

# CHP Markets: An Overview of Existing Installations

Better Buildings Summit

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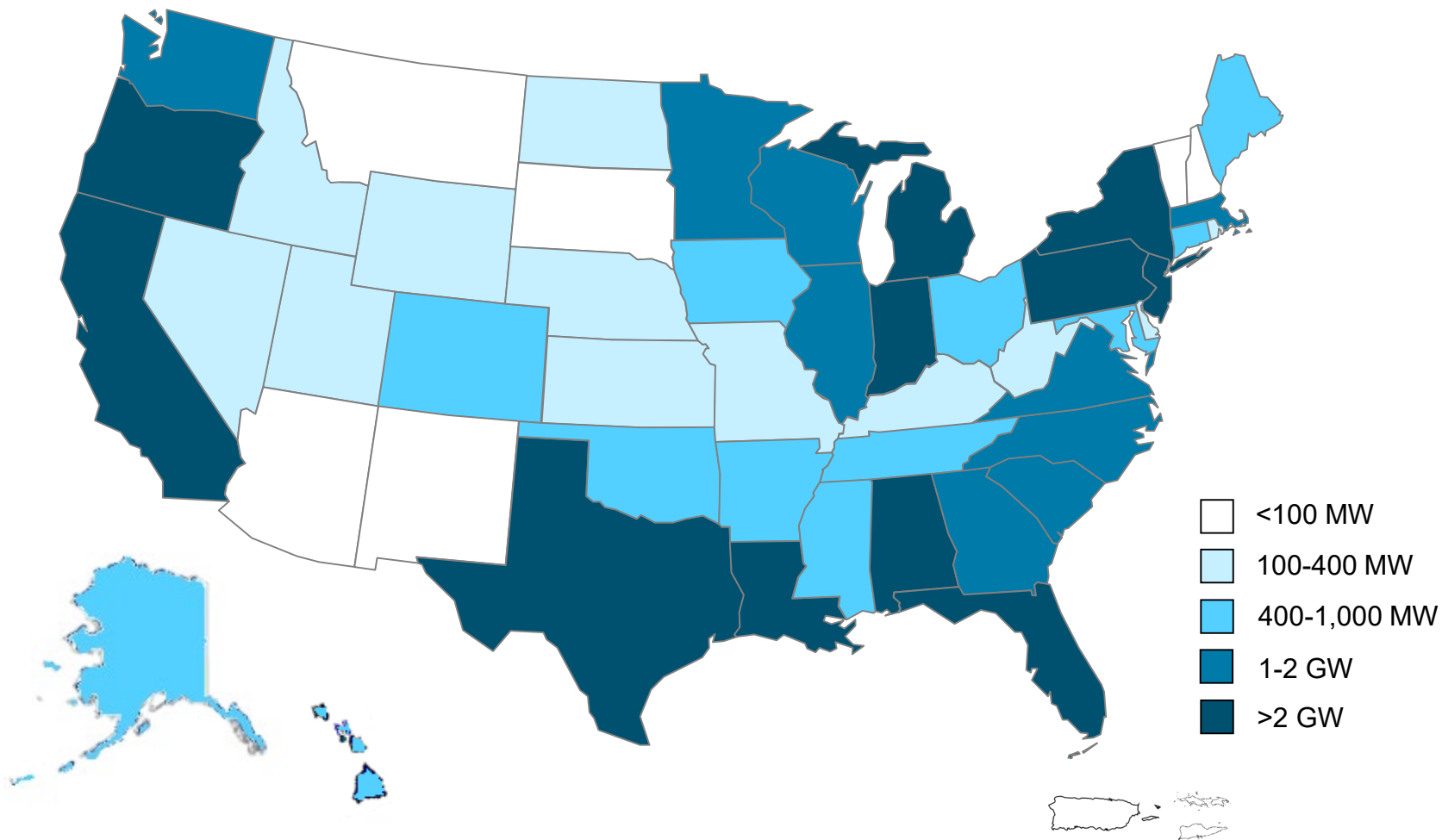
U.S. DEPARTMENT OF ENERGY

