemicals and fuels from alternative sources, we may face increasing competition from alternative fuels and chemicals companies. As they emerge, some of these companies may be able to establish production capacity and commercial partnerships to compete with us. If we are unable to establish production and sales channels that allow us to offer comparable products at attractive prices, we may not be able to compete effectively with these companies.

We believe the primary competitive factors in both the chemicals and fuels markets are:

- product price;
- product performance and other measures of quality;
- infrastructure compatibility of products;
- sustainability; and
- dependability of supply.

The oil companies, large chemical companies and well-established agricultural products companies with whom we compete are much larger than us, have, in many cases, well developed distribution systems and networks for their products, have valuable historical relationships with the potential customers we are seeking to serve and have much more extensive sales and marketing programs in place to promote their products. In order to be successful, we must convince customers that our products are at least as effective as the traditional products they are seeking to replace and we must provide our products on a cost basis that does not greatly exceed these traditional products and other available alternatives. Some of our competitors may use their influence to impede the development and acceptance of renewable products of the type that we are seeking to produce.

We believe that for our chemical products to succeed in the market, we must demonstrate that our products are comparable alternatives to existing products and to any alternative products that are being developed for the same markets based on some combination of product cost, availability, performance, and consumer preference characteristics. With respect to our diesel and other transportation fuels products, we believe that our product must perform as effectively as petroleum-based fuel, or alternative fuels, and be available on a cost basis that does not greatly exceed these traditional products and other available alternatives. In addition, with the wide range of renewable fuels products under development, we must be successful in reaching potential customers and convincing them that ours are effective and reliable alternatives.

Our relationship with our strategic partner, Total, and certain rights we have granted to Total and other existing stockholders in relation to our future securities offerings have substantial impacts on our company.

We have a license, development, research and collaboration agreement with Total, under which we may develop, produce and commercialize products with Total. Under this agreement, Total has a right of first negotiation with respect to certain exclusive commercialization arrangements that we would propose to enter into with third parties, as well as the right to purchase any of our products on terms not less favorable than those offered to or received by us from third parties in any market where Total or its affiliates have a significant market position. These rights might inhibit potential strategic partners or potential customers from entering into negotiations with us about future business opportunities. Total also has the right to terminate this agreement if we undergo a sale or change of control to certain entities, which could discourage a potential acquirer from making an offer to acquire us.

Under certain other agreements with Total related to its original investment in our capital stock, for as long as Total owns 10% of our voting securities, it has rights to an exclusive negotiation period if our Board of Directors decides to sell our company. Total also has the right to designate one director to serve on our Board of Directors. Also, in connection with Total’s investments, our certificate of incorporation includes a provision that excludes Total from prohibitions on business combinations between Amyris and an “interested stockholder.” These provisions could have the effect of discouraging potential acquirers from making offers to acquire us, and give Total more access to Amyris than other stockholders if Total decides to pursue an acquisition.

Additionally, in connection with subsequent investments by Total in Amyris, we granted Total, among other investors, a right of first investment if we propose to sell securities in a private placement financing transaction. With these rights, Total and other investors may subscribe for a portion of any new private placement financing and require us to comply with certain notice periods, which could discourage other investors from participating in, or cause delays in our ability to close, such a financing. Further, under the purchase agreement for the Tranche Notes, Total and other holders of Tranche Notes have the right to pay for any securities purchased in connection with an exercise of their right of first investment by cancelling all or a portion of their outstanding Tranche Notes. To the extent Total or other investors exercise these rights, it will reduce the cash proceeds we may realize from the relevant financing.

Our jet fuels joint venture with Total limits our ability to independently develop and commercialize farnesene- and farnesane-based jet fuels.

In July 2012 and December 2013, we entered into a series of agreements with Total to establish a research and development program regarding farnesene-based diesel and jet fuels and to form a joint venture, Total Amyris BioSolutions B.V., or TAB, to produce and commercialize such products worldwide.

In July 2015, we entered into a Letter Agreement with Total regarding the restructuring of the ownership and rights of TAB, pursuant to which, among other things, the parties agreed to enter into an Amended & Restated Jet Fuel License Agreement between us and TAB, or the Jet Fuel Agreement. We entered into the Jet Fuel Agreement with TAB on March 21, 2016.

Under the Jet Fuel Agreement, (a) we granted TAB exclusive (co-exclusive in Brazil), world-wide, royalty-free rights to produce and commercialize farnesene- or farnesane-based jet fuel, (b) we granted TAB the option, until March 1, 2018, to purchase our Brazil jet fuel business at a price based on the fair value of the commercial assets and on our investment in other related assets, (c) we granted TAB the right to purchase farnesene or farnesane for its jet fuel business from us on a “most-favored” pricing basis and (d) all rights to farnesene- or farnesane-based diesel fuel previously granted to TAB by us reverted back to us. As a result of Jet Fuel Agreement, we generally no longer have an independent right to make or sell farnesene- or farnesane-based jet fuels outside of Brazil without the approval of TAB.

If, for any reason, TAB is not fully supported, or is not successful, and TAB does not allow us to pursue farnesene-based jet fuels independently, this joint venture arrangement could impair our ability to develop and commercialize such jet fuels, which could have a material adverse effect on our business and long term prospects. For example, this arrangement could adversely affect our ability to enter or expand in the jet fuel market on terms that would otherwise be more favorable to us independently or with third parties.

Our diesel fuels license to Total limits our ability to independently develop and commercialize farnesene- and farnesane-based diesel fuels in the European Union.

Upon all farnesene- or farnesane-based diesel fuel rights reverting back to us pursuant to the Jet Fuel Agreement, we granted to Total, pursuant to a License Agreement regarding Diesel Fuel in the European Union, or the EU, dated March 21, 2016, between us and Total, (a) an exclusive, royalty-free license to offer for sale and sell farnesene- or farnesane-based diesel fuel in the EU, (b) the non-exclusive right to make farnesene or farnesane anywhere in the world, but Total must (i) use such farnesene or farnesane to produce only diesel fuel to offer for sale or sell in the EU and (ii) pay us a to-be-negotiated, commercially reasonable, “most-favored” basis royalty and (c) the right to purchase farnesene or farnesane for its EU diesel fuel business from us on a “most-favored” pricing basis. As a result of the License Agreement regarding Diesel Fuel in the European Union, we generally no longer have an independent right to sell farnesene- or farnesane-based diesel fuels in the EU without the approval of Total. If, for any reason, Total were not successful in selling farnesene- or farnesane-based diesel fuels in the EU and did not allow us to independently pursue selling farnesene- or farnesane-based diesel fuels there, this arrangement could impair our ability to develop and commercialize such diesel fuels in the EU, which could have a material adverse effect on our business and long term prospects.

We have limited control over our jet fuels joint venture with Total.

As part of the restructuring of TAB in March 2016 as described above, we sold a portion of our interest in TAB to Total, giving Total an aggregate ownership stake of 75% of TAB and us an aggregate ownership stake of 25% of TAB. As a result, we do not have the right or power to direct the management or policies of TAB, and Total may take action with TAB contrary to our instructions or requests and against our policies and objectives. If Total or TAB acts contrary to our interest, it could harm our brand, business, results of operations and financial condition. Furthermore, if we were to experience a change of control or fail to make any required capital contribution to TAB, Total has a right to buy out our interest in TAB at fair market value. If Total were to exercise these rights, we would, in effect, relinquish our economic rights to the intellectual property we have exclusively licensed to TAB, and our ability to seek future revenue from farnesene- or farnesane-based jet fuel outside of Brazil would be adversely affected (or completely prevented). This could significantly reduce the value of our product offerings and have a material adverse effect on our ability to grow our business in the future.

Our relationship with Ginkgo Bioworks, Inc. exposes us to financial and commercial risks.

In June 2016, we entered into an Initial Strategic Partnership Agreement with Ginkgo Bioworks, Inc. (or "Ginkgo"), pursuant to which we licensed certain intellectual property to Ginkgo in exchange for a license fee and royalty, and to pursue the negotiation and execution of a definitive partnership agreement setting forth the terms of a long-term commercial partnership and collaboration arrangement between us and Ginkgo. Under such partnership, the parties would collaborate to develop, manufacture and sell commercial products and would share in the value of such products. See Note 8, "Significant Agreements" and Note 18, "Subsequent Events" to our unaudited consolidated financial statements included in this report for additional information regarding our relationship with Ginkgo.

In connection with the execution of the Initial Strategic Partnership Agreement, Stegodon Corporation (or “Stegodon”), an affiliate of Ginkgo and the lender and administrative agent under our Senior Secured Loan Facility, agreed to waive compliance with the covenant in our Senior Secured Loan Facility requiring us to maintain unrestricted, unencumbered cash in defined U.S. bank accounts in an amount equal to at least 50% of the principal amount outstanding under the Senior Secured Loan Facility (or the “Minimum Cash Covenant”) and any required amortization payments under the Senior Secured Loan Facility through October 31, 2016. In addition, pursuant to the Initial Strategic Partnership Agreement, in connection with the execution of the definitive partnership agreement, Ginkgo would cause Stegodon Corporation to agree to amend the Senior Secured Loan Facility to (i) extend the maturity date of all outstanding loans under the Senior Secured Loan Facility to June 30, 2019, (ii) waive any required amortization payments under the Senior Secured Loan Facility until June 30, 2019 and (iii) waive all cash covenants under the Senior Secured Loan Facility (including the Minimum Cash Covenant) until June 30, 2019.

There can be no assurance that we and Ginkgo will reach final agreement regarding the definitive partnership agreement, that the terms of such agreement as finally negotiated will be favorable to us or the same as those contemplated in the Initial Strategic Partnership Agreement, and any failure to consummate the definitive partnership agreement on favorable terms or at all may have a material adverse effect on our business and operations. In addition, if the parties do not enter into the definitive partnership agreement, then unless we obtain further deferments or waivers, previously deferred amortization payments under our Senior Secured Loan Facility will become due on November 1, 2016 and the existing waiver of our compliance with the Minimum Cash Covenant will expire on November 1, 2016. If we are unable to make such amortization payments or are unable to comply with such covenant, our ability to continue with our business plans would be adversely affected. Even if we do enter into the definitive partnership agreement with Ginkgo, there can be no assurances that the partnership will be successful, and the partnership may prevent us from pursuing other business opportunities in the future.

