



Federal Policy Priorities to Advance Combined Heat and Power

Midwest Cogeneration Association

Jennifer Kefer

Executive Director

Alliance for Industrial Efficiency

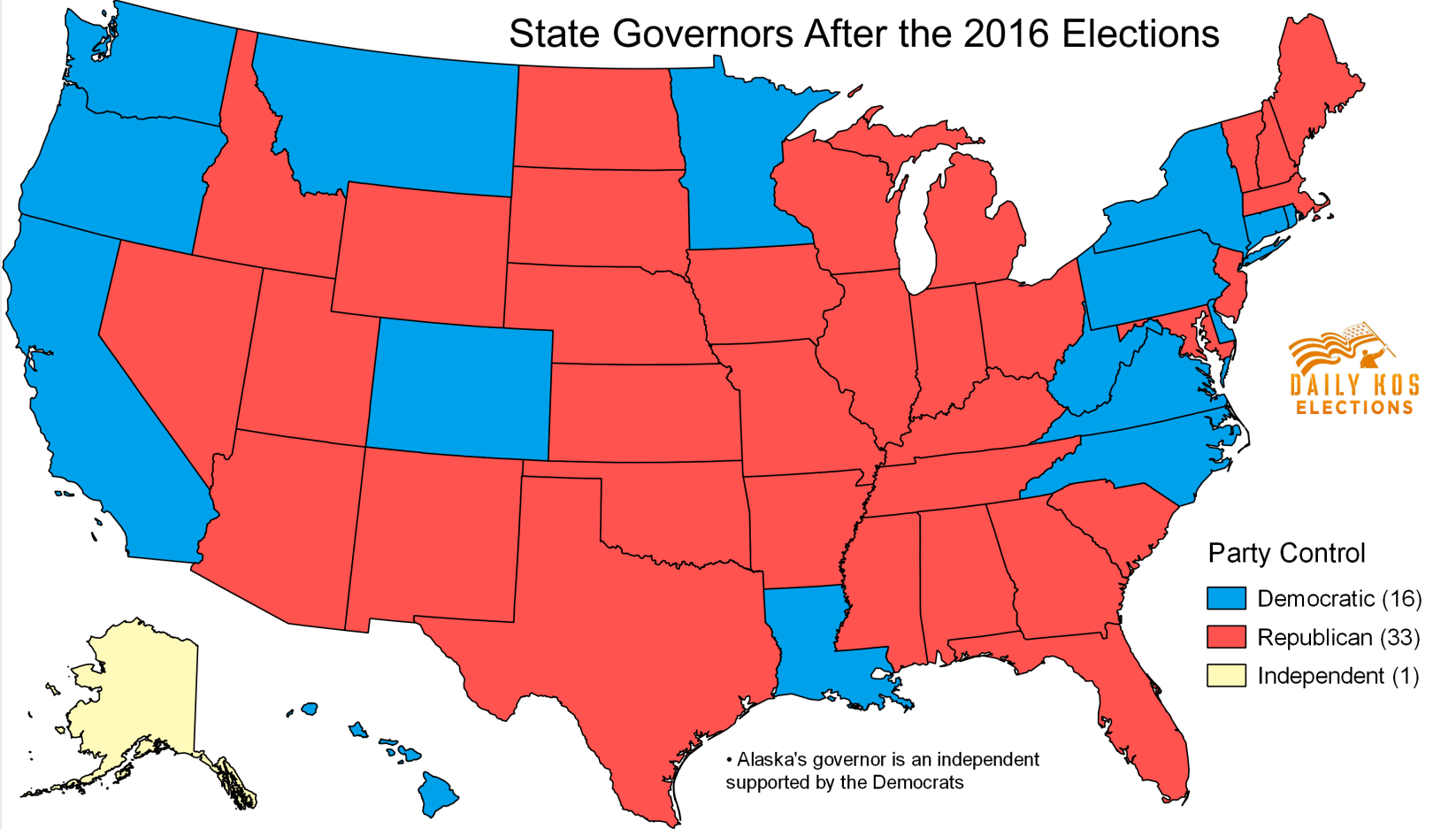
May 18, 2017

Agenda

- CHP in the President Trump Administration
- Importance of the industrial sector
- Scale of the opportunity and state of the market
- Federal policy priorities