**CHP Technical Assistance Partnerships**

NEW ENGLAND

# Existing U.S. Combined Heat and Power Installations

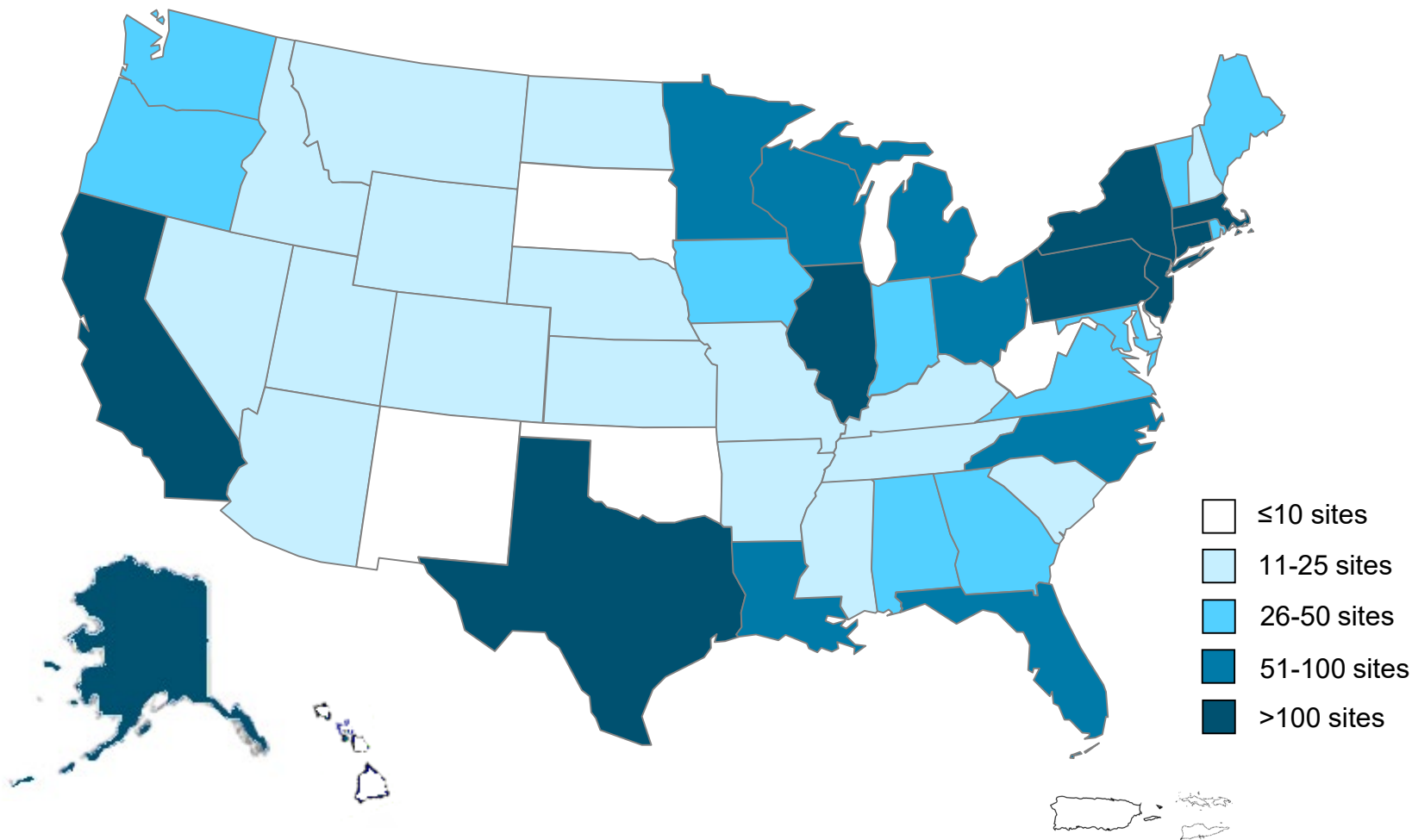
- CHP capacity by state



Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Existing U.S. Combined Heat and Power Installations

