## 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 (Date of earliest event reported): December 1, 2016



### **TECOGEN INC.**

(Exact Name of Registrant as Specified in Charter)

Delaware (State or Other Jurisdiction of Incorporation)

333-178697 (Commission File Number) 04-3536131 (IRS Employer Identification No.)

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

02451 (Zip Code)

(781) 622-1120 (Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrar 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))

### Item 7.01. Regulation FD Disclosure

On December 1, 2016, Tecogen Inc., (the "Company") presented the attached slides at the Drexel Hamilton Emerging Growth Conference. Those slides are being furnished as Exhibit 99.01 to this Current Report on Form 8-K.

The information in this Item 7.01 and Exhibit 99.01 to this 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 exhibits relating to Item 7.01 shall be deemed to be furnished, and not filed:

Exhibit Description

99.01 Presentation dated December 1, 2016.

## **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 duly authorized.

TECOGEN INC.

By: /s/ David A. Garrison

December 1, 2016 David A. Garrison, Chief Financial Officer





Drexel Hamilton Emerging Growth Conference

John Hatsopoulos, Co-CEO

NASDAQ: TGEN

December 1, 2016



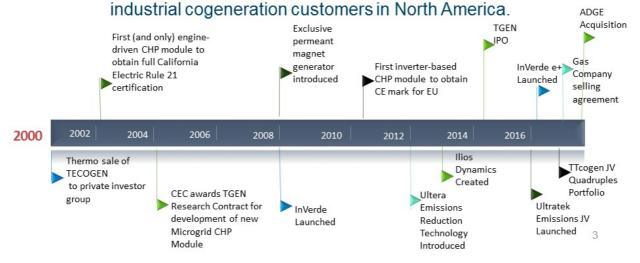
## **Safe Harbor Statement**

This presentation includes forward-looking statements within the meaning of Section 27-A of the Securities Act of 1933, and Section 21-E of the Securities Exchange Act of 1934. Such statements include declarations regarding the intent, belief, or current expectations of the Company and its management. Prospective investors are cautioned that any such forward looking statements are not guarantees of future performance, and involve a number of risks and uncertainties that can materially and adversely affect actual results as identified from time to time in the Company's SEC filings. Forward looking statements provided herein as of a specified date are not hereby reaffirmed or updated.



## Leading Manufacturer of Clean Energy Solutions

Leading provider of cost efficient, clean and reliable products for power production, heating and cooling which, through patented technology, nearly eliminate criteria pollutants and significantly reduce a customer's carbon footprint. With over 2,300 units shipped, Tecogen technology is revolutionizing distributed generation for residential, commercial, and





## Why Tecogen?

Heat, Power & Cooling that is Cheaper, Cleaner, & More Reliak



Tecogen's compelling ROI proposition meets the needs of a diverse range of customers.

















Municipal



## **Market Opportunity:**

## a growing company in a growing industry

- · High ROI product
- Technological innovation & unmatched industry reputation
- Strong relationships with key partners
- Increasing environmental and regulatory pressures
- · Resiliency concerns

Sales



- Turnkey installation
- Long term service agreements generate high margin revenue stream
- Reliable new Energy revenue stream from American DG acquired fleet
- Additional growth

Service



- · Margins 35-40%
- Targeting consistent >\$10M product and installation backlog
- Currently <50% manufacturing capacity utilization
- Stable operating expense profile







## **Clean Energy Portfolio**

## CM-60, CM-75 & InVerde

- Packaged natural gas engine driven CHP from 60-100kW
- Best in class electrical efficiency
- Microgrid controls and remote monitoring for seamless operation
- Produces electricity and heat with 2-5 yr. avg. payback



#### llios

- Compact natural gas or propane fueled heat pump
- Superior 200-300% efficiency saves on electricity
- Creates hot and chilled water simultaneously
- Offered in Air-Sourced, Water-Source or Split-Source options