If we do not meet technical, development and commercial milestones in our collaboration agreements, our future revenue and financial results will be adversely impacted.

We have entered into a number of agreements regarding the further development of certain of our products and, in some cases, for ultimate sale of certain products to the customer under the agreement. None of these agreements affirmatively obligates the other party to purchase specific quantities of any products at this time, and most contain important conditions that must be satisfied before additional research and development funding or product purchases would occur. These conditions include research and development milestones and technical specifications that must be achieved to the satisfaction of our collaborators, which we cannot be certain we will achieve. If we do not achieve these contractual milestones, our revenues and financial results will be adversely affected.

We are subject to risks related to our reliance on collaboration arrangements to fund development and commercialization of our products and the success of such products is uncertain.

For most product markets we are trying to address, we either have or are seeking collaboration partners to fund the research and development, commercialization and production efforts required for the target products. Typically we provide limited exclusive rights and revenue sharing with respect to the production and sale of particular types of products in specific markets in exchange for such up-front funding. These exclusivity, revenue-sharing and other similar terms limit our ability to commercialize our products and technology, and may impact the size of our business or our profitability in ways that we do not currently envision. In addition, revenues from these types of relationships are a key part of our cash plan for 2016 and beyond. If we fail to collect expected collaboration revenues, or to identify and add sufficient additional collaborations to fund our planned operations, we may be unable to fund our operations or pursue development and commercialization of our planned products. To achieve our collaboration revenue targets from year to year, we may be forced to enter into agreements that contain less favorable terms. As part of our current and future collaboration arrangements, we may be required to make significant capital investments at our existing or new facilities in order to produce molecules or other products for such collaborations. Any failure or difficulties in establishing, building up or retooling our operations for these collaboration arrangements could have a significant negative impact on our business, including our ability to achieve commercial viability for our products, lead to the inability to meet our contractual obligations and could cause us to allocate capital, personnel and other resources from our organization which could adversely affect our business and reputation.

With respect to pharmaceutical collaborations, our experience in this industry is limited, so we may have difficulty identifying and securing collaboration partners and customers for pharmaceutical applications of our products and services. Furthermore, our success in pharmaceuticals depends primarily upon our ability to identify and validate new small molecule compounds of pharmaceutical interest (including through the use of our discovery platform), and identify, test, develop and commercialize such compounds. Our research efforts may initially show promise in discovering potential new therapeutic candidates, yet fail to yield viable product candidates for clinical development for a number of reasons, including:

- because our research methodology, including our screening technology, may not successfully identify medically relevant product candidates;
- we may identify and select from our discovery platform novel, untested classes of product candidates for the particular disease indication we are pursuing, which may be challenging to validate because of the novelty of the product candidates or we may fail to validate at all after further research work;
- our product candidates may cause adverse effects in patients or subjects, even after successful initial toxicology studies, which may make the product candidates unmarketable;
- our product candidates may not demonstrate a meaningful benefit to patients or subjects; and
- collaboration partners may change their development profiles or plans for potential product candidates or abandon a therapeutic area or the development of a partnered product.

Research programs to identify new product targets and candidates require substantial technical, financial and human resources. We may focus our efforts and resources on potential discovery efforts, programs or product candidates that ultimately prove to be unsuccessful.

Our manufacturing operations require sugar feedstock, energy and steam, and the inability to obtain such feedstock, energy and steam in sufficient quantities or in a timely manner, or at reasonable prices, may limit our ability to produce our products profitably, or at all.

We anticipate that the production of our products will require large volumes of feedstock. We have relied on a mixture of feedstock sources for use at our contract manufacturing operations, including cane sugar, corn-based dextrose and beet molasses. For our large-scale production facilities in Brazil, we are relying primarily on Brazilian sugarcane. We cannot predict the future availability or price of these various feedstocks, nor can we be sure that our mill partners, which we expect to supply the sugarcane feedstock necessary to produce our products in Brazil, will be able to supply it in sufficient quantities or in a timely manner. For example, in December 2015, Tonon, one of our suppliers of sugarcane juice, filed for bankruptcy protection in Brazil, which may adversely affect its ability to supply us with sugarcane juice in the future. Furthermore, to the extent we are required to rely on sugar feedstock other than Brazilian sugarcane, the cost of such feedstock may be higher than we expect, increasing our anticipated production costs. Feedstock crop yields and sugar content depend on weather conditions, such as rainfall and temperature. Weather conditions have historically caused volatility in the ethanol and sugar industries by causing crop failures or reduced harvests. Excessive rainfall can adversely affect the supply of sugarcane and other sugar feedstock available for the production of our products by reducing the sucrose content and limiting growers' ability to harvest. Crop disease and pestilence can also occur from time to time and can adversely affect feedstock growth, potentially rendering useless or unusable all or a substantial portion of affected harvests. With respect to sugarcane, our initial primary feedstock, seasonal availability and price, the limited amount of time during which it keeps its sugar content after harvest, and the fact that sugarcane is not itself a traded commodity, increases these risks and limits our ability to substitute supply in the event of such an occurrence. If production of sugarcane or any other feedstock we may use to produce our products is adversely affected by these or other conditions, our production will be impaired, and our business will be adversely affected.

Additionally, our facility in Brotas Brazil depends on large quantities of energy and steam to operate. We have a supply agreement with Cogeração de Energia Elétrica Rhodia Brotas S.A. pursuant to which we receive energy and steam in sufficient amounts to meet our current needs. However, we cannot predict the future availability or price of energy and steam. If, for whatever reason, we must purchase energy or steam from a different supplier, the cost of such energy and steam may be higher than we expect, increasing our anticipated production costs. Droughts or other weather conditions or natural disasters in Brazil may also affect energy and steam production, cost and availability and, therefore, may adversely affect our production. If the supply and access to energy or steam is adversely affected by these or other conditions, our production will be impaired, and our business will be adversely affected.

The price of sugarcane and other feedstocks can be volatile as a result of changes in industry policy and may increase the cost of production of our products.

In Brazil, Conselho dos Produtores de Cana, Açúcar e Álcool (Council of Sugarcane, Sugar and Ethanol Producers or Consecana), an industry association of producers of sugarcane, sugar and ethanol, sets market terms and prices for general supply, lease and partnership agreements for sugarcane. If Consecana makes changes to such terms and prices, this could result in higher sugarcane prices and/or a significant decrease in the volume of sugarcane available for the production of our products. Furthermore, if Consecana were to cease to be involved in this process, such prices and terms could become more volatile. Similar principles apply to pricing of other feedstocks as well. Any of these events could adversely affect our business and results of operations.

Our large-scale commercial production capacity is centered in Brazil, and our business will be adversely affected if we do not operate effectively in that country.

For the foreseeable future, we will be subject to risks associated with the concentration of essential product sourcing and operations in Brazil. The Brazilian government has changed in the past, and may change in the future, monetary, taxation, credit, tariff, labor and other policies to influence the course of Brazil's economy. For example, the government's actions to control inflation have at times involved setting wage and price controls, adjusting interest rates, imposing taxes and exchange controls and limiting imports into Brazil. We have no control over, and cannot predict what policies or actions the Brazilian government may take in the future. Our business, financial performance and prospects may be adversely affected by, among others, the following factors:

- delays or failures in securing licenses, permits or other governmental approvals necessary to build and operate facilities and use our yeast strains to produce products;
- rapid consolidation in the sugar and ethanol industries in Brazil, which could result in a decrease in competition;
- political, economic, diplomatic or social instability in or affecting Brazil;

- changing interest rates;
- tax burden and policies;
- effects of changes in currency exchange rates;
- any changes in currency exchange policy that lead to the imposition of exchange controls or restrictions on remittances abroad;
- inflation;

- land reform or nationalization movements;
- changes in labor related policies;
- export or import restrictions that limit our ability to move our products out of Brazil or interfere with the import of essential materials into Brazil;
- changes in, or interpretations of foreign regulations that may adversely affect our ability to sell our products or repatriate profits to the United States;
- tariffs, trade protection measures and other regulatory requirements;
- compliance with United States and foreign laws that regulate the conduct of business abroad;
- compliance with anti-corruption laws recently enacted in Brazil;
- an inability, or reduced ability, to protect our intellectual property in Brazil including any effect of compulsory licensing imposed by government action; and
- difficulties and costs of staffing and managing foreign operations.

We cannot predict whether the current or future Brazilian government will implement changes to existing policies on taxation, exchange controls, monetary strategy, labor relations, social security and the like, nor can we estimate the impact of any such changes on the Brazilian economy or our operations.

Brazil’s economy has recently experienced quarters of slow or negative gross domestic product growth and has experienced high inflation and a growing fiscal deficit of its federal government accounts. In addition, in recent months, major corruption scandals involving members of the executive, state-controlled enterprises and large private sector companies have been disclosed and are the subject of ongoing investigation by federal authorities. The final outcome of these investigations and their impact on the Brazilian economy is not yet known.

Our international operations expose us to the risk of fluctuation in currency exchange rates and rates of foreign inflation, which could adversely affect our results of operations.

We currently incur significant costs and expenses in Brazilian real and may in the future incur additional expenses in foreign currencies and derive a portion of our revenues in the local currencies of customers throughout the world. As a result, our revenues and results of operations are subject to foreign exchange fluctuations, which we may not be able to manage successfully. During the past few decades, the Brazilian currency in particular has faced frequent and substantial exchange rate fluctuations in relation to the United States dollar and other foreign currencies. There can be no assurance that the Brazilian real will not significantly appreciate or depreciate against the United States dollar in the future. We also bear the risk that the rate of inflation in the foreign countries where we incur costs and expenses or the decline in value of the United States dollar compared to those foreign currencies will increase our costs as expressed in United States dollars. For example, future measures by the Central Bank of Brazil to control inflation, including interest rate adjustments, intervention in the foreign exchange market and actions to fix the value of the real, may weaken the United States dollar in Brazil. Whether in Brazil or otherwise, we may not be able to adjust the prices of our products to offset the effects of inflation or foreign currency appreciation on our cost structure, which could increase our costs and reduce our net operating margins. If we do not successfully manage these risks through hedging or other mechanisms, our revenues and results of operations could be adversely affected.

