



*"WHEN THE TIDE GOES OUT,
WHAT WILL WASH ASHORE?"*

/ STRONG SELL OPINION /

Danimer Scientific, Inc. | NYSE: DNMR



SPRUCE POINT
CAPITAL MANAGEMENT

INVESTMENT RESEARCH REPORT

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Executive Summary

Another Go Around At Plastic Alternatives With Several Corporate Governance Red Flags: 65%-100% Downside Risk

Danimer Scientific (“DNMR” or “the Company,” formerly known as Meredian Holdings Group (“MHG”), is a producer of bioplastics including polylactic acid (PLA) and polyhydroxyalkanoate (PHA), which are derived from plant-based feedstock. Danimer’s key product is its PHA that sells under the brand name Nodax. While the Company is viewed as an ESG player that will disrupt the plastic industry, we believe Danimer’s growth expansion story is likely to fail as did others that have previously tried. The most surprising aspect of Danimer’s business is not its lackluster technology, as highlighted by the Wall Street Journal’s March 2021 article, but the several corporate governance red flags we have found involving the past and current CEOs, the CTO and current Danimer executives and Directors. Danimer went public through an acquisition by Live Oak Acquisition Corp, a special purpose acquisition company (SPAC), promoted by Gary Wunderlich, an SEC sanctioned individual. We believe the hype around SPACs at the time resulted in a lack of due diligence that would have otherwise likely uncovered these concerns. We question the independence of Danimer’s scientific research as Danimer has been a financial backer of the University of Georgia Lab and several professors who authored the supporting research. We also believe Danimer’s CTO has a questionable educational history, and a 10 year omission of his work history. We also believe Danimer has concealed, through numerous website changes and omission of past press releases, a pattern of conflicting and irreconcilable statements on capacity, facility size, and capex costs – all during the tenure of many of its existing executives. Our price target of \$8.75 per share or 65% downside risk.

Red Flag: We believe there are several corporate Governance red flags with Danimer’s management team that should worry ESG investors

- Current Danimer CEO Stephen Croskrey, previously President of Armor Holdings Product Division (a division within the public company Armor Holdings), was directly involved in a potential cover up of defective body armor
 - Armor Holdings agreed to pay \$30 million to resolve the allegations that it knowingly manufactured and sold defective Zylon bullet-proof vests
 - **Red Flag:** Evidence in a DOJ case against Honeywell shows Croskrey was aware of the defect and threatened a supplier that they should “stick together” to “overcome the threat” or else he would have no choice but to issue a release blaming the supplier for the defect
 - For a period during Croskrey’s tenure, Armor Holdings was accused by the DOJ and the SEC of participating in a bribery scheme that helped supply body armor for use by United Nations (U.N.) forces and eventually agreed to pay over \$15 million in penalties and accept responsibility
 - Based on the SEC lawsuit, Armor engaged in improper accounting standards after senior officers were put on notice by outside auditors
- Months before going public, Danimer settled a messy lawsuit with former CEO Paul Pereira which alleged that Pereira fabricated his resume and entered into a fraudulent side agreement with another director
 - Based on evidence in the case, Danimer was facing bankruptcy at the time of Pereira’s hire, despite optimistic public statements that the Company was on the brink of a significant expansion and the hire was part of its long-term plans
 - **Red Flag:** Danimer hired a CEO who lied about his credentials and the Board did not verify his qualifications
 - **Red Flag:** Danimer acknowledges that Pereira and Director Tim Smith entered an arrangement which it alleged was fraudulent
 - Pereira alleges that Tim Smith demanded he give up 30% of his compensation to the “Bainbridge Five,” a group of insiders who essentially maintain control of the Company. If his demands were not met, according to the countersuit, **“Smith gestured to the hunting ground and said, ‘See those woods over there, well in the South, we take people out there that don’t understand our way and behave good’”**
 - 4 of the 5 members are still involved with Danimer: John Dowdy (CFO), Greg Calhoun (Director), Richard Ivey (Marketing), Ralph Powell
 - Pereira’s counterclaims against Danimer provide insight to the former CEO’s view of the Company including (1) overbuilding idle infrastructure, (2) select insiders controlling the Board, (3) proving misinformation about key customers, the status of internal controls and accounting systems
 - These claims raise concerns as we find evidence of inconsistent statements from Danimer related to facilities sizes, capacity and capex
- We’re concerned by several educational inconsistencies on the biography of Danimer’s Chief Technology Officer. In addition, there’s a 10yr work history gap 5

Danimer is not the first player to try disrupting the plastics industry. After several failed, what gives confidence this is the leadership team to defy gravity?

- We agree with many of the Wall Street Journal [article](#)'s concerns that question the biodegradability of Danimer's products under normal conditions
 - **Red Flag:** How can investors trust management when Danimer's CTO is challenging the CEO's claims?
 - "Mr. Van Trump said the claim by the Danimer chief wasn't wholly accurate, saying Nodax products are unlikely to biodegrade in most modern landfills." – WSJ
- **Red Flag:** Danimer's scientific support and rebuttal to the WSJ article is based on research conducted by University of Georgia professors who have received financial backing from Danimer and have had their students hired by the Company
 - We found the Company omits press releases between 2012 to 2017. One of these is an announcement of funding to University of Georgia Labs and the professors associated with the biodegradability research
- Danimer's story continues to change. We have found multiple inconsistent descriptions of the size of its facility, production capacity, and costs that differ from other Company statement or government documents
- The story behind PHA resembles that of PLA which after 20 years represents less than 1% of the global plastics market
 - NatureWorks has experienced multiple restructurings after trying to commercialize PLAs in the early 2000s
 - Metabolix (Nasdaq: YTEN) burnt hundreds of millions of dollars on research and development of PHA capacity, only to sell its assets for \$10 million in 2016
 - **Red Flag:** Just as PLA was unable to decompose in landfills and required separate recycling, according to a Bloomberg article, PHA may require certain conditions which are only available to a limited population

We find several other red flags from Danimer's recent earnings release and conference call

- On Danimer's Q4 2020 earnings call, Croskrey and Dowdy have walked back recently issued expectations
 - "In the near term, I would expect less profitability at the bottom line than what was previously disclosed" – Croskrey (CEO)
 - Phase II expansion: "now expected to be completed in the second quarter of 2022 compared to our initial assumption of late 2021" – Dowdy (CFO)
- **Red flags:** Key changes to Danimer's Q4 2020 investor presentation raise concerns
 - **Pepsi likely sold its stake in Danimer as the Company's recent presentation no longer lists Pepsi as a shareholder**
 - Based on Pepsi's 10-Q filed in April 2021, they disclosed "[these equity securities were subsequently sold in the second quarter of 2021](#)"
 - Customer based demand changed from "fully sold-out position through Phase II capacity addition" to "demand in excess of **current** capacity"
 - **Red flags:** Shortly after the WSJ released its article challenging Danimer's claims, the Company removed statements claiming, "derived from 100% renewable source" and "fully degradable in 12-18 weeks after the product is discarded" from its investor presentation

Spruce Point believes Danimer's current share price is unsustainable, and a result of hype around ESG businesses and unrealistic financial assumptions

- **Spruce Point High Price Target:** under the assumption the Company can achieve its stated projection, we believe Danimer's shares have ~50% downside to ~\$12.50 per share, which represents a multiple at the higher end of chemical/plastics peers. **Low Price Target:** based on the Company's 2025E revenue projection, EBITDA margin and multiple in-line with chemical/plastic peers, we see 65% downside to ~\$8.75/share
- We believe there is a high likelihood history will repeat, and that Danimer will again come under financial distress as it fails to execute on, yet unproven, large scale-commercialization of PHAs. Large CPG customers require consistency in manufacturing quality at scale. We believe this has yet to be demonstrated
- We believe investors are also failing to consider how Danimer will cope with rising canola oil input prices, up over 35% in the past year. PHA's are primarily manufactured with canola oil, and yet Danimer has not disclosed any specific hedging methods used in its SEC filings
- Expensive on a forward revenue and EBITDA multiple basis, compared to both the Company's selected peer group and chemical/plastics peers
- Danimer's financial projections of ~28% EBITDA margins are significantly higher than the Company's selected peers and more relevant chemical/plastic peers

History of Exaggerating Claims And Key Property Figures Not Reconciling

In 2014, the Company's [website](#) stated a 300,000 sq. ft. facility. In 2017, the Company was promoting "1.2 million square feet of additional manufacturing space for your production needs, nestled on our 135-acre campus". However, the current website states "20-acre campus with over 235,000 sqft of manufacturing space" and its 10-K states "approximately 200,000 square feet". **This is 4 different stated facility sizes.** Based on property records, Danimer never owned the surrounding land so **how could they have had a 135-acre campus? Has Danimer downsized since 2014?**

2020
10-K

"Our corporate headquarters, primary research facility, PLA reactive extrusion plant, tolling operation and our PHA demonstration plant are located in Bainbridge, GA, in approximately 200,000 square feet of real property." (Emphasis on REAL PROPERTY)

Company Website In 2017

- Avoid the capital investment in equipment, and the training required for personnel. Danimer Scientific has recently acquired 1.2 million square feet of additional manufacturing space for your production needs, nestled on our 135-acre campus.

Source: Company website ([Wayback Machine](#), 2017)

**"1.2 million square feet"
"135-acre campus"**

Company Website In 2014



Meredian, Inc.'s sprawling 300,000 sq. ft. biopolymer manufacturing facility in Bainbridge, GA.

"300,000 sq. ft."

Company Website In 2021



Danimer Scientific Headquarters
140 Industrial Boulevard
Bainbridge, GA 39817

Our 20-acre campus with over 235,000 sqft of manufacturing space

Source: [Company website](#)

Warning: Impossible!
How can manufacturing space be larger than real property stated in 10-K?



Summary

Parcel Number	00600039
Location Address	1501 COLQUITT HWY
Legal Description	369 129 1501 COLQUITT HWY

Danimer property

No record of Danimer owning the property

Sale Date	Deed Book / Page	Plat Book / Page	Sale Price	Reason	Grantor	Grantee
4/14/2014	369 129	B123 8	\$3,350,000	Unqualified - Improved		AMKIN BAINBRIDGE LLC
4/30/2009	288 820		\$0	Unqualified - Improved	PROPEX FABRICS INC	PROPEX OPERATING COMPANY
3/21/1979	W9 410		\$0	Unqualified Sale	PROPEX FABRICS INC	PROPEX FABRICS INC

A Consistently Changing Story



We found Danimer's story has consistently changed. In 2012, a press release stated, "*expected production rates exceeding 300,000 tons per year.*" This press release used to be on the Company's website and has since been scrubbed from the internet. However, in October 2013, the Company's press release stated "*Meridian will produce over 30,000 tons of PHA per year.*" -- **90% less!** With numerous inconsistencies and many of the same management team in place, what are investors supposed to believe?

**Yet Another Different Facility
Size: "190,000 sq. ft."**

October 2012

Polyhydroxyalkanoate (PHA) is a highly functional bioplastic made from renewable and natural resources. Meridian's new plant is the largest bioplastics facility in the world, featuring 190,000 square feet of manufacturing space with expected production rates exceeding 300,000 tons per year and an estimated 150% growth in jobs over the next 24 months. With \$32 million in community investment to date, Congressman Bishop's office assisted Meridian in getting loan support from the U.S. Department of Agriculture.

Source: U.S. Congressman Bishop [website](#)

October 2013

"Having the largest PHA production facility in the world, Meridian will produce over 30,000 tons of PHA per year at the Bainbridge facility. We recognize that growth is required for bioplastic materials. Engineering plans are now completed for 'right sized' Meridian facilities to be placed globally to best serve our customers. The company expects multiple projects to be underway simultaneously in order to meet the demand of our customers," states Michael Smith, VP Manufacturing & Engineering, Meridian.

Source: Meridian [press release](#)

So To Summarize....We Believe Nothing Adds Up



What are investors to believe when Danimer has historically, and is currently, making conflicting claims about its Bainbridge, Georgia facility?

Year	Claim	Concern
Oct 2012	190,000 square feet of manufacturing space producing 300,000 PHA tons per year	So production for went down by 90% yet the manufacturing facility grew from 190,000 to 300,000 square feet?
Oct 2013	Meredian will produce over 30,000 tons of PHA per year at the Bainbridge facility.	
2014	300,000 square foot manufacturing facility	
2015	Over 200,000 square feet of lab and manufacturing space	Further square feet shrinkage
2017	We acquired 1.2 million square feet of additional manufacturing space for your production needs, nested on our 135-acre campus	We can't find any property records or evidence that Danimer acquired adjoining property (or properties) to expand so large despite the claim
2020	Our corporate headquarters, primary research facility, PLA reactive extrusion plant, tolling operation and our PHA demonstration plant are located in Bainbridge, GA, in approximately 200,000 square feet of real property.	How can the currently claimed 235,000 square feet of manufacturing space be larger than its real property in Bainbridge, GA per the 10-K?
2021	20 acres and 235,000 square feet of manufacturing space	

Key Danimer Executives And Board Members Have Remained Stable Through A Tumultuous Period



Spruce Point finds many of the same individuals have remained at Danimer during a messy period involving contentious litigation with the former CEO, and allegations of securities fraud. Over this time, we find evidence to suggest that Danimer has concealed, through numerous website changes and omission of past press releases, a pattern of conflicting and irreconcilable statements on capacity, facility size, and capex costs. Despite high aspirations, we believe the same management team will return the same results and continue to disappoint.


Executive/Board	Current Role	Joined Danimer
Stephen Croskrey	Chairman & CEO	2016
John Dowdy	CFO	2014
Michael Smith	COO	2007
Phil Van Trump	Chief Science & Technology Officer	2009
Scott Tuten	Chief Marketing and Sustainability Officer	2006
John Moore	Sr. Vice President of Business Development	2008
Dr. Isao Noda	Director Former Chief Science Officer and Senior Vice President of Innovation	2012
Philip Gregory Calhoun	Director	2014
Stuart Pratt	Director	2015



Executives' Red Flags

CEO Croskrey's Red Flags


CEO Stephen Croskrey's last executive position prior to joining Danimer was as President of Armor Holdings Products Division. We are concerned by multiple legal cases brought against Armor during Croskrey's tenure. The most notable, which Croskrey was directly involved in, was the Department of Justice (DOJ) lawsuit against Armor, along with other body armor manufactures and suppliers, for defective body armor. The most concerning accusation found in the case documents is that Armor *"employed no scientists and relied on Honeywell for scientific expertise."* While never personally accused of wrongdoing, Armor paid a \$30 million settlement. This raises concerns of the technology behind Danimer's product and the Company's firsthand research and diligence.



*"Armor Holdings Products LLC has agreed to pay the United States \$30 million to resolve allegations that it violated the False Claims Act by **knowingly manufacturing and selling defective Zylon bullet-proof vests**, the Justice Department announced today.*

***The United States alleged that Armor Holdings manufactured and sold Zylon bullet-proof vests **despite possessing information** showing that the Zylon materials degraded quickly over time and were not suitable for ballistic use.** The Armor Holdings vests were purchased by the federal government, and by various state, local and tribal law enforcement agencies that were partially reimbursed by the United States under the Justice Department's Bulletproof Vest Partnership program."*

Source: [U.S. DOJ](#)



"Armor Holdings employed no scientists and relied on Honeywell for scientific expertise.** Armor Holdings' presidents, Croskrey and later Scott O'Brien (initially the president of an Armor Holdings affiliate), had business backgrounds. Armor Holdings' chief vest designer, Bob Weber, was a former Los Angeles Police Department Officer, Croskrey had previously worked on the business side at Honeywell's predecessor Allied Signal. **He testified that Armor Holdings relied on Honeywell's Z Shield expertise "because Honeywell was the manufacturer of the actual product [Z Shield] that actually stopped the bullets and they had more sophisticated laboratories, and they had teams of scientists with Ph.D's, you know, expertise in these matters."