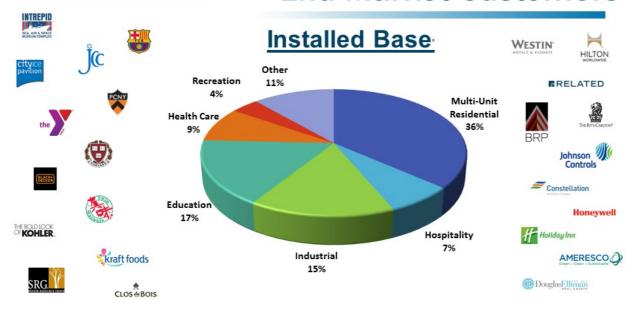
### TECOCHILL

- The only natural gas engine driven chiller on the market
- Cuts costs by 30-60% vs. standard electric cooling
- Operates with minimal demand on standby power during an emergency
- Free waste heat and clean CO<sub>2</sub> may be repurposed





## **Diverse Range of End Market Customers**



Compelling value proposition across customer market segments reduces volatility from individual customer verticals
\*Approximate recently installed base by end market at YE2015.





## American DG Energy Profile (NYSE MKT: ADGE)

- On-Site Utility business model that installs, owns, and maintains natural gas powered cogeneration systems
- Fleet: 92 systems, 5.5MW of installed capacity, \$203M approx. lifetime value of contracted revenue
- Backlog: 13 systems totaling 975kW of capacity with cash on hand to complete installation
- Deal Details: stock-for-stock transaction, 1:0.092 exchange ratio (ADGE:TGEN), expected to close first half of 2017

## **Combined Company Benefits**

- Cost Savings approx. \$1M benefit as operational and administrative cost savings are achieved
- Asset Revaluation allows improved financial basis
- Additional technical support will further improve fleet performance and profitability
- Stable Revenue Base approximately half of total combined company revenue from long-term contracted sources, making the company's revenue profile more predictable

Creates a vertically integrated clean technology company with a complete end-to-end distributed generation offering – design, manufacturing, financing, installation, and maintenance.



## **Emissions Innovation**

Tecogen has consistently been at the forefront of environmentally friendly technological innovation. We commercialize, refine, and support these pioneering concepts over the long haul, in continuous pursuit of our mission to provide clean and efficient solutions for customer's everyday problems.

## Highlights from Tecogen's history of ultra-clean emissions control innovation include:

Oct. 2016	Tecogen wins PERC research grant to develop Ultera for propane fork truck market	
Sept. 2016	ULTRATEK Phase 2 testing successfully completed at AVL California Technology Center	
Jun. 2016	ULTRATEK Phase 1 testing proves Ultera highly effective at automotive emissions control	
Dec. 2015	"ULTRATEK" JV formed on advice from Emissions Advisory Committee to develop Ultera for automotive	
application	s	
Oct. 2015	First biofuel application of an Ultera ultra-clean emission retrofit kit	
Oct. 2015	Emissions Advisory Committee formed to explore application of Ultera system to gasoline fueled vehicle	
market Feb	2015 Application of <i>Ultera</i> retrofit to commercial 130kW standby natural gas generator	
Nov. 2013	Worldwide patent granted for Tecogen's Ultera low emissions technology	
Jan. 2012	Ultera made available on entire line of Tecogen's clean energy equipment	
2011	Development of Fourth-generation emissions controls capable of meeting latest ultra-low California	
standards,	with partial R&D sponsorship coming from CEC, Sempra Utilities, and others	
2007	Patent granted for controlling engine emissions	
1990	First low-emissions units developed for Southern California	0



# Ultera® Emission System

## Features & Advantages

- Proven in Tecogen, Ford, GM, Caterpillar, Generac, etc.,
- Non-invasive retrofit emissions system that reduces the emission of criteria pollutants (NOx, HCs & CO) to near-zero fuel-cell equivalent levels
- Patent protected and insured
- Long-term tests and third-party verification of system efficacy
- Emissions control for gasoline powered vehicle market is a significant long term growth opportunity via ULTRATEK emissions joint venture
- Propane fork trucks under study with Propane Education & Research Council (PERC) funding

## Retrofit System

Launch Date

Tecogen CHP, Chillers, Ilios Systems

Stationary Engines

Natural Gas Generators

Gasoline automotive fleets

Propane fork trucks

Large industrial mobile engines

Natural gas vehicle fleets

2012 2014 2015 understudy understudy TBD

### Value Proposition

The only commercially available product that is capable of beating California Air Resource Board 2007 CO and NOx standards for distributed power generation.





