

Research Report – Update

Investors should consider this report as only a single factor in making their investment decision.

ME₂C Environmental

Speculative Buy

John Nobile

November 23, 2021

MEEC \$0.77 — (OTC)

	<u>2019A</u>	<u>2020A</u>	<u>2021E</u>	<u>2022E</u>
Revenues (million)	\$11.4	\$8.2	\$14.3	\$29.0
Earnings (loss) per share	\$(0.08)	\$(0.07)	\$(0.03)	\$0.04

52-Week range	\$1.85 – \$0.28	Fiscal year ends:	December
Common shares out as of 11/15/21	89.3 million	Revenue per share (TTM)	\$0.15
Approximate float	63.3 million	Price/Sales (TTM)	5.1X
Market capitalization	\$69 million	Price/Sales (FY2022)E	2.8X
Tangible book value/share	\$(0.11)	Price/Earnings (TTM)	NMF
Price/tangible book value	NMF	Price/Earnings (FY2022)E	19.3X

ME₂C Environmental, also known as Midwest Energy Emissions Corp., headquartered in Corsicana, Texas, is an environmental services and technology company specializing in mercury emission control technologies.

Key investment considerations:

Reiterating our Speculative Buy rating on ME₂C Environmental but lowering our twelve-month price target to \$2.00 per share from \$2.50 based on our reduced 2022 revenue per share projection stemming from a forecasted increase in the share count.

We believe ME₂C has taken the appropriate initiatives to ensure significant short and long-term growth. Near-term, ME₂C is focused on helping utility customers meet emissions standards through its current technologies. Long-term, the company intends to bring new technologies to market that include coal ash cleanup, wastewater remediation, methane gas emissions from the oil and gas power industries, and rare earth elements processing.

On September 21, 2021, ME₂C announced the signing of a five-year license agreement with a utility in the Midwest to provide a non-exclusive license to certain ME₂C patents for use in connection with the utility's coal-fired power plant.

For 2021, we project revenue increasing 75.5% to \$14.3 million (unchanged) from \$8.2 million in 2020 and the net loss narrowing to \$(0.03) per share (unchanged) from \$(0.07) in 2020.

For 2022, we are maintaining our prior forecast of revenue more than doubling to \$29 million and EPS of \$0.04.

ME₂C reported (11/15/21) 3Q21 revenue increased 78.5% to \$5 million with a net loss of \$(0.00) per share versus a loss of \$(0.01) per share in 3Q20. 3Q21 results were in line with our projected revenue of \$5 million and net loss of \$(0.00) per share.

****Please view our disclosures on pages 16 - 18.***

Recommendation and Valuation

We are reiterating our Speculative Buy rating on ME₂C Environmental but lowering our twelve-month price target to \$2.00 per share from \$2.50 based on our reduced 2022 revenue per share projection stemming from a forecasted increase in the share count.

We believe ME₂C has taken the appropriate initiatives to ensure significant short and long-term revenue growth for its emission control technologies.

ME₂C has a patent portfolio consisting of 42 active patents throughout North America, Europe and Asia, and 20 patents pending applications. The company estimates at least 40 companies (includes utilities and refined coal companies) have infringed on their patents related to its SEA technology and started filing lawsuits against those companies in July 2019. In 3Q21, ME₂C issued 20 subpoenas related to this ongoing patent litigation.

After the first lawsuit was settled in July 2020 (which took approximately one year to settle after the initial filing in July 2019), the lawsuits are being settled at a faster pace (with three additional lawsuits being settled in a six-month period). We believe that as the number of lawsuits being settled increases, it will make it easier to settle the remaining lawsuits.

Besides ME₂C's technologies currently being used by companies as a means for them to comply with EPA emissions standards, the company is also focusing on technologies to assure future growth. In 2019, ME₂C began research and development for other technologies addressing coal ash cleanup, wastewater remediation, and methane gas emissions from the oil and gas power industries. In 2021, ME₂C announced new technologies under development intended to improve the processing of rare earth elements in North America. These new markets should enable the company to generate revenue from higher margin offerings.

Shares of MEEC have traded at trailing-twelve-month (ttm) P/S multiples ranging between 10.9X and 5X over the past twelve months and currently trade at a multiple of 5.1X. The pollution and treatment controls industry trades at an average of 2.9X ttm sales, excluding outliers (finviz.com). We believe the company's higher multiple compared to the industry average is due to the market's favorable perception of MEEC's growth opportunities. Applying a multiple of 7.8X (unchanged) to our 2022 sales projection of \$0.28 per share, discounted for execution risk, we derive a 12-month price target of approximately \$2.00 per share.

Recent Developments

New License Agreement with Midwest Utility - On September 21, 2021, ME₂C announced the signing of a five-year license agreement with a utility in the Midwest to provide a non-exclusive license to certain ME₂C patents for use in connection with the utility's coal-fired power plant. The licensed patents relate to ME₂C's two-part Sorbent Enhancement Additive (SEA) process for mercury removal from coal-fired power plants.

The five-year license agreement term includes an annual sum to be paid to ME₂C Environmental for use of the company's patented processes for mercury emissions capture. Additionally, the utility will consider ME₂C Environmental's product supply bid upon expiration of the utility's existing supply contract.

Business Overview

ME₂C Environmental, also known as Midwest Energy Emissions Corp., headquartered in Corsicana, Texas, is an environmental services and technology company specializing in mercury emission control technologies, primarily to utility and industrial coal-fired power plants. The company delivers solutions to the global coal-power industry to remove mercury from power plant emissions. ME₂C Environmental developed patented technology and proprietary products that have been shown to achieve mercury removal at a significantly lower cost and with less operational impact than currently used methods, while maintaining and/or increasing unit output and preserving the marketability of fly ash. Fly ash, also known as flue ash, is a coal combustion product that is composed of the particulates (fine particles of burned fuel) that are driven out of coal-fired boilers together with the flue gases. Fly

ash can be used as a prime material in many cement-based products, such as poured concrete, concrete block, and brick.

Acquisition of Patent Rights

ME₂C Environmental's Sorbent Enhancement Additive (SEA) technology was originally developed by the University of North Dakota's Energy and Environmental Research Center (EERC). It was tested and refined on numerous operating coal-fired energy generating units (EGUs), with the founder of ME₂C Environmental participating with the EERC on these tests since 2008. The Energy and Environmental Research Center Foundation (EERCF), obtained patents on this technology.

In January 2009, the company entered into a license agreement with EERCF and was granted an exclusive license by EERCF with respect to this technology to develop, make, use, sell, offer to sell, lease, and import the technology in any coal-fired combustion system (power plant) worldwide. Under the terms of the license agreement, ME₂C Environmental was required to pay EERCF monthly license maintenance fees and annual running royalties on operational systems of the company, and had the right to purchase the patent rights.