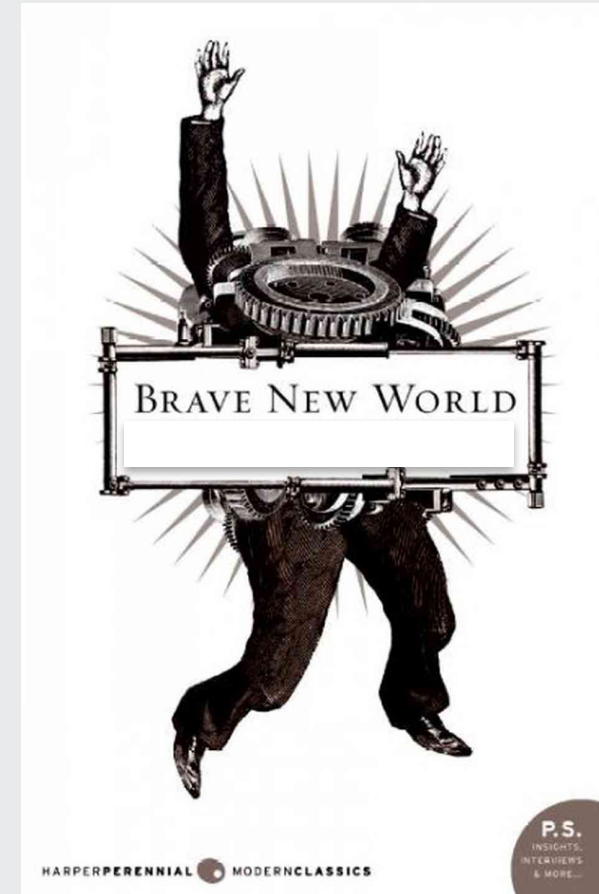


New Playing Field

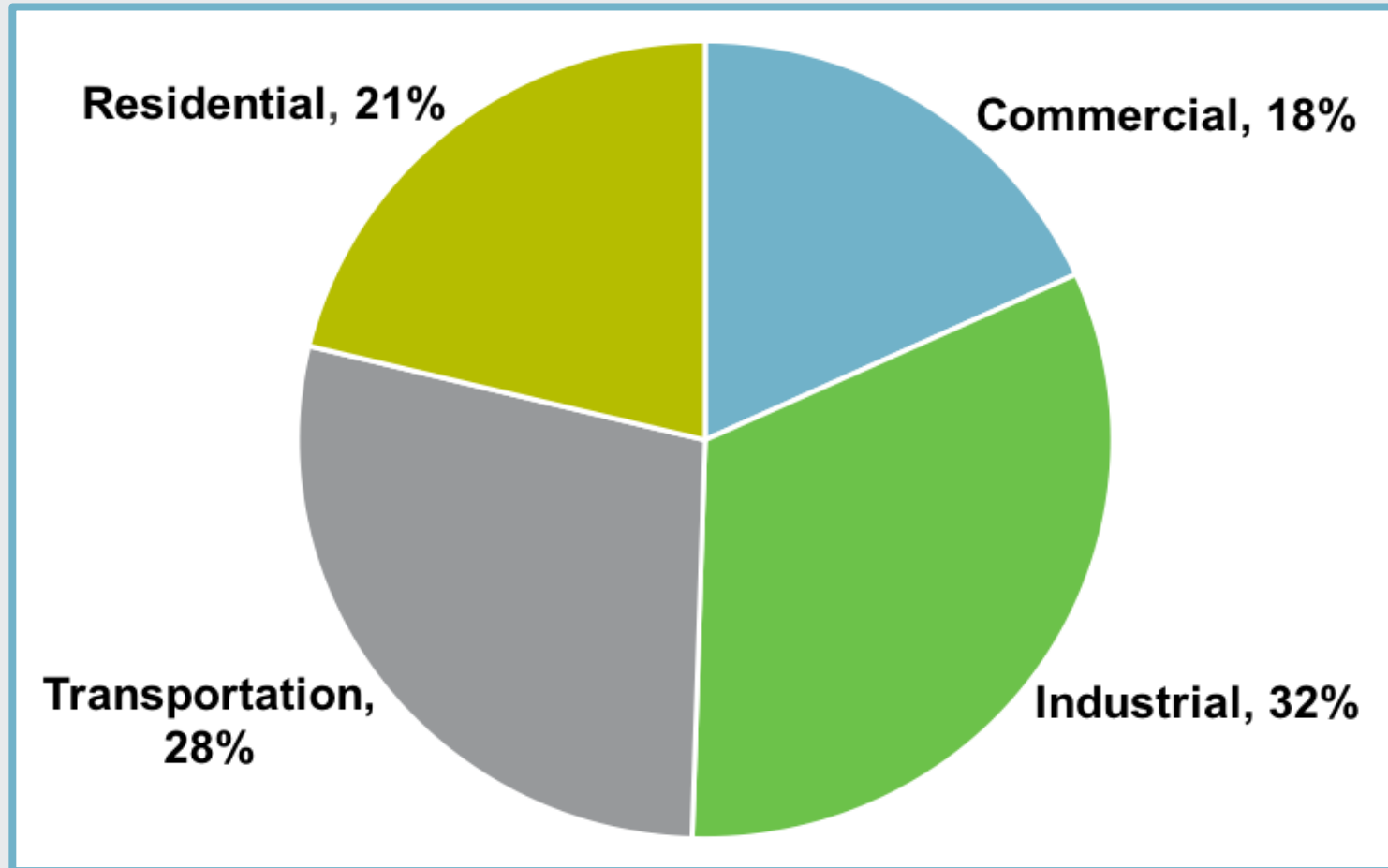


CHP in the President Trump Administration

- Industrial energy efficiency will make manufacturers more competitive by cutting costs and emissions:
 - Reducing industrial energy use 15 to 32% by 2025 (DOE)
 - Saving businesses \$298 billion on their electricity bills (2016-2030) (while reducing emissions)
 - Creating and preserving jobs
 - Creating a market for natural gas
 - Making energy infrastructure more reliable
 - Enhancing national security



U.S. Energy Use By Sector (2015)