Our use of genetically-modified feedstocks and yeast strains to produce our products subjects us to risks of regulatory limitations and rejection of our products.

The use of genetically modified microorganisms (or “GMMs”), such as our yeast strains, is subject to laws and regulations in many countries, some of which are new and some of which are still evolving. Public attitudes about the safety and environmental hazards of, and ethical concerns over, genetic research and GMMs could influence public acceptance of our technology and products. In the United States, the Environmental Protection Agency (or “EPA”), regulates the commercial use of GMMs as well as potential products produced from the GMMs. Various states or local governments within the United States could choose to regulate products made with GMMs as well. While the strain of genetically modified yeast that we currently use for the development and anticipate using for the commercial production of our target molecules, *S. cerevisiae*, is eligible for exemption from EPA review because it is recognized as posing a low risk, we must satisfy certain criteria to achieve this exemption, including but not limited to use of compliant containment structures and safety procedures, and we cannot be sure that we will meet such criteria in a timely manner, or at all. If exemption of *S. cerevisiae* is not obtained, our business may be substantially harmed. In addition to *S. cerevisiae*, we may seek to use different GMMs in the future that will require EPA approval. If approval of different GMMs is not secured, our ability to grow our business could be adversely affected.

In Brazil, GMMs are regulated by the National Biosafety Technical Commission (or “CTNBio”). We have obtained approval from CTNBio to use GMMs in a contained environment in our Campinas facilities for research and development purposes as well as at a contract manufacturing facility in Brazil. In addition, we have obtained initial commercial approval from CTNBio for one of our current yeast strains. As we continue to develop new yeast strains and deploy our technology at new production facilities in Brazil, we will be required to obtain further approvals from CTNBio in order to use these strains in commercial production in Brazil. We may not be able to obtain approvals from relevant Brazilian authorities on a timely basis, or at all, and if we do not, our ability to produce our products in Brazil would be impaired, which would adversely affect our results of operations and financial condition.

In addition to our production operations in the United States and Brazil, we have been party to contract manufacturing agreements with parties in other production locations around the world, including Europe. The use of GMM technology is strictly regulated in the European Union, which has established various directives for member states regarding regulation of the use of such technology, including notification processes for contained use of such technology. We expect to encounter GMM regulations in most, if not all, of the countries in which we may seek to establish production capabilities and/or conduct sales to customers or end-use consumers, and the scope and nature of these regulations will likely be different from country to country. If we cannot meet the applicable requirements in other countries in which we intend to produce products using our yeast strains, or if it takes longer than anticipated to obtain such approvals, our business could be adversely affected. Furthermore, there are various non-governmental and quasi-governmental organizations that review and certify products with respect to the determination of whether products can be classified as “natural” or other similar classifications. While the certification from such non-governmental and quasi-governmental organizations is generally not mandatory, some of our current or prospective customers or distributors may require that we meet the standards set by such organizations as a condition precedent to purchasing or distributing our products. We cannot be certain that we will be able to satisfy the standards of such organizations, and any delay or failure to do so could harm our ability to sell or distribute some or all of our products to certain customers and prospective customers, which could have a negative impact on our business.

We may not be able to obtain regulatory approval for the sale of our renewable products.

Our renewable chemical products may be subject to government regulation in our target markets. In the United States, the EPA administers the Toxic Substances Control Act (or "TSCA"), which regulates the commercial registration, distribution, and use of many chemicals. Before an entity can manufacture or distribute a new chemical subject to TSCA, it must file a Pre-Manufacture Notice (or "PMN") to add the chemical to a product. The EPA has 90 days to review the filing but may request additional data which significantly extends the timeline for approval. As a result we may not receive EPA approval to list future molecules as expeditiously as we would like in order to make on the TSCA registry, resulting in delays or significant increases in testing requirements. A similar program exists in the European Union, called REACH. Under this program, chemicals imported or manufactured in the European Union in certain quantities must be registered with the European Chemicals Agency, and this process could cause delays or significant costs. To the extent that other geographies in which we are selling (or may seek to sell) our products, such as Brazil and various countries in Asia, may rely on TSCA or REACH (or similar laws and programs) for chemical registration in their geographies, delays with the United States or European authorities, or any relevant local authorities in such other geographies, may subsequently delay entry into these markets as well. In addition, some of our Biofene-derived products are sold for the cosmetics market, and some countries may impose additional regulatory requirements or permits for such uses, which could impair, delay or prevent sales of our products in those markets.

Our diesel and jet fuel is subject to regulation by various government agencies, including the EPA, and the California Air Resources Board (or "CARB") in the United States and Agência Nacional do Petróleo, Gas Natural e Biocombustíveis (or "ANP"), in Brazil. To date, we have obtained registration with the EPA for the use of our diesel fuel in the United States at a 35% blend rate with petroleum diesel. Farnesane is also listed on the TSCA inventory. In addition, ANP has authorized the use our diesel fuel at blend rates of 10% and 30% for specific transportation fleets. In Europe, we obtained REACH registration for importing/manufacturing less than 1,000 metric tons of farnesane (for use as diesel and jet fuel) per year and are pursuing data validation to maintain registration. Registration with each of these bodies is required for the import, sale and use of our fuels within their respective jurisdictions. Jet fuel (aviation turbine fuel) validation and specifications are subject to the ASTM International industry consensus process and the Brazilian ANP national adoption process. Any failure to achieve required validation and certifications for our jet fuel could impair or delay our plans to introduce a jet fuel product in Brazil, which could have a material adverse impact on our renewable product revenues for the year. In addition, for us to achieve full access to the United States fuels market for our fuel products, we will need to obtain EPA and CARB (and potentially other state agencies) certifications for our feedstock pathway and production facilities, including certification of a feedstock lifecycle analysis relating to greenhouse gas emissions. Any delay in obtaining these additional certifications could impair our ability to sell our renewable fuels to refiners, importers, blenders and other parties that produce transportation fuels as they comply with federal and state requirements to include certified renewable fuels in their products.

We expect to encounter regulations in most, if not all, of the countries in which we may seek to sell our renewable chemical and fuel products (and our customers may encounter similar regulations in selling end use products to consumers), and we cannot assure you that we (or our customers) will be able to obtain necessary approvals in a timely manner or at all. If our chemical and fuel products do not meet applicable regulatory requirements in a particular country or at all, then we (or our customers) may not be able to commercialize our products and our business will be adversely affected.

Changes in government regulations, including subsidies and economic incentives, could have a material adverse effect upon our business.

The market for renewable fuels is heavily influenced by foreign, federal, state and local government regulations and policies. Changes to existing or adoption of new domestic or foreign federal, state and local legislative initiatives that impact the production, distribution or sale of renewable fuels may harm our renewable fuels business. In the United States and in a number of other countries, regulations and policies encouraging production and use of alternative fuels have been modified in the past and may be modified again in the future. Any reduction in mandated requirements for fuel alternatives and additives to gasoline or diesel may cause demand for biofuels to decline and deter investment in the research and development of renewable fuels. The market uncertainty regarding this and future standards and policies may also affect our ability to develop new renewable products or to license our technologies to third parties and to sell products to our end customers. Any inability to address these requirements and any regulatory or policy changes could have a material adverse effect on our business, financial condition and results of operations.

Concerns associated with renewable fuels, including land usage, national security interests and food crop usage, continue to receive legislative, industry and public attention. This attention could result in future legislation, regulation and/or administrative action that could adversely affect our business. Any inability to address these requirements and any regulatory or policy changes could have a material adverse effect on our business, financial condition and results of operations.

Furthermore, the production of our products will depend on the availability of feedstock, especially sugarcane. Agricultural production and trade flows are subject to government policies and regulations. Governmental policies affecting the agricultural industry, such as taxes, tariffs, duties, subsidies, incentives and import and export restrictions on agricultural commodities and commodity products, can influence the planting of certain crops, the location and size of crop production, whether unprocessed or processed commodity products are traded, the volume and types of imports and exports, and the availability and competitiveness of feedstocks as raw materials. Future government policies may adversely affect the supply of feedstocks, restrict our ability to use sugarcane or other feedstocks to produce our products, and negatively impact our future revenues and results of operations or could encourage the use of feedstocks more advantageous to our competitors which would put us at a commercial disadvantage.

We may incur significant costs complying with environmental laws and regulations, and failure to comply with these laws and regulations could expose us to significant liabilities.

We use hazardous chemicals and radioactive and biological materials in our business and such materials are subject to a variety of federal, state and local laws and regulations governing the use, generation, manufacture, storage, handling and disposal of these materials in the United States and in Brazil. Although we have implemented safety procedures for handling and disposing of these materials and related waste products in an effort to comply with these laws and regulations, we cannot be sure that our safety measures will prevent accidental injury or contamination from the use, storage, handling or disposal of hazardous materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our insurance coverage. There can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of human error, accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present, or future laws could result in the imposition of fines, third party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production, or a cessation of operations, and our liability may exceed our total assets. Liability under environmental laws can be joint and several, without regard to comparative fault and may be punitive in nature. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and harm our business.

A decline in the price of petroleum and petroleum-based products has in the past and may in the future reduce demand for some of our renewable products and may otherwise adversely affect our business.

