

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM 8-K

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

Date of report: July 20, 2022



**TECOGEN INC. (OTCQX: TGEN)**  
(Exact Name of Registrant as Specified in Charter)

Delaware  
(State or Other Jurisdiction of Incorporation)

001-36103  
(Commission File Number)

04-3536131  
(IRS Employer Identification No.)

45 First Avenue  
Waltham, Massachusetts  
(Address of Principal Executive Offices)

02451  
(Zip Code)

(781) 466-6400  
(Registrant's telephone number, including area code)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading Symbol	Name of exchange on which registered

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

**Item 8.01. Other Events.**

On July 20, 2022, the registrant issued the attached press release and posted it online on registrant's website. The July 20, 2022 Press Release is being furnished as Exhibit 99.01 to this Current Report on Form 8-K. The 2022 Investor Presentation and the news commentary regarding the market size for controlled environment agriculture referred to in the press release are being furnished as Exhibits 99.02 and 99.03 to this Current Report on Form 8-K.

The information in this Item 8.01 and Exhibits 99.01, 99.02, and 99.03 to this Current Report on Form 8-K shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, except as expressly set forth by specific reference in such a filing.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

The following exhibit relating to Item 8.01 shall be deemed to be furnished, and not filed:

<u>Exhibit</u>	<u>Description</u>
99.01	<a href="#">Tecogen Press Release re Indoor Agriculture Business Unit</a>
99.02	<a href="#">Tecogen 2022 Investor Presentation</a>
99.03	<a href="#">Financial News Media Commentary regarding CEA Market Size</a>

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned, hereunto

TECOGEN INC.

duly authorized.

July 20, 2022

By: /s/ Benjamin Locke

Benjamin Locke, Chief Executive Officer



## **Tecogen to Establish New Business Unit Focused on Indoor Agriculture**

**WALTHAM, MA, July 20, 2022** – [Tecogen Inc.](#) (OTCQX: TGEN), a clean energy company providing ultra-efficient and clean on-site power, heating and cooling equipment, is establishing a new business unit of the company focused on Controlled Environment Agriculture (“CEA”).

CEA is becoming a key market segment for the company. Traditionally United States’ fruits and vegetables are grown outdoors and transported long distances to end consumers. CEA offers significant advantages such as locally grown products, fresh tasting produce, 90% less water use, low transportation costs and zero pesticide use. Climate change, uncertain supply chains, and the drive for locally grown produce are factors cited by market studies projecting that the CEA market will exceed \$170 billion globally by 2025<sup>1</sup>.

Food crop CEA is a natural progression for Tecogen from sales of equipment to cannabis CEA facilities. Tecogen’s solutions are uniquely positioned to allow facility owners to reduce operating costs and increase crop yield. Utility expenses in CEA facilities are typically between 10% and 25% of revenue. Tecogen’s chiller and cogeneration solutions can significantly reduce this energy expense while simultaneously reducing the facility’s greenhouse gas footprint. Tecogen’s technology can also supply CO<sub>2</sub> to boost plant growth rate by more than 150%, increasing the number of crop cycles in a year. More information about the benefits of our solutions in the CEA market can be found in our [2022 Investor Presentation](#) on our company website.

<sup>1</sup> [Global Controlled Environment Agriculture Market \(CEA\) Expected to Reach \\$172 Billion In 2025 \(prnewswire.com\)](#)

### **About Tecogen**

[Tecogen Inc.](#) designs, manufactures, sells, installs and maintains high efficiency, ultra-clean, cogeneration products including combined heat and power, air conditioning systems and high-efficiency water heaters for residential, commercial, recreational and industrial use. The company provides cost efficient, environmentally friendly and reliable products for energy production that, nearly eliminate criteria pollutants and significantly reduce a customer’s carbon footprint.

In business for over 35 years, Tecogen has shipped more than 3,000 units, supported by an established network of engineering, sales and service personnel throughout North America. Tecogen’s run hours on its InVerde cogeneration systems exceeds 5 million run hours. For more information, please visit [www.tecogen.com](http://www.tecogen.com) or contact us for a free [Site Assessment](#).

Tecogen, InVerde e+, Ilios, Tecochill, Tecofrost, Tecopack, Tecopower, and Ultra are registered trademarks of Tecogen Inc.

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**Tecogen Inc.**

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**Forward Looking Statements**

This press release contains “forward-looking statements” which may describe strategies, goals, outlooks or other non-historical matters, or projected revenues, income, returns or other financial measures, that may include words such as "believe," "expect," "anticipate," "intend," "plan," "estimate," "likely" or "may" and similar expressions intended to identify forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties and other factors that may cause our actual results to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements speak only as of the date on which they are made, and we undertake no obligation to update or revise any forward-looking statements.

There can be no assurance that Tecogen will expand its activities in the CEA market as described in this press release or that if the company does so that it will be successful in developing a CEA business unit or generating significant additional revenue from the CEA market. In addition to the Risk Factors described in our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q under “Risk Factors,” factors that could cause our actual results to differ materially from past and projected future results include the impact of the coronavirus pandemic on demand for our products and services, the availability of incentives, rebates and tax benefits relating to our products, changes in the regulatory environment relating to our products, competing technological developments, and the availability of financing to fund our operations and growth.

