



# Distributed Solutions for C&I

## Darren Jamison, CEO CPST

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*“Change is the law of life. And those who look only to the past or the present are certain to miss the future.”*

*– John F. Kennedy*

# Safe Harbor



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# NEW DISTRIBUTED ENERGY MARKET



# Global Energy Market Forecast



## The Imminent Change in Global Energy



Annual distributed generation power additions will grow to 200 GW in 2020 from 150 GW currently



Global electricity consumption will rise to 26.9 terawatt-hours (Twh) by 2020



Microgrids account for 27 GW of current distributed generation



\$205 billion will be invested in global distributed power generation annually by 2020 - 42% of total power additions

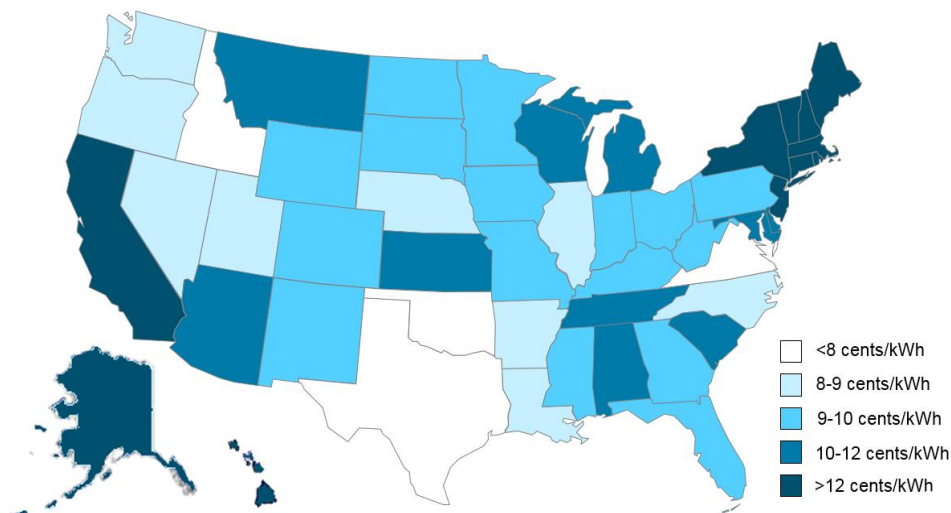


65% of global electricity consumption will be in emerging markets by 2020

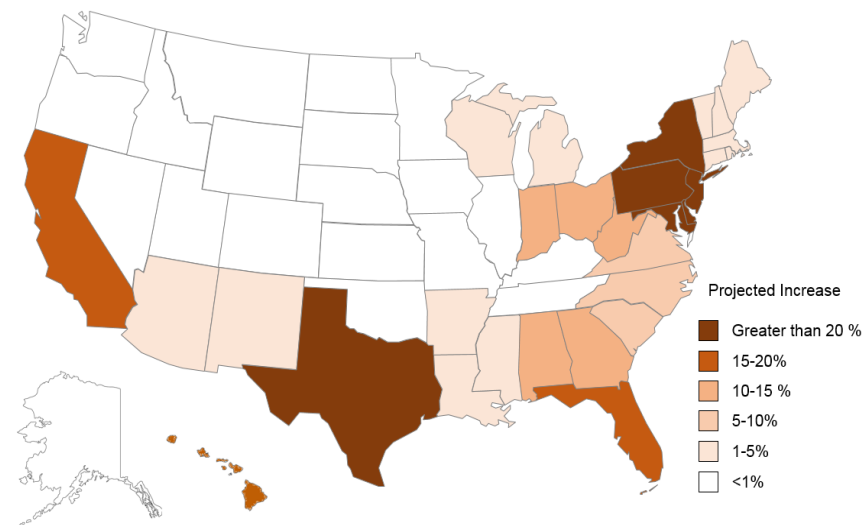
# Microturbines & Fuel Cells Benefit as Electricity Prices Rise