Source: UNITED STATES OF AMERICA v. HONEYWELL INTERNATIONAL (case number: 1:2008cv00961) (Document 209; page 10)

Croskrey's Tenure At Armor Holdings

Spruce Point finds evidence that Danimer's CEO Stephen Croskrey potentially attempted to cover up defective body armor after DSM, a Dutch developer of performance materials, publicly released data showing Zylon lost strength under certain temperature and humidity conditions. Based on a fax sent from Croskrey to Toyobo, one of Armor's Zylon suppliers, Croskrey urges that they should "stick together" to "overcome the threat from DSM" and threatens Toyobo that he will otherwise release an embarrassing recall notice.

*"If we stick together, we can overcome this threat from DSM, **but if this is positioned as a problem with shield, then we have no recourse but to issue the attached.**"*

"Attached is data which we received from the manufacturer of Zylon fiber, Toyobo, which shows significant degradation in strength when the product is exposed to high temperature and humidity."

13386 International Parkway,
Jacksonville, FL, USA 32218
Phone number: (904) 741-1720
Fax number: (904) 741-9995

Armor Holdings, Inc.

Draft

Fax

To: Masakazu Saito From: Steve Croskrey

Fax: 81-6-6348-3413 Pages: 7

Phone: Date: July 20, 2001

Re: Zylon Fiber Issue CC: Yoshinari O'Hira 212-317-9280

Urgent For Review Please Comment Please Reply Please Recycle

Mr. Saito and Mr. O'Hira:

If we stick together, we can overcome this threat from DSM, but if this is positioned as a problem with shield, then we have no recourse but to issue the attached.

Sincerely,
Steve Croskrey

Dear Customer:

Please be informed that Armor Holdings, Inc. is recalling all vests containing Zylon fiber effective immediately.

Attached is data which we received from the manufacturer of Zylon fiber, Toyobo, which shows significant degradation in strength when the product is exposed to high temperature and humidity.

Also please find attached a letter which we received from Toyobo which states:

"Please be reminded that Toyobo makes no warranty and assumes no liability whatsoever in connection with any use of Zylon fiber."

We can not in good conscious continue to sell this product and put the lives of our customers at risk.

Armor's U.N. Bribery Scheme

For a period during Croskrey's tenure, Armor was accused by the United States Department of Justice and the Securities and Exchange Commission of participating in a bribery scheme that helped supply body armor for use by United Nations (U.N.) forces. Based on the SEC's court filing, parties involved in the scandal instructed others to "PLEASE DESTROY AFTER READING". Armor eventually agreed to pay over \$15 million in penalties and disgorged profits, accept responsibility for its payment of bribes, and acknowledge a failure in its internal accounting controls.

2. From 2001 through 2006, certain agents of Armor Holdings participated in a bribery scheme in which corrupt payments were authorized to be made to an official of the United Nations ("U.N."), for the purpose of obtaining and retaining U.N. business.

15. In late September 2001, the third-party intermediary obtained a confidential internal U.N. memorandum recommending that API be awarded the contract. The intermediary immediately emailed this internal U.N. document to an agent of Armor Holdings – advising him to "PLEASE DESTROY AFTER READING."

16. In October 2001, the U.N. awarded API a multi-year contract for the supply of body armor. API's ability to secure this business was facilitated by the intermediary's inside access within the U.N. procurement system.

Source: [SEC](#)


Armor Holdings Agrees to Pay \$10.2 Million Criminal Penalty to Resolve Violations of the Foreign Corrupt Practices Act

According to the agreement, Armor accepts responsibility for its subsidiary's payment of more than \$200,000 in commissions to a third-party sales agent, a portion of which it knew was to be passed on to a U.N. procurement official to induce the official to award two separate U.N. contracts to Armor's subsidiary.

business from foreign government customers. Armor acknowledged that it failed to devise and maintain an appropriate system of internal accounting controls.

In a related matter, Armor reached a settlement today with the U.S. Securities and Exchange Commission (SEC) and agreed to pay more than \$5.69 million in disgorgement of profits, including pre-judgment interest, and a civil money penalty.

Source: [Justice.gov](#)



Based on the SEC lawsuit, Armor Holdings engaged in improper accounting practices in body armor contracts by using “distributor net” accounting, after senior officers were put on notice by outside auditors. This practice understated the Company’s accrued liabilities and accounts receivable by disguising certain commissions owed to sales intermediaries.

“Distributor Net” Accounting Disguised Sales Commissions

21. From in or around 2001 through June 2007, AHP also employed a separate accounting practice – hereinafter described as “distributor net” – that disguised in the books and records of Armor Holdings roughly \$4,371,278 in commissions paid to third-party intermediaries who brokered the sale of goods to foreign governments.

22. Since the sales intermediaries never obtained title over the goods, and AHP retained the risks and rewards of ownership prior to delivery, U.S. Generally Accepted Accounting Principles (“GAAP”) required AHP to record sales to foreign governments at the full or “gross” sales price – with a separate display of any commission expense for amounts paid to an intermediary. Instead, however, AHP adopted the “distributor net” accounting practice which disguised certain commission payments to sales intermediaries in the books and records of Armor Holdings.

Source: [SEC](#)

26. Armor Holdings was on notice that AHP’s “distributor net” accounting was improper. For example, on March 12, 2001, Armor Holdings’ outside auditor emailed comments to certain senior officers, indicating that the “distributor net” practice understated accrued liabilities and accounts receivable; and that the company should record a receivable for the gross amount due, together with an accrual for commissions.

27. Subsequently, on September 22, 2005, the comptroller of another Armor Holdings subsidiary who had refused to implement “distributor net” at his division advised senior officials at AHP and Armor Holdings of his concern that such accounting was “blown out of the water” by GAAP. Because AHP acted as a manufacturer rather than a distributor, the comptroller believed “it would be wholly inappropriate, based on the guidance in EITF [Emerging Issues Task Force] 99-19 to record the revenues net.”

28. Despite these admonitions, AHP continued to employ “distributor net” accounting through June 2007.

Croskrey's Role At Paragon Financial

In March 2005, Croskrey joined the Board of Paragon Financial Corporation, a publicly traded Florida based mortgage broker. During this time, Paragon hired a former NHL star to endorse its products, which we believe is aligned with Croskrey's promotional nature. After being very impressed by the growth strategy at Paragon, Croskrey resigned from the Board a year later in July of 2006. Besides owning the Jacksonville Barracudas minor league hockey team until their collapse in 2010, what was Croskrey up to until he became CEO of Danimer in 2016?

"I am very impressed with both the promise and simplicity of Paragon's growth strategy," said Steve Croskrey. "The residential mortgage industry is huge and extremely fragmented, and I am looking forward to assisting Paragon's management team in their plan to maximize shareholder value. My experience with Armor Holdings should help to execute a disciplined acquisition program that ensures all of our subsidiary companies are effectively integrated into a single operating entity."

Source: [SEC](#)



Stephen E. Croskrey

Chief Executive Officer; Chairman, Board of Directors

Mr. Croskrey has served as Danimer's chief executive officer and a member of Danimer's board of directors since February 2016. Mr. Croskrey is a business leader with over 30 years of experience in overseeing the strategic direction and operations of companies that manufacture and market a variety

of products such as industrial lubricants, fibers, and law-enforcement gear. From 1999 to 2005, Mr. Croskrey served as the president and chief executive officer of Armor Holdings Products, LLC, a major manufacturer of military, law enforcement, and personnel safety equipment. During such tenure its annual revenue increased from \$45 million to over \$300 million as a result of him overseeing the acquisition and integration of 13 companies and implementing associated organic growth initiatives. Mr. Croskrey has also held senior executive positions at Allied Signal and Mobil Oil. Mr. Croskrey received an MBA degree from the Kellogg School of Management at Northwestern University. He also received a Bachelor of Science degree in Engineering from the United States Military Academy at West Point where he was also commissioned as an officer in the U.S. Army and served as a company commander, attaining the rank of captain during his six years of active duty.

Source: [Danimer Scientific Executive Team](#)

Where is mention of Croskrey's role at Paragon?

Relying on famous power plays

A Jacksonville area company with a troubled past has come up with a novel plan to jump start its mortgage business: recruit former professional athletes to generate customer contacts.

Paragon Financial Corp. of Ponte Vedra Beach has hooked a big fish for its first signing: Phil Esposito, the National Hockey League Hall of Famer and Tampa Bay Lightning co-founder and former general manager.

Paragon could certainly use the help. The mortgage broker, which has never turned a profit, traces its roots to PlanetRx.com, a failed San Francisco area online health-care products vendor. Launched in 1999, PlanetRx.com was one of the legions of early Internet ventures that went belly-up during the dot com bust at the start of the decade.

Source: [Tampa Bay Times](#) (Feb 11, 2006)

Meredian Holdings v. Paul Pereira

Just months before going public, Danimer settled a messy lawsuit with former CEO Paul Pereira over a contract dispute regarding a claw back of Pereira's deferred compensation. In 2013, Pereira was hired to turn around Meredian Holdings (now known as Danimer Scientific) which was facing bankruptcy. The Company alleged Pereira fabricated his resume and entered into a fraudulent side agreement with another director.



We find it concerning that Danimer's reason for hiring a new CEO differs between its public press release and its court filings. While the August 2014 press release states "significant expansion" and "anticipation of long-term plans", later court documents show the business was "experiencing financial difficulty" and in need of a "turnaround plan". Based on Croskrey's witness transcript, he was hired in 2016 to "conduct a turnaround because the company was near bankruptcy."

Statement To Public

Meredian Announces Key Changes to its Executive Team

"Meredian Inc., MHG, leading biopolymer manufacturer, is **on the brink of a significant expansion**. As previously announced, their PHA has already reached several achievements in the industry including the affirmation of scalability of production by global provider Tate and Lyle, being approved by the FDA for Food Substance Contact and being certified by Vinçotte International for biodegradability in all six different mediums."

"**In anticipation of long term plans, Meredian has announced changes to its executive team**. Paul Pereira has been appointed as CEO, in addition to Executive Chairman to the Board of Directors and will continue to drive the company to global prominence. In addition, Dr. Isao Noda has been promoted to Chief Science Officer and Senior Vice President of Innovation and will oversee the scientific research operations."

Source: [Business Wire](#)

Croskrey Witness Transcript August 13, 2019 Proceedings

"I did that for six years, and then I retired. I was retired for about 11 years when I was called by Danimer to come conduct a turnaround because the company was near bankruptcy."

Source: MEREDIAN HOLDINGS v. PAUL PEREIRA (case number: 1:16-cv-00124-WLS) (Document 106; page 44)


According To Court Filings

21. In or around the summer of 2013, DaniMer, Meredian, Inc. and Meredian Bioplastics commenced discussions with Pereira, acting on behalf of himself as well as each of the Alton Companies, concerning the possibility of Pereira becoming the Executive Director of DaniMer and Meredian, Inc. and implementing a "turnaround plan," because both companies were experiencing financial difficulty. The turnaround plan was to include, without limitation: (a) restructuring and reorganizing DaniMer and Meredian, Inc.; (b) pursuing additional licensing opportunities for both companies' technology; and (c) raising additional capital to complete the construction of a production facility with a production capacity of at least 30 million pounds of PHA bio-based resin annually (the "Turnaround Plan").

Source: MEREDIAN HOLDINGS v. PAUL PEREIRA (case number: 1:16-cv-00124-WLS) (Document 84)

Based on the recent presentation, Danimer does not project achieving this level until 2022

Danimer Hired A CEO Who Lied About His Qualifications



We find it concerning that a now multi-billion-dollar public company hired a CEO who lied about his qualifications during the recruitment process. Pereira admitted during the trial that he did not have three of the degrees including a Bachelor's in Mechanical Engineering from Texas A&M. **We wonder what else the Board has missed over the years?**

Meredian Complaint

41. During their investigation in September and October 2015, Plaintiffs also discovered that contrary to his representations made in June and July 2013, at no time did Pereira have a Bachelor of Science degree in Mechanical Engineering from Texas A&M University, nor did he have a Masters in International Business and Finance from the University of West Indies.

42. Plaintiffs were not able to substantiate other representations made by Pereira at that time and contained in his curriculum vitae, such as Pereira's representation that he received a "D.B.A. in International Business Strategy, M&A/Capital Markets, International School of Management, Paris France from St. John's University," or that he received a "B.S. in Chemistry from McGill University," because the universities identified either did not have relevant records, or did not provide enough information to confirm such degrees.

Source: MEREDIAN HOLDINGS v. PAUL PEREIRA
(case number: 1:16-cv-00124-WLS) (Document 84)

Pereira Cross Examination Transcript

Q. You, Mr. Pereira, have admitted that -- and this is really just trying to answer the question, you don't have a bachelor of science degree in mechanical engineering from Texas A&M University, correct?

A. Correct.

Q. And you don't have a master's in international business and financial from the University of West Indies; is that correct?


A. Correct.

Q. And you don't have a bachelor of science degree in chemistry from McGill University; is that correct?

A. Correct.

Source: MEREDIAN HOLDINGS v. PAUL PEREIRA
(case number: 1:16-cv-00124-WLS) (Document 106; page 180)

Danimer acknowledges that its former CEO Pereira and Tim Smith, a Director at the time, entered an arrangement which it alleged was fraudulent. More concerning is Pereira's explanation for the arrangement in his countersuit.



According to Pereira, Tim Smith demanded he give up 30% of his compensation to the **"Bainbridge Five", a group of insiders who essentially maintain control of the Company**. If his demands were not met, according to the countersuit, "Smith gestured to the hunting ground and said, 'See those woods over there, well in the South, we take people out there that don't understand our way and behave good.'"

Meredian Complaint

59. Consistent with Pereira and/or the Alton Companies' fraudulent conduct, in or around July 2013 and prior to Plaintiffs entering into any of the Alton Agreements, Pereira, acting on behalf of himself as well as each of the Alton Companies, entered into an agreement with Tim Smith, who was at the time a Board Member of DaniMer, Meredian, Inc. and/or Meredian Bioplastics, and upon its formation, was a Board Member of Meredian Holdings, to provide Mr. Smith with a portion of the compensation paid to Pereira and/or any of the Alton Companies in the event that Pereira and/or any of the Alton Companies were retained by any of the Plaintiffs in exchange for any influence Mr. Smith could exert to facilitate Pereira and/or any of the Alton Companies' engagement.

60. Upon information and belief, the agreement between Tim Smith and Pereira, acting on behalf of himself as well as the Alton Companies, required Tim Smith to receive, inter alia, thirty percent (30%) of the compensation given to Pereira and/or any of the Alton Companies pursuant to any of the Alton Agreements or any other agreement entered into between any of the Plaintiffs and any entity which Pereira owned and/or controlled, including cash payments as well as shares of stock.