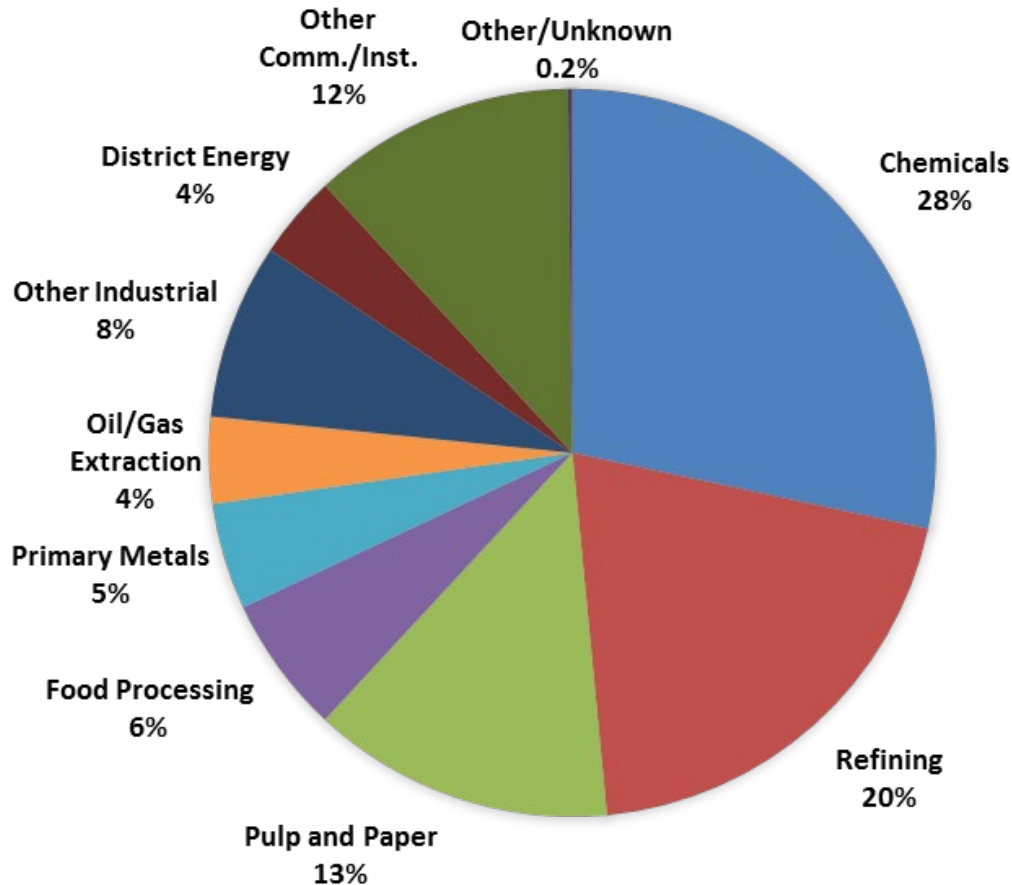
- CHP sites by state



Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# CHP Today in the United States

## Existing CHP Capacity

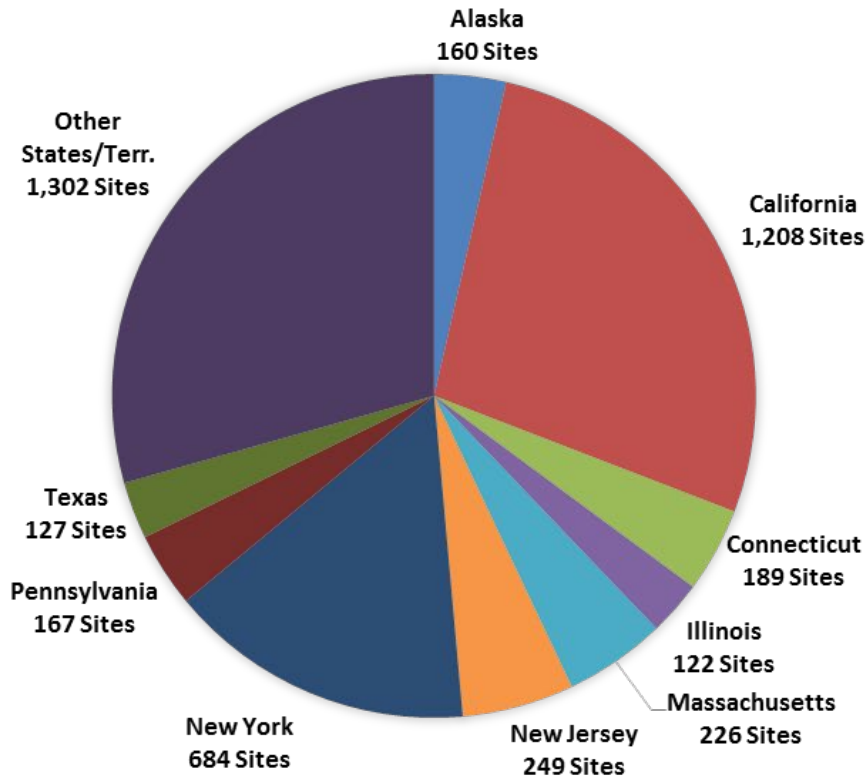


- **81.3 GW** of installed CHP at more than 4,400 industrial and commercial facilities
- 8% of U.S. Electric Generating Capacity; 14% of Manufacturing
- Avoids more than **1.8 quadrillion Btus** of fuel consumption annually
- Avoids **241 million metric tons of CO<sub>2</sub>** compared to separate production

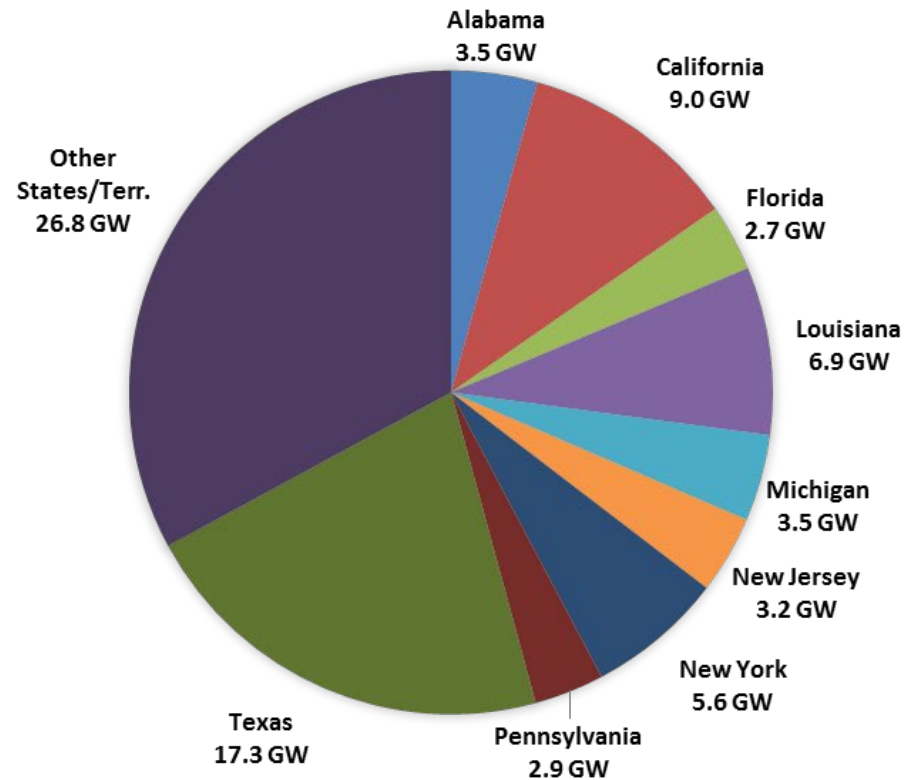
Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Total CHP by State/Territory