In April 2017, ME₂C Environmental closed on the acquisition from EERCF of all such patent rights, including all patents and patents pending, domestic and foreign, relating to the technology. A total of 42 domestic and foreign patents and patent applications were included in the acquisition. The patent rights were acquired for \$2.5 million cash and 925,000 shares of common stock. As a result of the acquisition of the patent rights, no additional monthly license maintenance fees and annual running royalties will be due or owed to EERCF.

Monetization of Intellectual Property

ME₂C has a patent portfolio consisting of 42 active patents throughout North America, Europe and Asia, and 20 patents pending applications. The company estimates over 40 companies (includes utilities and refined coal companies) have infringed on their patents related to its SEA technology and started filing lawsuits against those companies in July 2019. The following is a status of these lawsuits.

- In July 2020, ME₂C settled a lawsuit with Vistra Corp. one of the company's largest defendants and a long-term customer. The company entered into a multi-year license and supply agreement with Vistra, as the lawsuit was dismissed.
- In November 2020, ME₂C and American Electric Power (AEP), a defendant and major US power producer, entered into an agreement providing AEP a non-exclusive license to certain ME₂C patents for use in connection with AEP's coal-fired plants. The lawsuit against AEP was dismissed.
- In January 2021, ME₂C announced license agreements with two additional major utilities named in the 2019 lawsuit. The agreements include the removal of any challenges to the company's patented technologies.

After the first lawsuit settlement, which took approximately one year to settle after the initial filing, the lawsuits are being settled at a faster pace. We believe that as the number of lawsuits being settled increases, it will make it easier to settle the remaining lawsuits.

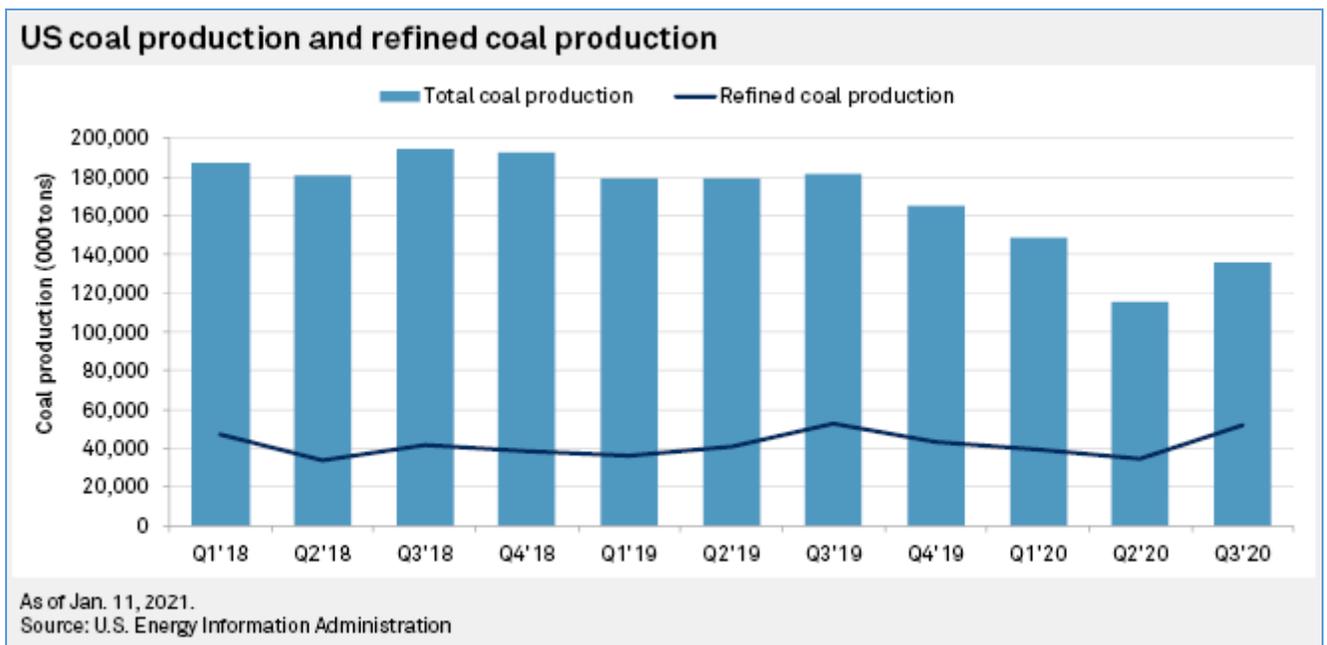
ME₂C estimates that up to 200 units at coal plants are using its patented SEA technologies. At a 70% conversion rate of potential customers into supply/licensing contracts, the company anticipates recurring annual revenue could exceed \$100 million by 2023. This is based on a market of approximately \$145 million from those currently using ME₂C's SEA technology.

In May 2021, ME₂C Environmental announced that a US District Court Magistrate Judge issued a report and recommendation that the pending patent litigation ME₂C commenced in 2019 should be allowed to move forward against 16 key refined coal process defendants. This development adds a new layer to ME₂C's litigation actions that already include utilities.

Refined coal companies are LLCs created by Wall Street investors for the purpose of receiving significant revenue and tax credits from utilities using refined coal (coal that has been chemically treated to reduce emissions when burned). This has been shown to be a very lucrative business model as refined coal production qualifies for a tax credit under the American Jobs Creation Act of 2004.

The refined coal tax credit allows companies to build facilities, buy coal from a power generator, and sell it back after treating the fuel. S&P Global Market Intelligence¹ reported that several companies have described plans in which they plan to sell the coal back to power generators at a lower price than paid while reaping the tax benefits as refined coal facilities can be built to scale for about \$4 million to \$6 million. The report cited one of the companies using the tax credit showing returns of up to 500% from this business model because the development costs were so low.

According to US Energy Information Administration (EIA) data, companies mined about 400.1 million tons of coal in the US during the first nine months of 2020. Coal refining plants produced about 125.8 million tons in the same period, or an amount equal to about 31.5% of national coal production (see chart below). Annualizing the EIA’s nine month production rate in 2020 would equate to refined coal production of approximately \$167.7 million tons annually. With the current tax credit valued at more than \$7 per ton of refined coal (S&P Global Market Intelligence), this equates to refined coal companies receiving tax credit payouts of over \$1 billion annually.



The company has the infrastructure in place to support over \$100 million in annual revenue. In 2017, ME₂C completed and fully paid for its manufacturing and distribution center in Texarkana, Texas. This investment should enable the company to move forward with the monetization of its patents and handle the expected upturn in demand starting in 2021.

Coal and the Environment

Coal is an abundant fuel source that is relatively inexpensive to produce and convert to useful energy. However, producing and using coal adversely affects the environment.

1. <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/audit-of-us-coal-tax-credit-set-to-expire-in-2021-underway-by-federal-watchdog-62062796#:~:text=The%20refined%20coal%20tax%20credit%20allows%20companies%20to%20build%20facilities,reading%20the%20tax%20credit%20benefits>

Some of the principal emissions from coal combustion include mercury and other heavy metals, which have been linked to both neurological and developmental damage in humans and other animals, and fly ash and bottom ash, which are residues created when power plants burn coal.