**Average Electricity Price for Commercial Customers**



**Projected 20 Year Growth in Electricity Prices**

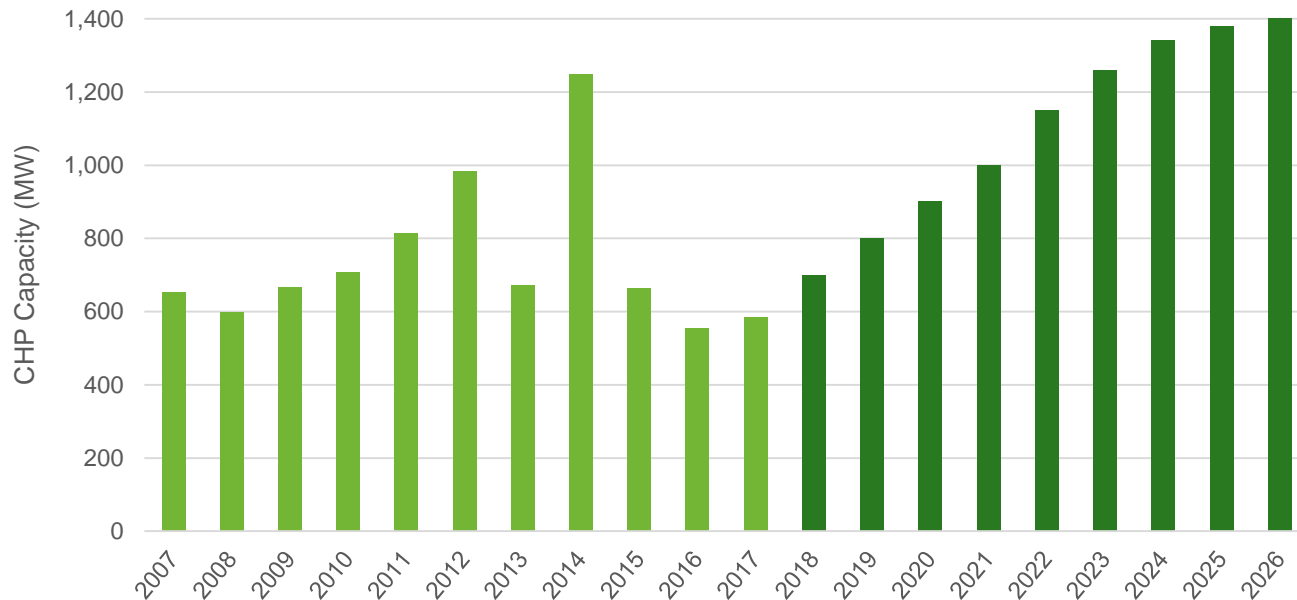


# Distributed Generation Benefits with CHP Capacity Additions



## Growth in Overall **CHP Market** Driven by Smaller Commercial Applications

Historical and Forecast CHP Capacity Additions

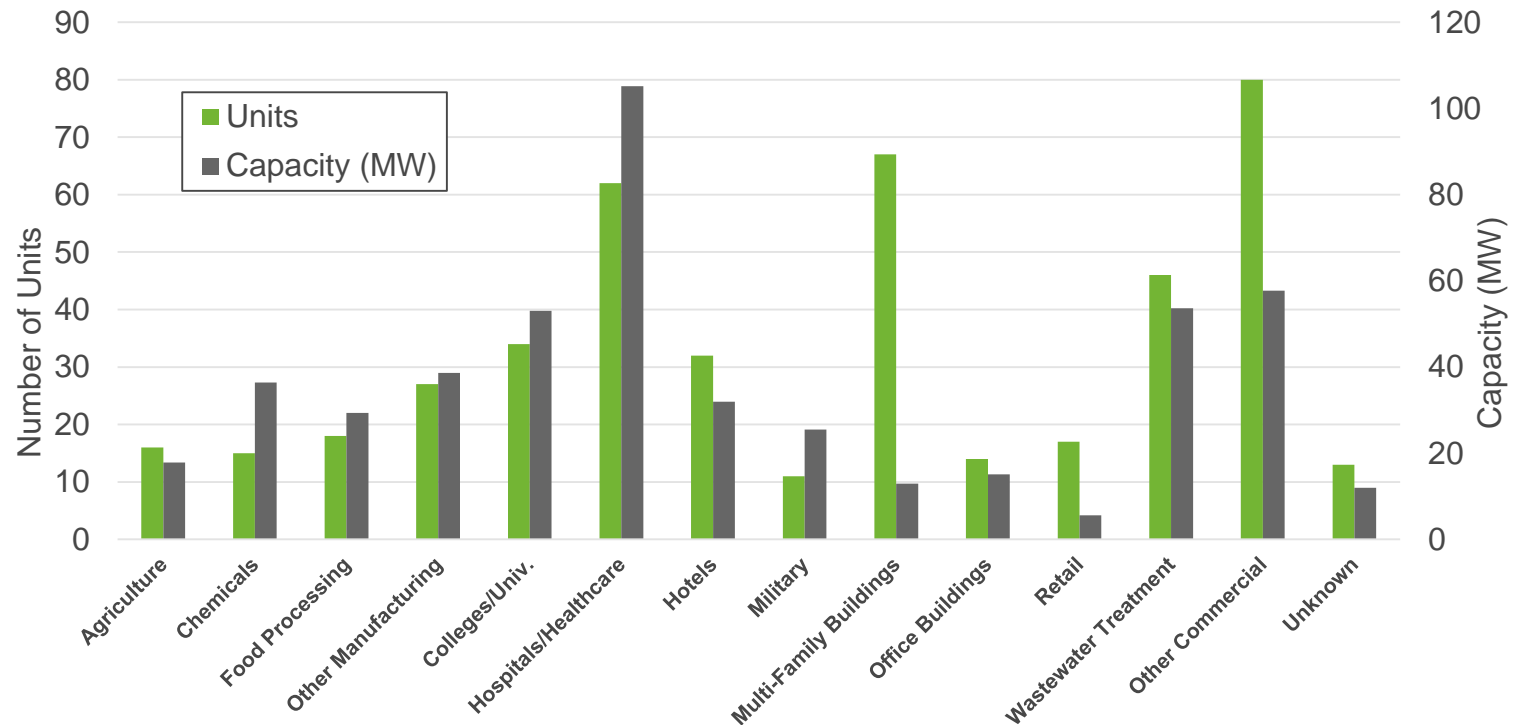


Source: ICF International internal forecast using our CHPower model to calculate the expected CHP deployment through the U.S. over the next decade. The increase is mainly due to an increased spark spread caused by stable gas prices and increasing electric rates.

# Microturbines & Fuel Cells are a Good Fit for Distributed Energy



## CHP “Watch List”: Projects in Development, 100 kW – 5 MW

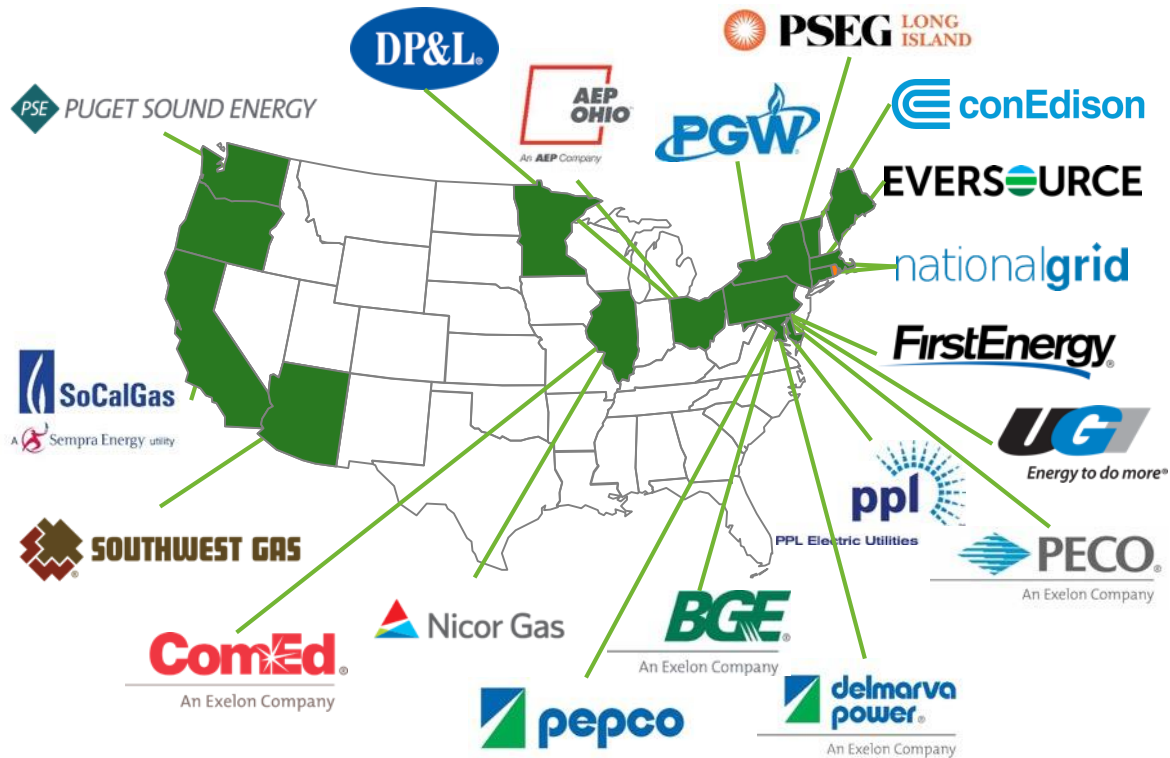


Source: ICF International

# Microturbines & Fuel Cells Benefiting From New Incentives



At least **20 utilities** are administering incentive programs specifically for CHP