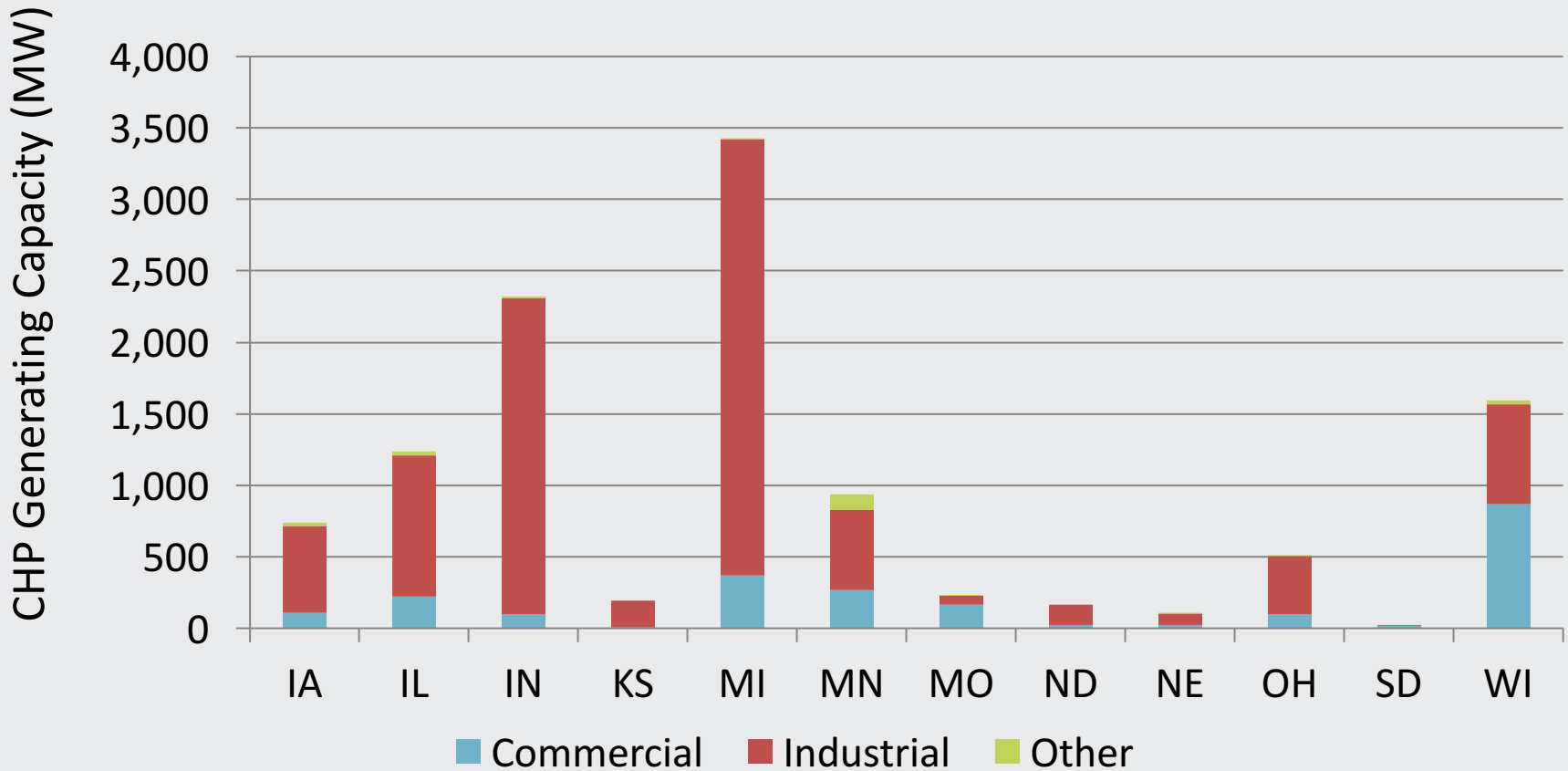


Current CHP Projects



Source: DOE CHP Installation Database, March 2014

CHP in the Midwest (capacity)