**Tecogen Media & Investor Relations Contact Information:**

Benjamin Locke, CEO

P: (781) 466-6402

E: Benjamin.Locke@Tecogen.com

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## TECOGEN INVESTOR PRESENTATION OTC: TGEN

BENJAMIN LOCKE, CEO  
ABINAND RANGESH, CFO

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# SAFE HARBOR STATEMENT



This presentation and accompanying documents contain “forward-looking statements” which may describe strategies, goals, outlooks or other non-historical matters, or projected revenues, income, returns or other financial measures, that may include words such as “believe,” “expect,” “anticipate,” “intend,” “plan,” “estimate,” “project,” “target,” “potential,” “will,” “should,” “could,” “likely,” or “may” and similar expressions intended to identify forward-looking statements. These statements are only predictions and involve known and unknown risks, uncertainties, and other factors that may cause our actual results to differ materially from those expressed or implied by such forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Forward-looking statements speak only as of the date on which they are made, and we undertake no obligation to update or revise any forward-looking statements.

In addition to those factors described in our Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q under “Risk Factors”, among the factors that could cause actual results to differ materially from past and projected future results are the following: fluctuations in demand for our products and services, competing technological developments, issues relating to research and development, the availability of incentives, rebates, and tax benefits relating to our products and services, changes in the regulatory environment relating to our products and services, integration of acquired business operations, and the ability to obtain financing on favorable terms to fund existing operations and anticipated growth.

In addition to GAAP financial measures, this presentation includes certain non-GAAP financial measures, including adjusted EBITDA which excludes certain expenses as described in the presentation. We use Adjusted EBITDA as an internal measure of business operating performance and believe that the presentation of non-GAAP financial measures provides a meaningful perspective of the underlying operating performance of our current business and enables investors to better understand and evaluate our historical and prospective operating performance by eliminating items that vary from period to period without correlation to our core operating performance and highlights trends in our business that may not otherwise be apparent when relying solely on GAAP financial measures.



# MARKET DRIVERS OF THE FUTURE



**Climate change**, water shortages, fertilizer prices and trucking emissions will drive food production indoors and closer to consumers



**Resiliency** will become increasingly important due to extreme weather events or utility power disruption



**Clean Cooling** will become critically important as temperature extremes continue



**Utility tariffs** will become time of day based with bonus payments for curtailment of peak power







## POWER GENERATION + RESILIENCY

Modular microgrids for  
energy savings,  
greenhouse gas (GHG)  
reductions and resiliency  
to grid outages



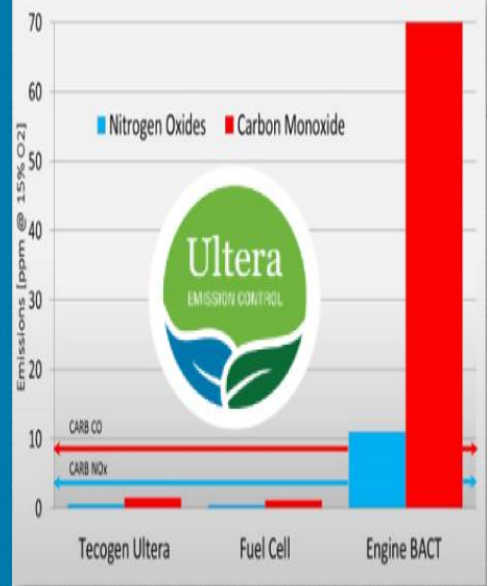
## LOW CARBON INDOOR AGRICULTURE

Boosting plant growth with CO<sub>2</sub>  
exhaust recycling and our  
Ultra® Emissions system



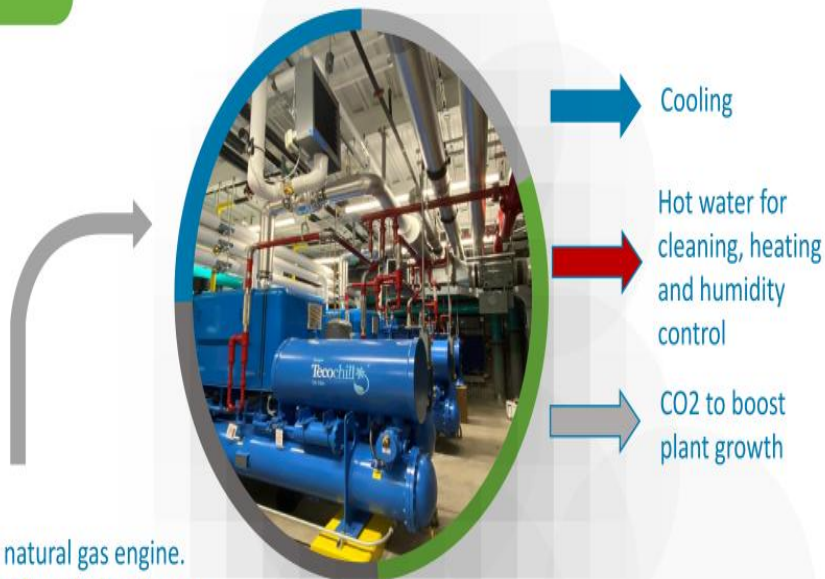
## CLEAN COOLING

Chillers with lower  
operating cost and  
lower greenhouse gas  
footprint compared to  
competing chillers



# ENABLING LOW CARBON AGRICULTURE

## TECOGEN CLEAN COOLING SOLUTIONS



Runs on natural gas engine.  
**Hybrid drive chiller** (launch 2023) will blend utility or solar power with natural gas engine to choose the greenest and lowest cost source of power.