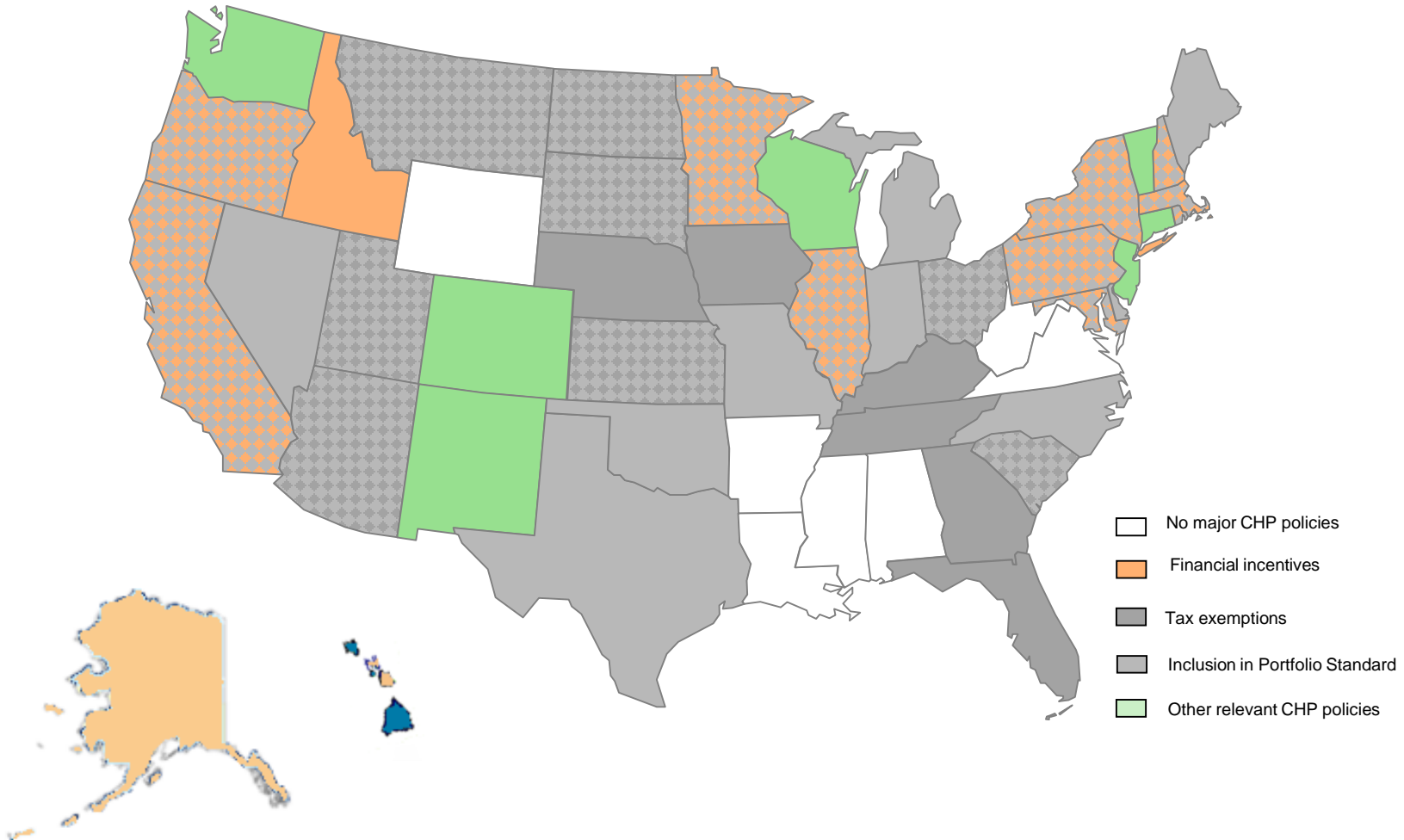




# Microturbines & Fuel Cells Benefit From New Favorable CHP Policies



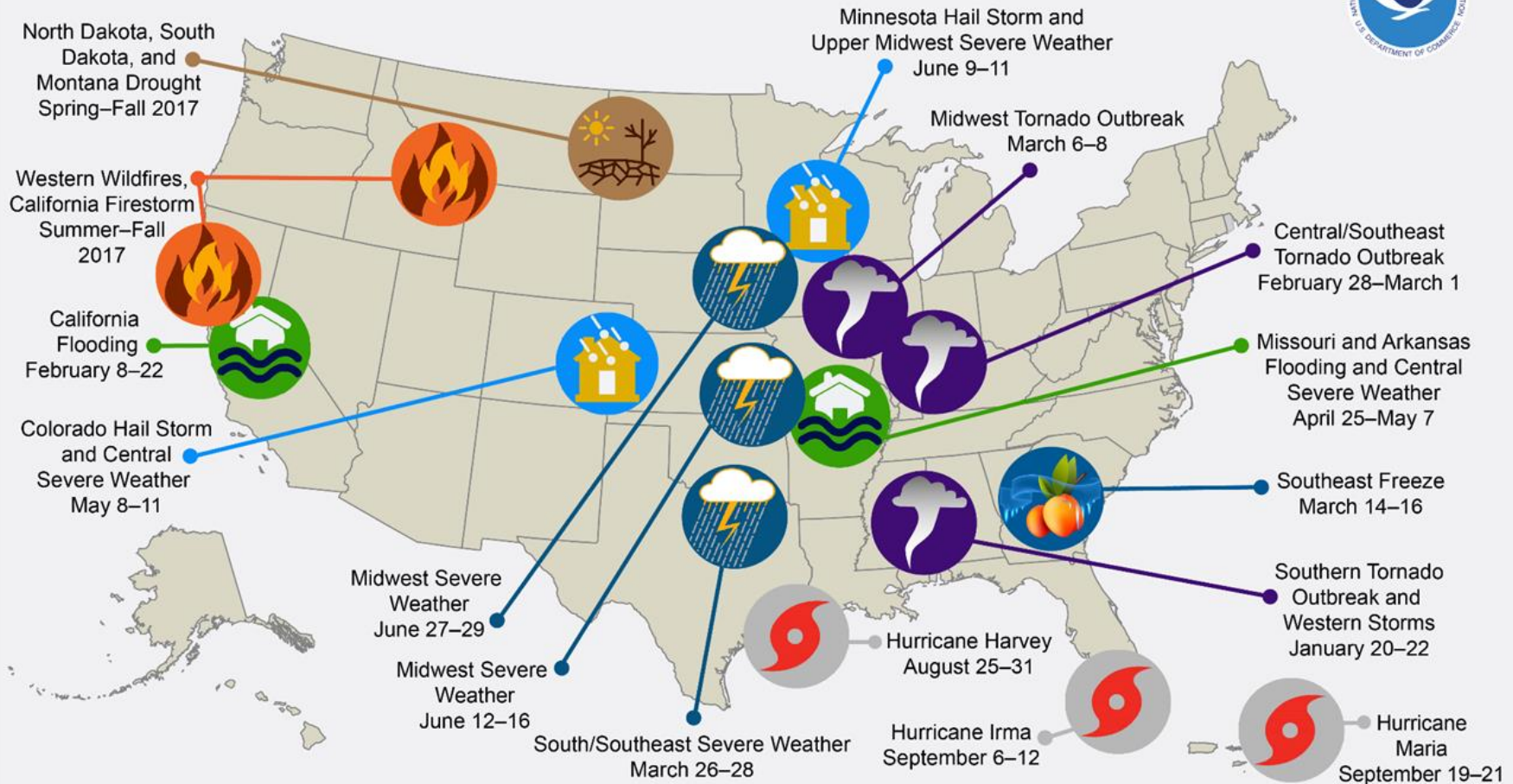
## Favorable CHP Policies – Natural Gas and/or Biomass Systems