## **ULTRATEK JV:**

## gasoline vehicle market opportunity

### **Progress**

- ✓ Additional emissions-related patent awarded with several other filings still pending
- ✓ Constructed preliminary test module ✓ Contracted with AVL California
- Technology Center for testing
- ✓ Phase 1 results (completed in April) on base-line vehicle platform indicate Ultera highly effective at reduction of CO and NMOG beyond currently available technologies
- √Phase 2 testing successfully completed on two smaller vehicles

with an upgraded Ultera sy √~\$12M in cash, flexibility to pursue all opportunities

**AVL Testing Success: Standard Drive Cycle Results** with Ultera vs. Standard Vehicle Emissions Control System

- Carbon Monoxide cut by up to an additional 90%
- Non-methane hydrocarbons (NMOG) cut by up to

an additional 80%



### Opportunity

- Health & Environmental Risk ~53k early deaths in USA annually related to vehicle emissions. Transportation sector produces ~30% of all U.S. climate change emissions
- Vehicle Testing VW emissions scandal higlights failures of current testing protocols. Near term opportunity as E.U. adopts on-road Real Driving Emissions testing
- Regulatory Impact Planned phased-in tightening of vehicle emissions standards in USA. Furone Japan and Korea creates



# TTcogen JV: INFINITE POTENTIAL

### **Features**

- 50/50 Joint Venture launched in May 2016 with European CHP expert TEDOM
- Brings TEDOM packaged CHP portfolio to U.S. via Tecogen sales & service network
- Combined product portfolio serves energy needs from 35 kW
   4 MW – <u>quadruples</u> <u>addressable market</u> for CHP
- Flexible fuel options including natural gas, propane, renewable biogas, etc.
- First sales already announced demonstrating synergies and market opportunity







## **Financial Metrics**

## Revenues, Margins, Growth

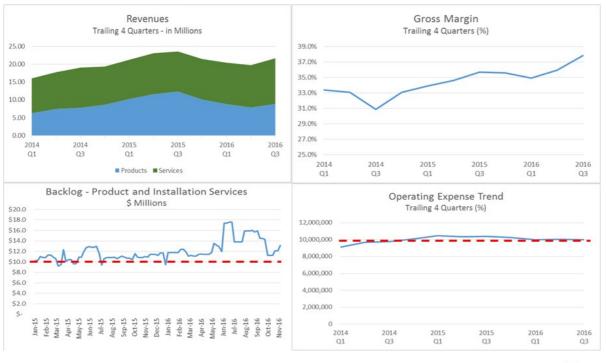
## Tecogen Revenue Model & Outlook

- Three revenue streams
  - Product sales
  - Long-term service contracts provide annuity-like revenue
  - Turnkey Installation through Tecogen service operations
- Targeting stable book-to-bill ratio of 1-1.5x
- Deliver operating leverage from lean manufacturing initiatives
- Maintain Gross Margins 35-40%
- Quarterly Backlog >\$10M
- Maintain stable trailing 4
   quarter Operating Expense of
   ~\$10M while delivering top line

		arter Ended	Y/Y Growth	% of Total Revenue 2016
	Sept. 30, 2016	Sept. 30, 2015		-
REVENUE		1511200000		
Cogeneration	2,639,713	1,493,335		39.9%
Chiller & Heat Pump	211,188	367,525		3.2%
Total Product Revenue	2,850,901	1,860,860	53%	43.1%
Service & Parts	2,113,295	1,921,897		31.9%
Installation Services	1,652,259	893,285		25.0%
Total Service Revenue	3,765,554	2,815,182	34%	56.9%
Total Revenue	\$ 6,616,455	\$ 4,676,042	41%	
COST OF SALES				
Products	1,715,462	1,262,480		
Services	2,126,175	1,744,631		
Total Cost of Sales	\$ 3,841,637	\$ 3,007,111	28%	
Gross Profit	\$ 2,774,818	\$ 1,668,931	66%	
Net Income (Loss)	\$ 207,868	\$ (948,842)		
GROSS MARGIN				
Product Gross Margin	39.8%	32.2%	24%	
Service Gross Margin	43.5%	38.0%	14%	
Gross Margin	41.9%	35.7%	18%	
				4.0