Source: MEREDIAN HOLDINGS v. PAUL PEREIRA (case number: 1:16-cv-00124-WLS) (Document 84)

Pereira Files Countersuit | The Post Searchlight

The countersuit alleges MHG's predecessors, Meredian and Danimer, of heading in the wrong direction financially, spending upwards of \$60 million with no revenue to show, only "overbuilt infrastructure sitting idle."

One of the problems plaguing both companies was the amount of "insider" control, where family and close friends were given generous compensation packages and stock deals, the countersuit claims. The document refers to individuals Tim Smith, Greg Calhoun, John Dowdy, Ralph Powell and Dick Ivey as "The Bainbridge Five", a group with much of the insider control.

Upon Pereira meeting them, The Bainbridge Five allegedly were interested in having him work for Meredian and Danimer and decided the next step was for him to tour the facility and meet the boards and shareholders.

During Pereira's initial meetings with Meredian and Danimer boards of directors and shareholders, he proposed abandoning building large plants and moved toward licensing strategy. One shareholder is claimed to have offered another \$1 million of investment after Pereira's presentation if he was hired.

Source: [The Post Searchlight](#) (Oct. 2016)

The Bainbridge Five's Demands; Four of the Five Members Still At Danimer

Pereira's Counterclaims

THE BAINBRIDGE FIVE DEMAND THIRTY PERCENT (30%) OF PEREIRA'S COMPENSATION

39. As explained above, the parties entered the MOU on August 2, 2013. To accommodate the companies' urgent need for an executive director, PEREIRA traveled from his Miami home to Bainbridge, Georgia, and spent significant time there and agreed to begin providing consultancy services before he had even purchased a home in Bainbridge.

40. From approximately August 1, 2013 to September 17, 2013, PEREIRA stayed at the guest cottage at Southwind Plantation, a hunting plantation owned by MHG BOD member, Smith ("Big"). Southwind Plantation is comprised of extensive undeveloped property including vast and remote hunting grounds. Smith billed MHG for PEREIRA's lodging. During part of that period, PEREIRA's wife, Rachael, and his adult son, Charles, stayed there with him. While at Southwind Plantation, during the week of September 2, 2013, continuing the process of relocating his family from Florida to Bainbridge, PEREIRA put down a deposit for the purchase of a house in Bainbridge.

41. On approximately September 9, 2013, while PEREIRA was still residing at Smith's plantation, Smith invited PEREIRA for an evening drive through the hunting plantation. Smith picked up PEREIRA and drove him around the grounds. Initially, the two made small talk and discussed business. But at one point, Smith stopped the car just outside the hunting grounds.


42. While sitting in the car, Smith turned to PEREIRA and explained that PEREIRA would be agreeing to pay the Bainbridge Five twenty five percent (25%) of his remuneration package, and another five percent (5%) to Sonny Redmond ("Redmond"), who had introduced PEREIRA to the two companies. PEREIRA expressed his surprise since this had not been previously discussed and PEREIRA would be the one doing all of the work. Smith responded that MHG belonged to the Bainbridge Five and this was the way that business was conducted in Bainbridge.

43. PEREIRA initially resisted and complained this was highly unusual and not a normal way of doing business; he even offered to give Redmond five percent (5%) of his first month's salary in recognition of the introduction that Redmond had fostered. Smith made clear that the expectation was not negotiable and PEREIRA was expected to surrender thirty percent (30%) of every dollar paid to PEREIRA as a bonus for raising money for the company, and thirty percent (30%) of PEREIRA's stock.

44. When PEREIRA responded that the request was not a realistic request, Smith stated that if PEREIRA wanted to have an easy time here, he should agree. Smith further said that PEREIRA would not want to create any unnecessary problems, and that Bainbridge is a small town where they could all live happily. Finally, Smith gestured to the hunting grounds and said, "See those woods over there, well in the South, we take people out there that don't understand our way and behave good." PEREIRA understood Smith, on behalf of the Bainbridge Five and MHG, to be threatening PEREIRA physically and financially if PEREIRA did not agree to his demand. Based on his choice of language, Smith clearly intended to convey such a threat. Incredibly, Smith later reiterated the same threat about taking people out to the woods who did not behave to PEREIRA's wife and separately to his son.



4 of the 5 members are still involved with Danimer: John Dowdy (CFO), Greg Calhoun (Director), Richard Ivey (Marketing), Ralph Powell



While we acknowledge legal battles can become ugly between parties, we find additional counterclaims by Pereira to be a cause for concern and a poor reflection of Danimer/Meredian's culture if the allegations were true.

21. MHG was heading in the wrong direction, attempting to build a “white elephant” and had already spent in excess of \$40,000,000 (and likely closer to \$60,000,000), which expenditures resulted not in additional revenue, but in overbuilt infrastructure sitting idle.

22. Notably, one of the problems plaguing both companies, was that a significant number of their board members and executives were “insiders” who were either family members or had close personal and business relationships with one another, and these insiders repeatedly made sure that they had generous compensation packages and/or stock deals at the companies’ expense. In addition, the “packages” include commissions to Directors on the monies raised by the company.

23. The insider control of the companies was so pervasive, both inside the company and in the local area that they were widely referred to as the “Bainbridge Five.” The Bainbridge Five consisted of Tim Smith, Greg Calhoun, John Dowdy, Ralph Powell and Dick Ivey.

24. On or about July 12, 2013, PEREIRA and Mr. Redmond traveled to Bainbridge to initially meet with Tim Smith (“Smith”). Shortly after arriving in Bainbridge, PEREIRA was introduced by Smith to the other members of the Bainbridge Five. During the meeting, PEREIRA was told and understood that the Bainbridge Five were in control of both MEREDIAN and DANIMER and controlled both Boards of Directors (“BOD”).

25. From Approximately July 12, 2013 through July 15, 2013, PEREIRA discussed the circumstances surrounding the companies with the Bainbridge Five. The Bainbridge Five indicated their desire to have PEREIRA come to work with them on MHG and indicated the next step was to tour the facility and meet the BOD and shareholders.

59. From late 2013, into mid-2014, until Daniel Carraway’s departure it became clear to PEREIRA that the MHG BOD had not properly communicated the real general state of the company and in fact, provided PEREIRA with tremendous misinformation. This included the status of key customers, the status of internal controls in the company, accounting systems, logistics, ordering, the cost of plant build out, etc.

60. While PEREIRA was working at MHG, until approximately August of 2014, Daniel Carraway was the CEO of MHG. During that time, certain information was apparently masked, guarded and misdirected under the counsel of the MHG BOD with limited power for PEREIRA to review, remedy or correct.

61. Due to the misinformation received, PEREIRA, who was only supposed to be working two (2) weeks per month under the terms of this contract, was forced to work full time up to eighty (80) hours a week.

62. PEREIRA also discovered that, prior to his coming on board, there was evidence that Counter-Defendants had engaged in criminal and/or unethical activities, including without limitation, securities fraud, tax evasion, insider trading, false or deficient reporting to government agencies, violation of disclosure requirements, failure to document various transactions on company books, failure to keep records of Board meetings and/or to document decisions by the Board, nepotism, engaging in conflict of interest transactions, presenting false information regarding Counter-Defendants’ products to potential investors and shareholders, breach of fiduciary duty and self-dealing by Board members, dilution of stock and misappropriation of company assets.

This raises concerns as we find evidence from a Congressman’s [press release](#) with differing production capacity figures, [multiple sources](#) with different facility sizes, and capital expenditures not adding up

Danimer's Limited Disclosure

Danimer provided little disclosure of its litigation with Pereira. The limited disclosure is provided in financial statement footnotes (11 & 16 Commitments and Contingencies). There is no mention of the former Chairman and CEO and the filings only mention *"the Company terminated a former executive and terminated the Company's contract with an advisory firm."*

In November 2015, the Company terminated a former executive and terminated the Company's contract with an advisory firm (the "Advisory Contract"), pursuant to which the Company, through the advisory firm, engaged the individual as an executive of the Company. In December 2015, the Company deemed the Advisory Contract, together with all related arrangements in connection therewith, void, including any share issuances in connection with such arrangements. The Company filed suit against the former executive and the advisory firm during 2016, and various counterclaims were filed by the former executive and the advisory firm. During the third quarter of 2020, this matter was settled with the Company agreeing to pay \$8 million to resolve all outstanding claims, the executive agreeing to the cancellation of any shares issued to such executive pursuant to the Advisory Contract and related arrangements, and the exchange of mutual releases among the parties. The liability is included in Accrued expenses (\$5.4 and \$5.5 million) and Other long-term liabilities (\$1.6 and \$2.5 million) in the Consolidated Balance Sheets at September 30, 2020 and December 31, 2019, respectively. The \$8 million expense has been recorded in operating expenses in the Statement of Operations for the nine months ended September 30, 2019.

Source: [Danimer Merger Prospectus](#) (11/30/2020, footnote 11)

In November 2015, the Company terminated a former executive and terminated the Company's contract with an advisory firm (the Advisory Contract), pursuant to which the Company, through the advisory firm, engaged the individual as an executive of the Company. In December 2015, the Company deemed the Advisory Contract, together with all related arrangements in connection therewith, void, including any share issuances in connection with such arrangements. The Company filed suit against the former executive and the advisory firm during 2016, and various counterclaims were filed by the former executive and the advisory firm. Subsequent to year-end, this matter was settled with the Company agreeing to pay \$8 million to resolve all outstanding claims, the executive agreeing to the cancellation of any shares issued to such executive pursuant to the Advisory Contract and related arrangements, and the exchange of mutual releases among the parties. The liability is included in Accrued expenses (\$5.5 million) and Other long-term liabilities (\$2.5 million) in the Consolidated Balance Sheet at December 31, 2019 and the expense in Operating expenses in the Statement of Operations for the year ended December 31, 2019.

Source: [Danimer Merger Prospectus](#) (11/30/2020, footnote 16)

Concerns With The Chief Technology Officer

We are concerned by three different versions of CTO Phillip Van Trump's biography related to his education and the gap in his work history. What did he do prior to joining Danimer from approximately 1998 - 2009? His bio in 2021 is lacking details. We find one clue that he was in the shipping industry circa 2005.

“Central Transport International Selects Manhattan Associates' Carrier Management Solution; Carrier to Gain Savings and Efficiencies”

*“We looked at similar products, but chose Manhattan Associates' solution because it is the only solution geared toward the LTL marketplace,” said **Phillip Van Trump, director of business continuity.**”*

Source: Business Wire (October 17, 2005)

2015

Phil Van Trump, Chief Technology Officer



Phil Van Trump,
CTO

Currently managing Research and Development, Process Development and Regulatory Affairs for MHC, Phil Van Trump brought over a decade of leadership experience to the MHC. With expertise in supply-chain and logistic businesses, North American business unit operations, corporate education, business analysis, customer service and sales management, Van Trump led conversion of legacy enterprise software to a purpose-built system, managed operations and finance, and re-engineered a freight-flow network handling over 100,000 concurrent transactions. Van Trump's post graduate work at Massachusetts

Institute of Technology and Georgia State University – where he studied Proteomics and Molecular Biology – is backed by a B.Sc. in Molecular Biology and Microbiology from the University of Central Florida. *Contact: PhilVanTrump@MHGBio.com.*

Source: Company's website ([Wayback Machine](#))

Danimer has already found one former executive that lied on his resume. Why has Mr. Van Trump's biography been altered to remove his “post graduate work” at MIT and Georgia State?

2021

Phil Van Trump

Chief Science and Technology Officer



As chief technology officer, Phil Van Trump manages research & development, product development, regulatory affairs, and intellectual property for Danimer Scientific. Prior to this role, which he stepped into in 2014, Van Trump worked in a variety of positions within the company,

performing bench-scale to pilot-level research as well as playing an integral role in the procurement of equipment and laboratory personnel to advance the company's objectives. His undergraduate background in molecular biology and microbiology (BSc University of Central Florida) is supplemented by an MBA from Emory University. In addition to his education, he brought to Danimer Scientific over a decade of industry experience. Van Trump's proficiency in management and scientific insight are a rare combination and are put to use daily as he leads an innovative team of scientists and support personnel in creation of sustainable biopolymer solutions.

Source: [Danimer Scientific website](#)

Conflicting Biography of Chief Technology Officer Suggests “Puffing” of Credentials

Based on Mr. Van Trump’s current biography, he assumed his current role of CTO in 2014. However, Meredian’s 2015 website contradicts this claim as Steve Wann is listed as the Chief Technology Officer as of 2015.⁽¹⁾ In addition, we found further changes to Mr. Van Trump’s education from Meredian’s 2013 website. His 2013 biography mentions additional coursework at University of Central Florida, Georgia State University and MIT.

Van Trump - 2015

Phil Van Trump, Chief Technology Officer



Phil Van Trump,
CTO

Currently managing Research and Development, Process Development and Regulatory Affairs for MHG, Phil Van Trump brought over a decade of leadership experience to the MHG. With expertise in supply-chain and logistic businesses, North American business unit operations, corporate education, business analysis, customer service and sales management, Van Trump led conversion of legacy enterprise software to a purpose-built system, managed operations and finance, and re-engineered a freight-flow network handling over 100,000 concurrent transactions. Van Trump's post graduate work at Massachusetts Institute of Technology and Georgia State University – where he studied Proteomics and Molecular Biology – is backed by a B.Sc. in Molecular Biology and Microbiology from the University of Central Florida. *Contact: PhilVanTrump@MHGBio.com.*

Source: Company's website ([Wayback Machine](#))

Look carefully: Van Trump’s biography, listed “continuing education” at MIT, but was changed to “post graduate work”. Based on MIT’s [website](#) and speaking with the admission’s office, there is no admissions process for its continuing education / professional studies program. Also, why did he then omit graduate coursework at Univ. of Central Florida?

Van Trump - 2013

Phil Van Trump

Director of Process Development

Phil Van Trump, Director of Process Development for Meredian, spent twelve years in leadership of supply-chain and logistic businesses, where he was responsible for North American business unit operations, corporate education, business analysis, customer service and sales management serving as a vice-president prior to his work with Meredian. Additionally, he was responsible for the conversion of legacy enterprise software to a purpose-built system, managing operations and finance and re-engineering a freight-flow network that handles more than 100,000 transactions concurrently. His education includes undergraduate studies at the University of Central Florida, where he received a B.S. in Molecular Biology and Microbiology, graduate coursework at the University of Central Florida and Georgia State University conducting research in Proteomics and Molecular Biology as well as continuing education at the Massachusetts Institute of Technology. In his current role he is responsible for Research and Development, Process Development and Regulatory Affairs.

Source: Meredian [2013 website](#)

1) Wann biography: Meredian [2015 website](#)

We find COO Michael Smith's biography has changed since 2015 when it was promoting his contribution to vertical integration and world leading biopolymer manufacturing processes. The change leads us to question Danimer's execution of its prior objectives, current competitive advantages, and the Company's messaging to investors.