# Distributed Assets Addressing The Growing U.S. Resiliency Issues



## U.S. 2017 Billion-Dollar Weather and Climate Disasters



*This map denotes the approximate location for each of the 16 billion-dollar weather and climate disasters that impacted the United States during 2017.*

# Microturbines & Fuel Cells Benefit From Multiple Growth Catalysts

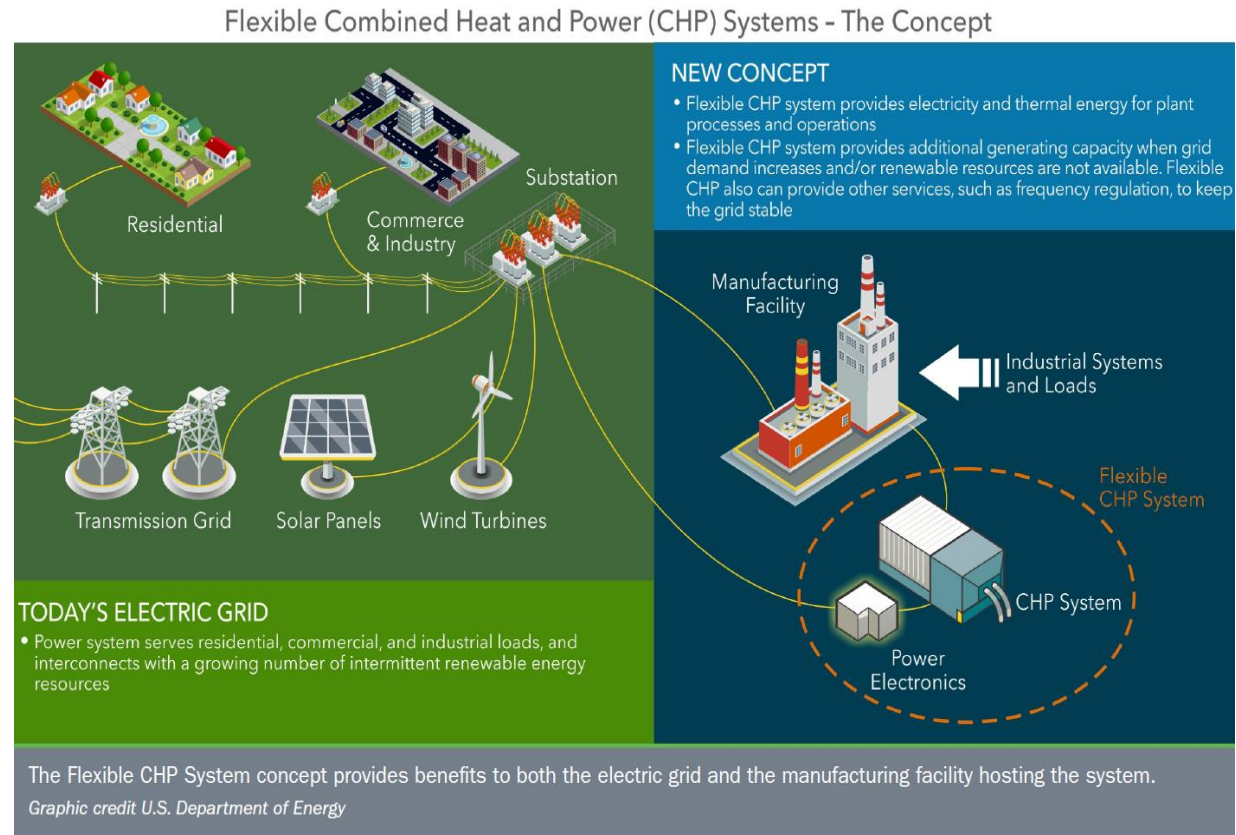




# Microturbines & Fuel Cells are a Good Fit for New DOE CHP Model



- Ability to support the grid in handling intermittent renewable generation; providing ancillary services
- U.S. Department of Energy R&D Program
  - Analyzed potential for flexible CHP in California
  - Currently looking for demonstration projects
- California Energy Commission “Topic of Interest”



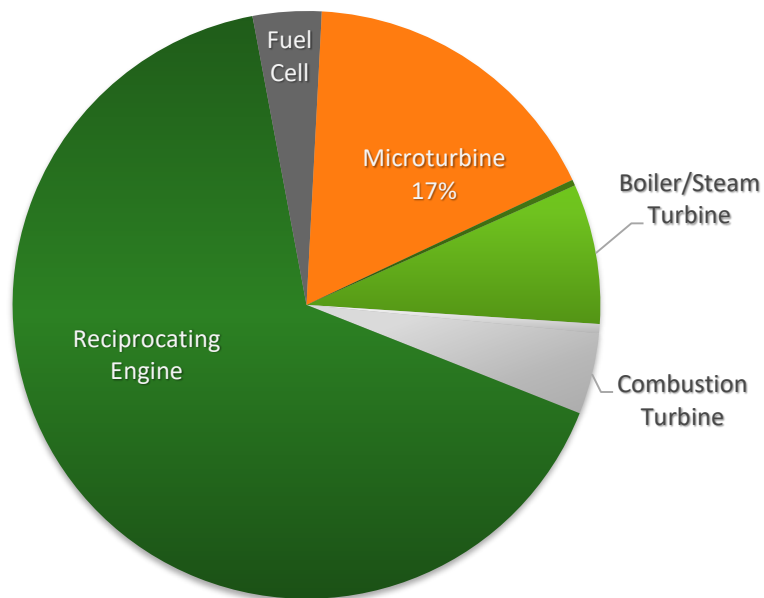


# Microturbines & Fuel Cells are Gaining Share

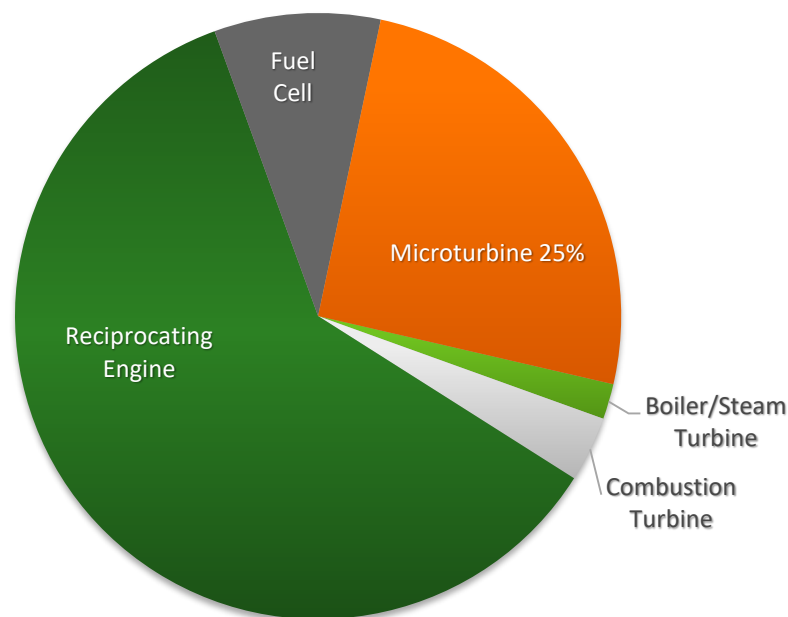


## U.S. CHP Installations by Technology 100 kW – 5 MW

2008-2013



2013-2017





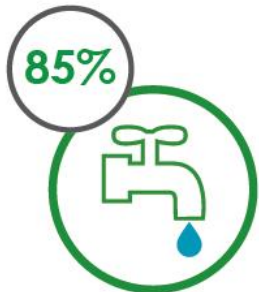
# CAPSTONE MICROTURBINES (CPST)