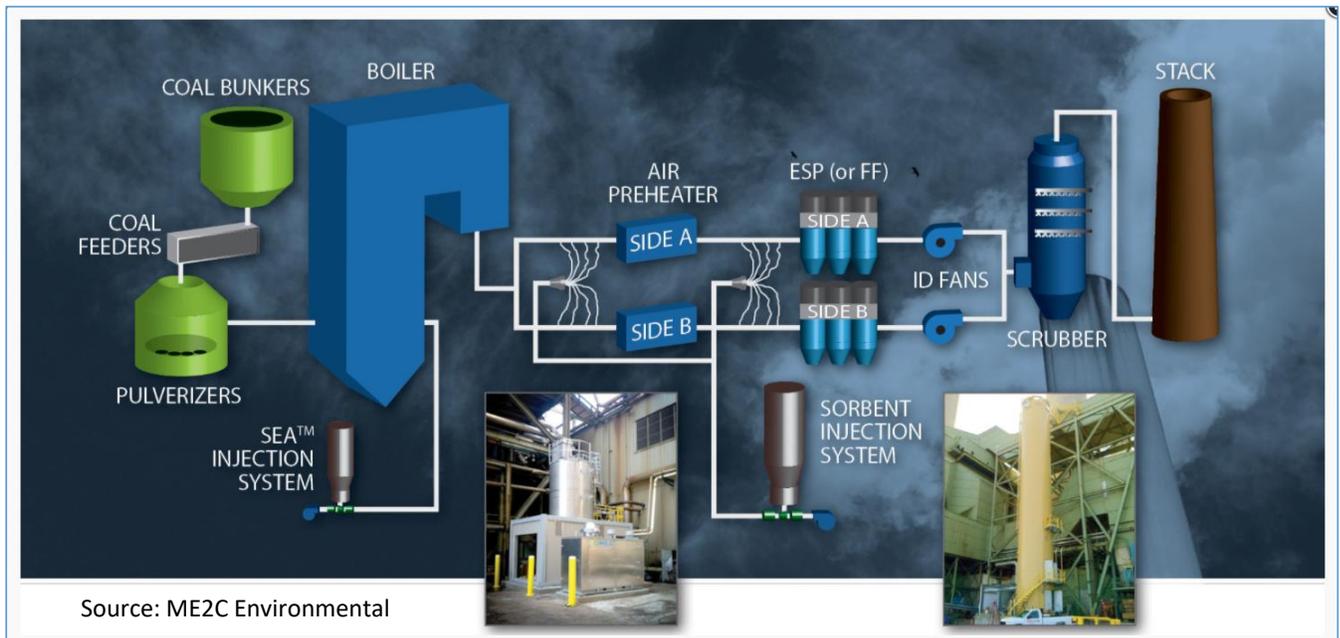
The US EPA Mercury and Air Toxics Standards (MATS) rule requires that all coal and oil-fired power plants in the US, larger than 25MWs, must limit mercury in its emissions to below certain specified levels, according to the type of coal burned. Power plants were required to begin complying with MATS in April 2015, unless they were granted a one-year extension. MATS, along with many state and provincial regulations, form the basis for mercury emission capture at coal fired plants across North America. Under MATS regulation, Electric Generating Units (EGUs) are required to remove about 90% of the mercury from their emissions.

In the past, fly ash was released into the air through the smokestack, but laws now require that most emissions of fly ash be captured by pollution control devices.

Power plants also use flue gas desulfurization equipment, also known as scrubbers, to clean sulfur from the smoke before it leaves their smokestacks.

ME₂C's Technology

Sorbent Enhancement Additive (SEA®) Technology – The company's SEA technology provides total mercury control by its ability to capture mercury in coal-fired flue gas. This technology is specifically tailored for each application to match a customer's fuel type and boiler configuration for optimal results. ME₂C's SEA technology consists of a front end sorbent (a substance which has the property of collecting molecules of another substance by absorption) injected directly into the boiler in minimal amounts combined with a back end sorbent injection solution to insure maximum mercury capture (see diagram at top of next page). This method is believed to use fewer raw materials than other mercury capture systems and cause less disruption to plant operations. The SEA process also preserves fly ash which can be sold and recycled for beneficial uses.



Customized Emissions Services – In an effort to achieve optimal results, ME₂C brings its mercury emission analytics to the field as opposed to collecting samples for laboratory analysis. This enables the company to offer its customers an assessment of existing systems and suggested improvements, an assessment and guidance of mercury capture and emissions, as well as the optimal design of the injection strategy and appropriate equipment layout and installation. The company is also able to offer sorbent optimization using flow modeling for a customized, low-cost plan for each unit, emission testing for mercury and other trace metals with its mobile

laboratory, and ongoing research toward improved technology for mercury capture, as well as enabling rapid-response scientific support for emission or combustion issues as operations and regulations change.