2015

Michael Smith, Chief Operating Officer



Michael Smith,
COO

Michael Smith brings decades of manufacturing and continuous-process improvement expertise to MHC. Previously, he held high-level manufacturing positions at Ingersoll Rand, Amoco, and British Petroleum. His specialties include driving improvements through the use of lean manufacturing techniques and Six Sigma tools. Smith contributed to the visioning and actualization of the vertical integration of MHC's divisions and the "Agrofacturing™" concept. As a result, MHC is the only biopolymer company in the world capable of controlling the biopolymer manufacturing process from seed to harvest, to crushing and

fermentation, to extrusion into polymer pellets. Smith trained at the University of Tennessee and the Juran Institute in Statistical Process Control and Six Sigma, and at Simpler Consulting in Lean Manufacturing and the Toyota Production System. Smith holds a B.Sc. in Industrial and Systems Engineering from the Georgia Institute of Technology. *Contact:* Michael@MHGBio.com.

Source: Company's website ([Wayback Machine](#))

2021



Michael Smith

Chief Operating Officer

Michael brings decades of experience in manufacturing and continuous-process improvement to Danimer Scientific. Previously, he held high-level manufacturing positions at Ingersoll Rand, Amoco and British Petroleum. His specialties include driving improvements through the use of

lean manufacturing techniques and Six Sigma tools. Michael trained at the University of Tennessee and the Juran Institute in Statistical Process Control and Six Sigma as well as at Simpler Consulting in Lean Manufacturing and the Toyota Production System. He holds a BSc in industrial and systems engineering from the Georgia Institute of Technology.

Source: [Danimer Scientific website](#)

???

Danimer was acquired by a SPAC backed by an individual with an SEC regulatory history. Gary Wunderlich, a Partner of Danimer Scientific's SPAC sponsor Live Oak Acquisition Corp, has had multiple regulatory disclosures while CEO of Wunderlich Securities including violating antifraud and compliance provisions. According to the SEC case, Wunderlich and the firm's CCO were directly responsible as they aided and abetted certain of the firm's violations.

**Live Oak Merchant
Press Release**


*"Privately held Danimer Scientific, headquartered in Bainbridge, Georgia, and publicly traded **Live Oak Acquisition Corp., led by Memphian Gary Wunderlich**, announced a definitive merger agreement on Monday, Oct. 5."*


Source: [Live Oak Merchant](#)

GARY KENT WUNDERLICH JR

(GARY KENT WUNDELICH JR)

CRD#: 2256877

 Previously Registered Broker

 Previously Registered Investment Adviser

3

Disclosures



25

5

Source: [FINRA](#)

A. Summary

1. WSI, an investment adviser and broker-dealer registered with the Commission, willfully¹ violated several antifraud and compliance provisions of the Advisers Act and the rules thereunder. Wiswall and Wunderlich willfully aided and abetted and caused certain of WSI's violations. During the relevant periods, Wiswall served as WSI's chief compliance officer ("CCO") and Wunderlich served as WSI's chief executive officer ("CEO").

2. From at least 2007 through 2009, WSI: overcharged advisory clients for commissions and other transactional fees in violation of Section 206(2) of the Advisers Act; failed to satisfy the disclosure and consent requirements of Section 206(3) of the Advisers Act when WSI engaged in principal trades with advisory clients; failed to adopt, implement and review written policies and procedures as required by Section 206(4) of the Advisers Act and Rule 206(4)-7 thereunder; and failed to establish, maintain, and enforce a written code of ethics as required by Section 204A of the Advisers Act and Rule 204A-1 thereunder. Wiswall was a cause of WSI's violations relating to the firm's principal trades with advisory clients. In addition, both Wiswall and Wunderlich willfully aided and abetted and caused WSI's violations relating to its written policies and procedures and written code of ethics.

Source: [SEC](#)





Questionable Claims By Danimer & Additional Red Flags

On March 30th, 2021, The Wall Street Journal released an article challenging Danimer's scientific claims and the true biodegradability of its technology. We are concerned by Chief Technology Officer Phil Van Trump's comment that the CEO's claims were not "*wholly accurate*".



How can investors trust management when the Company's CTO is challenging the CEO's claims and given Croskrey's poor track record related to the defective products at Armor Holdings?

THE WALL STREET JOURNAL.

BUSINESS

Plastic Straws That Quickly Biodegrade in the Ocean? Not Quite, Scientists Say

Companies are touting straws and bottles made from a plant-based plastic, but researchers say some claims are overstated

However, modern landfills are designed to prevent biodegradation since organic matter releases methane, a potent greenhouse gas, when it breaks down. Even if an item does biodegrade in landfills, experts say it's hard to predict how long the process would take since landfills differ widely from one another—plus that would be an undesirable outcome.

Nodax doesn't have any certification indicating it biodegrades in landfills. However, Mr. Croskrey on an investor call in October said the product would be consumed by bacteria if it ended up in a landfill. Responding to questions from The Wall Street Journal, Mr. Van Trump said the claim by the Danimer chief wasn't wholly accurate, saying Nodax products are unlikely to biodegrade in most modern landfills.

Changes To Investor Presentation Raise Red Flags Of Danimer's Product



We found two key changes to Danimer's investor presentation related to the makeup and degradability of its key product. Danimer removed "derived from 100% renewable source" and "fully degradable in 12-18 weeks after the product is discarded" from its presentation. **This change occurred soon after the Wall Street Journal article that called into question the effectiveness and scientific backing of its technology.**

These changes come at a time when SPACs are under pressure from regulators and shortly before the SEC released a statement that "material misstatements or omissions related to any de-SPAC transaction will be subject to liability under Sections 11 and 14(e) of the Exchange Act".⁽¹⁾

Biopolymers are Derived from 100% Renewable Source and are Fully Compostable and Degradable at the End of Life



Biopolymers are Fully Compostable or Degradable at the End of Life

Biodegradability


- Able to effectively biodegrade in both anaerobic and aerobic environments such as a waste treatment facility or the ocean
- Fully degradable in 12-18 weeks after the product is discarded
- PHA is 100% biodegradable in all environments vs PLA, which is only certified for industrial composting





Biodegradability

- Able to effectively biodegrade in both anaerobic and aerobic environments such as a waste treatment facility or the ocean
- PHA is 100% biodegradable in the presence of bacteria in all environments
- PLA is certified for industrial composting

Changes To Investment Highlights



We have found key changes to the investment highlights published in the original deal presentation (slide 6) to a similar slide in Danimer’s Q4 2020 investor presentation (slide 4). Based on the changes, it appears that Danimer lost an equity investment from Pepsi (see: [Appendix](#)) and has demand in excess of “current capacity” and is not “fully sold out though Phase II Capacity”. In addition, CEO Croskrey walked back near-term expectations on the conference call, providing little confidence in management’s ability to achieve long-term targets.

October 2020 Deal Presentation	March 2021 (Q4 2020 Earnings Call)
 <p>Strong Partnerships with CPG Brands, Including Pepsi and Nestle, and Key Converters such as Wincup and Genpak; Equity Investment from Pepsi</p>	<p>Strong Partnerships with CPG Brands, Including Pepsi and Nestle, and Key Converters such as Wincup and Genpak</p>
 <p>Rapidly Growing Blue Chip Customer Base with Take-or-Pay Contracts has Led to Fully Sold-Out Position through Phase II Capacity Addition</p>	<p>Rapidly Growing Blue Chip Customer Base Driving Demand in Excess of Current Capacity</p>
 <p>Post-Merger, Company is expected to be Fully Financed to Increase Capacity to Support Expected \$169mm of Organic EBITDA by 2025E</p>	<p>REMOVED <i>(Has already walked back near-term expectations on Q4 2020 earnings call)</i></p>

Spruce Point finds Danimer's rebuttal to the Wall Street Journal article insufficient at addressing the concerns raised. It appears the Company's claims are supported by research conducted at the University of Georgia led by Dr. Jason Locklin. Both the University and Dr. Locklin have significant financial ties to Danimer, that the Company has tried to obscure by removing press releases from its website.

Danimer Scientific's response to the article published in the Wall Street Journal on March 20, 2021 ("Plastic Straws That Quickly Biodegrade in the Ocean? Not Quite, Scientists Say")

APRIL 08, 2021 11:30AM EDT

[Download as PDF](#)

We have reviewed the article and its questions about the potential for bioplastics. The science speaks for itself in verifying the biodegradability of PHA. PHA is inherently biodegradable and is naturally produced (and consumed) in nature by microorganisms. Any claims of biodegradability we make are backed by international testing standards. Study results published by the University of Georgia state that the anaerobic degradation of PHA is similar to that of cellulose powder, which means PHA will degrade at a similar rate as plant matter in a waste treatment facility. The study also demonstrates that in seawater, PHA begins to biodegrade over the course of six months, while polypropylene pellets remain intact and unchanged. These results show that PHA is a legitimate biodegradable alternative to traditional plastic. The article points out that variable environmental conditions can influence the amount of time it takes for our material to biodegrade. We do not dispute this point, and we are very clear about this on our website. Our goal has been and continues to be educating the public on the rigorous research, testing and certifications that this material has undergone before hitting store shelves.

Additionally, the following Letter to the Editor of the Wall Street Journal was sent by Dr. Jason Locklin, director of the New Materials Institute at the University of Georgia on April 8, 2021. We believe that this letter clearly states Dr. Locklin's position on the claims of biodegradability made by Danimer Scientific.

Danimer repeatedly uses support from research funded by the Company

We find that Dr. Locklin and the University of Georgia Labs received financial support from Danimer



We observe the Company omits press releases between 2012 and 2017 from its investor relations [website](#). When digging deeper, we find several press releases are [no longer displayed](#) on Danimer's website. One of these hidden press releases is the announcement of funding to University of Georgia Labs. The professors associated with the labs are Dr. Jason Locklin, Dr. Mark Eiteman, and Dr. Jenna Jambeck. These professors' research is behind the paper published that Danimer references for support of its technology.

MHG CEO Pereira Announces Series of Funding to University of Georgia Labs

World's Largest Producer of PHA Contributes Funding to Increase R&D Capacity for their Biopolymers

– from Nicole Vandersnick –

MHG's CEO, Paul Pereira, announced [the company has contributed a series of funding to the distinguished labs of Dr. Jason Locklin, Dr. Mark Eiteman and Dr. Jenna Jambeck at the University of Georgia](#). These contributions will support several projects among the three labs, which will increase MHG's research and development (R&D) capabilities for Nodax™ PHA and other sustainable biopolymers.

"The University of Georgia possesses professors with very unique skills and abilities that are extremely beneficial to our company," said Paul Pereira. "Our support promotes collaborations that will allow MHG to increase R&D capacity, identify future employees and keep us moving forward in the industry as well as remain at the forefront of sustainability and renewability."

[MHG gave Dr. Locklin his second round of funding from his 5 year, \\$250,000 grant he's receiving from the company](#). Dr. Locklin is a distinguished polymer scientist who offers an unmatched skill set in Materials Science and Engineering. His group specializes in growing functional polymers through various surface initiated polymerization techniques, which will further research and test Nodax™ PHA capabilities. One of his projects will focus on using extrusion and reactive extrusion technology to study the properties of biopolymer blends like PLA and PHA, whereas the second project will utilize PHA as a component for a controlled release fertilizer (CRFs).

Source: [Wayback Machine](#)

[Dr. Eiteman's Group will use MHG's \\$41,500 contribution to train students to metabolically engineer organisms](#). MHG's PHA is naturally produced by microorganisms, making Dr. Eiteman an ideal candidate for funding with his twenty plus years in the field of Biochemical Engineering. Dr. Eiteman specializes in tailoring organisms through biochemical alterations, which increases the yield and production of biological monomers that can provide enhanced biodegradable properties.

Dr. Jambeck also received funding from MHG. This comes after an announcement in June [stating that a \\$50,000 contribution would be made to Dr. Jambeck's Research Group](#). Dr. Jambeck will allocate her funds towards a comparative study of Nodax™ PHA and several petro-plastics in controlled marine and freshwater environments. While MHG's PHA is certified by Vinçotte for biodegradability in all environments, continued testing and research will provide a stronger foundation for replacing petro-plastic in order to provide a sustainable future.

In May, [MHG opened their own specialty labs at the University of Georgia in order to increase R&D opportunities](#). The funding contributions will allow MHG to further optimize biopolymer applications and formulas through targeted R&D projects. MHG's funding contributions come after the announcement that MHG is now the world leader in the production of PHA as a result of their first commercial scale fermenter officially operating.

In 2018, Danimer announced a strategic partnership with the University of Georgia. Danimer has touted research claims by the University of Georgia (UGA). In a 2019 press release, Danimer claimed the University of Georgia confirmed Nodax is an effective biodegradable alternative to petrochemical plastics.



How can investors trust the findings of a study conducted by a party being financially supported by Danimer?

Danimer Press Release | Jan 15, 2019

"In 2018, the University of Georgia (U.S.A.) confirmed in a study that Nodax™ is an effective biodegradable alternative to petrochemical plastics."

Source: [Danimer Scientific](#)

Danimer Scientific has also provided financial support to several UGA faculty members who are working with the company to test and improve their products. Recipients include Jason Locklin, Jenna Jambeck and Mark Eiteman.

The partnership with Danimer Scientific is facilitated by the Office of Research Industry Engagement team—a one-stop shop for companies who want to connect with UGA researchers.

Source: [Impact Georgia](#)



Study: PHA is an eco-friendly alternative to petrochemical plastics

Source: [UGA New Materials Institute](#)



Source: [Danimer Facebook](#)

UGA Professors Have Ties To Danimer

We have found Dr. Jason Locklin, a University of Georgia professor involved in the study, has several ties to Danimer including receiving financial support and having several former students employed at the Company. Dr. Joe Grubbs, an author of the study and faculty member of the *UGA New Materials Institute*, is a current employee of Danimer.⁽¹⁾



Spruce Point questions Danimer's claims supported by the University of Georgia research as multiple authors have significant ties to Danimer and the Company provided funding for research in biodegradable polymers.

4B.2. Supervision of Graduate Student and Postdoctoral Research

Postdoctoral Research Associates (2)

- Satyabrata Samanta, Ph.D., Chemistry, 2007-2010. (Currently employed at Danimer Scientific)

Joe Grubbs

2010-2014

PhD, Chemistry, December 2014 (Danimer Scientific)

4C.3. Research Grants, Awards, and Gifts

External Grants Awarded

Date	Title	Source	Amount	Role and Amount Awarded to Candidate
08/2014-07/2019	Unrestricted Gift for research in biodegradable polymers	Danimer Scientific	\$250,000	PI (100%)

4E. STATEMENT OF "MAJOR ACCOMPLISHMENTS"

Research

Since the promotion to the rank of Associate Professor, my research group has been active in four different areas related to polymer surfaces and interfaces. This work has led to nine Ph.D. graduates (Kyle Sontag, Gareth Sheppard, Eric Huddleston, Rachele Arnold, Jenna Bilbrey, Joe Grubbs, Evan White, Jeremy Yatvin, Anandi Roy, and Jing Gao) and one M.S. graduate (Deborah Lehman) as well as 35 publications with 504 total citations as of Dec. 2016. Over this time period, I have had funding from NSF (DMR 093112, 2010-2016, \$480,000, CHE 1058631, 2011-2014: \$270,000; CHE 1412714: \$282,000), US Army (2012-2015, \$145,000), Georgia Research Alliance (2014-2015, \$85,000), Centers for Disease Control (2016-2017, \$180,000), Georgia Pacific Cellulose (2013-2015, \$45,000), Danimer Scientific (2014-2019, \$250,000), and the RWDC Environmental Stewardship Foundation (2017-2024, \$5,300,000).