While many of our products do not compete with, and do not serve as alternatives to, petroleum-based products, we anticipate that some of our renewable products, and in particular our fuels, will be marketed as alternatives to corresponding petroleum-based products. The price of oil has fallen significantly in recent years, and accordingly, we may be unable to produce certain of our products as cost-effective alternatives to petroleum-based products. Declining oil prices, or the perception of a sustained or future decline in oil prices, has adversely affected the prices or demand for such products in the past and may do so in the future. During sustained periods of lower oil prices we may be unable to sell such products at anticipated levels, which could negatively impact our operating results.

Our financial results could vary significantly from quarter to quarter and are difficult to predict.

Our revenues and results of operations could vary significantly from quarter to quarter because of a variety of factors, many of which are outside of our control. As a result, comparing our results of operations on a period-to-period basis may not be meaningful. Factors that could cause our quarterly results of operations to fluctuate include:

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achievement, or failure, with respect to technology, product development or manufacturing milestones needed to allow us to enter identified markets on a cost effective basis;

- delays or greater than anticipated expenses associated with the completion or commissioning of new production facilities, or the time to ramp up and stabilize production following completion of a new production facility or the transition to, and ramp up of, producing new molecules at our existing facilities;

- impairment of assets based on shifting business priorities and working capital limitations;

- disruptions in the production process at any manufacturing facility, including disruptions due to seasonal or unexpected downtime at our facilities as a result of feedstock availability, contamination, safety or other issues or other technical difficulties or the scheduled downtime at our facilities as a result of transitioning our equipment to the production of different molecules;

- losses of, or the inability to secure new, major customers, suppliers, distributors or collaboration partners;
- losses associated with producing our products as we ramp to commercial production levels;
- failure to recover value added tax (or "VAT") that we currently reflect as recoverable in our financial statements (e.g., due to failure to meet conditions for reimbursement of VAT under local law);
- the timing, size and mix of sales to customers for our products;
- increases in price or decreases in availability of feedstock;
- the unavailability of contract manufacturing capacity altogether or at reasonable cost;
- exit costs associated with terminating contract manufacturing relationships;
- fluctuations in foreign currency exchange rates;
- gains or losses associated with our hedging activities;
- change in the fair value of derivative instruments;
- fluctuations in the price of and demand for sugar, ethanol, and petroleum-based and other products for which our products are alternatives;
- seasonal variability in production and sales of our products;
- competitive pricing pressures, including decreases in average selling prices of our products;
- unanticipated expenses associated with changes in governmental regulations and environmental, health, labor and safety requirements;
- reductions or changes to existing fuel and chemical regulations and policies;
- departure of executives or other key management employees resulting in transition and severance costs;

- our ability to use our net operating loss carryforwards to offset future taxable income;
- business interruptions such as earthquakes, tsunamis and other natural disasters;
- our ability to integrate businesses that we may acquire;
- our ability to successfully collaborate with business venture partners;
- risks associated with the international aspects of our business; and
- changes in general economic, industry and market conditions, both domestically and in our foreign markets.

As part of our operating plan for 2016, we are planning to reduce our operating expenses in order to conserve cash.

Due to the factors described above, among others, the results of any quarterly or annual period may not meet our expectations or the expectations of our investors and may not be meaningful indications of our future performance.

Loss of key personnel, including key management personnel, and/or failure to attract and retain additional personnel could delay our product development programs and harm our research and development efforts and our ability to meet our business objectives.

Our business involves complex, global operations across a variety of markets and requires a management team and employee workforce that is knowledgeable in the many areas in which we operate. As we continue to build our business, we will need to hire and retain qualified research and development, management and other personnel to succeed. The process of hiring, training and successfully integrating qualified personnel into our operations, in the United States, Brazil and other countries in which we may seek to operate, is a lengthy and expensive one. The market for qualified personnel is very competitive because of the limited number of people available who have the necessary technical skills and understanding of our technology and anticipated products, particularly in Brazil. Our failure to hire and retain qualified personnel could impair our ability to meet our research and development and business objectives and adversely affect our results of operations and financial condition.

The loss of any key member of our management or key technical and operational employees, or the failure to attract or retain such employees, could prevent us from developing and commercializing our products for our target markets and executing our business strategy. We also may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among biotechnology and other technology-based businesses, particularly in the renewable chemicals and fuels area, or due to the availability of personnel with the qualifications or experience necessary for our business. In addition, reductions to our workforce as part of cost-saving measures, such as those discussed above with respect to our 2016 operating plan, may make it more difficult for us to attract and retain key employees. If we do not maintain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that will adversely affect our ability to meet the demands of our collaborators and customers in a timely fashion or to support our internal research and development programs and operations. In particular, our product and process development programs depend on our ability to attract and retain highly skilled technical and operational personnel. Competition for such personnel from numerous companies and academic and other research institutions may limit our ability to do so on acceptable terms. All of our employees are “at-will” employees, which means that either the employee or we may terminate their employment at any time.

Growth may place significant demands on our management and our infrastructure.

We have experienced, and expect to continue to experience, expansion of our business as we continue to make efforts to develop and bring our products to market. We have grown from 18 employees at the end of 2005 to 400 at June 30, 2016. Our growth and diversified operations have placed, and may continue to place, significant demands on our management and our operational and financial infrastructure. In particular, continued growth could strain our ability to:

- manage multiple research and development programs;
- operate multiple manufacturing facilities around the world;
- develop and improve our operational, financial and management controls;
- enhance our reporting systems and procedures;
- recruit, train and retain highly skilled personnel;
- develop and maintain our relationships with existing and potential business partners;
- maintain our quality standards; and
- maintain customer satisfaction.

Managing our growth will require significant expenditures and allocation of valuable management resources. If we fail to achieve the necessary level of efficiency in our organization as it grows, our business, results of operations and financial condition would be adversely impacted.

Our proprietary rights may not adequately protect our technologies and product candidates.

Our commercial success will depend substantially on our ability to obtain patents and maintain adequate legal protection for our technologies and product candidates in the United States and other countries. As of June 30, 2016, we had 441 issued United States and foreign patents and 353 pending United States and foreign patent applications that were owned by or licensed to us. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies and future products are covered by valid and enforceable patents or are effectively maintained as trade secrets.

We apply for patents covering both our technologies and product candidates, as we deem appropriate. However, filing, prosecuting, maintaining and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States are less extensive than those in the United States. We may also fail to apply for patents on important technologies or product candidates in a timely fashion, or at all. Our existing and future patents may not be sufficiently broad to prevent others from practicing our technologies or from designing products around our patents or otherwise developing competing products or technologies. In addition, the patent positions of companies like ours are highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of patent claims has emerged to date in the United States and the landscape is expected to become even more uncertain in view of recent rule changes by the United States Patent Office (or "USPTO"). Additional uncertainty may result from legal precedent by the United States Federal Circuit and Supreme Court as they determine legal issues concerning the scope and construction of patent claims and inconsistent interpretation of patent laws or from legislation enacted by the U.S. Congress. The patent situation outside of the United States is even less predictable. As a result, the validity and enforceability of patents cannot be predicted with certainty. Moreover, we cannot be certain whether:

- we (or our licensors) were the first to make the inventions covered by each of our issued patents and pending patent applications;
- we (or our licensors) were the first to file patent applications for these inventions;
- others will independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our or our licensors' patents will be valid or enforceable;

- any patents issued to us (or our licensors) will provide us with any competitive advantages, or will be challenged by third parties;
- we will develop additional proprietary products or technologies that are patentable; or
- the patents of others will have an adverse effect on our business.

We do not know whether any of our pending patent applications or those pending patent applications that we license will result in the issuance of any patents. Even if patents are issued, they may not be sufficient to protect our technology or product candidates. The patents we own or license and those that may be issued in the future may be challenged, invalidated, rendered unenforceable, or circumvented, and the rights granted under any issued patents may not provide us with proprietary protection or competitive advantages. Moreover, third parties could practice our inventions in territories where we do not have patent protection or in territories where they could obtain a compulsory license to our technology where patented. Such third parties may then try to import products made using our inventions into the United States or other territories. Accordingly, we cannot ensure that any of our pending patent applications will result in issued patents, or even if issued, predict the breadth, validity and enforceability of the claims upheld in our and other companies' patents.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries do not favor the enforcement of patents or other intellectual property rights, which could hinder us from preventing the infringement of our patents or other intellectual property rights. Proceedings to enforce our patent rights in the United States or foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert patent infringement or other claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license from third parties.

Unauthorized parties may attempt to copy or otherwise obtain and use our products or technology. Monitoring unauthorized use of our intellectual property is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in certain foreign countries where the local laws may not protect our proprietary rights as fully as in the United States or may provide, today or in the future, for compulsory licenses. If competitors are able to use our technology, our ability to compete effectively could be harmed. Moreover, others may independently develop and obtain patents for technologies that are similar to, or superior to, our technologies. If that happens, we may need to license these technologies, and we may not be able to obtain licenses on reasonable terms, if at all, which could cause harm to our business.

We rely in part on trade secrets to protect our technology, and our failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We rely on trade secrets to protect some of our technology, particularly where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to maintain and protect. Our strategy for contract manufacturing and scale-up of commercial production requires us to share confidential information with our international business partners and other parties. Our product development collaborations with third parties, including with Total, require us to share confidential information, including with employees of Total who are seconded to Amyris during the term of the collaboration. While we use reasonable efforts to protect our trade secrets, our or our business partners' employees, consultants, contractors or scientific and other advisors may unintentionally or willfully disclose our proprietary information to competitors. Enforcement of claims that a third party has illegally obtained and is using trade secrets is expensive, time consuming and uncertain. In addition, foreign courts are sometimes less willing than United States courts to protect trade secrets. If our competitors independently develop equivalent knowledge, methods and know-how, we would not be able to assert our trade secrets against them.