## **Consistent Financial Progress**





## **Growth Opportunity**

## Core Business - Demand for CHP Systems Remain Strong

- Fundamental economics driving long term adaption of distributed generation persist (high electricity prices, low cost natural gas, grid and building resiliency concerns)
- >\$40B market potential for CHP
- Sales team expansion grows markets and geographies
- o TTcogen joint venture quadruples addressable market
- Technological innovation and unmatched industry reputation lend competitive advantages
- o Strong relationships with key strategic partners driving repeat business

## **Emissions Control Opportunity - Ultera**

- Upside potential from gasoline automotive emissions control development work at ULTRATEK JV
- o Emissions Retrofit kits and Propane Fork Truck initiative

**Tecogen at Prime Inflection Point for Growth** 









## **NASDAQ: TGEN**









## **Appendix**

- Stock Information
- Contacts
- Meet Management
- · Meet our Board
- Equipment Specs
- TTcogen Detail





## **Stock Information**

## **Key Financials**

Nasdaq Ticker TGEN

Recent Stock Price \$4.35 52 Week Range \$2.46-6.50

Market Cap ~\$86.8M

Shares Outstanding

~19.9M

Directors & Officers Ownership

23.1%

Balance Sheet\*

Cash & Equivalents \$3.5M Long Term Debt \$3.1M Total Assets \$23.2M

Total Liabilities \$8.8M

Current Ratio 3.72

L.T. Debt/Equity





## **Contact Information**



## **Company Information**

Tecogen Inc. 45 First Avenue Waltham, MA 02451

www.tecogen.com

A Member of the Russell Microcap® Index

## Contact

Ariel Fromer Babcock, CFA Director of Investor Relations 781.466.6413 Ariel.Babcock@tecogen.com



## **Management Team**

#### John Hatsopoulos, Co-Chief Executive Officer & Board Member

- CEO since the company's organization in 2000
- Co-Founder of Thermo Electron Corp., which is now Thermo Fisher Scientific (NYSE:TMO)
- As Thermo Electron CFO, grew company from a market capitalization of ~\$100 million in 1980 to over \$2.5 billion

#### David Garrison, Chief Financial Officer, Secretary & Treasurer

- Chief Financial Officer since 2014.
- Over 20 years of manufacturing experience in the role of CFO. Both public and private companies from a variety of industries including medical device, defense and consumer products.

#### Benjamin Locke, Co-Chief Executive Officer

- Co-CEO since 2014, joined the company as General Manager in June of 2013.
- Prior to Tecogen, served as Director of Business Development and Governmental Affairs at Metabolix from 2001. Served as Vice President of Research at Innovative Imaging Systems prior to Metabolix.

#### Robert Panora, Chief Operating Officer & President

- COO and President since the Company's organization in 2000; co-CEO ULTRATEK emissions JV since Dec. 2015
- General Manager of Tecogen's Product Group since 1990 and Manager of Product Development, Engineering Manager, and Operations Manager of the Company since 1984



## **Board of Directors**

#### Keith Davidson, Director

- Company Director since 2016
- · President of DE Solutions, a consulting and engineering firm serving the distributed energy markets
- Former Director of the Gas Research Institute and past President of the American Cogeneration Association
- 25 years of experience in energy and environmental technology

#### Angelina Galiteva, Director, Board Chairwoman

- Chair of the Company since 2005
- Founder and Chair of the Board for the Renewables 100 Policy Institute, a non-profit entity dedicated to the global advancement of renewable energy solutions since 2008
- Chairperson at the World Council for Renewable Energy and Board member of the Governors of the California ISO

#### Ahmed Ghoniem, Director

- Company Director since 2008
- Ronald C. Crane Professor of Mechanical Engineering at MIT
- Director of the Center for 21st Century Energy and Head of Energy Science and Engineering at MIT
- Associate Fellow of the American Institute of Aeronautics and Astronautics

## development and implementation John Hatsopoulos, Co-Chief Executive Officer, Director

- · CEO and Director since the Company's organization in 2000
- Co-Founder for Thermo Electron Corp., now Thermo Fisher Scientific (NYSE: TMO)
- As Thermo Electron CFO, grew company from a market capitalization of ~\$100 million in 1980 to over \$2.5 billion

#### Charles Maxwell, Director, Chair of Audit Committee

- Company Director since 2001
- 40 years of energy sector specific experience with major oil companies and investment banking firms
- Former Senior Energy Analyst with Weeden & Co.
- Board Chairman of American DG Energy, Inc.