**Offers the maximum operating savings, precision climate control, resiliency, and GHG reductions.**



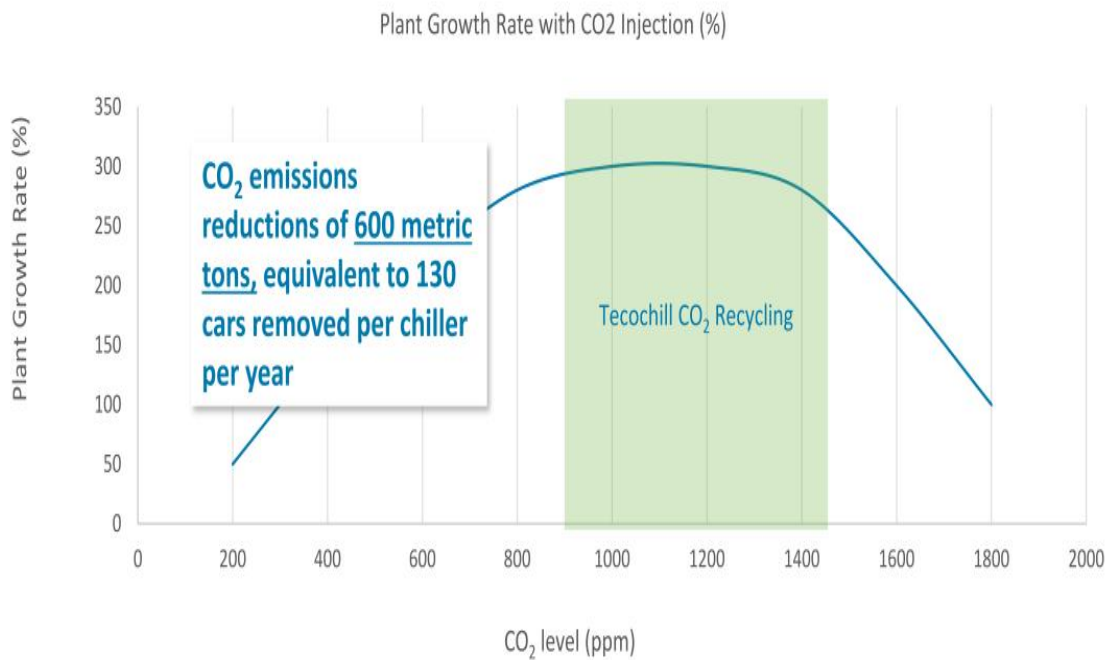
90% less land and water usage

>15x crop cycles per year vs 1 crop cycle a year outdoors

100% Organic with no harmful pesticides

# EXHAUST CO2 RECYCLING

## GREEN COOLING: CO2 INJECTION + TECOCHILL LOW CARBON CHILLER



Our Tecochill will use the engine exhaust to boost plant growth between 1.5x and 2.5x

## GROWTH STRATEGY – INDOOR AGRICULTURE

TECOGEN INDOOR GROW SOLUTIONS  
OFFERS THE MOST PRECISE CLIMATE  
CONTROL, LOWEST COST OF OPERATION  
AND THE LOWEST CARBON FOOTPRINT

\$30Bn CEA  
2025  
US Market<sup>1</sup>



2021 1 in 2 indoor cannabis grow facilities in MA use Tecogen equipment due to 99% uptime and economic savings



Demonstration of carbon reuse solution with CO<sub>2</sub> exhaust recycling in Controlled Environment Agriculture.



Use existing market share to expand into new states and increase solutions for cannabis, leafy greens and vine products such as tomatoes & strawberries

1. Based on USDA publicly available estimate on Controlled Environment Agriculture market in 2025



## OTHER KEY MARKET SEGMENTS



Indoor agriculture provides the largest growth potential for Tecogen as this segment expands beyond cannabis and food crops are grown indoors.

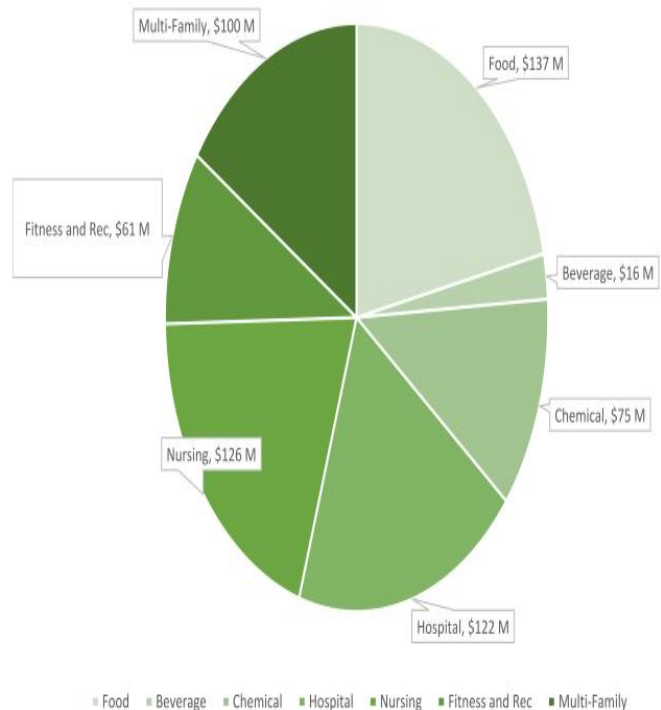


Process applications with simultaneous cooling and de-humidification such as food, beverage and chemicals represent the next largest market potential. These sites have 24/7 operation, and our chillers offer significant savings compared to competing technologies.