# Microturbines are The Future of Behind The Meter Energy



## CHP EFFICIENCY

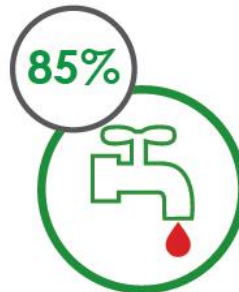
Overall **ELECTRIC** of **33%**



COLD  
WATER



STEAM



HOT  
WATER



# Capstone Value Proposition



## **RESILIENCY**

**96.4% Global Availability  
in FY18**



## **CARBON SAVINGS**

**FY18 314,000 Tons in  
Carbon Savings**



## **FINANCIAL SAVINGS**

**\$194 Million Dollars  
Saved in FY18**





# Microturbines Have Significant Technical Advantages



## Features

## Benefits



Inverter based with one moving part

Factory guaranteed low operating costs



Patented air bearing technology

No lubricants or coolants needed - unmanned projects



Stand alone or grid connect

Supports aging utility infrastructure



Fuel availability

Operates on gaseous, renewable and liquid fuels



High power density

Compact footprint, small modular design



Low emissions

No exhaust aftertreatment



Free clean waste heat

Thermal energy for cogeneration/trigeneration



Remote monitoring

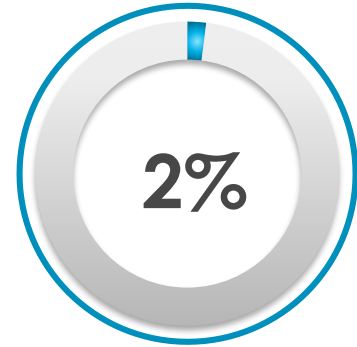
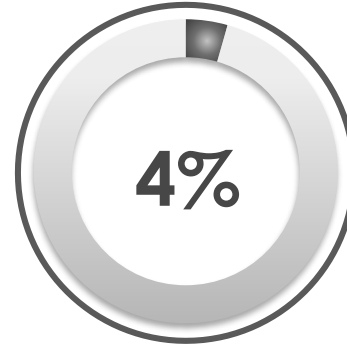
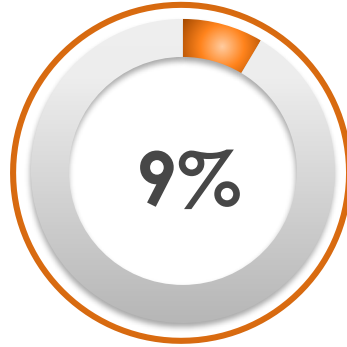
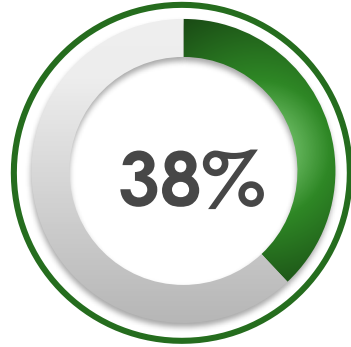
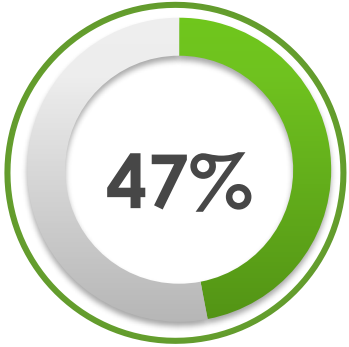
View performance and diagnostics 24/7



Scalable to match demand

Multiple applications and industries

# Capstone's Plan is to Diversify its Markets



## ENERGY EFFICIENCY

- Large Retailers
- Hospitality
- Office Buildings
- Recreation



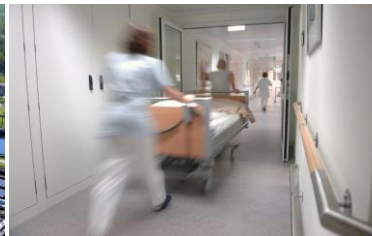
## NATURAL RESOURCES

- Oil & Gas (onshore and offshore)
- Land Rigs
- Water Conversion
- Gas Compression



## RENEWABLE ENERGY

- Wastewater Treatment Plants
- Farm Digesters
- Landfills
- Food Processing Plants