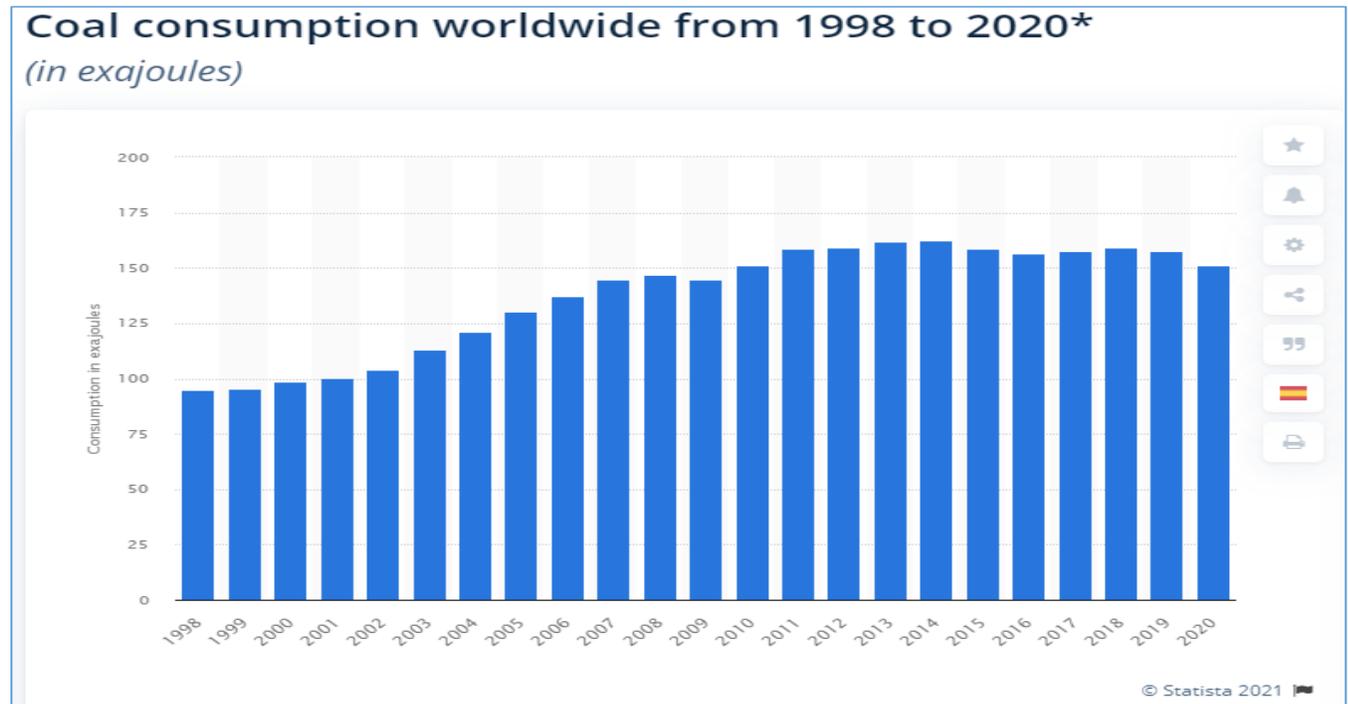
Markets Served

North America is currently the largest market for the company’s technologies. In the US, ME₂C’s success depends, in part, on the demonstrations performed with utility customers and the resulting contract awards to meet the MATS requirements and the company’s operational performance with energy generating units under contract.

Electricity Generation - The three major categories of energy for electricity generation are fossil fuels (coal, natural gas, and petroleum), nuclear energy, and renewable energy sources with fossil fuels being the largest component. According to the latest statistics from the Energy Information Administration (EIA), natural gas was the largest source (about 38%) of US electricity generation in 2019 and coal was the second-largest energy source (about 23%). Nearly all coal-fired power plants use steam turbines.

Coal - In 2020, the International Energy Agency (IEA) estimates that global coal demand will have experienced its largest drop since WWII, falling 5% from 2019 levels. Except for China, industrial output has been severely subdued by the COVID-19 pandemic. Measures to slow the transmission of COVID-19, notably in the first half of 2020, resulted in an unusual drop in electricity demand. This in turn significantly affected the use of coal for power generation.

Global coal consumption fell 4% in 2020 (see chart below), its steepest drop since World War II, but the decline was concentrated mostly in the early months of the year. By the end of 2020, demand had surged above pre-COVID-19 levels, driven by growth in Asia and cold weather in December.



Based on the assumption of a global economic recovery in 2021, the IEA expects both electricity demand and industrial output to increase and forecasts a rebound in global coal demand of 2.6%, led by China, India, and Southeast Asia. Higher natural gas prices and electricity demand are set to slow the structural decline of coal use in the European Union and the United States, which both might see their coal consumption grow for the first time in nearly a decade. However, coal’s partial recovery is set to fade after 2021 with demand flattening by 2025.

Although North America is currently the largest market for ME₂C's technologies, efforts to reduce mercury pollution in the European Union could result in a significant market for the company. In May 2017, the European Union and seven of its member states ratified the Minamata Convention on Mercury, which triggered its entry into force with implementation starting in 2021. The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury.

Competition

The industry the company operates in is highly competitive. Major competitors in the US and Canada include companies such as Advanced Emissions Solutions, Inc., Albemarle Corporation, Cabot Corporation, Calgon Carbon Corporation, Carbonxt, Inc., Environmental Energy Services Inc., and Nalco Company. These companies employ large sales staff and are well positioned in the market. ME₂C's ability to compete successfully depends in part upon its ability to offer superior technology, including a superior team of sales and technical staff. If the company is unable to maintain its competitive position, it could lose market share which would likely adversely impact its financial results.

Strategy / Future Growth Opportunities

ME₂C remains focused on positioning itself for short and long-term growth through execution at customer sites and continual operational improvement. While the company continues to seek new utility customers for its technology in order for them to meet the MATS requirements, ME₂C continues to make refinements to all of its key products and has a number of initiatives which should drive revenue growth.

In an effort to drive higher margin revenue growth, the company announced in February 2021 the development of a proprietary new methane gas emissions control technology. ME₂C is preparing for near-term pilot scale testing to validate the technology. The methane emissions control technology has been under development by MEEC's in-house team of chemists over the past 18 months. According to the International Energy Agency, methane gas emissions are a leading cause of global warming, with the energy sector in particular being one of the largest contributors.

From a comparative study ME₂C conducted, assuming a market value of ~\$60 per metric ton of CO₂, the company believes the 178 million metric tons of methane released annually equates to a potential \$10 billion market in the US.

Methane emissions are becoming a central point of the Biden Administration's effort to curb greenhouse gas emissions. An executive order on "Tackling the Climate Crisis at Home and Abroad", signed on January 27, 2021, calls for federal agencies to provide monetary resources, along with other efforts to assist coal, oil and gas, and power plant communities, to achieve substantial reductions of methane emissions from the oil and gas sector as quickly as possible.

Another initiative to drive growth is the company's development of technologies in the rare earth market. In March 2021, ME₂C announced new technologies under development intended to improve the processing of rare earth elements (REEs) in North America. The US Department of Energy reported the global market for REEs was valued at approximately \$13.2 billion in 2019 with annual growth of 10.7% from 2020 to 2026. Rare earth elements are commonly used in automobile catalysts and petroleum refining catalysts, televisions, magnets, batteries, and medical devices.

The technologies under development for the REE market are focused on the extraction process of obtaining rare earth elements abundantly available from coal mining and the coal-fired power industry, along with general mining operations. The company is focused on improving the cost of extracting rare earth minerals along with improving the environmental footprint of extracting those rare earth elements. ME₂C anticipates that its new sorbent technology could dramatically improve rare earth element production in North America at a lower production cost.

In July 2021, The Environmental Protection Agency (EPA) announced plans to implement more stringent limits on wastewater pollution from coal power plants. The agency issued a statement saying that it would initiate the rulemaking process to reduce coal-fired power plant pollution that can contain toxic metals including mercury, arsenic, and selenium. The EPA plans to issue a proposed rule for public comment in the fall of 2022. In the meantime, a 2015 rule setting federal limits on the levels of toxic metals in wastewater that can be discharged from power plants and a 2020 rule revising requirements for flue gas desulfurization wastewater and bottom ash transport water will remain in place.

ME₂C says its technology for REE extraction will be beneficial not only in the cleanup of the soil and wastewater, but in the extraction of the REE from the coal ash. In July 2021, ME₂C announced that Pennsylvania State University's College of Earth and Mineral Sciences has completed the initial round of testing to evaluate the company's REE technology.