Facilities with beds such as multi-family and nursing homes continue to be great prospects for our microgrid and conventional CHP solutions.

Nationwide Market Potential per year



# REVENUE SEGMENTS

## PRODUCT SALES

Sales of microgrid, cogeneration, and clean cooling systems.



**CLEAN, GREEN  
RELIABLE POWER,  
COOLING AND  
HEAT**

## SERVICES

We service most purchased Tecogen equipment in operation through long term maintenance agreements. We have 11 service centers in North America and perform certain equipment installation work.

## ENERGY AS A SERVICE (EAAS)

We sell electricity and thermal energy produced by our equipment onsite at customer facilities.



# YE 2021 RESULTS



## Highlights

- Net Income of \$0.15/share YE 2021
- Net Income \$3.69m

## Revenue = \$24.39 million

- Compared to \$28.25 million in 2020, 13.6% decrease
- Product revenue down for FY 2021 due to
  - COVID related reduced sales activity
  - Some supply chain issues in Q3
- Service down due to lower installation activity, maintenance contract revenue increased 15%

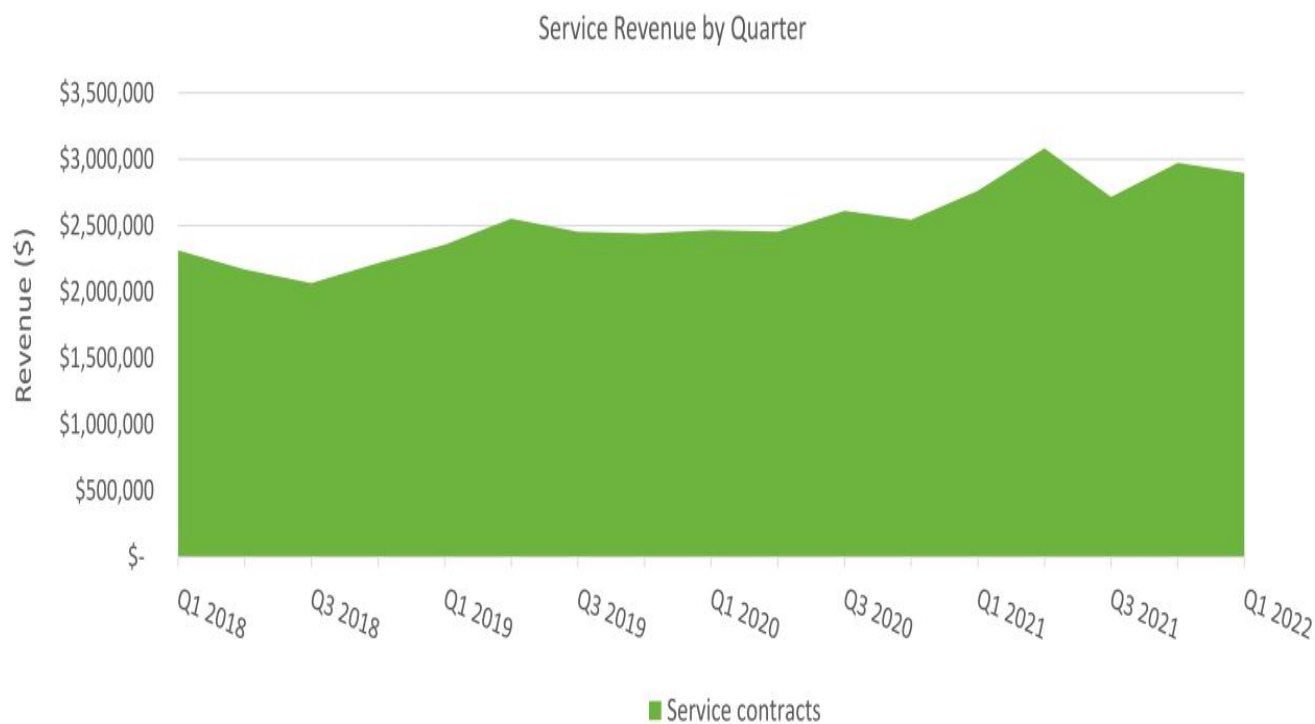
## Gross Margin of 47% favorably impacted by sales mix and reduced install activity

## Op Ex = \$12.8m in 2021 compared to \$16.8m in 2020 or 23.7% reduction

\$ in thousands	YE 21	YE 20	YoY Change	%
<b>Revenue</b>				
Products	\$ 10,133	\$ 11,467	\$ (1,333)	
Service	12,526	14,951	(2,425)	
Energy Production	1,739	1,837	(98)	
<b>Total Revenue</b>	<b>24,398</b>	<b>28,254</b>	<b>(3,856)</b>	<b>-13.6%</b>
<b>Gross Profit</b>				
Products	4,532	4,567	(34)	
Service	6,391	5,593	798	
Energy Production	665	668	(3)	
<b>Total Gross Profit</b>	<b>11,588</b>	<b>10,827</b>	<b>760</b>	<b>7.0%</b>
<b>Gross Margin: %</b>				
Products	45%	40%	5%	
Service	51%	37%	14%	
Energy Production	38%	36%	2%	
<b>Total Gross Margin</b>	<b>47%</b>	<b>38%</b>	<b>9%</b>	
<b>Operating Expenses</b>				
General & administrative	9,796	10,311	(515)	
Selling	2,472	2,593	(121)	
Research and development	542	767	(225)	
Impairment and other expenses	(3)	3,116	(3,119)	
<b>Total operating expenses</b>	<b>12,807</b>	<b>16,787</b>	<b>(3,980)</b>	<b>-23.7%</b>
<b>Operating profit (loss)</b>	<b>(1,219)</b>	<b>(5,960)</b>	<b>4,740</b>	<b>79.5%</b>
<b>Other Income (expense)</b>	<b>4,980</b>	<b>(227)</b>	<b>5,207</b>	
<b>Net Income (loss)</b>	<b>\$ 3,696</b>	<b>\$ (6,151)</b>	<b>\$ 9,847</b>	<b>160.1%</b>