## CRITICAL POWER SUPPLY

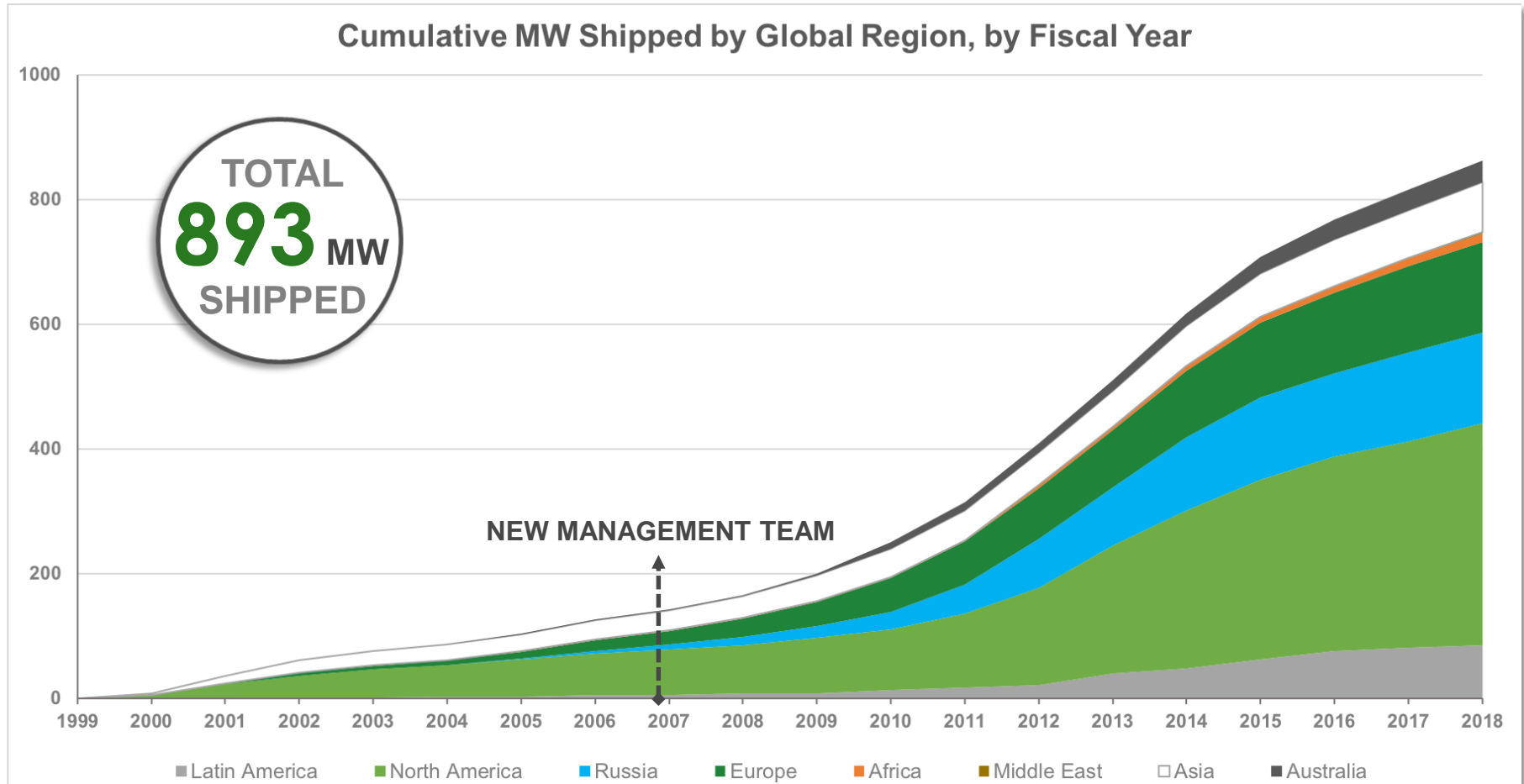
- Data Centers
- Hospitals
- Telecom
- Power Rentals



## MICROGRID

- Manufacturing
- Retail
- Hospitality
- Data Center

# Capstone's Plan is to Diversify Global Geographies

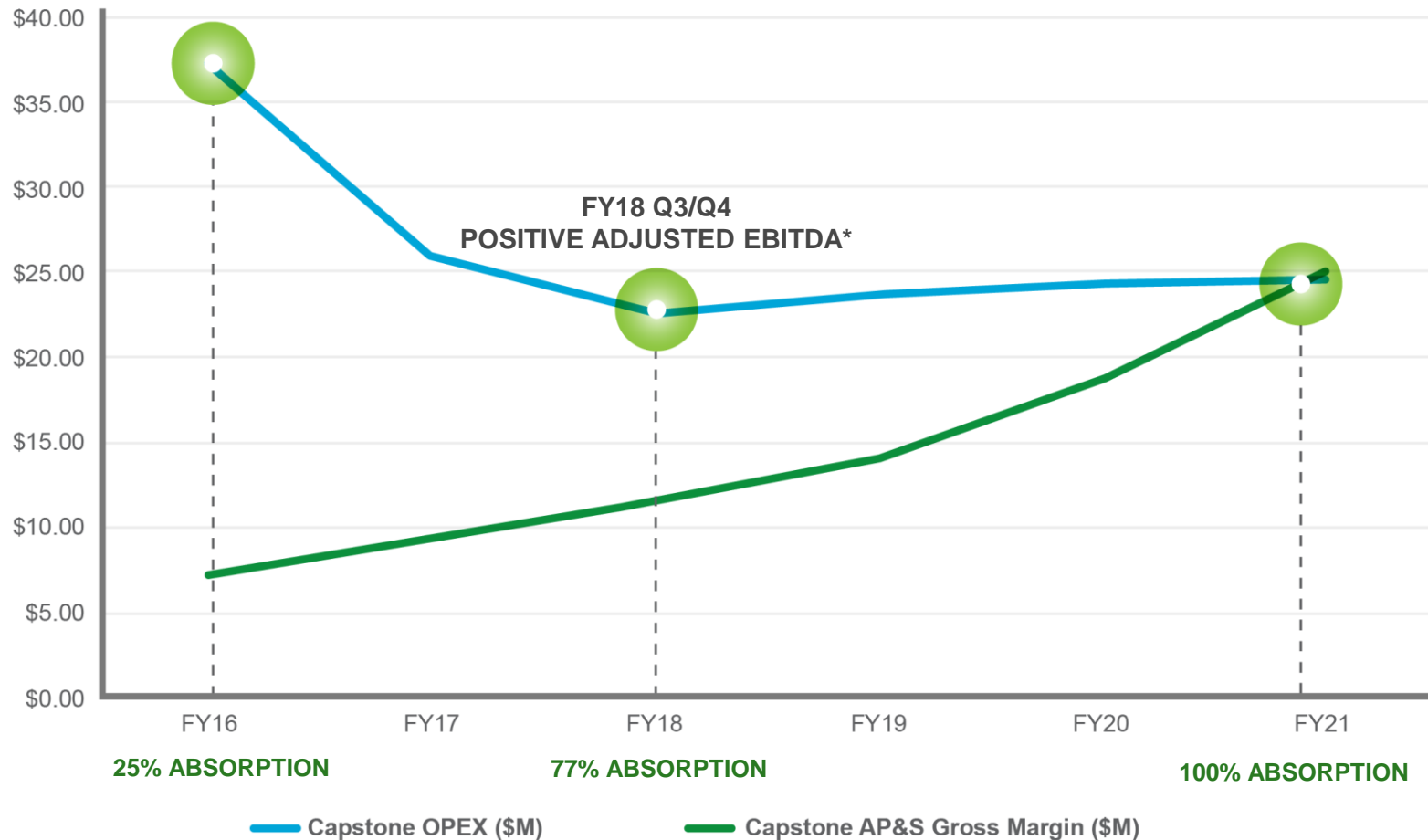


Capstone has transformed from a small single product, single market, U.S. only business to a global multi-product, multi-market comprehensive product & services enterprise.