We require new employees and consultants to execute confidentiality agreements upon the commencement of an employment or consulting arrangement with us. We additionally require consultants, contractors, advisors, corporate collaborators, outside scientific collaborators and other third parties that may receive trade secret information to execute confidentiality agreements. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. Nevertheless, our proprietary information may be disclosed, or these agreements may be unenforceable or difficult to enforce. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. Additionally, trade secret law in Brazil differs from that in the United States which requires us to take a different approach to protecting our trade secrets in Brazil. Some of these approaches to trade secret protection may be novel and untested under Brazilian law and we cannot guarantee that we would prevail if our trade secrets are contested in Brazil. If any of the above risks materializes, our failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We may not be able to fully enforce covenants not to compete and not to solicit with our employees, and therefore we may be unable to prevent our competitors from benefiting from the expertise of such employees.

Our proprietary information and inventions agreements with our employees contain non-compete and non-solicitation provisions. These provisions prohibit our employees from competing directly with our business or proposed business or working for our competitors during their term of employment, and from directly and indirectly soliciting our employees and consultants to leave our company for any purpose. Under applicable U.S. and Brazilian law, we may be unable to enforce these provisions. If we cannot enforce these provisions with our employees, we may be unable to prevent our competitors from benefiting from the expertise of such employees. Even if these provisions are enforceable, they may not adequately protect our interests. The defection of one or more of our employees to a competitor could materially adversely affect our business, results of operations and ability to capitalize on our proprietary information.

Third parties may misappropriate our yeast strains.

Third parties, including contract manufacturers, sugar and ethanol mill owners, other contractors and shipping agents, often have custody or control of our yeast strains. If our yeast strains were stolen, misappropriated or reverse engineered, they could be used by other parties who may be able to reproduce the yeast strains for their own commercial gain. If this were to occur, it would be difficult for us to challenge and prevent this type of use, especially in countries where we have limited intellectual property protection or that do not have robust intellectual property law regimes.

If we or one of our collaborators are sued for infringing intellectual property rights or other proprietary rights of third parties, litigation could be costly and time consuming and could prevent us from developing or commercializing our future products.

Our commercial success depends on our and our collaborators' ability to operate without infringing the patents and proprietary rights of other parties and without breaching any agreements we have entered into with regard to our technologies and product candidates. We cannot determine with certainty whether patents or patent applications of other parties may materially affect our ability to conduct our business. Our industry spans several sectors, including biotechnology, renewable fuels, renewable specialty chemicals and other renewable compounds, and is characterized by the existence of a significant number of patents and disputes regarding patent and other intellectual property rights. Because patent applications can take several years to issue, there may currently be pending applications, unknown to us, that may result in issued patents that cover our technologies or product candidates. We are aware of a significant number of patents and patent applications relating to aspects of our technologies filed by, and issued to, third parties. The existence of third-party patent applications and patents could significantly reduce the coverage of patents owned by or licensed to us and our collaborators and limit our ability to obtain meaningful patent protection. If we wish to make, use, sell, offer to sell, or import the technology or compound claimed in issued and unexpired patents owned by others, we will need to obtain a license from the owner, enter into litigation to challenge the validity of the patents or incur the risk of litigation in the event that the owner asserts that we infringe its patents. If patents containing competitive or conflicting claims are issued to third parties and these claims are ultimately determined to be valid, we and our collaborators may be enjoined from pursing research, development, or commercialization of products, or be required to obtain licenses to these patents, or to develop or obtain alternative technologies.

If a third-party asserts that we infringe upon its patents or other proprietary rights, we could face a number of issues that could seriously harm our competitive position, including:

- infringement and other intellectual property claims, which could be costly and time consuming to litigate, whether or not the claims have merit, and which could delay getting our products to market and divert management attention from our business;

- substantial damages for past infringement, which we may have to pay if a court determines that our product candidates or technologies infringe a third party's patent or other proprietary rights;

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- a court prohibiting us from selling or licensing our technologies or future products unless the holder licenses the patent or other proprietary rights to us, which it is not required to do; and

- if a license is available from a third party, such third party may require us to pay substantial royalties or grant cross licenses to our patents or proprietary rights.

The industries in which we operate, and the biotechnology industry in particular, are characterized by frequent and extensive litigation regarding patents and other intellectual property rights. Many biotechnology companies have employed intellectual property litigation as a way to gain a competitive advantage. If any of our competitors have filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in interference proceedings declared by the relevant patent regulatory agency to determine priority of invention and, thus, the right to the patents for these inventions in the United States. These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, an interference proceeding may result in loss of certain claims. Our involvement in litigation, interferences, opposition proceedings or other intellectual property proceedings inside and outside of the United States, to defend our intellectual property rights, or as a result of alleged infringement of the rights of others, may divert management time from focusing on business operations and could cause us to spend significant resources, all of which could harm our business and results of operations.

Many of our employees were previously employed at universities, biotechnology, specialty chemical or oil companies, including our competitors or potential competitors. We may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel and be enjoined from certain activities. A loss of key research personnel or their work product could hamper or prevent our ability to commercialize our product candidates, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and demand on management resources.

We may need to commence litigation to enforce our intellectual property rights, which would divert resources and management's time and attention and the results of which would be uncertain.

Enforcement of claims that a third party is using our proprietary rights without permission is expensive, time consuming and uncertain. Significant litigation would result in substantial costs, even if the eventual outcome is favorable to us and would divert management's attention from our business objectives. In addition, an adverse outcome in litigation could result in a substantial loss of our proprietary rights and we may lose our ability to exclude others from practicing our technology or producing our product candidates.

The laws of some foreign countries do not protect intellectual property rights to the same extent as do the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology and/or bioindustrial technologies. This could make it difficult for us to stop the infringement of our patents or misappropriation of our other intellectual property rights. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Moreover, our efforts to protect our intellectual property rights in such countries may be inadequate.

We do not have exclusive rights to intellectual property we developed under U.S. federally funded research grants and contracts, including with DARPA and we could ultimately share or lose the rights we do have under certain circumstances.

Some of our intellectual property rights have been or may be developed in the course of research funded by the U.S. government, including under our agreements with DARPA. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future products pursuant to the Bayh-Dole Act of 1980. Government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us, or an assignee or exclusive licensee to such inventions, to grant licenses to any of these inventions to a third party if they determine that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; (iii) government action is necessary to meet requirements for public use under federal regulations; or (iv) the right to use or sell such inventions is exclusively licensed to an entity within the U.S. and substantially manufactured outside the U.S. without the U.S. government’s prior approval. Additionally, we may be restricted from granting exclusive licenses for the right to use or sell our inventions created pursuant to such agreements unless the licensee agrees to additional restrictions (e.g., manufacturing substantially all of the invention in the U.S.). The U.S. government also has the right to take title to these inventions if we fail to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government may acquire title in any country in which a patent application is not filed within specified time limits. Additionally, certain inventions are subject to transfer restrictions during the term of these agreements and for a period thereafter, including sales of products or components, transfers to foreign subsidiaries for the purpose of the relevant agreements, and transfers to certain foreign third parties. If any of our intellectual property becomes subject to any of the rights or remedies available to the U.S. government or third parties pursuant to the Bayh-Dole Act of 1980, this could impair the value of our intellectual property and could adversely affect our business.

Our products subject us to product-safety risks, and we may be sued for product liability.

The design, development, production and sale of our products involve an inherent risk of product liability claims and the associated adverse publicity. Our potential products could be used by a wide variety of consumers with varying levels of sophistication. Although safety is a priority for us, we are not always in control of the final uses and formulations of the products we supply or their use as ingredients. Our products could have detrimental impacts or adverse impacts we cannot anticipate. Despite our efforts, negative publicity about Amyris, including product safety or similar concerns, whether real or perceived, could occur, and our products could face withdrawal, recall or other quality issues. In addition, we may be named directly in product liability suits relating to our products, even for defects resulting from errors of our commercial partners, contract manufacturers, chemical finishers or customers or end users of our products. These claims could be brought by various parties, including customers who are purchasing products directly from us or other users who purchase products from our customers. We could also be named as co-parties in product liability suits that are brought against the contract manufacturers or Brazilian sugar and ethanol mills with whom we partner to produce our products. Insurance coverage is expensive, may be difficult to obtain and may not be available in the future on acceptable terms. We cannot be certain that our contract manufacturers or the sugar and ethanol producers who partner with us to produce our products will have adequate insurance coverage to cover against potential claims. Any insurance we do maintain may not provide adequate coverage against potential losses, and if claims or losses exceed our liability insurance coverage, our business would be adversely impacted. In addition, insurance coverage may become more expensive, which would harm our results of operations.

During the ordinary course of business, we may become subject to lawsuits or indemnity claims, which could materially and adversely affect our business and results of operations.

From time to time, we may in the ordinary course of business be named as a defendant in lawsuits, claims and other legal proceedings. These actions may seek, among other things, compensation for alleged personal injury, worker's compensation, employment discrimination, breach of contract, property damages, civil penalties and other losses of injunctive or declaratory relief. In the event that such actions or indemnities are ultimately resolved unfavorably at amounts exceeding our accrued liability, or at material amounts, the outcome could materially and adversely affect our reputation, business and results of operations. In addition, payments of significant amounts, even if reserved, could adversely affect our liquidity position.

If we fail to maintain an effective system of internal controls, we might not be able to report our financial results accurately or in a timely manner or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act of 2002 requires us and our independent registered public accounting firm to evaluate and report on our internal control over financial reporting. The process of implementing our internal controls and complying with Section 404 is expensive and time consuming, and requires significant attention of management.

We cannot be certain that these measures will ensure that we maintain adequate controls over our financial processes and reporting in the future. In addition, to the extent we create joint ventures or have any variable interest entities and the financial statements of such entities are not prepared by us, we will not have direct control over their financial statement preparation. As a result, we will, for our financial reporting, depend on what these entities report to us, which could result in us adding monitoring and audit processes and increase the difficulty of implementing and maintaining adequate controls over our financial processes and reporting in the future and could lead to delays in our external reporting. This may be particularly true where we are establishing such entities with commercial partners that do not have sophisticated financial accounting processes in place, or where we are entering into new relationships at a rapid pace, straining our integration capacity. Additionally, if we do not receive the information from the joint venture or variable interest entity on a timely basis, this could cause delays in our external reporting. Even if we conclude, and our independent registered public accounting firm concurs, that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, because of its inherent limitations, internal control over financial reporting may not prevent or detect fraud or misstatements. Failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our results of operations or cause us to fail to meet our reporting obligations. If we or our independent registered public accounting firm discover a material weakness, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price. In addition, failure to comply with Section 404 could subject us to a variety of administrative sanctions, including SEC action, ineligibility for short form resale registration, the suspension or delisting of our common stock from the stock exchange on which it is listed, and the inability of registered broker-dealers to make a market in our common stock, which would further reduce our stock price and could harm our business.