Source: DOE ICF CHP Installation Database

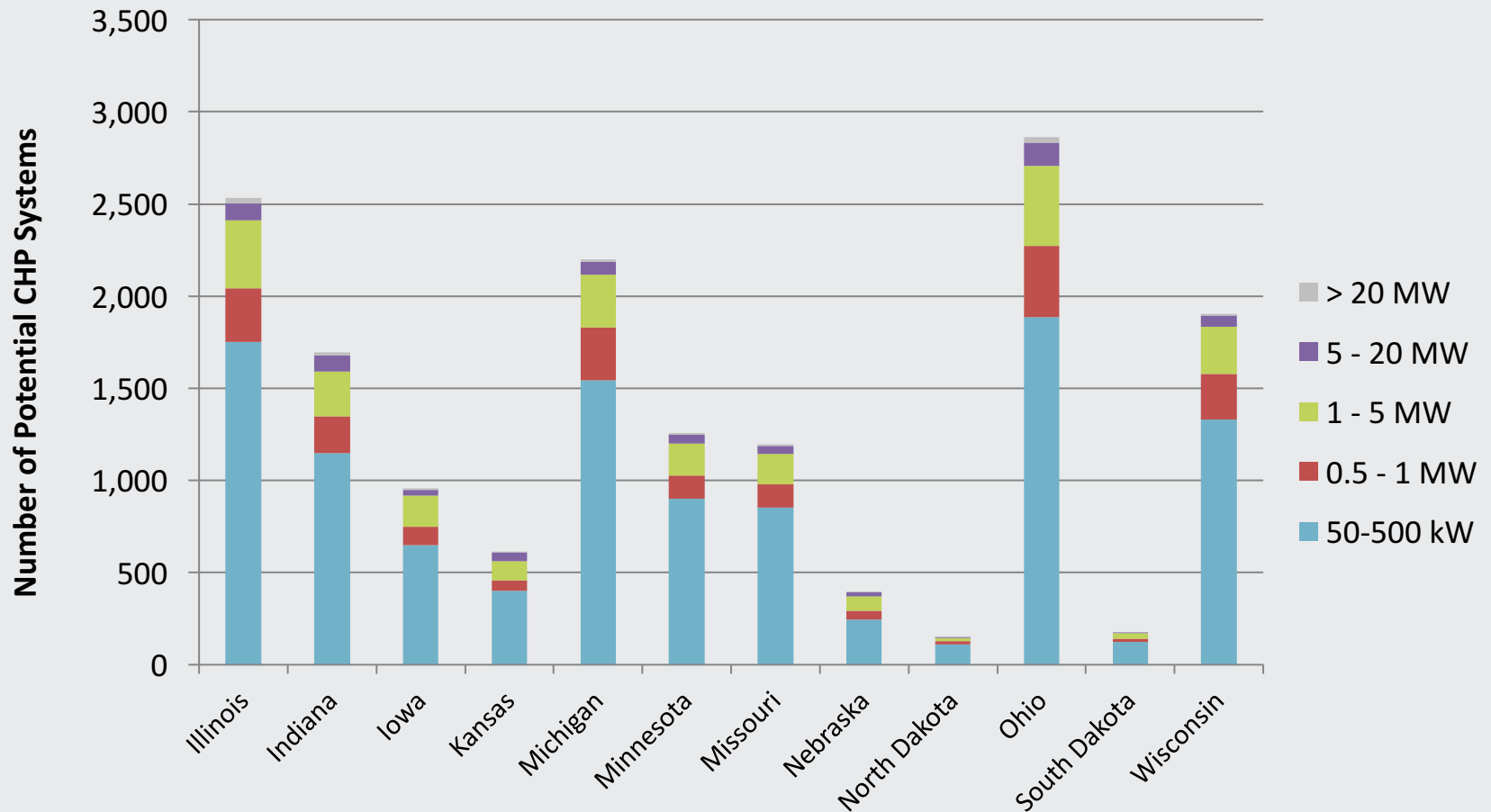
Kraton Polymers (Belpre, Ohio)

- 8 MW natural gas system
- \$52-million project cost
- Utility incentives (\$150-200k/year)
- Payback period: approximately 4.5 years
- Kraton is now producing about one-third of its energy for free
- Cutting greenhouse gas emissions by 15 percent



Midwest CHP Technical Potential (industrial)