## LONG TERM RECURRING REVENUES

RECURRING REVENUE STREAMS: 55% OF OVERALL REVENUE, >7% ANNUAL GROWTH RATE



# STRONG FUNDAMENTALS COMPARED TO PEERS



STRONGER  
FUNDAMENTALS

	Bloom BE (FY 21)	Tecogen TGEN (YE 21)	Capstone CGRN (9 Months 21)
Gross Profit Margins	20%	48%	14%
Operating Profit Margins	-12%	-5.3%	-22%
LT Debt to Equity Ratio	24.09	0.18	4.76
EPS	-\$0.95	\$0.14	-\$0.92

# PATHWAY TO GROWTH

2022 TO  
2023

Carbon Reuse in Indoor Agriculture – Exhaust CO2 recycling in indoor grow facilities to boost plant growth and offer a low carbon solution.

Anticipate Introduction of Tecochill Air Cooled Chillers that incorporate the Tecogen hybrid drive technology by Q1 2023. This addresses a gap in our Tecochill offering as air cooled chillers are typically sold in larger volumes compared to water cooled chillers in our size range.

Expand to similar market segments including other controlled environment agriculture (CEA), Hemp processing, food processing (meat, dairy, chocolate) and pharmaceuticals

Focus on Clean Cooling applications where there is a simultaneous cooling and dehumidification load. Continue to increase market share in regional cannabis markets including New England, Mid-Atlantic and Florida with a goal to have a minimum of 30% market share per state in facilities > 10,000 sq feet.

## FACTS ABOUT US



1,968,913,337

KWH GENERATED



52,156,171

PRODUCT RUN  
HOURS



200,000+

METRIC TONS OF CO2  
SAVED



3,000+

DISTRIBUTED  
GENERATION AND  
CHILLERS SHIPPED



#3

NUMBER OF  
OPERATIONAL U.S.  
MICROGRIDS IN 2019



# LEADERSHIP TEAM



**BENJAMIN LOCKE**  
CEO

Benjamin M. Locke has been a member of the Company's board of directors since June 2018. Mr. Locke has been the Company's Co-Chief Executive Officer since 2014 and as of March 29, 2018 he became the sole Chief Executive Officer of Tecogen. Mr. Locke was the Director of Corporate Strategy for Tecogen and was promoted to General Manager prior to his appointment as Co-Chief Executive Officer of Tecogen. In October of 2014, Mr. Locke began serving as Co-Chief Executive Officer of ADGE and continued to serve as Co-Chief Executive Officer until the completion of the ADGE Merger. Previously, Mr. Locke was the Director of Business Development and Government Affairs at Metabolix, a bioplastics technology development and commercialization company. In that role, he was responsible for developing and executing plans for partnerships, joint ventures, acquisitions, and other strategic arrangements for commercializing profitable clean energy technologies. Prior to joining Metabolix in 2001, Mr. Locke was Vice President of Research at Innovative Imaging Systems, or IISI, a high-technology R&D company. At IISI, he drove the development and implementation of growth strategies for the funding of specialty electronic systems for the United States Government. Mr. Locke has a B.S. in Physics from the University of Massachusetts, a M.S. in Electrical Engineering from Tufts University, and an M.B.A. in Corporate Finance from Boston University.



**ABINAND RANGESH**  
CFO

Abinand Rangesh has been with the Company since 2016 and has held roles in various divisions including sales, business development and most recently being Vice President and Director of Corporate Strategy. Prior to joining Tecogen, he led startup companies in the green energy and software space. In addition, Dr. Rangesh has multiple design patents and has published multiple scientific papers in peer reviewed journals. Dr. Rangesh earned both his Ph.D. and undergraduate degrees in engineering from the University of Cambridge, United Kingdom.



**ROBERT PANORA**  
President & COO

Robert Panora has served as President of Tecogen since 2000. Mr. Panora had been General Manager of Tecogen's Product Group since 1990 and Manager of Product Development, Engineering Manager, and Operations Manager of the Company since 1984. Over his 41-year tenure with Tecogen, he has been responsible for sales and marketing, engineering, service and manufacturing. He contributed to the development of our first product, the CM-60 cogeneration module, and was Program Manager for the cogeneration and chiller projects that followed. Mr. Panora has had considerable influence on many aspects of our business, from building the employee team, to conceptualizing product designs and authoring many of the original business documents, sales tools, and product literature pieces. Mr. Panora holds B.S. and M.S. degrees in Chemical Engineering from Tufts University.

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# LEADERSHIP TEAM



Joseph Gehret is our Chief Technical Officer. Mr. Gehret is responsible for leading technology development at Tecogen and defining the company's research and development efforts. With an expansive depth and breadth of classic, as well as cutting edge technology, he has been integral in the development of all Tecogen products and technology for 30 years. He is the primary author on all of Tecogen's major patents. In addition to leadership roles in all Tecogen technology development, Mr. Gehret has designed and developed the necessary hardware, as well as the software code, for all of Tecogen's product lines. Mr. Gehret holds a B.S. in Mechanical Engineering and an M.S. in Nuclear Engineering, both from the Massachusetts Institute of Technology.