ME₂C said that the initial results received by Penn State's College of Earth and Mineral Sciences will lead to further testing and development of this emerging technology focused on rare earth capture, as well as the cleanup of coal ash ponds and wastewater from coal-fired power plants. The company expects to have Penn State continue with the evaluation of the technology's extraction capacity of certain rare earth elements as well as its regeneration potential and other factors necessary to move forward with pilot scale testing. ME₂C hopes to bring a cost-effective, environmentally sound solution to market as it moves into early 2022.

Economic Outlook

In October 2021, the International Monetary Fund (IMF) revised its global economic growth estimates to an increase of 5.9% for 2021 and 4.9% for 2022. While the IMF's growth projection for 2022 is unchanged from its earlier projection (July 2021), the 2021 projection is down from 6%. The 2021 downward revision primarily reflects supply disruptions and worsening pandemic dynamics.

The IMF revised its economic growth estimate for the US to an increase of 6% for 2021 and 5.2% for 2022. In July 2021, the IMF projected US economic growth of 7% and 4.9% for 2021 and 2022, respectively.

The advance estimate of US GDP growth (released on October 28, 2021) showed the US economy increased at an annual rate of 2% in 3Q21, down from the 6.7% increase reported in 2Q21. The 3Q21 US GDP estimate primarily reflects increases in inventory investment, consumer spending, state and local government spending, and business investment, partially offset by decreases in housing investment, federal government spending, and exports.

Projections

2021 Forecast - We project revenue increasing 75.5% to \$14.3 million from \$8.2 million in 2020 and the net loss narrowing to \$2.5 million or \$(0.03) per share from \$5.8 million or \$(0.07) in 2020. We previously projected revenue of \$14.3 million and a net loss of \$2.9 million or \$(0.03) per share. Our revised projections reflect 3Q21 results and a \$299,000 gain on debt extinguishment related to the forgiveness of a PPP loan in 4Q21.

We project gross profit increasing to approximately \$5.5 million from \$2.7 million with gross margins of 38.4% versus 33.3% in 2020. SG&A expenses are projected to decrease to \$5.4 million from \$5.9 million. We project interest expense increasing to \$2.8 million from \$2.7 million due primarily to stock conversion incentives provided to certain notes and accelerated interest expense upon conversion of notes. Minimal taxes are expected due to the company's large amount of net operating loss carryforwards of approximately \$33.4 million federal and \$4.2 million state as of December 31, 2020.

In 2021, we project \$648,000 cash provided by operations from \$2.3 million in cash earnings and a \$1.7 million increase in working capital. We project the cash generated from operations and cash provided by financing of \$942,000 primarily from proceeds from the issuance of stock offset in part by the pay down of debt should result in an increase in cash of \$1.6 million to \$2.2 million at the end of 2021.

2022 Forecast - We project revenue more than doubling to \$29 million from \$14.3 million projected for 2021 and net income of \$4.6 million or \$0.04 per share versus an estimated loss of \$2.5 million or \$(0.03) in 2021. We previously projected revenue of \$29 million and net income of \$3.3 million or \$0.04 per share. Our revised net income forecast reflects the elimination of interest expense and an increase in the share count.

We project gross profit increasing to \$11.6 million from \$5.5 million projected in 2021 with gross margins of 40%. SG&A expenses are projected to increase to \$7 million from \$5.4 million to support revenue growth. We project no interest expense as the company will likely have paid off its outstanding debt in 2021.

In 2022, we project \$6.3 million cash provided by operations from \$8.6 million in cash earnings and a \$2.3 million increase in working capital. We project the cash should increase \$6.3 million to \$8.5 million at the end of 2022.

3Q and Nine-Months 2021 Financial Results

3Q21 - Revenue increased 78.5% to \$5 million with a net loss of \$207,000 or \$(0.00) per share versus a loss of \$1.1 million or \$(0.01) per share in 3Q20. We projected revenue of \$5 million and a net loss of \$230,000 or \$(0.00) per share.

Revenue growth was primarily due to increased sorbent product sales. Gross profit increased 91.4% to \$1.8 million from \$930,000 due primarily to higher sales and gross margins improving to 35.5% from 33.1%. SG&A expenses increased 5.5% to \$1.3 million due to an increase in legal fees.

Interest expense and letter of credit fees decreased to \$507,000 from \$672,000 due primarily to a decrease in notes payable outstanding as a result of the conversion of certain notes to stock.

Nine-months 2021 - Revenue increased 77.5% to \$10.3 million with a net loss of \$2.4 million or \$(0.03) per share versus a loss of \$3.8 million or \$(0.05) per share in the same period in 2020.

Revenue growth was primarily due to increased sorbent product sales. Gross profit increased 153.8% to \$4.1 million from \$1.6 million due primarily to higher sales and gross margins improving to 39.7% from 27.8%. SG&A expenses increased 13.3% to \$4.1 million from \$3.6 million due to an increase in legal fees.

Interest expense and letter of credit fees increased to \$2.3 million from \$2 million.

Liquidity - As of September 30, 2021, MEEC had \$866,000 cash, a current ratio of 0.3X, \$11.9 million of total debt (approximately 98% is short-term) and a shareholder's deficit of \$9.5 million.

In 9M21, the company burned \$306,000 cash from operations from cash earnings of \$567,000 and a \$873,000 increase in working capital. Cash from financing of \$581,000 was primarily due to an increase in debt and proceeds from the exercise of options and warrants. Cash increased by \$275,000 to \$866,000 as of September 30, 2021.

ME₂C's debt consists primarily of an unsecured note payable with AC Midwest with an outstanding balance of \$11.4 million. The unsecured note payable matures on August 25, 2022, has a zero cash interest rate, and an unamortized remaining balance of its discount of approximately \$1.7 million as of September 30, 2021.

	Income Statement (in thousands \$)	
	9M21	9M20
Revenue	10,317	5,812
Cost of sales	6,221	4,198
Gross profit	4,096	1,614
SG&A	4,054	3,577
Interest expense and letter of credit fees	2,302	1,987
(Gain) loss on change in fair value of profit share	387	(141)
Gain on sale of equipment / debt extinguishment	(299)	(6)
Income (loss) before taxes	(2,348)	(3,803)
Income tax	(6)	-
Net income / (Loss)	(2,354)	(3,803)
EPS	(0.03)	(0.05)
Shares Outstanding	84,666	77,744
<u>Margin Analysis</u>		
Gross margin	39.7%	27.8%
SG&A	39.3%	61.5%
<u>Year / Year Growth</u>		
Total Revenues	77.5%	
Source: Company filings		

In connection with the unsecured note payable, the company shall also pay a profit share. The profit share liability totaled approximately \$2.7 million as of September 30, 2021. The discounted cash flow model assumptions used to calculate the profit share liability included an estimated term of sixteen years with \$100,000 to \$350,000 paid quarterly starting in February 2024 at an annual market interest rate of 21%. The profit share liability will be marked to market every quarter utilizing management's estimates.