# Capstone Plan is to Cover OPEX with Reoccurring Revenues



## Aftermarket Accessories, Parts and Service (AP&S)/OPEX Absorption Timeline vs. Net Loss Timeline

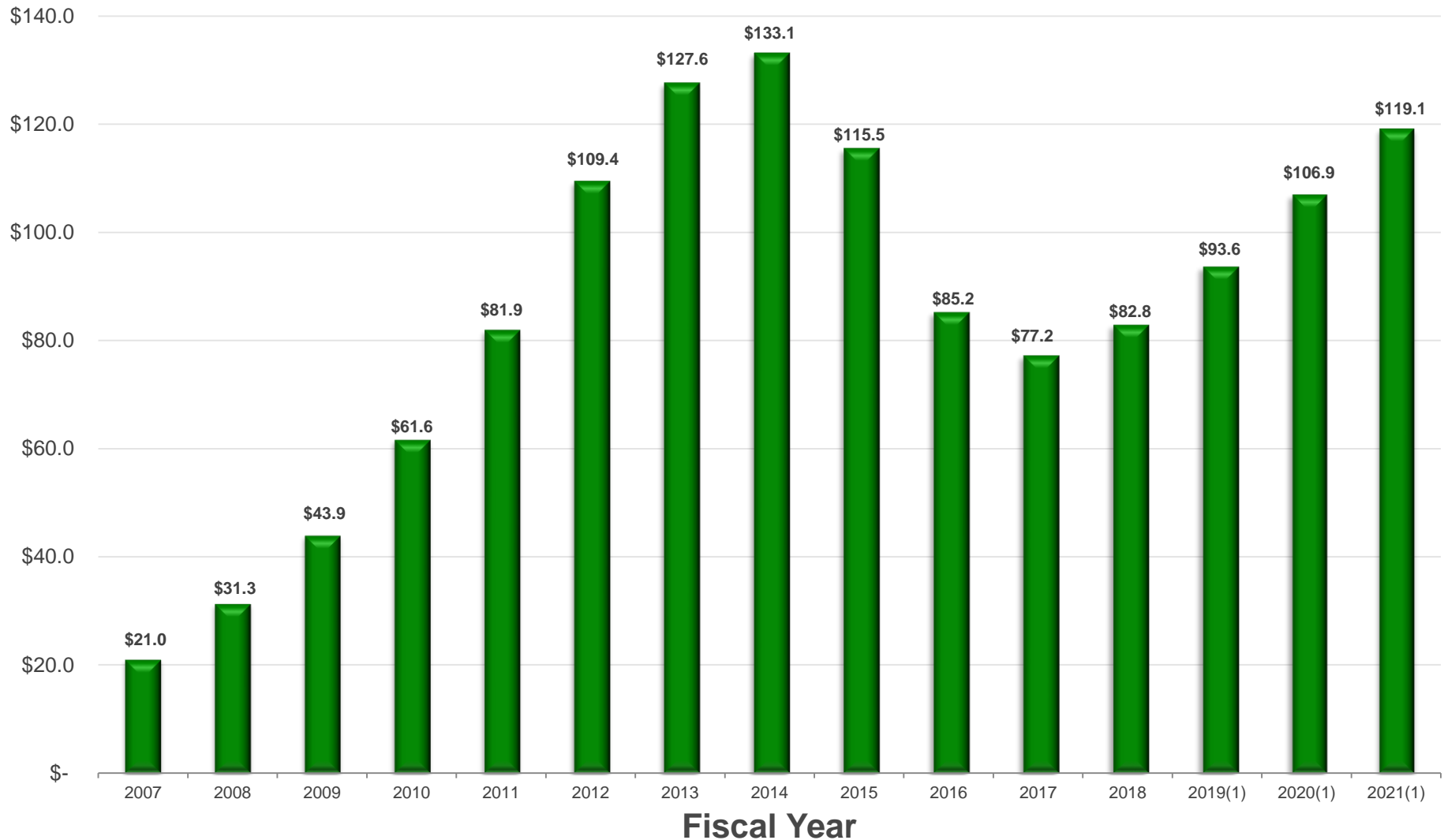


\*See Appendix, Slide 30

Absorption Limits Downside and Allows Growth with Market-Based Pricing



# Total Revenues Fiscal 2007 - 2021



(1) Analyst estimate.



# CAPSTONE VS. BLOOM ENERGY

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# Technology Comparison



Technical Performances		Capstone Microturbines	Bloom Energy
System Designation	-	1 x C1000S	5 x Energy Server 5
Baseload Output	kW	1,000	1,000
System Efficiency (LHV)	%	70-85% (power and heat)	53-65% (power only)
Heat Rate	Btu/kWh	10,300	6,000
CO2 Emissions	lbs./MWh	625	679-833
Weight	Tons	27	63
Dimensions (W x D x H)	x'y"	9'9" x 30' x 13'11"	73'9" x 43'4" x 35'
Noise	dBA	< 85 @ 3.3 feet	< 70 @ 6 feet
Heat Recovery	kW	1,500	0
Inlet Fuel Pressure	psig	75-80	10-18

# Technology Comparison (cont.)



Operations		Capstone Microturbines	Bloom Energy
Fuel flexibility	-	Natural gas, biogas, landfill gas, digester gas, sour gas, associated gas, LPG, propane, butane, liquid fuel, etc.	Natural gas, biogas (high sensitivity to sulfur in fuels)
Load flexibility	-	High efficiency over wide operating range, part load power redundancy	High operating temperature requires long start-up times and limits load following applications
Annual Power Production	MWh	8,754	8,322
Annual Heat Production	MWh	13,130	0
Annual Fuel Consumption	MMbtu	90,200	49,900
Power Availability	-	99% availability	97% availability
Service Downtime	day/year	0.25	3
Product Life Expectancy	Years	20	10
Installation Base	MW	893 MW	328 MW

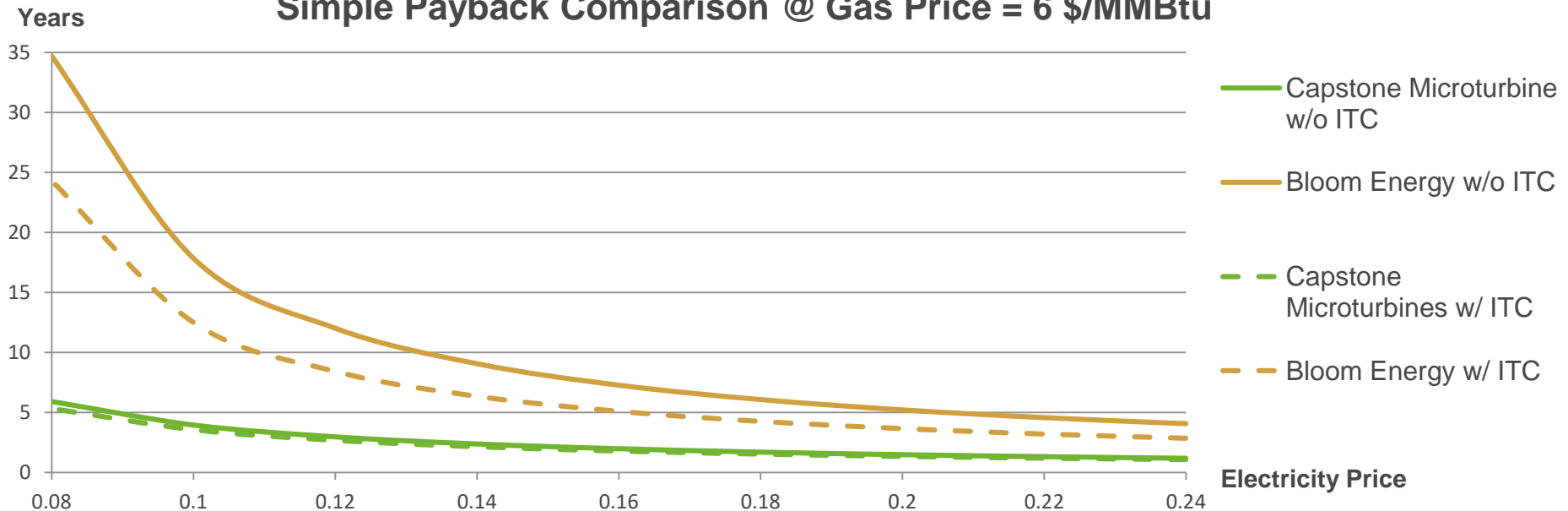


# Technology Comparison (cont.)



Economics		Capstone Microturbines	Bloom Energy
Total System Cost	\$/kW	2,100	6,440
Investment Tax Credit	\$/kW	210	1,930
Annual Maintenance Cost	\$/kW	140	200