Source: [Jason Locklin CV](#)

4. Biodegradable and Bio-benign Materials. In the past several years, through industrial funding, our group has helped to develop sustainable materials that can be used in a variety of commercial applications. Much of this work has been funded by industry and has involved developing new hot melt adhesives, biodegradable waxes, coatings for controlled release fertilizers, and compostable paper coatings. The work has led to the hiring of 3 PhD students and one former Postdoctoral Scholar by Danimer Scientific (Joe Grubbs, Rachele Arnold, and Satya Samanta) and Georgia Pacific (Jing Gao). Our interests now lie in developing new polymers that can replace persistent, non-degradable petroleum-based plastics in packaging and single use items that are the cause of plastic pollution around the globe. This has resulted in the establishment of the New Materials Institute at UGA of which I am the founding Director. The institute supports interdisciplinary sustainable materials research that takes a systems approach based on green engineering principles to address waste streams at the front end of materials design resulting in a circular materials economy that is both environmentally and economically sustainable.

1) Joe Grubbs, Senior Polymer Scientist at Danimer, [ZoomInfo](#)

Management Walking Back Expectations

In response to the first question on Danimer's first earnings call, CEO Croskrey already walked back from recently issued expectations. In addition, Danimer has already missed its stated targets for Phase I and Phase II of its completion of its Kentucky facility and management has blamed it on Covid and the SPAC transaction.

Jonathan
Tanwanteng
CJS Securities

"Congratulations on your first quarter as a public company. And it's also great to see the demand that you've been talking about increase. My first question, I guess, can you provide an updated expectation in terms of the profitability you're expecting compared to what you had in your investor deck last fall, given your new growth and expansion plans and what looks like a significant inflation that's coming to the supply chain right now?"
"I mean, over the next 2 or 3 years would be perfect, if you could go into how you expect your profitability to ramp, especially as these new plants complete?"

Stephen
Croskrey
CEO
Danimer
Scientific

"So we expect margins to improve over time as we increase capacity. The more scale we have, the better we can spread out those fixed costs. So I think when you look at the out years, as compared to the previous models that you've seen, there'll be a tremendous increase in profitability, really just driven by volume."
In the near term, I would expect less profitability at the bottom line than what was previously disclosed. Because in order to accelerate that growth, we're pulling in quite a bit of OpEx, mainly with new hires. We're hiring quite a bit of people this year that we didn't intend to prior to the announcement to double the size of the greenfield plant."

Source: [DNMR March 29th, 2021 earnings call](#)

Missing expectations and pushing back timelines for Kentucky facility

John Dowdy, CFO
Danimer Scientific
Q4 2020 Call
March 29, 2021

"Phase II construction has commenced in December of 2020, and is expected to add an additional 45 million pounds of finished product nameplate capacity in the second quarter of 2022, with production ramping up thereafter."

*"As I noted earlier, the Phase II expansion is **now expected to be completed in the second quarter of 2022 compared to our initial assumption of late 2021**, resulting from the shift in timing of our closing the public company transaction."*

Key Messages

- Overall trajectory of business remains intact
- Phase I not scaled to plan due to COVID-19**
- Costs were relatively higher in the short term from:

Source: [Q4 2020 earnings presentation](#) (slide 9)

We spoke with a former Danimer employee who shared many of our beliefs of the Company. He told us Danimer is the same as it was years ago and continues to face the same challenges.

**Former
Danimer
Employee**

“John Dowdy was a know it all... I looked at all his financial models and they were just really bad... He was a good accountant but not a good CFO.”

“It was the same thing back then. It was all about name dropping. We were already working with Pepsi back then. We had big clients but they were small orders.... I am amazed the Company is worth so much money now and its still doing the same thing.”

“PHA by itself does not satisfy the technical requirements of most applications where normal polymers are used right now... When you take gluten out of bread and use wheat flour or whatever doesn't have gluten and try to make bread, it just breaks and there is no elasticity. That is pretty much the same thing when you remove petrol from polymers. That's the really hard part.”

A Consistently Changing Story



We found Danimer's story has consistently changed. In 2012, a press release stated, "*expected production rates exceeding 300,000 tons per year.*" This press release used to be on the Company's website and has since been scrubbed from the internet. However, in October 2013, the Company's press release stated "*Meridian will produce over 30,000 tons of PHA per year.*" With numerous inconsistencies and many of the same management team in place, what are investors supposed to believe?

October 2012

Polyhydroxyalkanoate (PHA) is a highly functional bioplastic made from renewable and natural resources. Meridian's new plant is the largest bioplastics facility in the world, featuring 190,000 square feet of manufacturing space with expected production rates exceeding 300,000 tons per year and an estimated 150% growth in jobs over the next 24 months. With \$32 million in community investment to date, Congressman Bishop's office assisted Meridian in getting loan support from the U.S. Department of Agriculture.

Source: U.S. Congressman Bishop [website](#)

October 2013

"Having the largest PHA production facility in the world, Meridian will produce over 30,000 tons of PHA per year at the Bainbridge facility. We recognize that growth is required for bioplastic materials. Engineering plans are now completed for 'right sized' Meridian facilities to be placed globally to best serve our customers. The company expects multiple projects to be underway simultaneously in order to meet the demand of our customers," states Michael Smith, VP Manufacturing & Engineering, Meridian.

Source: Meridian [press release](#)

Warning: Major Capex Discrepancy In Kentucky Expansion Story



Spruce Point finds an inconsistency between Danimer's financial disclosure of the purchase price of its Kentucky Facility and the City of Winchester's disclosure in its audited financial statements. **The City's disclosure reports an additional \$13 million was paid for a total facility purchase price of \$36 million.** We find mention of 4 different square footages (80k, 88k⁽¹⁾, 90k, 100k⁽²⁾) reported for the Winchester, KY facility. Danimer's September 2018 press release states an 88k sq. ft. facility with the same cost as the City's financials of \$36.2 million. ⁽¹⁾ **Why can't the Company keeps its story consistent?**

Danimer Financial Statements

We may not be able to complete the proposed production capacity buildout at our Kentucky Facility.

In December 2018, we consummated the acquisition of the Kentucky Facility, including the equipment, machinery and other personal property located at such facility for a purchase price of \$23 million, and simultaneously entered into a sale and leaseback transaction with a large, diversified commercial property REIT pursuant to which we sold the Kentucky Facility and certain of our facilities located in Bainbridge, Georgia to the REIT and leased-back the same properties from the REIT under a net-lease for an initial term of 20 years with renewal terms up to an additional 20 years at our option. The assets available at the Kentucky Facility permitted us to embark on a two-phase commissioning strategy, and we commenced production of commercial volumes of PHA in December 2019. We had completed several components of the first phase of the production capacity buildout by the end of the third quarter of 2020. As of December 31, 2020, we had invested \$54.7 million since the acquisition of the Kentucky Facility, excluding capitalized interest. Of this total, \$7 million in real-estate improvements for the Kentucky Facility were reimbursed by the REIT in May 2020. Once Phase I of the Kentucky Facility production capacity is operating at scale, we expect to produce approximately 20 million pounds of finished product per year. We

Our PHA commercial production facility is located in Winchester, Kentucky in approximately 80,000 square feet of real property.

Source: Danimer [2020 10-K](#)

City of Winchester Financial Statements

Danimer Scientific Kentucky Inc. purchased the Alltech property in 2018 and began operating January 15, 2019 with land, building and equipment being a total investment of \$36 million. This location is approximately 30 acres including 90,000 square feet of existing building. This project in the beginning stages created 37 full time new jobs with an average salary of \$53,643 yearly with an additional 15% compensation through employee benefits. The City Commission approved Resolution R2020-2 May 19, 2020 therefore providing a credit of the Occupational License Fee for a ten year period beginning after project completion equal to half of the two percent (1%) on the newly created Kentucky resident positions.

Source: City of Winchester [Audited Financial Statements](#)

1) [Press release](#) (September 2018)
2) Alltech Kentucky facility - [Biodiesel Magazine](#) (March 2011)

“If You Build It, They Will Come?”

On March 29th, 2021, Danimer announced plans for a \$700 million expansion to double the size of its greenfield plant “to serve our growing order commitments from customers” and “forecast that the greenfield plant will be sold out”. When asked about contracts for the new greenfield capacity, Danimer CEO stated it’s only around 10% and that most of the demand is based on forecasts and not actual agreements with customers.

Stephen Croskrey
CEO
Danimer Scientific

“To that point on Slide 13, we are moving toward a bioplastic world even faster than we projected 6 months ago. Considering that, we have announced our intention to double the size of our planned greenfield facility to catch up with demand. We have chosen Bainbridge, Georgia based on a detailed site selection process. Our plan is now to increase the anticipated greenfield capacity from 125 to 250 million nameplate finished pounds of product annually. The new state of the art facility is currently in the preconstruction engineering stage. It is expected to break ground in 2022 with the first half of the project coming online in mid-2023 and the second half operational in 2024. The cost of the facility is now projected to be around \$700 million, which incorporates the doubling of the facility plus additional enhancements for efficiency. The unit economics remain very attractive on this larger scale. **Upon completion, we will be in a much better position to serve our growing order commitments from customers.** Moving to Slide 14. Even with the planned doubling of the facility, **we continue to forecast that the greenfield plant will be sold out**. In fact, based on our conversations with customers and the trends we are seeing in the business, we believe that the market demand and unit economics support additional capacity more than 250 million pounds of finished product per year beyond currently-announced capacity additions. We expect our expansion plans to bring considerable benefits to Danimer in coming years as we reduce lead times and costs, serve more customers concurrently and leverage the operational infrastructure that we are putting in place today.”

Laurence Alexander
Jefferies

“First, on the new expanded capacity target, do you already have an anchor tenant for the extra volume? Or to what degree is that capacity rolled out under contract?”

Stephen Croskrey
CEO
Danimer Scientific

“Yes. It’s -- in the early years, **I would say it’s roughly 10% under contract**, Laurence. But we still have a lot of time to get to actual contracts. And so the answer is, yes, we have 2 new anchor tenants, which would be Mars and Bacardi. Mars and Bacardi were not contemplated in our financial models when we were marketing the PIPE. And so those are new customers. We’ve also added a third brand, which we can’t talk about because they view it as a competitive advantage. So we really have 3 significant new customers in the pipeline from the financial model that we used to build the greenfield plant originally, the model for the plant. **And so we -- while we don’t have offtake agreements yet with those customers, we have forecasts and plans are in place.**”

Property Records Signal Project Is Behind Plan

Based on the City's assessor, Danimer's Kentucky facility remodel is only 10% complete. While there may be margin of error from the assessor's judgement, 10% is still far from completion.

Permit Information

Permit Number	Permit Date	Description	Percent Complete	Permit Year	Updated
2019195B	10/15/2019	REMODEL	10 ←	2020	1/15/2021
2020482	10/1/2020	DEMOLITION	90	2021	1/15/2021
2020592	12/8/2020	PROCESS BUILDING	50	2021	1/15/2021
2021020	1/21/2021	FACTORY BUILDING	0	2022	1/27/2021

Parcel Summary

Map Number 053-0000-015-00
Location Address 605 ROLLING HILLS LN
Description PARCELS 3 & 4 PLAT 1774
Property Tax Class Commercial
Tax District City (District 01)
2020 Tax Rate 1.13021
Deed Reference 534/157

Photos



Danimer is attempting a task that has never been successful at commercial scale. While there is limited precedent, timelines and capital costs almost always run over. One of the best examples we find is Metabolix. Originally projected as a \$200 million project, the total cost appear to be “nearly \$400 million” and was stretched out over several years due to delays.

2007

SUNDAY, JANUARY 21, 2007

The bioeconomy at work: Metabolix to build 50,000 ton per year PHA bioplastics factory

Biotech company Metabolix, which is developing a biofuels and plant-based products biorefinery around (genetically altered) green tissue plants, [announced](#) it is to construct a factory that will produce 50,000 tons (110 million pounds) per year of biodegradable polyhydroxyalkanoates (PHA). The facility, to be constructed at an investment of €154/US\$200 million in Iowa, expected to begin in 2008, will meet rising demand for plant-based plastics.



Source: Mongabay.com

2010

March 15, 2010 02:00 AM

Mirel PHA production under way in Iowa

The first commercial-scale plant to produce the long-awaited Mirel bioplastic resin has opened in Clinton, Iowa, and expects to begin shipping its corn-sugar-based polyhydroxyalkanoate resin sometime next month.

But neither Metabolix Inc. nor Archer Daniels Midland Co. – the two companies that have teamed up to bring PHA to commercial development – would speculate on when the plant might reach its full capacity of 110 million pounds annually.

Eno declined to say whether the plant – which will be operated by Decatur, Ill.-based ADM and began operations March 8 – would be at full capacity this summer. But, he said, capacity utilization levels at Clinton are likely to remain relatively low for the next few quarters.

The plant, which cost nearly \$400 million to build, is next to ADM's wet corn mill in Clinton. Its startup has been delayed several times over the past four years.

Source: Plastic News

PHA is not new and Danimer is not the first to attempt commercial scale production of this technology. Metabolix, which eventually changed its name to Yield10⁽¹⁾, was an overhyped PHA company at the beginning of the last decade and formed a partnership with Archer Daniels Midland (ADM), a blue-chip S&P 500 company. After years of research and burning hundreds of millions of dollars, Metabolix eventually sold its assets for \$10 million in 2016. Current Danimer investors placing hope that a partnership with Pepsi will ensure success should review the Metabolix failure carefully.

“Mango is among the dozens of firms attempting to create an industry around polyhydroxyalkanoates (PHAs), a class of biodegradable, biobased polymers. **Executives with these firms are well aware of the PHA firm Metabolix, now called Yield10 Bioscience, which burned through hundreds of millions of dollars before it failed in PHAs 3 years ago.**”

“**Metabolix made it to this stage a decade ago, and its failure remains a cautionary tale for the rest of the industry. In 2010, the company started up a PHA joint venture with Archer Daniels Midland (ADM) in Clinton, Iowa, that boasted 50,000 t of annual capacity.**

ADM shuttered the plant 2 years later due to slow adoption of the materials by customers. The plant couldn't even meet a milestone of 500 t per year of sales. **ADM had to write off \$339 million.** Metabolix struck out on its own but had to **sell its technology to the South Korean firm CJ CheilJedang for \$10 million in 2016.**”

Source: [Chemical & Engineering News](#)

“Metabolix Inc. (NASDAQ:MBLX), a bioscience company developing and commercializing environmentally sustainable and totally biodegradable Natural Plastic, announced today that the company has **named Peter N. Kellogg to its Board of Directors**, effective March 30, 2007.

Mr. Kellogg is Executive Vice President, Finance and Chief Financial Officer of Biogen Idec Inc., a global leader in the development, manufacturing, and commercialization of novel therapies. Mr. Kellogg was formerly Executive Vice President and CFO of Biogen prior to the merger with Idec. Prior to joining Biogen, **Mr. Kellogg held several positions at PepsiCo Inc., including Senior Vice President of PepsiCo E-Commerce, Senior Vice President and Chief Financial Officer, Frito-Lay International as well as a variety of senior financial, international and general management positions at PepsiCo and the Pepsi-Cola International, Pepsi-Cola North America, and Frito-Lay International divisions.** In addition, Mr. Kellogg was also a senior consultant with Arthur Andersen & Co. and Booz Allen & Hamilton.”