## By Site – 4,434 Sites



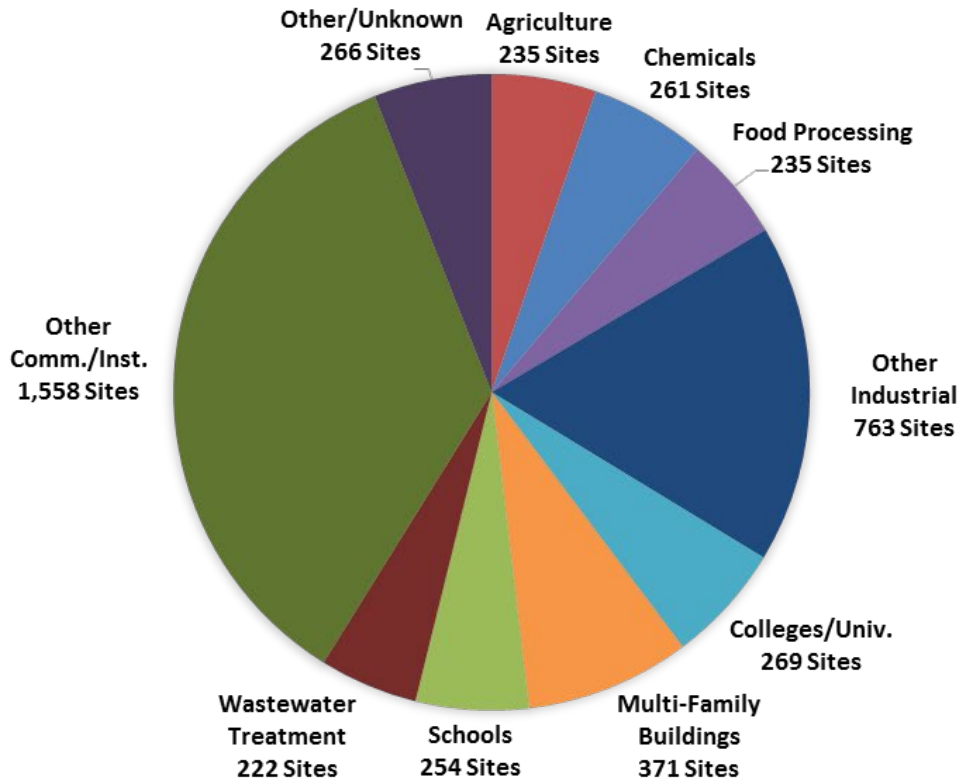
## By Capacity – 81.3 GW



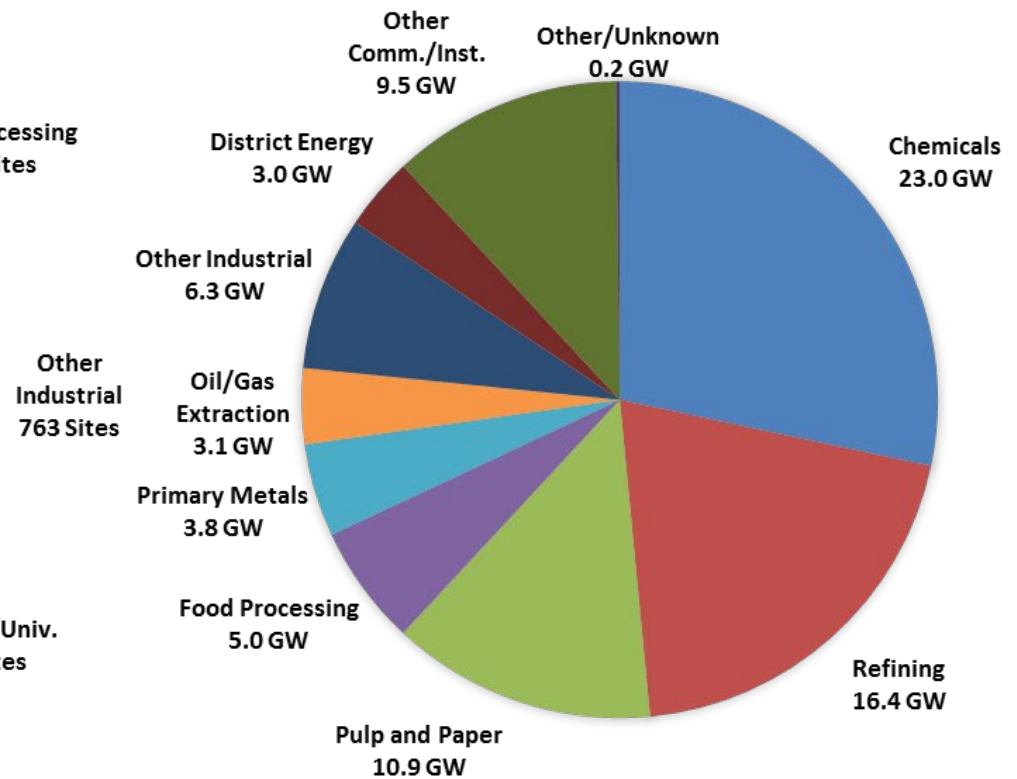
Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Total CHP by Application