Our ability to use our net operating loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code (or the “Code”), a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its pre-change net operating loss carryforwards (or “NOLs”), to offset future taxable income. If the Internal Revenue Service challenges our analysis that our existing NOLs are not subject to limitations arising from previous ownership changes, or if we undergo an ownership change, our ability to utilize NOLs could be limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations. For these reasons, we may not be able to utilize a material portion of the NOLs carryforward as of June 30, 2016, even if we attain profitability.

Loss of, or inability to secure government contract revenues could impair our business.

We have contracts or subcontracts with certain governmental agencies or their contractors. Generally, these agreements, as they may be amended or modified from time to time, have fixed terms and may be terminated, modified or be subject to recovery of payments by the government agency under certain conditions (such as failure to comply with detailed reporting and governance processes or failure to achieve milestones). Under these agreements, we are also subject to audits, which can result in corrective action plans and penalties up to and including termination. If these governmental agencies terminate these agreements with us, it could reduce our revenues which could harm our business. Additionally, we anticipate securing additional government contracts as part of our business plan for 2015 and beyond. If we are unable to secure such government contracts, it could harm our business.

Our headquarters and other facilities are located in an active earthquake and tsunami zone, and an earthquake or other types of natural disasters affecting us or our suppliers could cause resource shortages and disrupt and harm our results of operations.

We conduct our primary research and development operations in the San Francisco Bay Area in an active earthquake and tsunami zone, and certain of our suppliers conduct their operations in the same region or in other locations that are susceptible to natural disasters. In addition, California and some of the locations where certain of our suppliers are located have experienced shortages of water, electric power and natural gas from time to time. The occurrence of a natural disaster, such as an earthquake, drought or flood, or localized extended outages of critical utilities or transportation systems, or any critical resource shortages, affecting us or our suppliers could cause a significant interruption in our business, damage or destroy our facilities, production equipment or inventory or those of our suppliers and cause us to incur significant costs or result in limitations on the availability of our raw materials, any of which could harm our business, financial condition and results of operations. The insurance we maintain against fires, earthquakes and other natural disasters may not be adequate to cover our losses in any particular case.

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Risks Related to Ownership of Our Common Stock

Our stock price may be volatile.

The market price of our common stock has been, and we expect it to continue to be, subject to significant volatility, and it has declined significantly from our initial public offering price. As of June 30, 2016, the reported closing price for our common stock on The NASDAQ Stock Market was $0.45 per share. Market prices for securities of early stage companies have historically been particularly volatile. Such fluctuations could be in response to, among other things, the factors described in this “Risk Factors” section, or other factors, some of which are beyond our control, such as:

- fluctuations in our financial results or outlook or those of companies perceived to be similar to us;
- changes in estimates of our financial results or recommendations by securities analysts;
- changes in market valuations of similar companies;
- changes in the prices of commodities associated with our business such as sugar, ethanol and petroleum or changes in the prices of commodities that some of our products may replace, such as oil and other petroleum sourced products;
- changes in our capital structure, such as future issuances of securities or the incurrence of debt;
- announcements by us or our competitors of significant contracts, acquisitions or strategic alliances;
- regulatory developments in the United States, Brazil, and/or other foreign countries;
- litigation involving us, our general industry or both;
- additions or departures of key personnel;
- investors' general perception of us; and
- changes in general economic, industry and market conditions.

Furthermore, stock markets have experienced price and volume fluctuations that have affected, and continue to affect, the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes and international currency fluctuations, may negatively affect the market price of our common stock.

In the past, many companies that have experienced volatility and sustained declines in the market price of their stock have become subject to securities class action and derivative action litigation. We were involved in two such lawsuits, which were dismissed in 2014, and we may be the target of similar litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

If our common stock is delisted from The NASDAQ Stock Market, our business, financial condition, results of operations and stock price could be adversely affected, and the liquidity of our stock and our ability to obtain financing could be impaired.

On June 14, 2016, we received a notice from The NASDAQ Stock Market LLC (or "NASDAQ") notifying us that we are not in compliance with the requirement of NASDAQ Listing Rule 5450(a)(1) for continued listing on the NASDAQ Global Market as a result of the closing bid price of our common stock being below $1.00 per share for 30 consecutive business days. In accordance with NASDAQ Listing Rule 5810(c)(3)(A), we have 180 calendar days, or until December 12, 2016, to regain compliance with NASDAQ Listing Rule 5450(a)(1). To regain compliance, the closing bid price of our common stock must be at least $1.00 per share for a minimum of 10 consecutive business days. If we do not regain compliance during such period, we may be eligible for an additional compliance period of 180 calendar days, provided that we meet NASDAQ's continued listing requirement for market value of publicly held shares and all other initial listing standards for the NASDAQ Capital Market, other than the minimum bid price requirement, and provide written notice to NASDAQ of our intention to cure the deficiency during the second compliance period. If we do not regain compliance during the initial compliance period and are not eligible for an additional compliance period, NASDAQ will provide notice that our common stock will be subject to delisting from the NASDAQ Stock Market. In that event, we may appeal such determination to a hearings panel. There can be no assurance that we will satisfy these conditions and that our common stock will remain listed on the NASDAQ Stock Market.

Any delisting of our common stock from The NASDAQ Stock Market could adversely affect our ability to attract new investors, decrease the liquidity of our outstanding shares of common stock, reduce our flexibility to raise additional capital, reduce the price at which our common stock trades, and increase the transaction costs inherent in trading such shares with overall negative effects for our stockholders. In addition, delisting of our common stock could deter broker-dealers from making a market in or otherwise seeking or generating interest in our common stock, and might deter certain institutions and persons from investing in our securities at all. Furthermore, the delisting of our common stock from The NASDAQ Stock Market would constitute a breach under certain of our financing agreements, including agreements governing our outstanding convertible indebtedness, which could result in an acceleration of such indebtedness. See Note 5, "Debt" for additional details. If such indebtedness is accelerated, it would generally also constitute an event of default under our other outstanding indebtedness, permitting acceleration of such other outstanding indebtedness as well. For these reasons and others, the delisting of our common stock from The NASDAQ Stock Market could adversely affect our business, financial condition and results of operations.

The concentration of our capital stock ownership with insiders will limit the ability to influence corporate matters and presents risks related to the operations of our significant stockholders.

As of July 31, 2016:

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our executive officers and directors and their affiliates together held more than 11% of our outstanding common stock;

- Temasek (who has a designee on our Board of Directors) held approximately 30% of our outstanding common stock; and

- Total held approximately 27% of our outstanding common stock.

Furthermore, Total and Temasek each hold certain of our convertible promissory notes, which are convertible into approximately 17,082,543 and 2,670,370 shares of our common stock, respectively, as of July 31, 2016. Total and Temasek also hold certain warrants pursuant to which they may purchase shares of our common stock. This significant concentration of share ownership may adversely affect the trading price for our common stock because investors often perceive disadvantages in owning stock in companies with controlling stockholders. Also, these stockholders, acting together, will be able to control our management and affairs and matters requiring stockholder approval, including the election of directors and the approval of significant corporate transactions, such as mergers, consolidations or the sale of all or substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change of control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if that change of control would benefit our other stockholders.

The market price of our common stock could be negatively affected by future sales of our common stock.

If our existing stockholders, particularly our largest stockholders, our directors, their affiliates, or our executive officers, sell a substantial number of shares of our common stock in the public market, the market price of our common stock could decrease significantly. The perception in the public market that these stockholders might sell our common stock could also depress the market price of our common stock and could impair our future ability to obtain capital, especially through an offering of equity securities.

We also have in place a registration statement for the resale of shares of common stock held by, or issuable to, certain of our largest stockholders. All common stock sold pursuant to an offering covered by such registration statement will be freely transferable.

Shares issuable under our equity incentive plans have been registered on a Form S-8 registration statement and may be freely sold in the public market upon issuance, except for shares held by affiliates who have certain restrictions on their ability to sell.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business or our market, or if they change their recommendations regarding our stock adversely, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If any of the analysts who cover us change their recommendation regarding our stock adversely, or provide more favorable relative recommendations about our competitors, our stock price would likely decline. If any analyst who may cover us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

We do not expect to declare any dividends in the foreseeable future.

We do not anticipate declaring any cash dividends to holders of our common stock in the foreseeable future. In addition, certain of our equipment leases and credit facilities currently restrict our ability to pay dividends. Consequently, investors may need to rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. Investors seeking cash dividends should not purchase our common stock.

Anti-takeover provisions contained in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our certificate of incorporation and bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- a staggered board of directors;
- authorizing the board of directors to issue, without stockholder approval, preferred stock with rights senior to those of our common stock;
- authorizing the board of directors to amend our bylaws and to fill board vacancies until the next annual meeting of the stockholders;
- prohibiting stockholder action by written consent;
- limiting the liability of, and providing indemnification to, our directors and officers;
- eliminating the ability of our stockholders to call special meetings; and

- requiring advance notification of stockholder nominations and proposals.

Section 203 of the Delaware General Corporation Law prohibits, subject to some exceptions, “business combinations” between a Delaware corporation and an “interested stockholder,” which is generally defined as a stockholder who becomes a beneficial owner of 15% or more of a Delaware corporation's voting stock, for a three-year period following the date that the stockholder became an interested stockholder. We have agreed to opt out of Section 203 through our certificate of incorporation, but our certificate of incorporation contains substantially similar protections to our company and stockholders as those afforded under Section 203, except that we have agreed with Total that it and its affiliates will not be deemed to be “interested stockholders” under such protections.