Source: [Press release](#)

1) [Press release](#)



PHA: Another Go Around

Overview Of PHA: “More Expensive Trash”

Based on the academic paper “*Biodegradation of Wasted Bioplastics in Natural and Industrial Environments: A Review*”, PHAs have limited benefits. These benefits are mostly under non-traditional disposal methods including compost and traditional soil. Spruce Point believes that since bioplastics still require compost recycling, the technology is not the answer to solve the world’s environmental problem.

Environment	Evidence	Spruce Point Takeaway
Trash / Landfill	<p><i>“PLA-based bioplastics showed a similar biodegradability of PHAs, as quickly degraded under composting and anaerobic digestion”</i></p> <p><i>“Disposal of bioplastic waste to a sanitary landfill remains the least preferable option”</i></p> <p><i>“Anaerobic decomposition results in fugitive methane, which is a greenhouse gas when escaping the recovery system”</i></p>	PLA is better than PHA in traditional trash and landfills
Ocean	<i>“Observed less than 10% of biodegradability over a period of one year in aquatic environments”</i>	PHA does not biodegrade in the ocean
Soil	<i>“Biodegradation was in general below 50% after one year in soil environment”</i>	PHA is better than average if trash was thrown on the ground
Compost	<i>“PHA-based bioplastics were degraded (biodegradability over 80%) in compost and anaerobic conditions after less than four months and two weeks”</i>	Infrastructure for individuals composting is very low (per Bloomberg) and industrial plants are already set up for PLA composting

Worse Than PLA In Landfills

The study shows that in an anaerobic environment, such as a sealed landfill, the PHA product does not completely biodegrade. This differs from the CEO's claims and supports the concerns raised by the Wall Street Journal article. The paper states that bioplastics in a landfill can be worse than traditional plastic as it releases methane which is worse than CO₂.

Table 6. Studies carried out on bioplastics' degradation in anaerobic conditions (adapted from Emadian et al. [43]).

Source of Bioplastic	Name of Bioplastic	Type of Environment	Conditions	Scale	Biodegradation Indicator	Biodegradability (%)	Period of Biodegradability (Days)	Ref.	
PLA-based	PLA	Sludge	Anaerobic, 37 °C	Lab-scale, 10 L stainless steel bottle	Produced CO ₂	29–49	277	[161]	
	PLA	Sludge	Anaerobic, 55 °C	Lab-scale, 10 L stainless steel bottle	Produced CO ₂	80	30–50	[111]	
	PLA	AD	Anaerobic, 52 °C	Lab-scale	Comparison with respect to theoretical BMP	90	36	[160]	
	PLA powder	Sludge	Anaerobic, 55 °C	Lab-scale	Biogas production	90	60	[167]	
	PLA	Sludge	Anaerobic, 55 °C	Lab-scale	n.a.	75	75	[163]	
	PLA	Sludge	Anaerobic, 55 °C	Lab-scale, 10-L bottle	Produced biogas	85	60	[122]	
Bio-based	PHBs	AD	Anaerobic digestion—untreated PHB—35 °C	Lab-scale	Conversion to biogas	67	175	[164]	
		AD	Anaerobic digestion—pretreated PHB—35 °C	Lab-scale	Conversion to biogas	91	175	[164]	
	PHA-based	PHB	Sludge	Anaerobic, 55 °C	Lab-scale	Produced biogas	90	14	[163]
		PHB	Sludge	Anaerobic, 37 °C	Lab-scale, 10 L stainless steel bottle	Produced CO ₂	90	9	[161]
		PHB	AD	Anaerobic	Lab-scale	Weight loss—Biogas production	90	9	[166]

3.4. Landfilling

It is estimated that almost 40% of the annually produced plastics is discarded into sanitary landfills [14,42]. Landfilling is still a popular waste management scenario, due to its low cost and simplicity of operation, as previous sorting of waste, or any other pretreatment, is not required. Nonetheless, disposal of bioplastic waste to a sanitary landfill remains the least preferable option (but preferred over the uncontrolled dumping). That is mainly because under anaerobic conditions, such as in landfill or dumps, anaerobic decomposition results in fugitive methane, which is a greenhouse gas when escaping the recovery system [64]. In fact, these generated greenhouse gases include methane (CH₄), which is a gas with a warming potential 25–36 times that of CO₂ [54]. However, the landfill gas can be at least partially recovered and combusted for energy production [28,64].

Bioplastics such as PHAs release methane (which is worse than CO₂) when in anaerobic conditions such as a landfill


PHA biodegrades at less than 50% in soil after one year. What value does a biodegradable plastic have if its most favorable condition is when someone leaves trash on the side of the road?

Table 4. Studies carried out on bioplastics' degradation in soil environment (adapted from Emadian et al. [43]).

Source of Bioplastic	Name of Bioplastic	Type of Environment	Conditions	Scale	Biodegradation Indicator	Biodegradability (%)	Period of Biodegradability (Days)	Ref.	
PLA-based	PLA	Soil	30% moisture	Buried at a depth of 12–15 cm in boxes of alluvial-type soil	Weight loss	10	98	[32]	
	PLA (powdered)	Soil	25 °C, 60% humidity	50 g-soil/pot	Weight loss	13.8	28	[39]	
	PLA/NPK fertilizer (63.5/37.5%)	Soil	30 °C, 80% humidity	Buried in the topsoil located outside natural environment	Weight loss	37.4	56	[12]	
	PLA/NPK fertilizer/EFB (25/37.5/37.5%)	Soil	30 °C, 80% humidity	Buried in the topsoil; likely in the lab	Weight loss	43	56	[12]	
	PLA/sisal fiber (SF) (60/40%)	Soil	30% moisture	Buried at a depth of 12–15 cm in boxes of alluvial-type soil	Weight loss	>60	98	[32]	
Bio-based	PHA-based	PHB	Soil	–	Lab-scale container	Weight loss	64.3	180	[91]
		PHB	Microbial culture from soil	Aerobic	3 L sealable, sterile container	Weight loss	~18	18	[128]
		PHA	Soil	35% moisture	Buried at a depth of 12–15 cm in boxes of alluvial-type soil	Weight loss	35	60	[124]
		PHA	Soil/compost (90/10%)	25 °C, 65% humidity	Lab-scale desiccator	Produced CO ₂	40–50	15	[117]
		PHA	Soil	20 °C, 60% moisture	2 L wide mouth jar	Produced CO ₂	48.5	280	[54]
	PHBV	Microbial culture from soil	–	3 L sealable, sterile container	Weight loss	~41	18	[128]	
	PHB films	Soil (Hoa Lac, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	98	~365	[123]	
	PHBV films	Soil (Hoa Lac, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	61	~365	[123]	
	PHB pellets	Soil (Hoa Lac, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	55	~365	[123]	
	PHBV pellets	Soil (Hoa Lac, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	35	~365	[123]	
	PHB films	Soil (Dam Bai, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	47	~365	[123]	
	PHBV films	Soil (Dam Bai, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	14	~365	[123]	
	PHB pellets	Soil (Dam Bai, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	28	~365	[123]	
	PHBV pellets	Soil (Dam Bai, Vietman)	Natural conditions—15 cm depth	Close-meshed gauze jackets	Weight loss	8	~365	[123]	
	PHA/Rice Husk (RH) (60/40%)	Soil	35% moisture	Buried at a depth of 12–15 cm in boxes of alluvial-type soil	Weight loss	>90	60	[124]	
Starch-based	Starch-based	Soil	20 °C, 60% moisture	2 L wide mouth jar	Produced CO ₂	14.2	110	[54]	
	Mater-Bi plastic carrier bags	Soil	25 °C	Lab-scale cylinder (30–20 cm)	Weight loss	37	90	[22]	
	Mater-Bi plastic carrier bags	Soil	Uncontrolled	Real filed—5 cm depth	Weight loss	3.4	90	[22]	
	Starch/chitosan (35/65)	Soil	Stockpiled sample on the ground	n.a.	Weight loss	80	14	[149]	
	Starch/chitosan (35/65)	Soil	Soil burial test method	Lab-scale	Weight loss	96	28	[102]	
Cassava starch/glycerol (3/1)	Compost soil	Soil Burial Test, room temperature	Lab-scale	Weight loss	30	10	[150]		
Rice straw bioplastics	Soil	Undefined	Lab-scale	Weight loss	~100	103	[5]		
Cellulose-based	Sponge cloth (cellulose-based)	Synthetic soil containing compost	Aerobic, 58 °C	Laboratory-scale controlled composting conditions	Weight loss	>80	154	[73]	
	Nylon ₆ (Polyamides, Bio-based)	Composted soil	25 °C, pH = 7.5–7.6, 80% humidity	Buried in containers made of PP	Weight loss	100	120	[133]	

Source: [Biodegradation of Wasted Bioplastics in Natural and Industrial Environments: A Review](#) (page 15)

NatureWorks, Danimer's PLA supplier, was formed as a joint venture between Cargill and Dow Chemical in 2001 to commercialize PLA-based resins. NatureWorks, once a pioneer, ended up going through multiple restructurings. Hardly living up to its highly optimistic potential, bioplastics represent less than 1% of the global plastics market.⁽¹⁾



There is always a catch! While PHA may be an improvement from PLA in some areas, there are still constraints to the technology. Just as PLA was unable to decompose in landfills and required separate recycling, PHA requires certain conditions which are only available to a limited population.

PLA

The Cons of PLA: Biodegradation Rate and Recycling

Critics say that PLA is far from a panacea for dealing with the world's plastic waste problem. For one thing, although PLA does biodegrade, it does so very slowly.³ According to Elizabeth Royte, writing in Smithsonian, PLA may well break down into its constituent parts (carbon dioxide and water) within three months in a "controlled composting environment," that is, an industrial composting facility heated to 140 F and fed a steady diet of digestive microbes. It will take far longer in a compost bin, or in a landfill packed so tightly that no light and little oxygen are available to assist in the process. Indeed, analysts estimate that a PLA bottle could take anywhere from 100 to 1,000 years to decompose in a landfill.⁴

Another issue with PLA is that it must be kept separate when recycled, lest it contaminates the recycling stream; since PLA is plant-based, it needs to be disposed of in composting facilities, which points to another problem:⁵ There are currently a few hundred industrial-grade composting facilities across the United States.

Finally, PLA is typically made of genetically modified corn, at least in the United States. The largest producer of PLA in the world is NatureWorks, a subsidiary of Cargill, which is the world's largest provider of genetically modified corn seed. This is tricky because the future costs of genetic modification (and the associated pesticides) to the environment⁶ and human health are still largely unknown.⁷

Source: Treehugger.com

PHA

Has Bacardi Solved the World's Plastic Problem?

An innovative new liquor bottle will biodegrade in just 18 months. Unfortunately, there's a catch.

As a solution, Bacardi teamed up with Danimer Scientific, developer of Nodax PHA, to create a new kind of container that could (in theory) dispose of itself. The result was what Bacardi calls "the world's most eco-friendly spirits bottle." A discarded bottle made of petroleum-based plastic might take 400 years to biodegrade. One made with Nodax PHA will decompose in a mere 18 months – so long as it's in an environment where there's microbial activity, such as a composting bin, a landfill with energy recovery, or a body of water.

And that's where this seemingly elegant solution runs into trouble. As of 2017, only about 5 million U.S. households had access to curbside composting, for reasons that include the high cost of building the required facilities and the reluctance of many Americans to compost at all. Bridget

A better option might be the trash bin, but few Americans have access to landfills equipped to ensure that bioplastics degrade. The remaining option is disposing the bottles into the environment – say, in the ocean. That's not much of an option at all, even if the bottles will eventually disintegrate. "I don't think we want to start 'designing for litter,'" Croke told me.

Source: Bloomberg (December 2, 2020)

1) Based on [investor presentation](http://investor.presentation)

30+ Year Old Technology That Has Historically Failed

The foundation of Danimer's technology has been around for over 30 years and has yet to gain significant traction. A 2007 paper published in the *Journal of Chemical Technology and Biotechnology* discusses the difficulties of creating a mainstream solution. Metabolix, once considered the industry leader in the mid-2000s, has since failed. In 2007, Danimer acquired intellectual property from Procter & Gamble, who was investigating solutions to reduce the price of Nodax but ultimately stopped production in 2006. If P&G wanted to move on, how valuable could the technology have been?

Applications		<p>“Initially, PHAs were used to make everyday articles such as shampoo bottles and packaging materials. <u>The first consumer product made out of PHA was launched in April 1990</u> by Wella AG. They tested their Sanara range of biodegradable shampoos in bottles made of Biopol (ICI, UK). <u>Over the last decade, applications have increased both in variety and specialisation.</u>”</p>
Industrial Applications	BIOPOL	<p>“BIOPOL was initially manufactured by ICI and <u>is now produced by Metabolix.</u>” “BIOPOL monofilaments have been used to make fishing nets and ropes. BIOPOL fibres have been used to make ropes and nets for crab cages. The nets exhibited good strength and biodegradability in the sea.” “The sole distributor for BIOPOL rigid packaging, Berlin Packaging, has been enjoying tremendous success. Brocato International introduced their hair care products in BIOPOL bottles in 1992. BIOPOL is used to produce shampoo bottles, motor oil bottles and disposable razors.”</p>
	Nodax	<p>“Nodax is a recent addition to the PHA copolymer family which consists of 3-hydroxybutyrate and a comparatively small quantity of medium chain length monomers with side groups of at least three carbon units or more.” “The polymer has been <u>developed by Procter and Gamble</u> and promises anaerobic and aerobic degradability, hydrolytic stability and elastic and mechanical properties to suit specific needs.”</p>
Conclusions		<p>“Although <u>PHAs have been ‘commercial’ for well over 20 years</u>, this niche market is weighed down by a variety of roadblocks led by high prices, lack of an industrial infrastructure, and a strong legislative mandate to deal with many of these materials.” “However, the <u>high cost of producing</u> PHAs is threatening rapid progress in the commercial application of PHAs. <u>Metabolix is working earnestly to try to overcome this obstacle.</u> Metabolix aims to bring down the cost of PHA to approximately \$1per lb. <u>Procter & Gamble was investigating means to reduce the price of Nodax, the branched chain polyester, to about \$0.45 per lb from \$2.20 per lb, before stopping production altogether in 2006.</u> Another main obstacle for biodegradable polymers is a deficiency of proper disposal facilities. Biodegradable polymers cannot biodegrade in landfills. There are no means for separating these polymers from other waste.”</p>

Why Now For PHA?

Investors behind Danimer believe this time is different for PHA because there is demand from large customer brands for ESG friendly and biodegradable products. While we agree with this trend, these Companies still need to be concerned with the reliability and cost of production. According to a Tegus interview, prices for PHA are 4-5x higher compared to conventional plastics. While short term demand for PHA may remain strong, in the long run, brands are unlikely to pay high premiums for PHA, especially as other biodegradable options scale. If PHA suppliers reduce prices to compete with conventional plastic, their margins will surely take a hit.