## By Site – 4,434 Sites



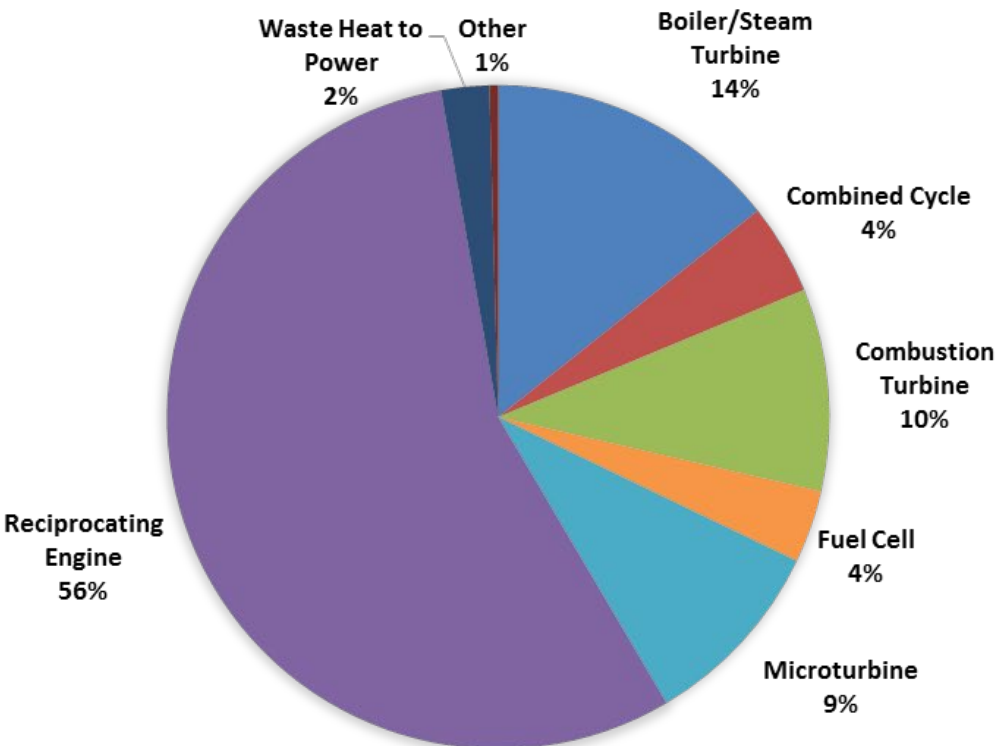
## By Capacity – 81.3 GW



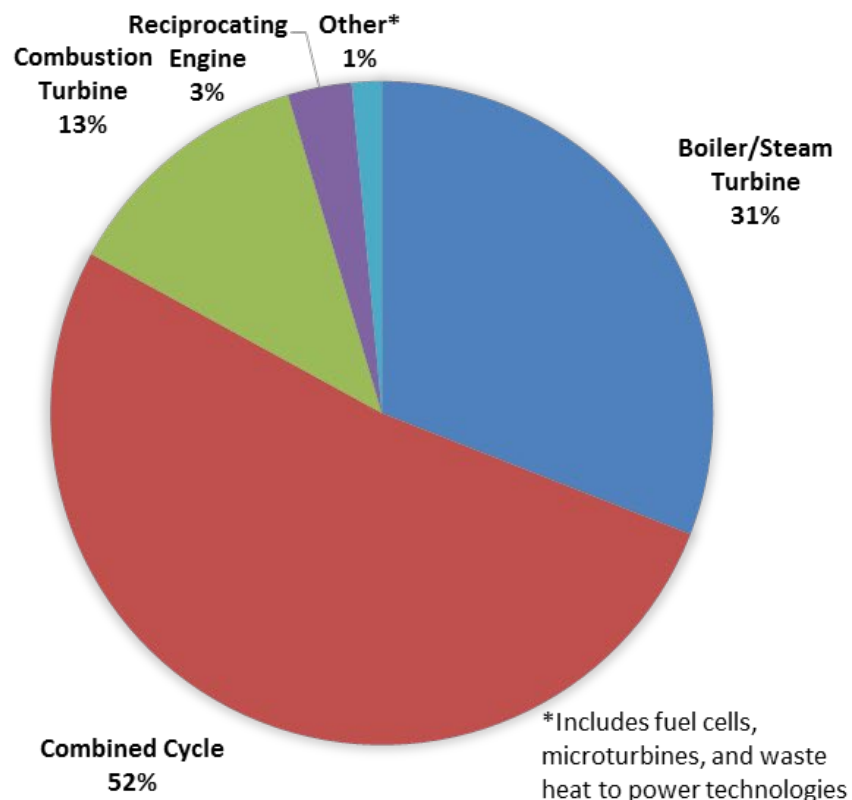
Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Existing CHP by Prime Mover Technology