## JOSEPH GEHRET

CTO



Roger Deschenes has led accounting and finance functions in high-technology manufacturing and consumer products and distribution companies for over 30 years, including as Division Chief Financial Officer at L3 Security Detection Systems, Inc. in 2017 and 2018, and as Vice President, Finance, Chief Financial Officer and Chief Accounting Officer at Implant Sciences Corporation from 2010 to 2017. Mr. Deschenes received a B.S. in Business Administration from Salem State University and is a Certified Management Accountant.

## ROGER DESCHENES

CAO



John K. Whiting, IV has been the Company's General Counsel since January 2018, handling all legal matters for the company, including commercial transactional matters, corporate financing and governance matters, securities compliance work and SEC filings, and providing support for risk management and the consideration of strategic options. Since April 2017 Mr. Whiting has also served as General Counsel & CFO of Inspired Therapeutics LLC. Previously, he served as Vice President, General Counsel & Secretary of Vero Biotech LLC (from January 2012 to 2017), as Vice President, General Counsel & Secretary of Pharos LLC and Levitronix LLC (from 2009 through 2011), as Vice President & General Counsel of American Renal Associates Inc. (from 2002 to 2008), and as Associate General Counsel of Thermo Electron Corporation (now Thermo Fisher Scientific Inc.) (from 1996 through 2002). Mr. Whiting holds a B.A. in Political Science and History from the University of Vermont, a J.D. from Boston University School of Law, and an MBA from F.W. Olin Graduate School of Business at Babson College.

## JACK WHITING

General Counsel

# BOARD MEMBERS



## JOHN HATSOPOULOS

### Lead Director

Mr. Hatsopoulos is Lead Director of Tecogen. He has been a member of the Company's board of directors since its founding in 2000 (other than the period between June 6, 2018 and February 1, 2019). He was Tecogen's CEO until 2014 when he became Co-CEO until he retired in 2018. Mr. Hatsopoulos was also Chief Executive Officer and Director of American DG Energy Inc. from its inception in 2001 until 2014 when he became Co-CEO. He remained Co-CEO and Director until American DG Energy or ADGE merged with Tecogen in 2017. In addition, Mr. Hatsopoulos was Chairman of EuroSite Power Inc., a former affiliate of the Company, from 2009 until 2016. Mr. Hatsopoulos is a co-founder of Thermo Electron Corporation, which is now Thermo Fisher Scientific. He was formerly the President and Vice Chairman of the Board of Directors of that company. He is a former "Member of the Corporation" of Northeastern University. He graduated from Athens College in Greece and holds a B.S. in history and mathematics from Northeastern University, as well as honorary doctorates in business administration from Boston College and Northeastern University.

## ANGELINA GALITEVA

### Chairperson

Ms. Galiteva has been the Company's Chairperson of the board of directors since 2005. Ms. Galiteva is founder and Chair of the Board for the Renewables 100 Policy Institute, a non-profit entity dedicated to the global advancements of renewable energy solutions since 2008. She is also Chairperson at the World Council for Renewable Energy (WCRE), which focuses on the development of legislative and policy initiatives to facilitate the introduction and growth of renewable energy technologies since 2003. Since 2011, she has served on the Board of Governors of the California Independent System Operator (CA ISO), providing direction and oversight for the CA ISO which operates the California electricity grid. Also, she is a principal at New Energy Options, Inc., a company focusing on advancing the integration of sustainable energy solutions since 2006. She has also been a strategic consultant with Renewable Energy Policy and Strategy Consulting since 2004. Ms. Galiteva holds a M.S. in Environmental and Energy Law, a J.D. from Pace University School of Law, and a B.S. from Sofia University in Bulgaria.

## AHMED GHONIEM

### Director

Dr. Ghoniem has been a member of the Company's board of directors since 2008. Dr. Ghoniem is the Ronald C. Crane Professor of Mechanical Engineering at MIT. He is also the Director of the Center for 21st Century Energy, and the head of Energy Science and Engineering at MIT, where he plays a leadership role in many energy-related activities, initiatives and programs. He joined MIT as an Assistant Professor in 1983. He is an associate fellow of the American Institute of Aeronautics and Astronautics, and Fellow of American Society of Mechanical Engineers. He was recently granted the KAUST Investigator Award. Dr. Ghoniem holds a Ph.D. in Mechanical Engineering from the University of California, Berkeley, and a M.S. and B.S. in Mechanical Engineering from Cairo University.

## EARL R LEWIS III

### Director

Earl R. Lewis III has served as Chairman of the Board and as Chief Executive Officer and President of FLIR Systems from 2000 through May 2013, and since May 2013 as Chairman of the Board and as a senior consultant to FLIR Systems. Mr. Lewis also served as Chairman of the Board of Harvard Bio Science from 2013 through June 2018, as CEO and President of Thermo Instrument Systems from 1998 to 2000, as President in 1997, and as COO in 1996. Mr. Lewis also served as CEO and President of Thermo Optek Corporation from 1994 to 1996, as President of Thermo Jarrell Ash Corporation from 1988 to 1994, and in senior operations and manufacturing roles at Thermo Jarrell Ash since 1984 and at other companies in previous years. Mr. Lewis holds a B.S. from Clarkson College of Technology.