Senior Executive
Danimer
Competitor

*“So Danimer, Full Cycle, Newlight, you name it, we can produce PHA, but **how consistently can you produce the same grade of PHA day in and day out regardless of climatic conditions**, regardless of any operational snafus, if the power surges or power goes out, how does that impact your consistency? So, again, if I were you, I would ask those questions of any producer, from a quality control and quality assurance perspective. **And then, of course, it's price.**”*

Question

*“**When a CPG guy like Pepsi or Nestlé makes a decision on something like this, what are they doing?** I mean from what I gather, the differentials and sort of product characteristics of the top guys is pretty minimal. What are they looking for? Are they looking for scale? Are they tendering out on a cost basis? How are they making those decisions right now?”*

Industry
Expert

*“**It's scale, it's cost and it's a reliability of inputs**. And when I say reliability on inputs, I mean, **availability and quality**. **So the biggest thing that Pepsi is afraid of is that they go-to-market and they say, "By the way, our place bottles are biodegradable."** And then something happens where the central plant for Danimer goes down, and then they have to start using regular oil-based plastics. And suddenly, all their marketing is wrong and they've done false advertising.*
That's like one perspective that they worry greatly about. The second is that they continue down this path, but then it turns out that the bottles don't last on shelves when they're sitting in the sun at gas stations in Texas and the bottle start melting. And they don't actually have the rigidity that they were promised. And if they can pass those 2 major tests, then it comes down to, okay, well, if we're going to be producing millions and millions and millions of these bottles, how low can you get your prices? Because right now, you're 4 or 5x the price of oil-based plastics.
And Danimer, as an example, will be able to get the prices down, but the cost of their inputs is already \$1, just a cost. And so they're never going to get it below \$1. So that's why it's going to be useful at the beginning and then it's going to be a secondary conversation where the companies like Pepsi are going to start looking for alternatives.
At some point, it's really sexy at the beginning, and it's great marketing, and it's a great sales tool. But over the long run, economics are going to be king, and it's going to be much harder shareholder conversations.”

Unsustainable Competitive Advantage

An interview with a Senior Executive at a Danimer competitor revealed there will likely be challenges to scale within the trillion-dollar plastics industry. In addition, Danimer's reliance on canola oil looks to be a competitive disadvantage compared to lower priced alternative inputs.

Senior Executive
Danimer Competitor

*“So even though Danimer is building, well so they've built a commercial production facility, they're building more capacity. **The trick is going to be taking on the petrochemical behemoths**, your OPEC, BP, INEOS, Exxon, Dow Chemicals of the world that are able to price risk appropriately for a \$1 billion investment in a petrochemical manufacturing facility in India that produces an order of magnitude, **10, 20, 30x the amount of material that Danimer's existing scale sits at, right? And so there is still a massive scale jump to actually take on the trillion-dollar plastics market.** And so the idiosyncrasies in scaling a biochemical now or living chemistry-based process to that scale, it's certainly been done with wastewater treatment. It's going to have to be done with alternative protein production, but **there's still a massive question mark around whether or not the science is able to play at that massive scale.** And if it doesn't, then you're always going to be stuck in each product land, right, because you're never going to be able to bring those cost profiles down to the point where you can attack, commoditize polyolefins. And so that is the direction of questioning that I would go, if I were you, is to really, really dig in on what is their scale methodology? **Does the biochemistry and bacteria-powered science work at that scale? How can you prove that? What are some of the red flags that has been shown in the past? So we could talk about that if you're interested. But that would be the direction that I would go in.**”*

“The question should be where we started, which is in 5 to 8 years, are they going to be able to hold that position given their reliance on canola oil and seemingly an IP portfolio that isn't all that defensible?”

*On their side? It would be a bit of a finger in the air, but we are able to model with feedstock pricing, what it is for us well below a dollar a pound, somewhere between \$0.30 and \$0.60. And **I would imagine that they're considerably higher than that per pound than us because of the canola reliance.**”*

Risk From Significant Canola Oil Exposure

Spruce Point observes canola oil prices are exploding, and DNMR is exposed. The CEO's comments about hedging its exposure are not supported by documented disclosures in the Company's 10-K. Even if Danimer can hedge its exposure, the increased cost will likely drive the total cost to customers, making Danimer's canola oil reliant product less competitive.

Jonathan
Tanwanteng
CJS Securities

"And can you just comment on the spreads that you are making on your product these days, how you're pricing to customers, just given the price of feedstocks, the canola oil, going up?"

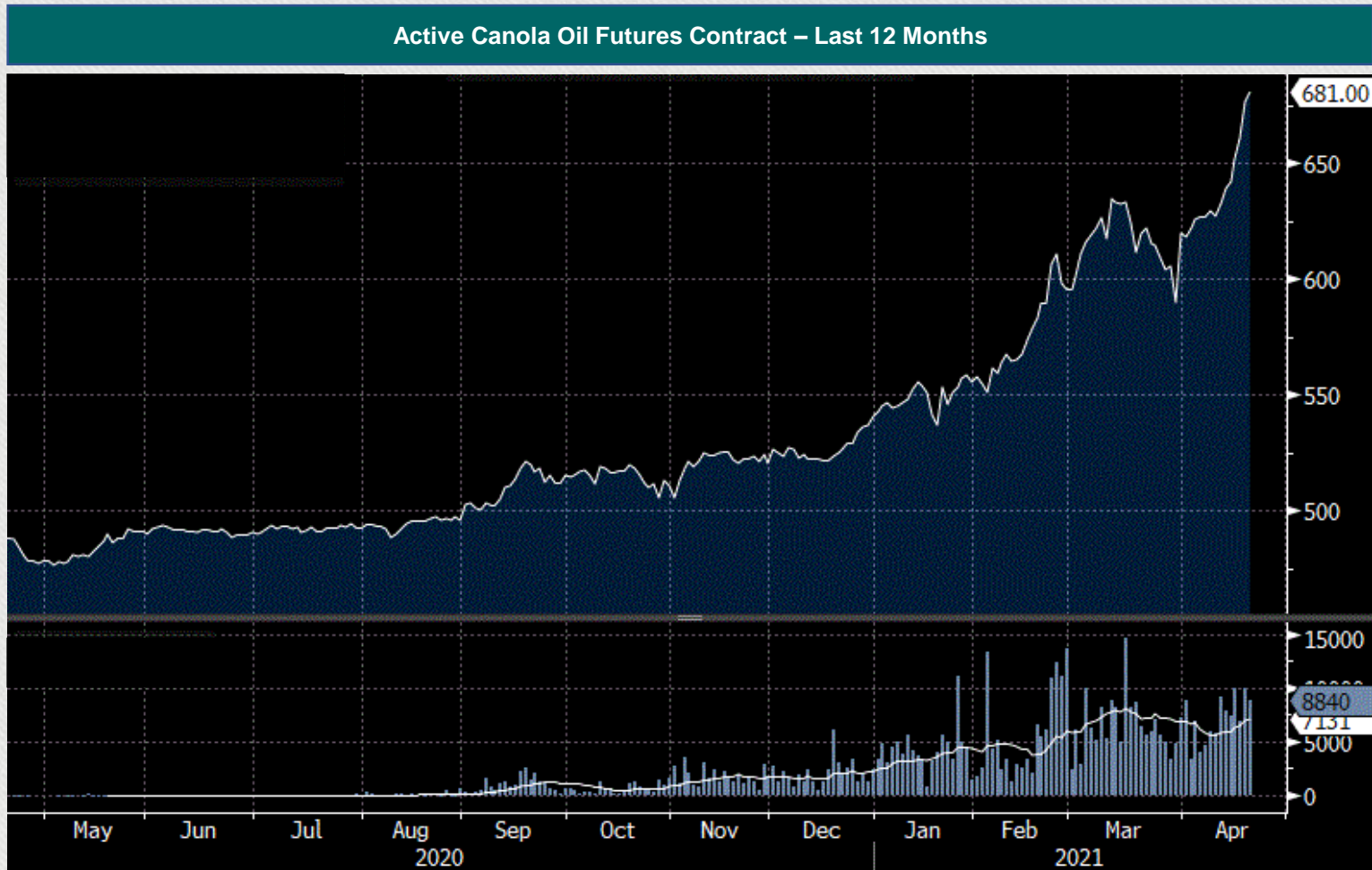
Stephen
Croskrey
CEO
Danimer
Scientific

*"Yes. Let me say 1 more thing in terms of kind of longer-term before I address that one specifically. We're just getting started. And you've heard me say this before, probably the fossil fuel industry has been optimizing for 70 years. So we know -- this is one of those things you talk about known unknowns and known knowns and all that. This is one of those things where we know we're going to be able to take costs out of this business as we grow, both on a CapEx per pound basis and on a cost of goods sold basis. And just as we kind of look at that, in the next 5 to 10 years, we think we can easily take 25% out of those costs versus what we're kind of currently forecasting. And then as far as your question, Jon, about margins, that's a little more in the short term, **canola oil is going up in price. About half of our current contracts have escalators** in them that allow us to pass that on to the contracted customer. We put that language in every contract that we had that was multiyear. **So in the 1-year contracts that we did, we didn't have that in there, but we had hedged.** So we don't -- we won't really see impacts from that canola margin -- or canola pricing increasing until the later part of this year."*

*"And go back to your last question, too, Jon, I would also just want to remind you that we are not limited to using canola oil as a feedstock. **And so we are also aggressively looking at alternatives, which we know there are a lot of alternatives, but obviously, we're looking for economical -- more economical alternatives, if you will. So that's an ongoing project.**"*

Canola Oil Prices Are Escalating

There were already questions about the cost competitiveness of PHAs even before canola oil prices started to surge. We believe investors should discount added margin pressure from rising prices.



Potential Challenges From Customers

An interview conducted by Tegus in March 2021 with a packaging expert from a potential Danimer customer revealed multiple concerns.

Packaging Expert at
Global Consumer
Products Company

*“So we would like this material, this packaging to be inert and protect against the environmental factors like moisture and water and oxygen, and you name it, even what is called infestation and so on. But at the same time, we need to design at the moment it serve its purpose to immediately breakdown so it doesn't generate any visible waste. **So it's a little bit of a paradox.**”*

*“However, we can't really afford to have all this space for these millions and millions of tons of material just to stay somewhere and be allowed to degrade. **So we need this recycling to be very effective. So we need to recycle as fast as we can manufacture new materials. So that's why recyclability is still preferred.**”*

“Biodegradability only needs to kick in once the packaging waste has actually left the desired system, whether it's recovered for landfill, for incineration, for composting or anything like that, you need now, as I said earlier, to degrade this material very fast. So all of those are challenges. And we're trying to develop those materials with plastic because it's got certain barrier properties that were always advantageous for us.”

*“We have come to now, as you were saying, the PLA and PBS and PHA and you name it. So all of those, first of all, they are biomaterials. In other words, they are made with some natural ingredients, more natural, not fossil-based. And at the same time, **they will biodegrade, give it enough time, enough conditions, sufficient conditions.** So that's all good. But for something to biodegrade, obviously moisture needs to act on it. **And that's where the limitations of all these plastics come, they're not very good barriers.**”*

*“So when it comes to long-term storage of product, **you're going to have to either compromise on your product quality, which sometimes it's unsafe, or reduce your shelf life.** In other words, you have to speed up your supply chain, instead of taking 3 months for your product to be on the shelf and purchased by the consumer, you need to do that very fast.”*



Highly Speculative, Unsustainable Valuation

Highly Speculative, Unsustainable Valuation

Spruce Point believes under a best-case scenario there is 50% downside for Danimer's share price, and worse case the Company is a zero should it follow the fate of its PLA/PHA predecessors. Based on management's own optimistic guidance for 2025E EBITDA of \$169 million and an 11.0x multiple (a premium to chemical/plastic peers), we estimate a 65% downside to DNMR's current share price.

<i>\$ in millions, except per share data</i>	Failure Case	Spruce Point Target	Company Guidance	Street Consensus
2025E EBITDA	\$0	\$92 ⁽¹⁾	\$169	\$219
Forward EBITDA Multiple	0.0x	9.0x ⁽²⁾	11.0x ⁽³⁾	21.4x ⁽⁴⁾
2024E Enterprise Value	\$0	\$846	\$1,859	\$4,235
Discount Rate ⁽³⁾	20%	20%	20%	20%
PV Enterprise Value	\$0	\$490	\$1,076	\$2,451
Plus: Net Cash	\$0	\$365	\$365	\$365
Implied Equity Value	\$0	\$855	\$1,441	\$2,816
Diluted Shares Outstanding (millions) ⁽⁵⁾	104.3	104.3	115.3	115.3
Implied Share Price	\$0	\$8.19	\$12.49	\$24.42
Upside / (Downside)	(100%)	(67%)	(50%)	6.6%

Note: Market data as of 4/21/2021

1) Assumption based on company projected 2025E revenue (\$513m) * chemical/plastic peers average EBITDA margin

2) Based on chemical/plastic peer set median 2021E EBITDA multiple

3) Based on [investor presentation](#) (slide 24) range of 10x-12x, discount rate of 20%

4) Based on company selected peer set median 2021E EBITDA multiple

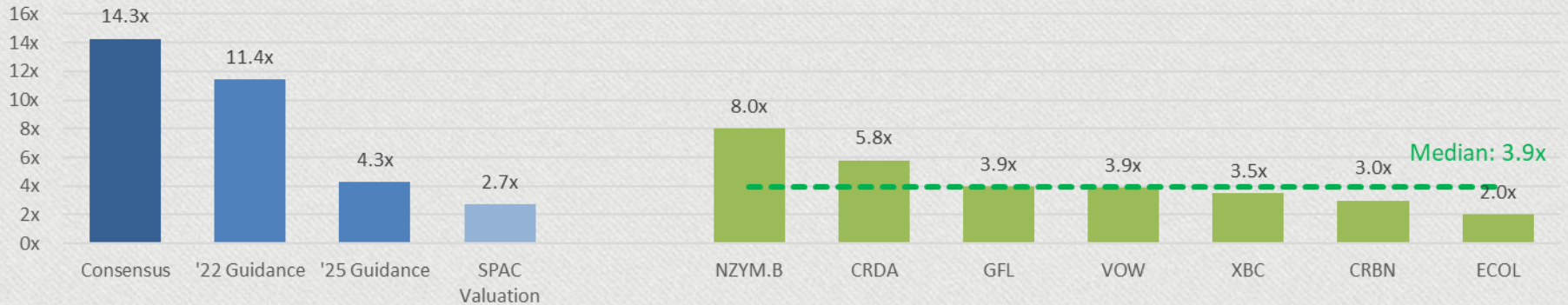
5) Includes dilution from warrants. Includes equity options if implied share price > strike

Source: Spruce Point analysis, Analysts' estimates, DNMR investor presentation

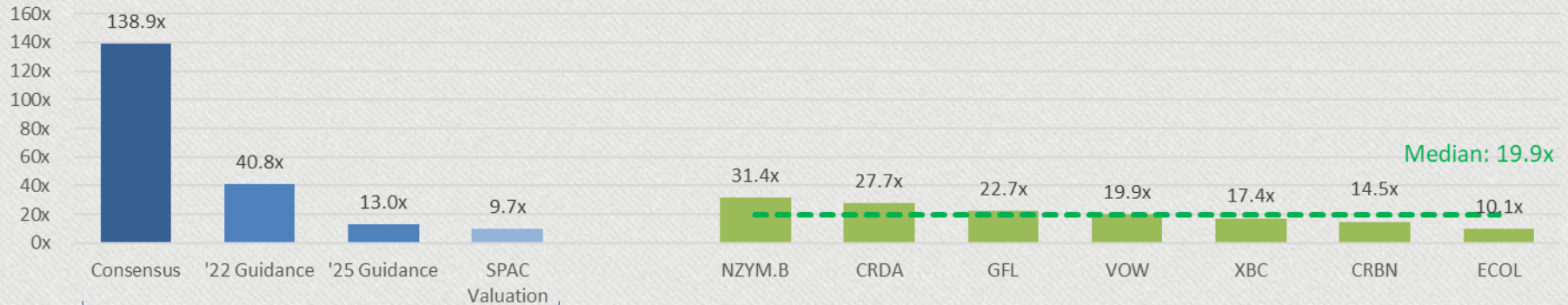
Expensive On Company's Own Metrics

Despite our belief that Danimer's selected peer group is not a strong representation of its business, Danimer trades at substantially higher multiples that its self-selected peers on a projected revenue and EBITDA basis. While Danimer may have been attractive by underwriting its optimistic SPAC presentation projections, we believe there is significant downside risk given its current inflated valuation.