## By Site – 4,434 Sites



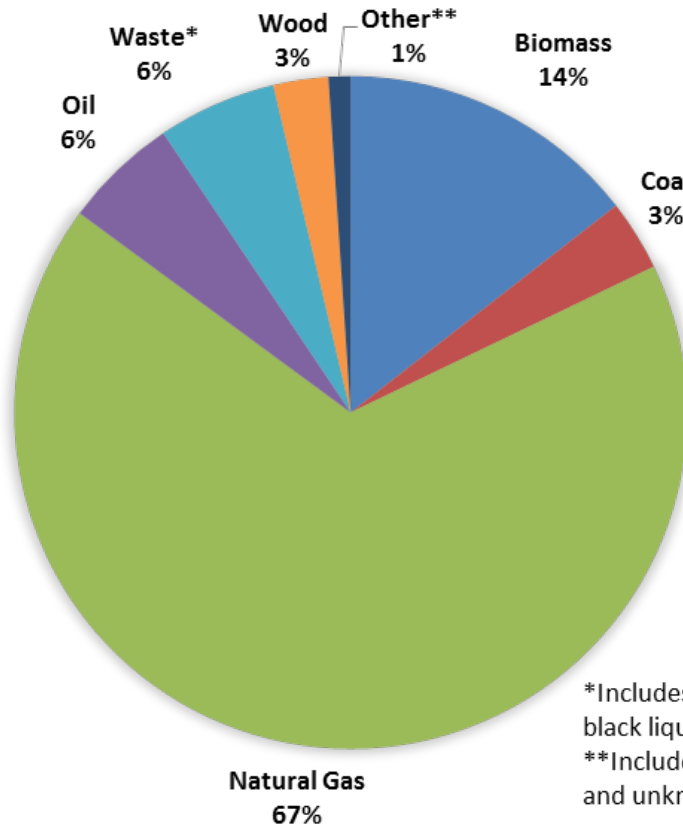
## By Capacity – 81.3 GW



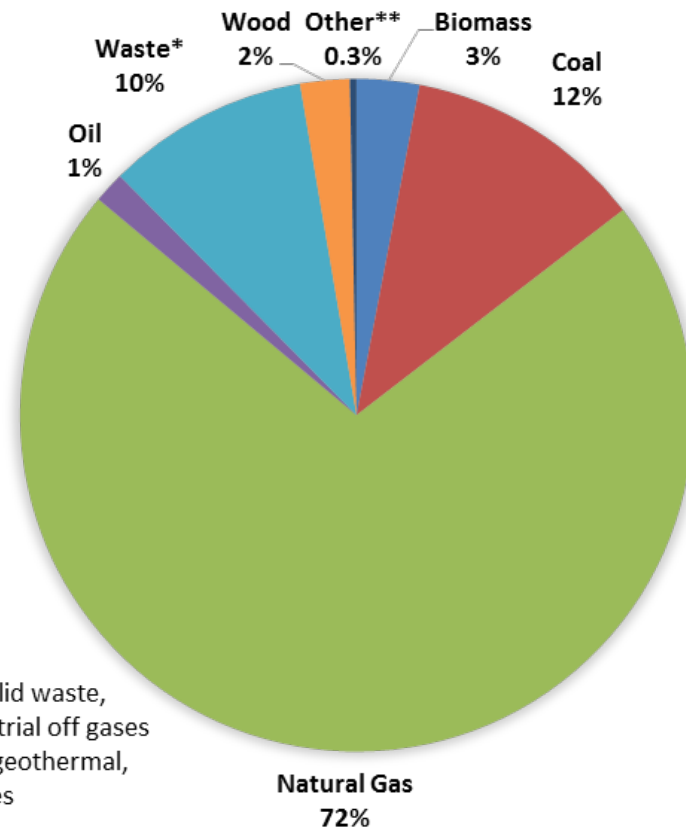
Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Existing CHP by Fuel Type