ME₂C also has \$272,000 outstanding on a secured note payable-related party. The note matures August 25, 2022 and bears interest at an annual rate of 15%.

In June 2021, ME₂C entered into a debt repayment and exchange agreement with AC Midwest, which will repay all existing secured and unsecured debt obligations presently held by AC Midwest. Pursuant to the agreement, the company shall at closing repay the principal balance outstanding of \$272,000 on the AC Midwest secured note in cash, together with any other amounts due and owing under such note, and repay the outstanding debt under the AC Midwest unsecured note by paying and issuing a combination of cash and shares of common stock which AC Midwest has agreed to accept in full and complete repayment of the obligations thereunder.

At closing, and with regard to the AC Midwest unsecured note, the company shall pay AC Midwest approximately \$6.6 million in cash representing 50% of the aggregate outstanding principal balance of such note, and issue shares of common stock to AC Midwest in exchange for the remaining 50% of the aggregate outstanding principal balance.

With regard to the Profit Share, at closing the company shall pay AC Midwest approximately \$2.3 million in cash and issue shares of common stock for \$4 million. The closing is subject to various conditions including but not limited to the completion of an offering of equity securities resulting in net proceeds of at least \$12 million by December 31, 2021. In the event that the closing does not occur by December 31, 2021, either party may terminate the Debt Repayment Agreement and the existing notes with AC Midwest will continue in their current forms.

Risks

In our view, these are the principal risks underlying the stock.

Going concern – As of September 30, 2021, the company had \$866,000 in cash, a working capital deficit of \$10.9 million and an accumulated deficit of \$65.8 million. The company also had a net loss in the amount of \$2.4 million and cash used in operating activities of \$306,000 for the nine months ended September 30, 2021. All existing secured and unsecured debt held by its principal lender million matures on August 25, 2022 which is within one year from the current date. These factors raise substantial doubt about the company's ability to continue as a going concern.

In an effort to alleviate the going concern doubt, during the first nine months of 2021, the company eliminated approximately \$4.4 million of convertible notes through stock conversions and repaid the remaining convertible notes. In June 2021, the company entered into a debt repayment and exchange agreement with its principal lender which included the completion of an equity offering resulting in net proceeds of at least \$12 million by December 31, 2021 to repay all existing secured and unsecured debt obligations held by such lender. No assurances can be given that the company can obtain sufficient working capital through its operations or that it will be able to raise the funds necessary to close the debt repayment agreement by December 31, 2021 or at all.

Regulation issues – The company's business focus is mercury removal from power plant emissions, which is driven primarily by regulation. The US EPA Mercury and Air Toxics Standards (MATS) rule requires that all coal and oil-fired power plants in the US, larger than 25MWs, must limit mercury in its emissions to below certain specified levels, according to the type of coal burned. Power plants were required to begin complying with MATS in April 2015, unless they were granted a one-year extension.

The MATS regulation has been subject to numerous legal challenges over the years, and in April 2020, the EPA issued a final rule which leaves the MATS rule in place. The EPA's final action will almost certainly be challenged in the courts, some of which has already begun, both by those who favor retention of MATS (such as the electric utility industry) and by those who oppose it (such as certain coal interests and deregulatory groups). This litigation could extend uncertainty over the status of MATS for a number of years. Any significant changes in mercury emission regulation could have a major impact on the company.

Technological obsolescence - The market into which the company sells its products and services is characterized by periodic technological change, as well as evolving industry standards and regulations. Unless MEEC is able to enhance, improve and/or modify existing products in a timely manner or to develop and introduce new products that incorporate new technologies or conform with evolving industry standards and regulations, its products and services may be rendered less marketable.

Competition – The industry the company operates in is highly competitive. If MEEC is unable to compete effectively with its competitors, its financial results could be adversely affected.

Dependence on key customers – The company's customers are concentrated, so the loss of one or more key customers or a material reduction in business performed for them could cause MEEC to experience a decline in net sales.

Natural gas price and weather factors – The company's mercury-emissions control technologies are used by coal-fired power plants primarily in the US. When natural gas prices remain low for an extended period of time or drop substantially, power suppliers will likely rely more upon gas-fired units rather than coal plants in meeting their power needs. In addition, mild winter months in the US will also result in a reduction of power demand which will also be expected to negatively impact the company's operations.

Pandemic concerns - The ongoing COVID-19 pandemic has adversely impacted various businesses throughout the world. This pandemic could result in disruptions to the company's business including the availability of raw materials, equipment, the workforce, or to business relationships. Any such disruptions could have a material adverse effect on the company's financial results.

Material weakness in internal controls – As of September 30, 2021, the company's disclosure controls and procedures were not effective as a result of material weaknesses in its internal control over financial reporting. The material weaknesses were due to a lack of personnel commensurate with the company's reporting requirements and insufficient written documentation or training of our internal control policies and procedures which provide staff with guidance or framework for accounting and disclosing financial transactions.

Liquidity risk - Shares of MEEC have risks common to those of the microcap segment of the market. Often these risks cause microcap stocks to trade at discounts to their peers. The most common of these risks is liquidity risk, which is typically caused by small trading floats and very low trading volume and can lead to large spreads and high volatility in stock price. There are 63.3 million shares in the float and the average daily volume is approximately 143,000 shares.

Miscellaneous risk - The company's financial results and equity values are subject to other risks and uncertainties including competition, operations, financial markets, regulatory risk, and/or other events. These risks may cause actual results to differ from expected results.

ME₂C EnvironmentalConsolidated Balance Sheets
(in thousands \$)

	2018A	2019A	2020A	9/21A	2021E	2022E
Cash	585	1,499	591	866	2,181	8,514
Accounts receivable	1,642	1,223	1,116	3,067	3,102	4,833
Inventory	509	514	560	710	735	1,024
Prepaid expenses and other	137	316	107	329	329	329
Customer acquisition costs	34	-	-	-	-	-
Total current assets	2,907	3,552	2,374	4,972	6,347	14,700
Security deposits	-	-	-	10	10	10
Property and equipment, net	2,398	2,082	1,887	1,830	1,817	1,809
Right of use asset	-	1,107	796	494	485	174
Intellectual property	2,734	2,532	2,319	2,165	2,114	1,909
Total assets	8,039	9,273	7,376	9,471	10,773	18,602
Accounts payable and accrued expenses	1,858	1,677	1,612	2,976	3,063	4,592
Equipment notes payable	63	53	29	8	8	8
Operating lease liability	-	383	408	387	387	387
Note payable	-	-	35	44	-	-
Convertible notes payable	-	990	-	-	-	-
Accrued interest	97	226	259	2	2	2
Customer credits	167	167	167	167	167	167
Secured note payable - related party	-	-	-	272	-	-
Unsecured note payable - related party	-	-	-	11,367	-	-
Accrued salaries	556	357	849	693	693	693
Total current liabilities	2,741	3,853	3,359	15,916	4,320	5,849
Equipment notes payable	104	22	1	-	-	-
Operating lease liability	-	807	395	112	112	112
Note payable	-	-	299	255	-	-
Convertible notes payable	1,761	2,951	4,055	-	-	-
Profit share liability	-	2,329	2,305	2,692	2,692	2,692
Secured note payable - related party	272	272	272	-	-	-
Unsecured note payable - related party	11,782	7,912	9,894	-	-	-
Total liabilities	16,660	18,146	20,580	18,975	7,124	8,653
Total stockholders' equity (deficit)	(8,621)	(8,873)	(13,204)	(9,504)	3,649	9,949
Total liabilities & stockholders' equity (deficit)	8,039	9,273	7,376	9,471	10,773	18,602