2022E EV / Revenue



2022E EV / EBITDA



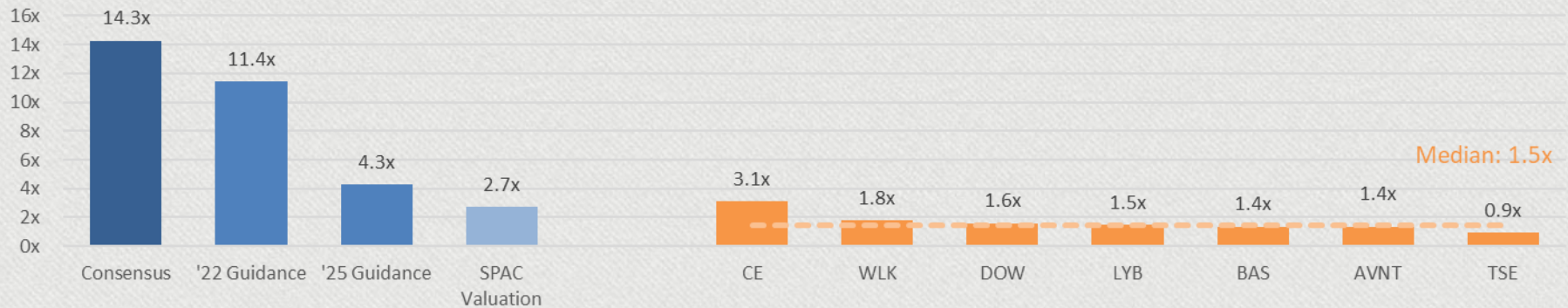
Note: Comparable companies based on Danimer's October 2020 investor presentation. Figures based on analysts' consensus as of 4/21/2021 except for Danimer's company guidance and SPAC valuation multiples. DNMR consensus and guidance multiples include dilution from equity options and warrants

Source: Spruce Point analysis, FactSet, Analysts' estimates, DNMR investor presentation

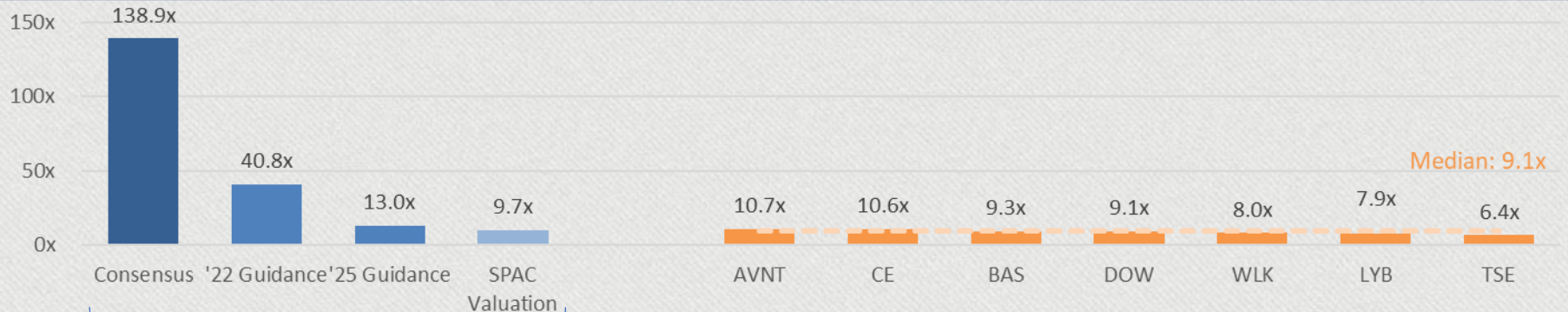
Danimer Is A Chemicals/Plastics Business

We believe Danimer's business is a closer comparison to traditional chemical and plastic companies than the waste businesses that the Company has selected as its peers. Chemical and plastic peers trade at valuation multiples at a fraction of waste companies. While the Company portrayed its valuations at the time of the deal as a discount relative to its self-selected peers, Danimer's valuation was inline with its chemical/plastic peers' forward EBITDA multiples (~9.0x).

2022E EV / Revenue



2022E EV / EBITDA



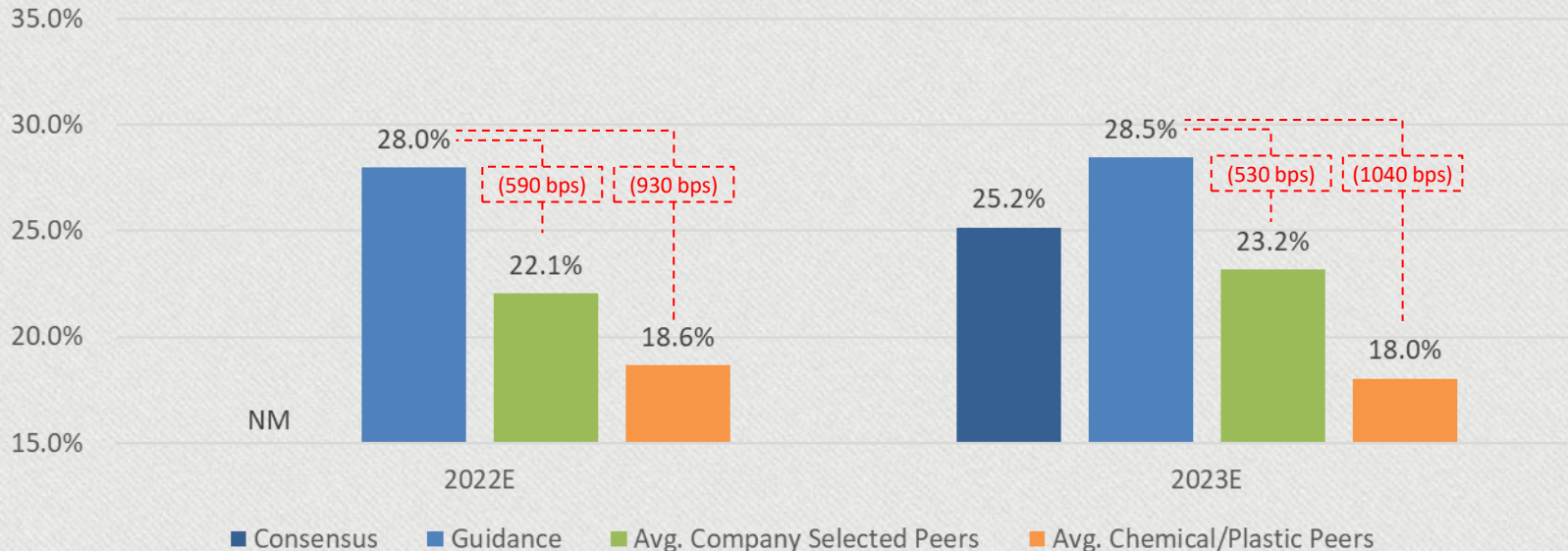
Note: Comparable companies based on Danimer's October 2020 investor presentation. Figures based on analysts' consensus as of 4/21/2021 except for Danimer's company guidance and SPAC valuation multiples. DNMR consensus and guidance multiples include dilution from equity options and warrants

Source: Spruce Point analysis, FactSet, Analysts' estimates, DNMR investor presentation

Ability To Revolutionize Industries' Margin Profile?

We believe there is evidence that Danimer's EBITDA margin projections are overly optimistic based on the margin profiles of both its self-selected peers and chemical/plastic peers. Based on our selected chemical and plastic peers, Danimer's margins could be half of its stated margins from its investor presentation. Wall Street analysts likely believe these margins are overly optimistic as their margin projections are at a discount to the Company's stated margins, despite higher revenue estimates.

Danimer Margin Analysis vs. Peers



Note: Comparable companies based on Danimer's October 2020 investor presentation. Figures based on analysts' consensus as of 4/21/2021
Source: Spruce Point analysis, FactSet, Analysts' estimates, DNMR investor presentation



Appendix: Evidence That Pepsi Has Sold Its Stock And Why Its Partnership Could Change

Pepsi has been a key R&D partner since 2017 and potential key customer for Danimer. Spruce Point has reason to believe Pepsi is no longer a shareholder in Danimer. Why would they sell so early in the Company's public growth story? As stated in the Company's Post-Deal Announcement (October 2020) Investor Presentation, Pepsi was a 6% shareholder, yet this language was removed from the March 2021 Investor Presentation and Pepsi never filed with the SEC as would be required if they owned >5% of DNMR's common equity. In addition, given Danimer Director Christy Basco is a SVP and Controller of Pepsi Foods North America, Danimer should be required to disclose Pepsi's investment in its 10-K, which DNMR has not.

October 2020 Investor Presentation (Reposted on Danimer's website on Feb. 3rd, 2021)



Danimer & PepsiCo Awarded the 2018 Innovation in Bioplastics Award



Collaboration Background

- Owns 6% of Danimer's common equity
- Joint R&D to design, develop, manufacture and evaluate PHA based resins for individual layers suitable for flexible food packaging
- Partnership with Danimer Nodax® PHA expects to enhance Pepsi's ESG initiatives

Source: DNMR [deal presentation](#)

4

Strong Partnerships with CPG Brands, Including Pepsi and Nestle, and Key Converters such as Wincup and Genpak; Equity Investment from Pepsi

March 2021 Investor Presentation

4

Strong Partnerships with CPG Brands, Including Pepsi and Nestle, and Key Converters such as Wincup and Genpak

Where is the Pepsi investment?


Source: DNMR [Q4 2020 earnings call presentation](#)

	Holder Name	Position	% Out
1.	Croskrey Stephen E	5,098,914	5.77
2.	LIVE OAK SPONSOR PTN LLC	5,000,000	5.66
3.	CALHOUN PHILIP GREGORY	3,525,735	3.99
4.	PRATT STUART W	2,874,876	3.25
5.	Atalaya Capital Management LP	2,381,076	2.70
6.	Jefferies Group LLC	2,249,999	2.55
7.	Corsair Capital Management LP	2,183,859	2.47

If Pepsi still owns >5%, why haven't they filed a 13D and why don't they show up as major shareholder?

Source: Bloomberg

Pepsi Filings Provide Key Clues And Insights



Since Danimer was not publicly traded until after December 26th, 2020, Pepsi had not recorded it as an “equity securities” investment on their year end filings. As of March 20th, 2021, Pepsi owned \$124 million of equity securities. **Based on the filings footnotes, “these equity securities were subsequently sold in the second quarter of 2021.”**

(b) Based on the price of common stock. These are equity securities with readily determinable fair values and are classified as short-term investments. As of December 26, 2020, these equity securities did not have a readily determinable fair value. During the 12 weeks ended March 20, 2021, we recorded a pre-tax unrealized gain on equity securities of \$108 million (\$82 million after-tax or \$0.06 per share). These equity securities were subsequently sold in the second quarter of 2021. See Note 1 for further information.

Fair Value Measurements

The fair values of our financial assets and liabilities as of March 20, 2021 and December 26, 2020 are categorized as follows:

Fair Value Hierarchy Levels ^(a)	3/20/2021		12/26/2020	
	Assets ^(a)	Liabilities ^(a)	Assets ^(a)	Liabilities ^(a)
Equity securities ^(b)	\$ 124	\$ —	\$ —	\$ —

Source: Pepsi [10-Q](#) (April 15th, 2021, page 19)

\$124 million after Danimer was publicly traded

No equity securities on December 26th, before Danimer was publicly traded

Attempt To Deflect The Pepsi Divestment

Despite altering its March 2021 earnings presentation, Danimer denied any insight on Pepsi's holdings in the Company. Danimer continues to tout its strong strategic partnership and Pepsi's seat on Danimer's Board. Pepsi also re-affirmed its partnership with a Tweet. However, just because they are still partners, doesn't change the reality that Pepsi may have sold its stock.

April 15th, 2021

- Pepsi wasn't immediately available to comment to Seeking Alpha.
- Danimer Scientific commented in a statement emailed to Seeking Alpha.
- "We are not privy to PepsiCo's specific holdings or their investment strategy," Danimer Scientific said in the statement. "PepsiCo continues to be a strong strategic partner to Danimer Scientific through a fruitful business relationship and PepsiCo's seat on Danimer Scientific's board. We look forward to continuing our relationship in a way that helps them achieve their sustainability goals."

Source: [Seeking Alpha](#)


April 19th, 2021





Source: [Twitter](#)


Pepsi And Nestle Leaders Have Departed


We find that the leaders of two of Danimer's key partners have left their respective firms. Maurizio Patarnello, CEO of Nestle Waters, and Simon Lowden, Chief Sustainability Officer of Pepsi, left in the first quarter of 2021. This should be a concern for Danimer investors as new management could change direction from prior management, including a review of all existing partnerships.


 **Maurizio Patarnello**
CEO Flow Alkaline Spring Water


 **CEO, Flow Alkaline Spring Water**
Flow Alkaline Spring Water
Mar 2021 – Present · 2 mos
Canada - US


 **Ceo and Chairman Nestle Waters**
Nestlé Waters
Jan 2017 – Mar 2021 · 4 yrs 3 mos
Paris Area, France

 **CEO Nestle Russia and Eurasia**
Nestlé
Oct 2012 – Dec 2016 · 4 yrs 3 mos
Moscow

 **CEO Nestle Ukraine and Moldova**
Nestlé
Oct 2010 – Oct 2012 · 2 yrs 1 mo
Kiev

 **Nestle Waters**
6 yrs

 **CEO and Chairman Middle East, Africa,**
2006 – 2010 · 4 yrs

 **Chief Operating Officer Middle East, Af**
2004 – 2006 · 2 yrs


Source: [LinkedIn](#)





 **Danimer Scientific**
November 11, 2019 · 🌐


Last month, Danimer Scientific's own Dr. Isao Noda traveled to Dubai and attended the Global Bottled Water Congress along with existing partners Maurizio Patarnello, CEO and Chairman of Nestlé Waters, and Simon Lowden, President and Chief Marketing Officer of Global Foods at PepsiCo (pictured).

Source: [Facebook](#)

 **Simon Lowden**
Chief Transformation Officer at The Arnott's Group

 **Chief Transformation Officer, Arnott's**
The Arnott's Group · Full-time
Jan 2021 – Present · 4 mos
Sydney, New South Wales, Australia

 **PepsiCo**
20 yrs

 **Chief Sustainability Officer**
Oct 2019 – Jan 2021 · 1 yr 4 mos

Source: [LinkedIn](#)