## **Combined Heat & Power:**

**Energy Savings with the Benefit of Back-Up Power** 

### **Features**

- 2-5 year equipment payback
- Best in class electrical efficiency
- DC input for seamless integration with battery or renewable installations
- Unique micro-grid system allowing for full operation during blackouts as well as Demand Response operation (redundancy)
- Remote monitoring and long term servicing
- Modular installation allows deployment from 100kW up
- The only inverter-based CHP unit that meets NFPA's Type 10 Emergency Power Supply System rapid blackstart standard

\$ (000s) / yr	Competitor 65 kW Microturbine	Competitor 200 kW Fuel Cell	Tecogen InVerde
Revenue Energy Delivered	\$87	\$207	\$137
Recurring Costs Fuel/Maintenance	\$60	\$161	\$86
Installed Cost	\$162	\$1,264	\$219
Simple Payback (Years)	6.03	27.50	4.24
Black Start operation control	Batteries (\$ not included)	Batteries (\$ not included)	Standard

Source: EPA Catalog of CHP Technologi



### **Target Customer**

Multi-Unit Residential, Hotels, Hospitals, Schools, Athletic Clubs, Industrial applications where commercial electric rates >\$0.12/kWh



## Ilios® High Efficiency Water Heating: The World's Most Efficient Water Heater

#### **Features**

- 2-3x the efficiency of a conventional boiler
- Displaces expensive boiler use producing both hot water and cooling capabilities while significantly reducing electric use and providing immense carbon savings
- Newly introduced Water Source Unit Gaining Traction - Ideal for manufacturing, industrial sites
- Compact modular installation
- Competitive pricing and improving product margins (fixed cost leverage as sales increase)

\$ (000s) / yr	Competitor Std. Boiler & Electric Chiller	Competitor Electric Heat Pump	Ilios WS Heat Pump
Operation Cost	\$36	\$23	\$10
Maintenance	\$1	\$0	\$4
Total Cost	\$ 37	\$23	\$14



## **Target Customer**

Any facility with a simultaneous need for heating and cooling – including Food & Beverage Processing, Nursing Homes, Spas, Apartment Complexes, etc.



## TECOCHILL®: **Cooling Powered by Natural Gas**

### **Features**

- The leading natural gas engine driven chiller available
- Significant savings over electric chillers - cut costs by 30-60% vs. standard electric cooling systems
- Installation & Operation well known - making TECOHILL an excellent "gateway" product for new markets -Same maintenance & operation as electric chillers
- Remote monitoring and control maximizes operating efficiency and provides for seamless maintenance
- Widely deployed USA, Canada, Mexico, International

\$ (000s) / yr	Competitor Std. Efficiency Electric Chiller	Competitor High Efficiency Electric Chiller	Tecochill (2 x 400)
Electricity	\$144	\$93	\$36
Peak Demand Charge	\$94	\$94	<b>\$1</b> 6
Maintenance	\$22	\$22	\$40
Gas	\$ 0	\$0	\$16
ASSIMALES OF SETAIL COSTS SAME FOR CALL		Target Cus	tomer

## **Target Customer**

Ideal for retrofit or replacement of legacy cooling machinery in schools, hospitals, nursing homes, ice rinks, industrial facilities, hotels.

apartments/condos, etc.24



# **TTcogen:**Infinite Potential



## **U.S. Market Projection**

- DOE CHP U.S. market potential capacity for on-site Industrial and Commercial CHP addressable market ~85 GW.
- TTcogen portfolio offers CHP solutions that meet ~60% of total CHP market potential vs. just ~20% of CHP market served by Tecogen.
- Assuming 2020 U.S. target CHP deployment of 40 GW is met – TTcogen addressable market is ~20-25 GW over the next 4 years.
- Conservative 10% market share target equates to ~\$12B sales potential.

Taken from U.S. DOE CHP Deployment Program, 2016: "Total U.S. CHP Technical Potential Across All Facility Types" March 201 Totals represent estimated potential capacity for both on-site industrial and commercial CHP installations in the U.S.



## **Revolutionizing Cogeneration**