*2021 includes approximately \$5.3 million additional paid-in-capital

Source: Company filings and Taglich Brothers' estimates

ME₂C Environmental

Income Statements for the Fiscal Years Ended
(in thousands \$)

	<u>2018A</u>	<u>2019A</u>	<u>2020A</u>	<u>2021E</u>	<u>2022E</u>
Revenue	12,296	11,417	8,158	14,318	29,000
Cost of sales	<u>9,148</u>	<u>8,335</u>	<u>5,440</u>	8,821	17,400
Gross profit	3,148	3,082	2,718	5,497	11,600
SG&A	5,895	6,429	5,936	5,405	7,000
Interest expense and letter of credit fees	2,004	2,391	2,658	2,793	-
(Gain) loss on change in fair value of profit share	-	375	(24)	386	-
Gain on sale of equipment / debt extinguishment	<u>-</u>	<u>(30)</u>	<u>(36)</u>	(598)	<u>-</u>
Income (loss) before taxes	(4,795)	(6,083)	(5,816)	(2,489)	4,600
Income tax	<u>(22)</u>	<u>(14)</u>	<u>(10)</u>	(6)	<u>-</u>
Net income / (Loss)	<u>(4,817)</u>	<u>(6,097)</u>	<u>(5,826)</u>	(2,495)	4,600
EPS	<u>(0.06)</u>	<u>(0.08)</u>	<u>(0.07)</u>	(0.03)	0.04
Shares Outstanding	76,138	76,535	77,819	85,964	104,000
<u>Margin Analysis</u>					
Gross margin	25.6%	27.0%	33.3%	38.4%	40.0%
SG&A	47.9%	56.3%	72.8%	37.7%	24.1%
<u>Year / Year Growth</u>					
Total Revenues		(7.1)%	(28.5)%	75.5%	102.5%

Source: Company filings and Taglich Brothers' estimates

ME₂C Environmental

Quarterly Income Statements 2020A - 2022E
(in thousands \$)

	<u>3/20A</u>	<u>6/20A</u>	<u>9/20A</u>	<u>12/20A</u>	<u>2020A</u>	<u>3/21A</u>	<u>6/21A</u>	<u>9/21A</u>	<u>12/21E</u>	<u>2021E</u>	<u>3/22E</u>	<u>6/22E</u>	<u>9/22E</u>	<u>12/22E</u>	<u>2022E</u>
Revenue	1,117	1,883	2,812	2,346	8,158	3,027	2,271	5,020	4,000	14,318	6,500	7,000	7,500	8,000	29,000
Cost of sales	<u>931</u>	<u>1,386</u>	<u>1,882</u>	<u>1,241</u>	<u>5,440</u>	<u>1,491</u>	<u>1,490</u>	<u>3,240</u>	<u>2,600</u>	8,821	<u>3,900</u>	<u>4,200</u>	<u>4,500</u>	<u>4,800</u>	17,400
Gross profit	186	497	930	1,105	2,718	1,536	781	1,780	1,400	5,497	2,600	2,800	3,000	3,200	11,600
SG&A	1,172	1,133	1,271	2,360	5,936	1,453	1,261	1,341	1,350	5,405	1,600	1,700	1,800	1,900	7,000
Interest expense and letter of credit fees	664	650	672	672	2,658	676	1,120	507	490	2,793	-	-	-	-	-
(Gain) loss on change in fair value of profit share	124	(376)	112	116	(24)	121	128	137	-	386	-	-	-	-	-
Gain on sale of equipment / debt extinguishment	-	(6)	-	(30)	(36)	(299)	-	-	(299)	(598)	-	-	-	-	-
Income (loss) before taxes	(1,774)	(904)	(1,125)	(2,013)	(5,816)	(415)	(1,728)	(205)	(141)	(2,489)	1,000	1,100	1,200	1,300	4,600
Income tax	-	-	-	(10)	(10)	(3)	(1)	(2)	-	(6)	-	-	-	-	-
Net income / (Loss)	<u>(1,774)</u>	<u>(904)</u>	<u>(1,125)</u>	<u>(2,023)</u>	<u>(5,826)</u>	<u>(418)</u>	<u>(1,729)</u>	<u>(207)</u>	<u>(141)</u>	(2,495)	<u>1,000</u>	<u>1,100</u>	<u>1,200</u>	<u>1,300</u>	4,600
EPS	<u>(0.02)</u>	<u>(0.01)</u>	<u>(0.01)</u>	<u>(0.03)</u>	<u>(0.07)</u>	<u>(0.01)</u>	<u>(0.02)</u>	<u>(0.00)</u>	<u>(0.00)</u>	(0.03)	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>	0.04
Shares Outstanding	77,737	77,748	77,748	77,819	77,819	80,410	84,190	89,255	90,000	85,964	104,000	104,000	104,000	104,000	104,000
<u>Margin Analysis</u>															
Gross margin	16.7%	26.4%	33.1%	24.6%	33.3%	50.7%	34.4%	35.5%	35.0%	38.4%	40.0%	40.0%	40.0%	40.0%	40.0%
SG&A	104.9%	60.2%	45.2%	100.6%	72.8%	48.0%	55.5%	26.7%	33.8%	37.7%	24.6%	24.3%	24.0%	23.8%	24.1%
<u>Year / Year Growth</u>															
Total Revenues					(28.5)%	171.0%	20.6%	78.5%	70.5%	75.5%	114.7%	208.2%	49.4%	100.0%	102.5%

Source: Company filings and Taglich Brothers' estimates

ME₂C EnvironmentalStatement of Cash Flows for the Periods Ended
(in thousands \$)