In addition, we have an agreement with Total, which provides that, so long as Total holds at least 10% of our voting securities, we must inform Total of any offer to acquire us or any decision of our Board of Directors to sell our company, and we must provide Total with information about the contemplated transaction. In such events, Total will have an exclusive negotiating period of fifteen business days in the event the Board of Directors authorizes us to solicit offers to buy Amyris, or five business days in the event that we receive an unsolicited offer to purchase us. This exclusive negotiation period will be followed by an additional restricted negotiation period of ten business days, during which we are obligated to continue to negotiate with Total and will be prohibited from entering into an agreement with any other potential acquirer.

These and other provisions in our restated certificate of incorporation and our restated bylaws that became effective upon the completion of our initial public offering under Delaware law and in our agreements with Total could discourage potential takeover attempts, reduce the price that investors might be willing to pay in the future for shares of our common stock and result in the market price of our common stock being lower than it would be without these provisions.

Conversion of our outstanding convertible promissory notes or the exercise of outstanding warrants to purchase our common stock will dilute the ownership interest of existing stockholders or may otherwise depress the market price of our common stock.

The conversion of some or all of our outstanding convertible promissory notes or the exercise of some or all of outstanding warrants to purchase our common stock will dilute the ownership interests of existing stockholders. In particular, the exercise of the warrants which have a $0.01 per share exercise price will dilute the economic ownership interest of our existing stockholders. In addition, any sales in the public market of the shares of our common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock. Furthermore, the existence of our outstanding convertible promissory notes and warrants may encourage short selling by market participants because the anticipated conversion of such notes into, or exercise of such warrants for, shares of our common stock could depress the market price of our common stock.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On May 10, 2016, we issued and sold 4,385,964 shares of our common stock to the Bill & Melinda Gates Foundation at a purchase price per share equal to $1.14, for aggregate proceeds of approximately $5,000,000, as described in more detail above in Note 8, “Significant Agreements” to our unaudited consolidated financial statements included in this report.

On August 6, 2016, we issued a warrant to purchase 5,000,000 shares of our common stock, at an exercise price of $0.50 per share, to Ginkgo Bioworks, Inc. (“Ginkgo”) in exchange for the transfer of certain information technology from Ginkgo to the Company. The warrant is exercisable for a period of one year from the date of issuance. See Note 8, “Significant Agreements” and Note 18, “Subsequent Events” to our unaudited consolidated financial statements included in this report for additional details regarding our relationship with Ginkgo.

No underwriters or agents were involved in the issuance or sale of such securities. The securities were issued in private placements pursuant to the exemption from registration under Section 4(2) of the Securities Act and Regulation D promulgated under the Securities Act. Each purchaser acquired the applicable securities for investment purposes only and without intent to resell, was able to fend for itself in the relevant transaction, and is an accredited investor as defined in Rule 501 of Regulation D promulgated under Section 3(b) of the Securities Act, and appropriate restrictions were set out in the agreements relating to the respective issuances. Each purchaser had adequate access to information about us in connection with the relevant transaction. The securities may not be offered or sold in the United States absent registration under the Securities Act or an applicable exemption from registration requirements.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

The exhibits listed in the Exhibit Index included herein at page 109 (other than exhibits 32.01, 32.02 and 101) are filed as part of this Quarterly Report on Form 10-Q and such Exhibit Index is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Dated: August 9, 2016 AMYRIS, INC.

/s/ JOHN G. MELO
John G. Melo
Director, President and Chief Executive Officer
(Principal Executive Officer)

Dated: August 9, 2016

/s/ RAFFI ASADORIAN
Raffi Asadorian
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT INDEX

Exhibit No.	Description	Previously Filed Form	File No.	Filing Date	Exhibit	Filed Herewith
3.01	Restated Certificate of Incorporation	10-Q	001-34885	November 10, 2010	3.01	
3.02	Certificate of Amendment, dated May 9, 2013, to Restated Certificate of Incorporation	S-8	333-188711	May 20, 2013	4.02	
3.03	Certificate of Amendment, dated May 12, 2014, to Restated Certificate of Incorporation	10-Q	001-34887	August 8, 2014	3.02	
3.04	Certificate of Amendment, dated September 18, 2015, to Restated Certificate of Incorporation	S-3/A	333-206331	November 4, 2015	3.03	
3.05	Certificate of Amendment, dated May 18, 2016, to Restated Certificate of Incorporation					X
3.06	Restated Bylaws	10-Q	001-34885	November 10, 2010	3.02	
4.01	Specimen of Common Stock Certificate	S-1	333-166135	July 6, 2010	4.01	
4.02	Amended and Restated Investors’ Rights Agreement, dated June 21, 2010, among registrant and its security holders listed therein	S-1	333-166135	June 23, 2010	4.02	
4.03	First Amendment, dated February 23, 2012, to Amended and Restated Investors' Rights Agreement among registrant and registrant's security holders listed therein	S-3	333-180005	March 9, 2012	4.06	
4.04	Amendment No. 2, dated December 24, 2012, to Amended and Restated Investors' Rights Agreement among registrant and registrant's security holders listed therein	10-K	001-34885	March 28, 2013	4.04	
4.05	Amendment No. 3, dated March 27, 2013, to Amended and Restated Investors' Rights Agreement among registrant and registrant's security holders listed therein	10-Q	001-34885	May 9, 2013	4.02	
4.06	Amendment No. 4, dated October 16, 2013, to Amended and Restated Investors' Rights Agreement among registrant and registrant's security holders listed therein	10-K	001-34885	April 2, 2014	4.06	
4.07	Amendment No. 5, dated December 24, 2013, to Amended and Restated Investors' Rights Agreement among registrant and registrant's security holders listed therein	10-K	001-34885	April 2, 2014	4.07	
4.08	Amendment No. 6, dated July 26, 2015, to Amended and Restated Investors’ Rights Agreement among registrant and registrant’s security holders listed therein	S-3	333-206331	August 12, 2015	4.17	
4.09	Warrant to Purchase Stock, dated December 23, 2011, issued to ATEL Ventures, Inc.	10-K	001-34885	February 28, 2012	4.07	
4.10	Side Letter, dated June 21, 2010, between registrant and Total Gas & Power USA, SAS	S-1	333-166135	June 23, 2010	4.19	
4.11		10-Q	001-34885		4.02	

	Agreement, dated February 23, 2012, among registrant, Maxwell (Mauritius) Pte Ltd, Naxyris SA, Biolding Investment SA and Sualk Capital Ltd.			May 9, 2012	
4.12	Securities Purchase Agreement, dated February 24, 2012, among registrant and certain investment funds affiliated with Fidelity Investments Institutional Services Company, Inc. listed therein (each, a Fidelity Purchaser)	S-3	333-180005	March 9, 2012	4.02
4.13	Form of Unsecured Senior Convertible Promissory Note issued by registrant to the Fidelity Purchasers in the amounts set forth next to each Fidelity Purchaser's name on Schedule I of Exhibit 4.12 hereof	S-3	333-180005	March 9, 2012	4.03
4.14	Registration Rights Agreement, dated February 27, 2012, among registrant and the Fidelity Purchasers	S-3	333-180005	March 9, 2012	4.04
4.15[c]	Form of Common Stock Purchase Agreement among registrant and certain investors	10-Q	001-34885	August 8, 2012	4.01

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4.16	Securities Purchase Agreement, dated July 30, 2012, between registrant and Total Gas & Power USA, SAS	10-Q	001-34885	November 9, 2012	4.01
4.17	Registration Rights Agreement, dated July 30, 2012, between registrant and Total Gas & Power USA, SAS	10-Q	001-34885	November 9, 2012	4.03
4.18	1.5% Senior Secured Convertible Note, dated July 29, 2015, issued by registrant to Total Energies Nouvelles Activités USA (f.k.a. Total Gas & Power USA, SAS) (RS-9)	10-Q	001-34885	November 9, 2015	4.21
4.19	1.5% Senior Convertible Note, dated March 21, 2016, issued by registrant to Total Energies Nouvelles Activités USA (RS-10)	10-Q	001-34885	May 10, 2016	4.19
4.20[a]	Securities Purchase Agreement, dated December 24, 2012, between registrant and certain investors listed therein	10-K	001-34885	March 28, 2013	4.16
4.21[a]	Follow-On Investment Agreement, dated December 24, 2012, between registrant and Biolding Investment SA	10-K	001-34885	March 28, 2013	4.17
4.22	Securities Purchase Agreement, dated March 27, 2013, between registrant and Biolding Investment SA	10-Q	001-34885	May 9, 2013	4.01
4.23	Securities Purchase Agreement (including Form of Tranche I Senior Convertible Note and Form of Tranche II Senior Convertible Note), dated August 8, 2013, between registrant, Maxwell (Mauritius) Pte Ltd and Total Energies Nouvelles Activités USA	10-Q	001-34885	November 5, 2013	4.01
4.24[a]	Amendment No. 1, dated October 16, 2013, to the Securities Purchase Agreement, dated August 8, 2013, between registrant and other parties named therein	10-K	001-34885	April 2, 2014	4.24
4.25	Tranche I Note Amendment and Amendment No. 2, dated December 24, 2013, to the Securities Purchase Agreement, dated August 8, 2013, between registrant and other parties named therein	10-K	001-34885	April 2, 2014	4.25
4.26[ad]	5% Tranche I Senior Convertible Note, dated October 16, 2013, issued to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 9, 2014	4.04
4.27[ae]	10% Tranche II Senior Convertible Note, dated January 15, 2014, issued to Total Energies Nouvelles Activités USA	10-Q	001-34885	May 9, 2014	4.06
4.28	Voting Agreement, dated August 8, 2013, among registrant and registrant's security holders named therein	10-Q	001-34885	November 5, 2013	4.02
4.29	Letter Agreement, dated March 29, 2014, between registrant and Total Energies Nouvelles Activités USA	10-Q	001-34885	May 9, 2014	4.03
4.30[a]	Amended and Restated Letter Agreement re: Certain Registration Rights, dated May 8, 2014, between registrant and the purchasers listed therein	10-Q	001-34885	August 8, 2014	4.01
4.31	Indenture, dated May 29, 2014, between registrant and Wells Fargo Bank, National Association, as Trustee	8-K	001-34885	May 29, 2014	4.01
4.32	6.50% Convertible Senior Note due 2019, dated May 29, 2014, issued by registrant to Cede & Co.	10-Q	001-34885	August 8, 2014	4.02
4.33[f]	6.50% Convertible Senior Note due 2019, dated May 29, 2014, issued by registrant to Maxwell (Mauritius) Pte Ltd.	10-Q	001-34885	August 8, 2014	4.03
4.34	Registration Rights Agreement, dated February 24, 2015, between the registrant and Nomis Bay Ltd	8-K	001-34885	February 26, 2015	4.01
4.35[g]	Voting Agreement, dated July 24, 2015, between registrant and Foris Ventures, LLC	10-Q	001-34885	November 9, 2015	4.43
4.36	Securities Purchase Agreement, dated July 24, 2015, between registrant and the purchasers listed therein	10-Q	001-34885	November 9, 2015	4.44