## By Site – 4,434 Sites



## By Capacity – 81.3 GW



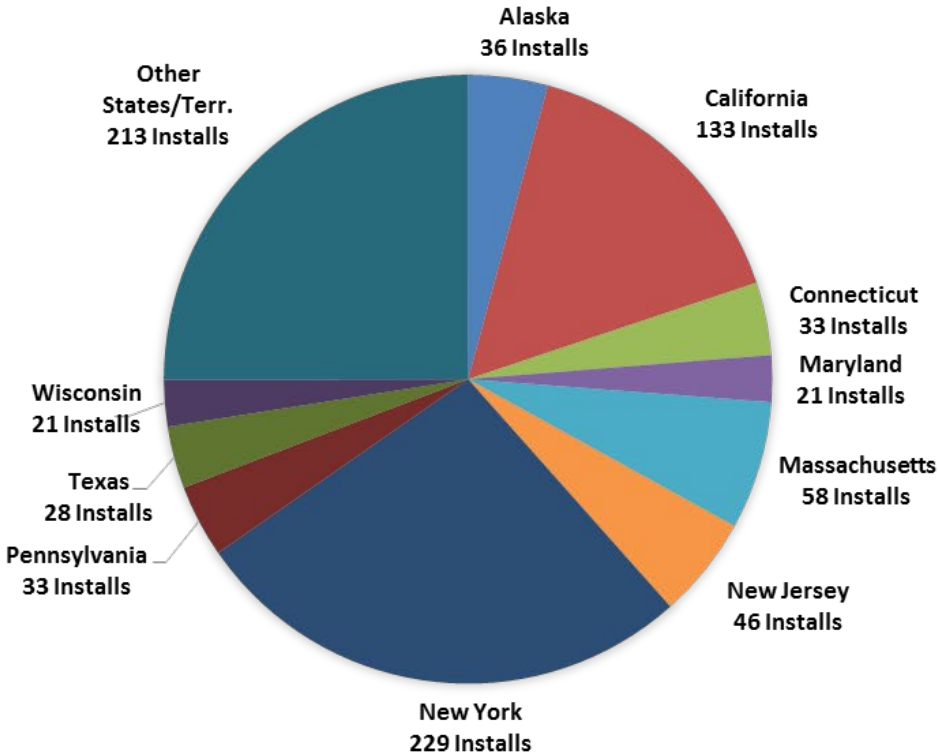
\*Includes municipal solid waste, black liquor, and industrial off gases  
\*\*Includes hydrogen, geothermal, and unknown fuel types

Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

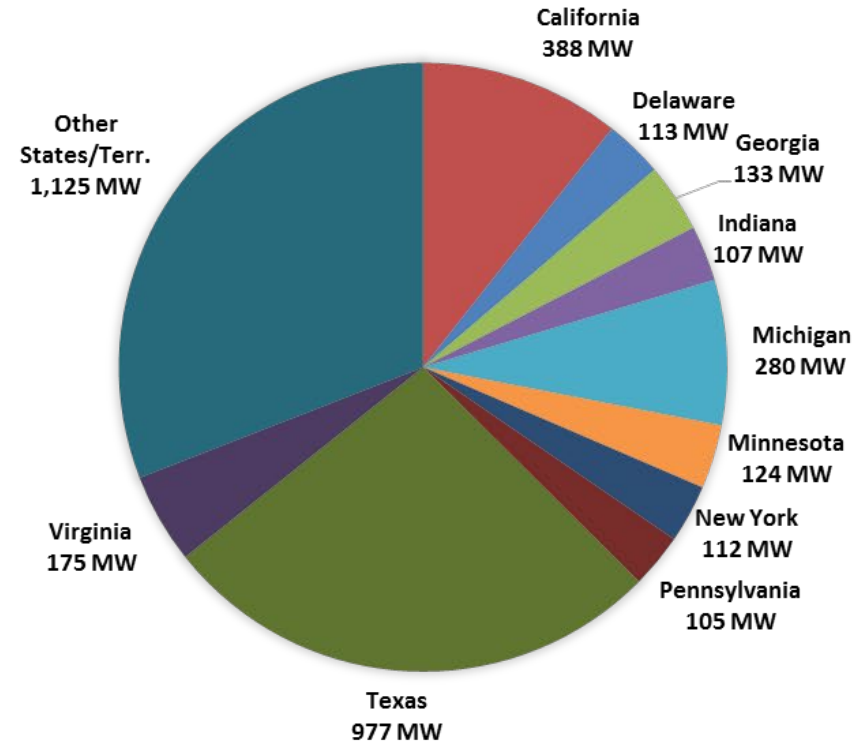


# CHP Additions by State/Territory (2013-2017)

## By Installations – 851 Installs



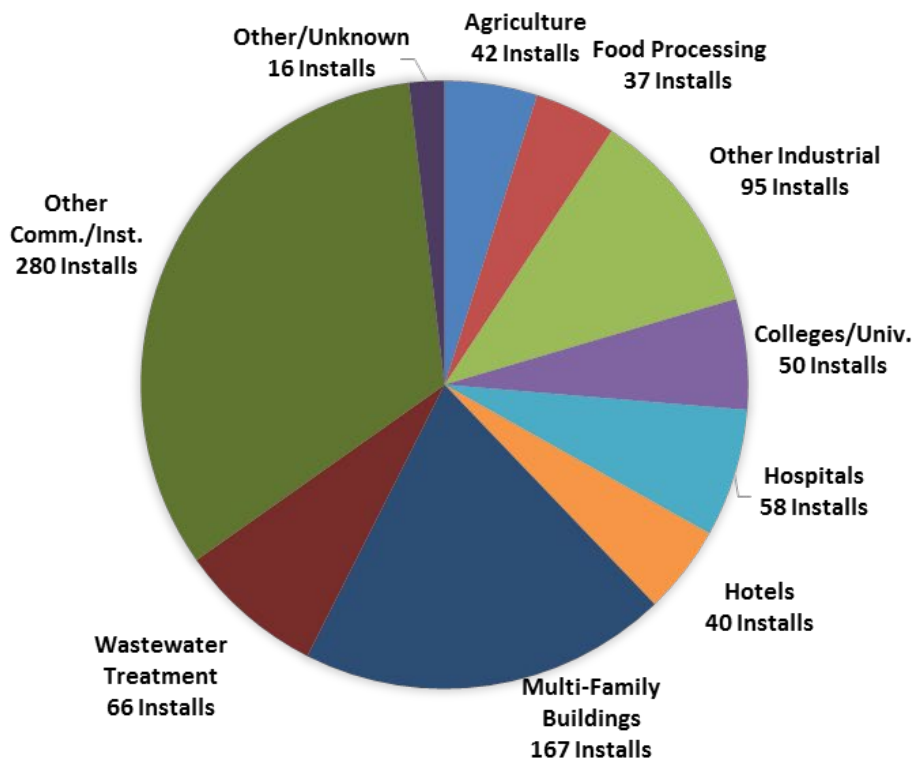
## By Capacity – 3.6 GW



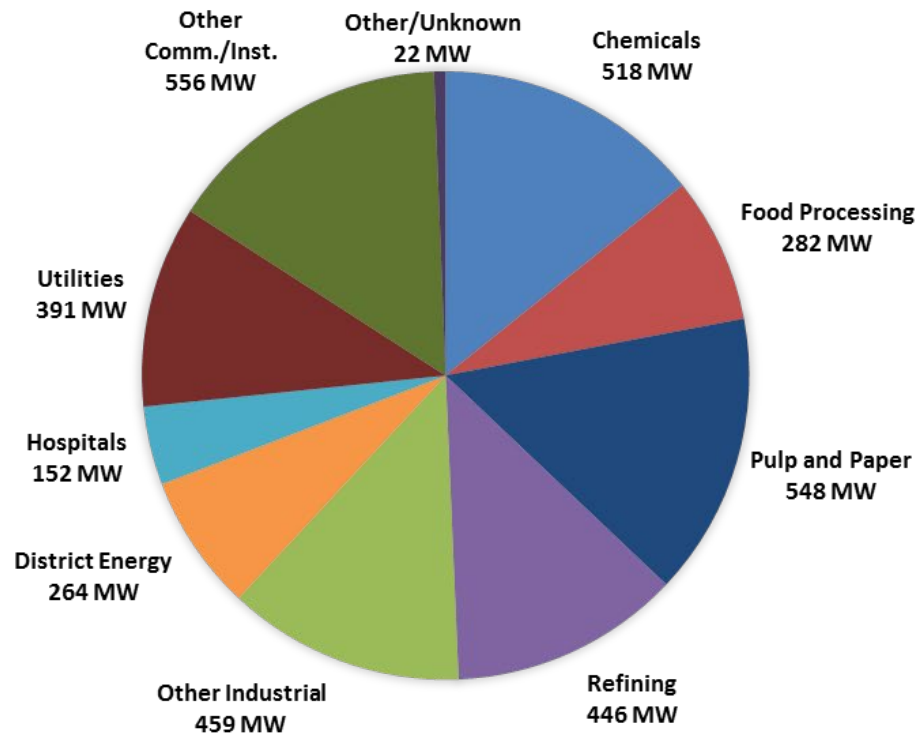
Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# CHP Additions by Application (2013-2017)

## By Installations – 851 Installs



## By Capacity – 3.6 GW



Source: DOE CHP Installation Database (U.S. installations as of December 31, 2017)

# Summary

- CHP systems are installed nationwide in several types of facilities
  - Manufacturing, federal & government , commercial, institutional
  - Commercially available technologies cover a full range of sizes and applications
- These systems save the US 1.8 quads of fuel, and avoid 241 metric tonne of CO<sub>2</sub> annually
- There are a total of 81.3 GW of CHP power installed at more than 4400 sites
  - 3.6 GW at 851 sites installed since 2013
  - 554MW at 111 sites installed in 2017
- CHP Installation Database:

<https://doe.icfwebservices.com/chpdb/>