**Simple Payback Comparison @ Gas Price = 6 \$/MMBtu**



# Capstone vs. Bloom Business Comparison



- According to the ICF and DOE CHP Installation database, Microturbines have grown in market share from 17% to 25% from 2013 to 2017 and have three times the market share in CHP as Fuel Cells.
- Bloom has shipped 328 MW as of June 30, 2018 vs. Capstone who has shipped 896 MW as of March 31, 2018.
- Bloom is 65% electrically efficient vs. Capstone's 33%. However, Bloom's boxes degrade over time to approximately 53%, while the Capstone product does not degrade over time and can be as high as 85% total system efficiency when capturing the thermal energy off the turbine in CHP applications.
- Bloom has installed, or is scheduled to install, products in 11 states and 10 Countries vs. Capstone has sold turbines in essentially all 50 states and has product running in approximately 70 countries.
- Bloom has reduced its selling price from approximately 5,000 per kW on its 250 kW product to 4,000 per kW. Capstone's selling price is approximately 1,000 per kW on its 200 kW product and has a positive product gross margin vs. Bloom which has a negative product gross margin at 4,000 per kW.
- Capstone has a robust aftermarket business that recently covered 77% of its total Operating Expenses (OpEx). Capstone has a plan to grow its aftermarket business to cover 100% OpEx in the next 24 months.
- Capstone was adjusted EBITDA breakeven in its December 31, 2017 and March 31, 2018 quarters, while Bloom is negative adjusted EBITDA. According to Bloom's S-1 filing, they will not be profitable in the foreseeable future.

# Capstone vs. Bloom Business Comparison (cont.)



- Capstone has cut its quarterly OpEx approximately 40% from over \$11 million to approximately \$6.5 million per quarter. Bloom's OpEx is currently \$38 million a quarter.
- Bloom sells and services its product direct, which accounts for why Bloom has over 500 employees compared to Capstone's approximately 150 employees.
- Capstone sells through approximately 90 global two-step distribution partners in 73 countries.
- Capstone's sales acquisition, marketing, application engineering, installation, commissioning and service expenses do not grow significantly as the business expands.
- Capstone could substantially expand its business and add limited headcount as the majority of the business is conducted by distribution and the 800 employees in the Capstone distribution channel.
- Bloom relies heavily on government rebates, tax credits and special financing vehicles. Capstone receives small ITC (10%) and is much less reliant on government subsidies.
- Bloom has very high customer and geographic concentration and Capstone has substantially increased its vertical and geographic diversification.
- Bloom has approximately \$941 million in debt and pays approximately \$100 million a year in interest.
- Capstone currently has no long-term debt and a \$15 million asset-based line of credit.

# Capstone vs. Bloom Energy Financial Comparison



Amounts in millions, except megawatts	Capstone(1) (Nasdaq: CPST)	Bloom Energy(2) (NYSE: BE)
Total Revenue	\$83	\$376
Product Revenue	\$51	\$180
Gross Margin	18%	(5%)
EBITDA	(\$8)	(\$66)
Enterprise Value (EV)	\$71	\$2,219 at IPO Midpoint
EV/Revenue	0.9x	5.9x
Megawatts Deployed	49.3	62.2
Revenue per megawatt	\$1.0	\$4.0
Market Cap	\$65.2	\$1,485 at IPO Midpoint
Cash, Cash Equiv. & Restricted	\$19	\$207
Debt	\$9	\$941

(1) Source: Capstone Turbine Corporation June 2018 Form 10-K filing

(2) Source: Bloom Energy Corporation June 2018 Form S-1/A filing





# APPENDIX

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# Reconciliation of Non-GAAP Financial Measure



Reconciliation of Reported Net Loss to EBITDA and Adjusted EBITDA	Fiscal year ended March 31,	
	2018	2017
Net loss, as reported	\$ (10,026)	\$ (25,245)
Interest expense	606	536
Provision for income taxes	18	19
Depreciation and amortization	1,170	1,578
EBITDA	(8,232)	(23,112)
Stock-based compensation	586	808
Restructuring charges	764	—
Leadership incentive program	981	—
Change in warrant valuation	741	—
Warrant issuance expenses	—	421
Adjusted EBITDA	\$ (5,160)	\$ (21,883)

To supplement the Company's unaudited financial data presented on a generally accepted accounting principles (GAAP) basis, management has used EBITDA and Adjusted EBITDA, non-GAAP measures. These non-GAAP measures are among the indicators management uses as a basis for evaluating the Company's financial performance as well as for forecasting future periods. Management establishes performance targets, annual budgets and makes operating decisions based in part upon these metrics. Accordingly, disclosure of these non-GAAP measures provides investors with the same information that management uses to understand the Company's economic performance year-over-year. The presentation of this additional information is not meant to be considered in isolation or as a substitute for net income or other measures prepared in accordance with GAAP.

EBITDA is defined as net income before interest, provision for income taxes, depreciation and amortization expense. Adjusted EBITDA is defined as EBITDA before stock-based compensation expense, restructuring charges, leadership incentive program, the change in warrant valuation and warrant issuance expenses. Restructuring charges includes facility consolidation costs and one-time costs related to the company's cost reduction initiatives. Leadership incentive program is the payout to the company's executive leadership team upon successfully achieving positive Adjusted EBITDA for two consecutive quarters. This program was put into place only for fiscal 2018 and as such it is included in the Adjusted EBITDA items for this one-time program. EBITDA and Adjusted EBITDA are not measures of the company's liquidity or financial performance under GAAP and should not be considered as an alternative to net income or any other performance measure derived in accordance with GAAP, or as an alternative to cash flows from operating activities as a measure of its liquidity.

While management believes that the non-GAAP financial measures provide useful supplemental information to investors, there are limitations associated with the use of these measures. The measures are not prepared in accordance with GAAP and may not be directly comparable to similarly titled measures of other companies due to potential differences in the exact method of calculation. Management compensates for these limitations by relying primarily on the company's GAAP results and by using EBITDA and Adjusted EBITDA only supplementally and by reviewing the reconciliations of the non-GAAP financial measures to their most comparable GAAP financial measures.

Non-GAAP financial measures are not in accordance with, or an alternative for, generally accepted accounting principles in the United States. The Company's non-GAAP financial measures are not meant to be considered in isolation or as a substitute for comparable GAAP financial measures, and should be read only in conjunction with the Company's consolidated financial statements prepared in accordance with GAAP.



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