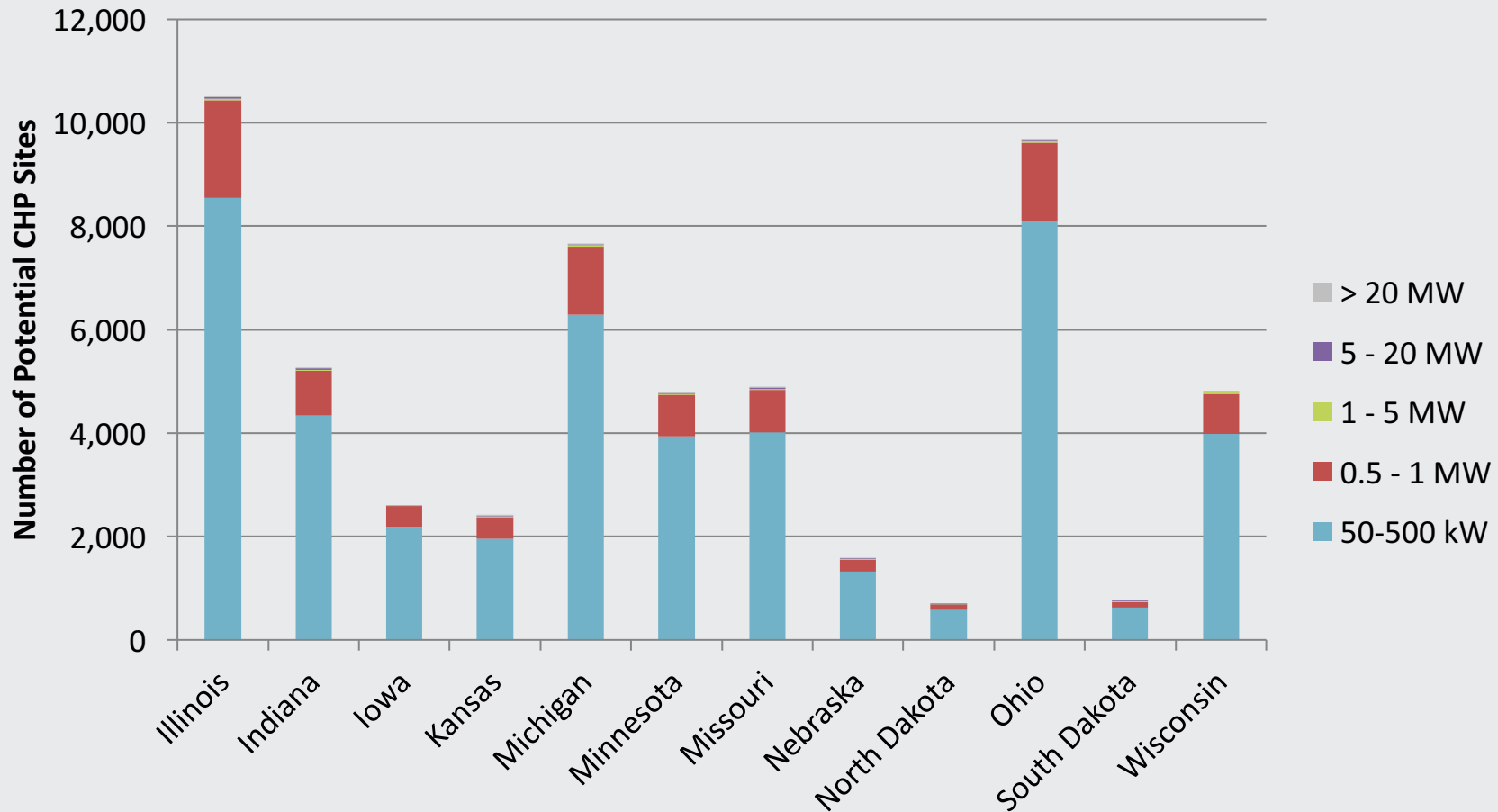
(19,713 MW @ 15,932 sites)