## FRED HUBLOW

### Director

Fred Holubow served as a director of ANI Pharmaceuticals, Inc. from 1999 through May 2018 where he served on the Board's Audit and Finance Committee. Mr. Holubow is, and since 1984 has been a General Partner of Starbow Partners, an investor in early-stage healthcare ventures. In addition, Mr. Holubow serves as a Principal of Petard Risk Analysis, a position he has held since January 2012. From 2001 to December 2011 Mr. Holubow served as a Managing Director of William Harris Investors, Inc., a registered investment advisory firm, and from 1982 to 2001 he served as Vice President of Pegasus Associates, a registered investment advisory firm he co-founded. Mr. Holubow specializes in analyzing and investing in pharmaceutical and biotechnology companies. Mr. Holubow also previously served on the board of directors of the following public companies: Micrus Endovascular Corporation, ThermoRetec Corporation, Savient Pharmaceuticals, Inc. (formerly Bio-Technology General Corp.), Gynex Pharmaceuticals, Inc., and Unimed Pharmaceuticals, Inc.

## RALPH JENKINS

### Director

Mr. Jenkins is a retired partner at Ernst & Young LLP where he provided accounting related services for a diversified client base for 36 years until February 2016 from offices in Boston, Massachusetts and in Manchester, New Hampshire where he served as Office Managing Partner for five years. Mr. Jenkins' expertise includes matters related to initial public offerings, mergers and acquisitions transactions, financing transactions, and implementation of internal controls in connection with Sarbanes-Oxley compliance. Mr. Jenkins received a B.S. in accounting from Bentley University in 1977.



# Global Controlled Environment Agriculture Market (CEA) Expected To Reach \$172 Billion In 2025

FinancialNewsMedia.com News Commentary

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NEWS PROVIDED BY

**FinancialNewsMedia.com** →

Oct 27, 2021, 09:00 ET

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PALM BEACH, Fla., Oct. 27, 2021 /PRNewswire/ -- The world's population is expected to grow to almost 10 billion by 2050. It is becoming increasingly difficult to satisfy the rising global demand for food in a sustainable manner. Due to this, in order to meet the food demand of an increasing population, the government and farmers are adopting more advanced farming techniques such as Hydroponics, Aeroponics, Aquaponics, soiled based and other hybrid methods. The farmers are majorly growing leafy greens, tomatoes, cannabis, flowers, microgreens, strawberries, herbs, cucumbers, peppers, mushrooms, onions, leeks, hops, figs, sweet corn, eggplant, fish, insects, carrots, and shrimp. This rising popularity of controlled environmental agriculture techniques is resulting in an increase in the number of small and large indoor farms across the globe and these farms are also encouraging the consumption of other supplies such as nutrients, growing media, and others. Today, 55% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050. Yet, the population living in urban areas are demanding locally grown foods such as fruits, vegetables, meat, etc. Controlled Environment Agriculture (CEA) producers across the globe are setting up their production centers near to urban consumers to take advantage of this trend due to their proximity to urban centers. Other advantages of CEA such as the requirement of less time and expense in the transportation of crop products and better product quality are also expected to strengthen the growth of global controlled environment agriculture market in upcoming years. Active Companies in the markets today include **AgriFORCE Growing Systems Ltd.** (NASDAQ: AGRI), **Raven Industries, Inc.** (NASDAQ: RAVN), **AGCO** (NYSE: AGCO), **Trimble** (NASDAQ: TRMB), **Deere & Company** (NYSE: DE).

A report from KD Market Insights said that Global controlled environment agriculture market is projected to grow from USD 74,489.7 Million in 2020 and is estimated to reach USD 172,164.64 Million in 2025.

to grow from USD 74,499.7 million in 2020 and is estimated to reach USD 172,104.04 million in 2025, registering a compound annual growth rate (CAGR) of 18.7% between 2020 and 2025. The report added: "Europe controlled environment agriculture market reached USD 32,150.0 Million in 2019 and is expected<sup>80</sup>

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to witness a CAGR of 16.4% over the forecast period. In addition to this, Europe controlled environment agriculture market value is projected to witness a Y-O-Y growth of 18.1% in 2025 as compared to previous years. Europe controlled environment agriculture market represented a market share of 49.3% in 2019 and is likely to account for a notable market share by the end of 2025."

**AgriFORCE Growing Systems Ltd. (NASDAQ: AGRI) BREAKING NEWS: AgriFORCE Growing Systems Announces Binding LOI to Acquire a Leading European Agriculture/Horticulture and AgTech Consulting Firm, with Global Operations and 2020 Annual Revenues of US\$26 million and EBITDA of US\$3 million (IFRS Based)** - AgriFORCE Growing Systems Ltd. ("the Company"), an IP-focused AgTech company dedicated to advancing sustainable cultivation and crop processing across multiple platforms, has entered into a binding letter of intent to acquire a leading AgTech European consultancy focused on driving agricultural optimization, innovation, solutions and operational expertise in the agriculture and horticulture and Controlled Environment Agriculture (CEA) sectors.

With global operations and over 200 employees, this AgTech consultancy achieved 2020 annual consulting audited revenues of over US\$26 million and EBITDA of US\$3 million (IFRS based), and it expects to end the year 2021 with revenues of US\$28 million (as estimated by the target's management and subject to due diligence).

The binding LOI is subject to completion of standard due diligence and entry into a definitive purchase agreement within 45 days, which shall include commercially standard terms and conditions, including, but not limited to, representations and warranties, covenants, events of default and conditions to closing.

The purchase price by AgriFORCE is estimated to be in the range of US\$29 million with a mix of cash and stock, with all stock issued in private placement transactions exempt from registration under Section 4(a)(2) of the Securities Act of 1933.