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4.37[h]	Warrant to Purchase Stock, issued on July 24, 2015, by registrant to Total Energies Nouvelles Activités USA	S-3	333-204102	August 12, 2015	4.21	
4.38	Exchange Agreement, dated July 29, 2015, between registrant and the investors therein	10-Q	001-34885	November 9, 2015	4.46	
4.39	Maturity Treatment Agreement, dated July 29, 2015, between registrant and the investors listed therein	10-Q	001-34885	November 9, 2015	4.47	
4.40	Letter Agreement, dated as of July 29, 2015, among registrant and registrant's security holders listed therein	S-3	333-204102	August 12, 2015	4.20	
4.41	Warrant to Purchase Stock, issued July 29, 2015, by the registrant to Total Energies Nouvelles Activités USA	S-3	333-204102	August 12, 2015	4.23	
4.42	Warrant to Purchase Stock, issued July 29, 2015, by the registrant to Maxwell (Mauritius) PTE Ltd	S-3	333-204102	August 12, 2015	4.26	
4.43	Indenture, dated October 20, 2015, between registrant and Wells Fargo Bank, National Association, as Trustee	8-K	001-34885	October 20, 2015	4.01	
4.44	9.50% Convertible Senior Note due 2019, dated October 20, 2015, issued by registrant to Cede & Co.	10-K	001-34885	March 30, 2016	4.56	
4.45	Registration Rights Agreement, dated October 20, 2015, between the registrant and the registrant's security holders listed therein	8-K	001-34885	October 20, 2015	4.02	
4.46	Note and Warrant Purchase Agreement, dated February 12, 2016, between registrant and the purchasers listed therein	10-Q	001-34885	May 10, 2016	4.50	
4.47[i]	Unsecured Promissory Note, dated February 12, 2016, between registrant and Foris Ventures, LLC	10-Q	001-34885	May 10, 2016	4.51	
4.48[j]	Warrant to Purchase Stock, dated February 12, 2016, between registrant and Foris Ventures, LLC	10-Q	001-34885	May 10, 2016	4.52	
4.49	Form of Convertible Note between registrant and a private investor	8-K	001-34885	May 10, 2016	4.1	
4.50	Note Purchase Agreement, dated June 24, 2016, between registrant and Foris Ventures, LLC					X
4.51	Secured Promissory Note, dated June 24, 2016, issued by registrant to Foris Ventures, LLC					X
10.01	Securities Purchase Agreement, dated April 8, 2016, between registrant and the Bill & Melinda Gates Foundation					X
10.02	Charitable Purposes Letter Agreement, dated April 8, 2016, between registrant and the Bill & Melinda Gates Foundation					X
10.03	Form of Securities Purchase Agreement between registrant and a private investor	8-K	001-34885	May 10, 2016	10.1	
10.04b	Initial Strategic Partnership Agreement, dated June 28, 2016, between registrant and Ginkgo Bioworks, Inc.					X
31.01	Certification of Chief Executive Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
31.02	Certification of Chief Financial Officer pursuant to Securities Exchange Act Rules 13a-14(c) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.01k	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X

32.02k	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X

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101[1]	The following materials from registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Operations; (ii) the Consolidated Balance Sheets; (iii) the Consolidated Statements of Comprehensive Income; (iv) the Consolidated Statements of Convertible Preferred Stock, Redeemable Noncontrolling Interest and Equity (Deficit); (v) the Consolidated Statements of Cash Flows; and (vi) Notes to Consolidated Financial Statements	X

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a Portions of this exhibit, which have been granted confidential treatment by the Securities and Exchange Commission, have been omitted.

b Portions of this exhibit have been omitted pending a determination by the Securities and Exchange Commission as to whether these portions should be granted confidential treatment.

c Substantially identical Common Stock Purchase Agreements, each dated May 18, 2012, were entered into with five separate investors. Registrant has filed the form of such Common Stock Purchase Agreements, which is substantially identical in all material respects to all of such Common Stock Purchase Agreements, except as to the parties thereto and the number of shares being purchased.

d Registrant issued substantially identical 5% Tranche I Senior Convertible Notes (the "5% Notes") to Total Energies Nouvelles Activités USA (f.k.a. Total Gas & Power USA, SAS) (“Total”), FIAM Target Date Large Cap Stock Commingled Pool (formerly known as Fidelity Pyramis Lifecycle Large Cap Stock Commingled Pool. Fidelity Variable Insurance Products Fund Ill: Growth & Income Portfolio, Fidelity Hastings Street Trust: Fidelity Advisor Series Growth & Income Fund. Fidelity Securities Fund: Fidelity Growth & Income Portfolio Fidelity Hastings Street Trust: Fidelity Series Growth & Income Fund. Fidelity Commonwealth Trust: Fidelity Large Cap Stock Fund, and Maxwell (Mauritius) Pte Ltd on October 16. 2013. Registrant has filed the 5% Note issued to Total and has included with Exhibit 4.04 of registrant’s Form 10-Q filed on May 9, 2014 a schedule (Schedule A)) identifying each of the 5% Notes and setting forth the material detail in which the other 5% Notes differ from the filed 5% Note (i.e., the purchasers, the amounts of the 5% Notes, and the conversion price).

e Registrant issued substantially identical 10% Tranche II Senior Convertible Notes (the "10% Notes") to Total, Wolverine Flagship Fund Trading Limited and Maxwell (Mauritius) Pte Ltd on January 15 2014. Registrant has filed the 10% Note issued to Total and has included with Exhibit 4.06 of registrant’s Form 10-Q filed on May 9, 2014 a schedule (Schedule A)) identifying each of the 10% Notes and setting forth the material details in which the other 10% Notes differ from the filed 10% Note (i.e., the purchasers and the amounts of the 10% Notes).

f Registrant issued substantially identical 6.50% Senior Convertible Notes due 2019 (the “6.5% Notes”) to Maxwell (Mauritius) Pte Ltd. (“Temasek”), Total and Foris Ventures, LLC on May 29, 2014. Registrant has filed the 6.5% Note issued to Temasek, and has included with Exhibit 4.03 of registrant's Form 10-Q filed August 8, 2014 a schedule (Schedule A) identifying each of the 6.5% Notes and setting forth the material details in which the other 6.5% Notes differ from the filed 6.5% Note (i.e., the note number, the purchasers, and the amounts of the 6.5% Notes).

g Substantially identical Voting Agreements, each dated July 31, 2015, were entered into with five separate investors. Registrant has filed the Voting Agreement entered into by registrant and Foris Ventures, LLC, which is substantially identical in all material respects to all of such Voting Agreements, except as to the parties thereto.

h Registrant issued substantially identical warrants to the purchasers under that certain Securities Purchase Agreement entered into on July 24, 2015. Registrant has filed the warrant issued to Total Energies Nouvelles Activités USA and has included with Exhibit 4.03 of registrant’s Form 10-Q filed on August 8, 2015 a schedule (Schedule A) identifying each of the warrants and setting forth the material details in which the other warrants differ from the filed warrant (i.e., the purchasers, the certificate numbers, and the respective amounts of shares underlying the warrants).

i Substantially identical Unsecured Promissory Notes (the “Notes”) were entered into with three separate investors. Registrant has filed the Note entered into by registrant and Foris Ventures, LLC. Registrant has included with Exhibit 4.50 of registrant’s Form 10-Q filed on May 10, 2016 a schedule (Schedule I) identifying each of the Notes and setting forth the material details in which the other Notes differ from that of the filed Note (i.e., the dates of issuance, the purchasers, and the principal and purchase price).

j Substantially identical Warrants to Purchase Stock (the “Warrants”) were entered into with three separate investors. Registrant has filed the Warrant entered into by registrant and Foris Ventures, LLC. Registrant has included with Exhibit 4.50 of registrant’s Form 10-Q filed on May 10, 2016 a schedule (Schedule I) identifying each of the Warrants and setting forth the material details in which the other Warrants differ from that of the filed Warrant (i.e., the dates of issuance, the purchasers, and the amount of warrant shares and purchase price).

k

This certification shall not be deemed “filed” for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that Section, nor shall it be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act.

Pursuant to applicable securities laws and regulations, registrant is deemed to have complied with the reporting
obligation relating to the submission of interactive data files in such exhibits and is not subject to liability under any
anti-fraud provisions of the federal securities laws as long as registrant has made a good faith attempt to comply with
1 the submission requirements and promptly amends the interactive data files after becoming aware that the interactive
data files fails to comply with the submission requirements. These interactive data files shall not be deemed “filed” nor
part of a registration statement or prospectus for purposes of Sections 11 or 12 of the Securities Act, nor shall they be
deemed “filed” for purposes of Section 18 of the Exchange Act or otherwise subject to liability under these sections.