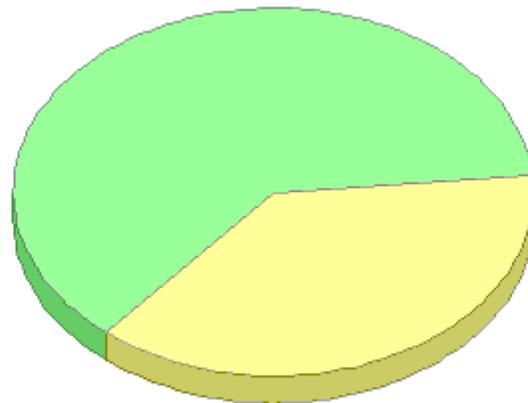
	2018A	2019A	2020A	9M21A	2021E	2022E
Net income (loss)	(4,817)	(6,097)	(5,826)	(2,354)	(2,495)	4,600
Stock-based compensation	491	1,810	1,710	453	1,700	1,700
Amortization of discount of notes payable	678	1,753	1,974	1,777	2,530	1,600
Amortization of debt issuance costs	102	102	122	91	120	120
Amortization of right to use assets	-	378	311	302	400	400
Amortization of customer acquisition costs	138	34	-	-	-	-
Amortization of patent rights	201	201	214	153	204	204
Depreciation expense	457	315	189	57	76	8
Loss on debt exchange	44	-	-	-	-	-
(Gain) loss on change in fair value of profit share	-	374	(24)	387	387	-
(Gain) loss on sale of equipment / forgiveness of debt	6	(30)	(36)	(299)	(598)	-
Cash earnings (loss)	(2,700)	(1,160)	(1,366)	567	2,324	8,632
<i>Changes in assets and liabilities</i>						
Accounts receivable	1,289	419	107	(1,950)	(1,986)	(1,731)
Inventory	150	(4)	(46)	(150)	(175)	(288)
Prepaid expenses and other	74	35	(6)	(37)	(37)	-
Security deposits	-	-	-	2	2	-
Accounts payable and accrued liabilities	63	(426)	(65)	1,566	1,237	(279)
Deferred compensation	556	(198)	492	-	(156)	-
Accrued interest	20	129	33	-	(257)	-
Operating lease liability	-	(372)	(388)	(304)	(304)	-
Deferred revenue and customer credits	(517)	-	-	-	-	-
(Increase) decrease in working capital	1,635	(417)	127	(873)	(1,676)	(2,299)
Net cash provided by (used in) operations	(1,065)	(1,577)	(1,239)	(306)	648	6,333
Cash received from sale of equipment	-	30	43	-	-	-
Purchase of property and equipment	(132)	-	-	-	-	-
Net cash used in investing	(132)	30	43	-	-	-
Payments on debt	(936)	(139)	(211)	(66)	(11,705)	-
Proceeds from exercise of warrants	-	-	-	247	247	-
Proceeds from the issuance of stock and options	-	-	-	101	12,101	-
Proceeds from the issuance of debt	300	2,600	499	299	299	-
Net cash provided by (used in) financing	(636)	2,461	288	581	942	-
Net change in cash	(1,833)	914	(908)	275	1,590	6,333
Cash - beginning of period	2,418	585	1,499	591	591	2,181
Cash - end of period	585	1,499	591	866	2,181	8,514

Source: Company filings and Taglich Brothers' estimates

Price Chart



Taglich Brothers' Current Ratings Distribution



62.5 % Buy | 37.5 % Hold

Investment Banking Services for Companies Covered in the Past 12 Months		
Rating	#	%
Buy	4	19
Hold		
Sell		
Not Rated		

Important Disclosures

As of the date of this report, we, our affiliates, any officer, director or stockholder, or any member of their families do not have a position in the stock of the company mentioned in this report. Taglich Brothers, Inc. does not currently have an Investment Banking relationship with the company mentioned in this report and was not a manager or co-manager of any offering for the company within the last three years.

All research issued by Taglich Brothers, Inc. is based on public information. The company paid a monetary fee of \$4,500 (USD) in March 2021 for the creation and dissemination of research reports for the first three months. After the first three months from initial publication (August 2021), the company will pay a monthly monetary fee of \$1,500 (USD) to Taglich Brothers, Inc., for a minimum of twelve months for the creation and dissemination of research reports.

General Disclosures

The information and statistical data contained herein have been obtained from sources, which we believe to be reliable but in no way are warranted by us as to accuracy or completeness. We do not undertake to advise you as to changes in figures or our views. This is not a solicitation of any order to buy or sell. Taglich Brothers, Inc. is fully disclosed with its clearing firm, Pershing, LLC, is not a market maker and does not sell to or buy from customers on a principal basis. The above statement is the opinion of Taglich Brothers, Inc. and is not a guarantee that the target price for the stock will be met or that predicted business results for the company will occur. There may be instances when fundamental, technical and quantitative opinions contained in this report are not in concert. We, our affiliates, any officer, director or stockholder or any member of their families may from time to time purchase or sell any of the above-mentioned or related securities. Analysts and members of the Research Department are prohibited from buying or selling securities issued by the companies that Taglich Brothers, Inc. has a research relationship with, except if ownership of such securities was prior to the start of such relationship, then an Analyst or member of the Research Department may sell such securities after obtaining expressed written permission from Compliance.

Analyst Certification

I, John Nobile, the research analyst of this report, hereby certify that the views expressed in this report accurately reflect my personal views about the subject securities and issuers; and that no part of my compensation was, is, or will be, directly, or indirectly, related to the specific recommendations or views contained in this report.

Public companies mentioned in this report:

Advanced Emissions Solutions, Inc. (NASDAQ: ADES)
Albemarle Corporation (NYSE: ALB)
Cabot Corporation (NYSE: CBT)

Meaning of Ratings

Buy – The growth prospects, degree of investment risk, and valuation make the stock attractive relative to the general market or comparable stocks.

Speculative Buy – Long term prospects of the company are promising but investment risk is significantly higher than it is in our BUY-rated stocks. Risk-reward considerations justify purchase mainly by high risk-tolerant accounts. In the short run, the stock may be subject to high volatility and could continue to trade at a discount to its market.

Neutral – Based on our outlook the stock is adequately valued. If investment risks are within acceptable parameters, this equity could remain a holding if already owned.

Sell – Based on our outlook the stock is significantly overvalued. A weak company or sector outlook and a high degree of investment risk make it likely that the stock will underperform relative to the general market.

Discontinued – Research coverage discontinued due to the acquisition of the company, termination of research services (includes non-payment for such services), diminished investor interest, or departure of the analyst.

Some notable Risks within the Microcap Market

Stocks in the Microcap segment of the market have many risks that are not as prevalent in Large-cap, Blue Chips or even Small-cap stocks. Often it is these risks that cause Microcap stocks to trade at discounts to their peers. The most common of these risks is liquidity risk, which is typically caused by small trading floats and very low trading volume which can lead to large spreads and high volatility in stock price. In addition, Microcaps tend to have significant company specific risks that contribute to lower valuations. Investors need to be aware of the higher probability of financial default and higher degree of financial distress inherent in the microcap segment of the market.

From time to time our analysts may choose to withhold or suspend a rating on a company. We continue to publish informational reports on such companies; however, they have no ratings or price targets. In general, we will not rate any company that has too much business or financial uncertainty for our analysts to form an investment conclusion, or that is currently in the process of being acquired.