Ingo Mueller, CEO of AgriFORCE Growing Systems, commented: "This acquisition is an alliance of our complementary expertise and shared values. Both AgriFORCE and this leading European AgTech consultancy are dedicated to making positive change in the lives of farmers and consumers. This is an unprecedented opportunity for exceptional innovation and through our synergies, expanded growth in both North America and Europe for both organizations." He added: "We look forward to a robust collaboration around IP development and implementation that will support farmers all around the world in improving all aspects of agriculture - from seed to table."



Troy McClellan, President of AgriFORCE Solutions, added: "This is a key step for AgriFORCE to drive a strategic integration approach of crops, operations, facilities, systems and environment in the development of IP that improves controlled-environment agriculture (CEA), and field agriculture, including plant yields<sup>80</sup>,"

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nutrition, taste and pureness of quality. Our goal is to address some of the biggest challenges and legacy issues in these key critical sectors and in the continual pursuit of clean, green, better crops and plant-based products and ingredients." **CONTINUED. Read this full release for AgriFORCE Growing Systems at:** <https://ir.agriforcegs.com/>.

*Other recent developments in the markets include:*

**Raven Industries, Inc.** (NASDAQ:RAVN) announced recently that Raven Aerostar, the world leader in high altitude lighter-than-air technology, has acquired intellectual property (IP) and patents from Loon, LLC (formerly known as Project Loon), a subsidiary of Alphabet Inc. and the developer of an autonomous constellation of high-altitude balloons for communications. In January, Alphabet announced the wind down of Loon. The 176 assets acquired by Raven are directly related to stratospheric balloon technology, including balloon navigation, launching operations and balloon manufacturing.

Raven Aerostar continues to deliver key capabilities, including remote sensing, long-range communications, and scientific research.

"For the past nine years, Raven partnered with Loon on the development of this unique technology. Loon launched and navigated thousands of balloon platforms to help serve its mission. In parallel, we leveraged the Loon partnership and our 60 year history of balloon expertise to design and build our Thunderhead stratospheric platform," said Jim Nelson, Division Manager of Raven Aerostar. "Having the technology under one house is exceptionally valuable, especially as demand for our solutions continue to increase."

**AGCO** (NYSE:AGCO) recently announced that its Board of Directors recently declared a regular quarterly dividend of \$0.20 per common share to be paid on December 15, 2021 to all stockholders of record as of the close of business November 15, 2021.

AGCO is a global leader in the design, manufacture and distribution of agricultural machinery and precision ag technology. AGCO delivers customer value through its differentiated brand portfolio including core brands like Challenger, Fendt, GSI, Massey Ferguson and Valtra. Powered by Fuse® smart farming solutions, AGCO's full line of equipment and services helps farmers sustainably feed our world. Founded in 1990 and headquartered in Duluth, Georgia, USA, AGCO had net sales of approximately \$9.1 billion in 2020.

**Trimble** (NASDAQ: TRMB) recently announced the expansion of its mixed-reality offerings with the addition of the Trimble® Connect® AR app. Connect AR is an augmented reality app that gives building construction

workers even greater accessibility to 3D models in the field. The app runs on Android and iOS tablets and



smartphones. With Connect AR, users can leverage augmented reality, field-oriented construction workflows and constructible 3D models from different sources to transform daily work such as assembly and inspections.

Connect AR is an extension of the Trimble Connect for Mobile app. It integrates with Trimble Connect and the Trimble mixed-reality portfolio, making teams more collaborative, and enabling workers in the field to get more value from constructible 3D models. Trimble Connect is a powerful cloud-based collaboration platform that empowers teams involved in the design, construction and operation of buildings.

**Deere & Company** (NYSE: DE) has recently signed a definitive agreement to acquire Bear Flag Robotics for \$250 million USD. Founded in 2017, the Silicon Valley-based startup develops autonomous driving technology compatible with existing machines. The deal accelerates the development and delivery of automation and autonomy on the farm and supports John Deere's long-term strategy to create smarter machines with advanced technology to support individual customer needs.

"Deere views autonomy as an important step forward in enabling farmers to leverage their resources strategically to feed the world and create more sustainable and profitable operations," said Jahmy Hindman, Chief Technology Officer at John Deere. "Bear Flag's team of talented agriculture professionals, engineers and technologists have a proven ability to deliver advanced technology solutions to market. Joining that expertise and experience with Deere's expertise in autonomy, along with our world-class dealer channel, will accelerate the delivery of solutions to farmers that address the immense challenge of feeding a growing world."

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OF ANY COMPANY NAMED IN THIS RELEASE.

This release contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E the Securities Exchange Act of 1934, as amended and such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. "Forward-looking statements" describe future expectations, plans, results, or strategies and are generally preceded by words such as "may", "future", "plan" or "planned", "will" or "should", "expected," "anticipates", "draft", "eventually" or "projected". You are cautioned that such statements are subject to a multitude of risks and uncertainties that could cause future circumstances, events, or results to differ materially from those projected in the forward-looking statements, including the risks that actual results may differ materially from those projected in the forward-looking statements as a result of various factors, and other risks identified in a company's annual report on Form 10-K or 10-KSB and other filings made by such company with the Securities and Exchange Commission. You should consider these factors in evaluating the forward-looking statements included herein, and not place undue reliance on such statements. The forward-looking statements in this release are made as of the date hereof and FNM undertakes no obligation to update such statements.

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