Source: DOE March 2016

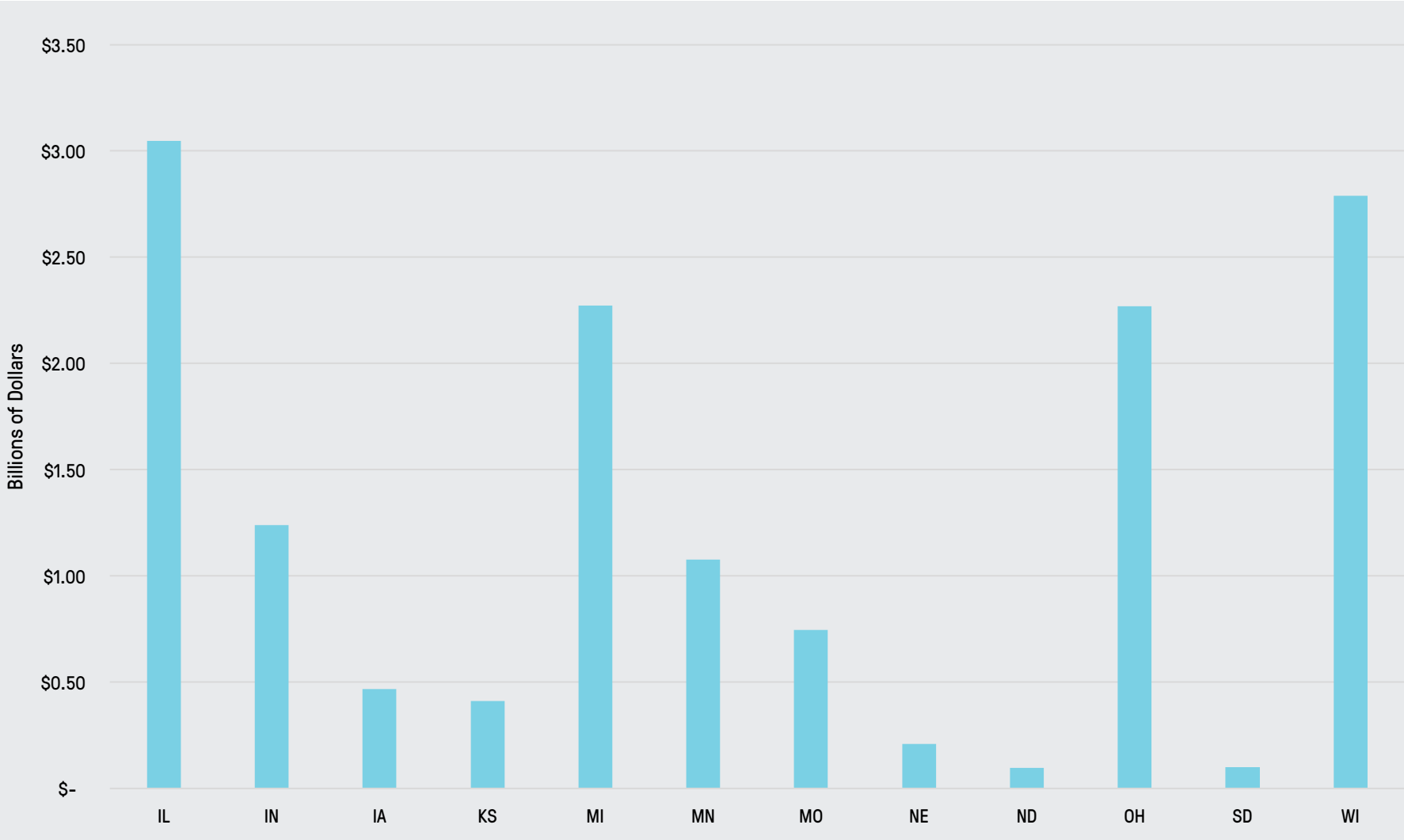
Midwest CHP Technical Potential (commercial)

(16,108 MW @ 58,903 sites)



Source: DOE March 2016

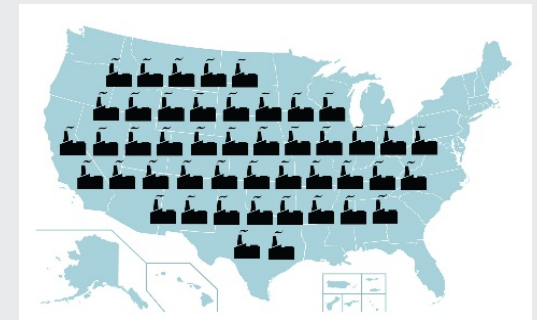
Cumulative Utility Bill Savings (2016-2030)



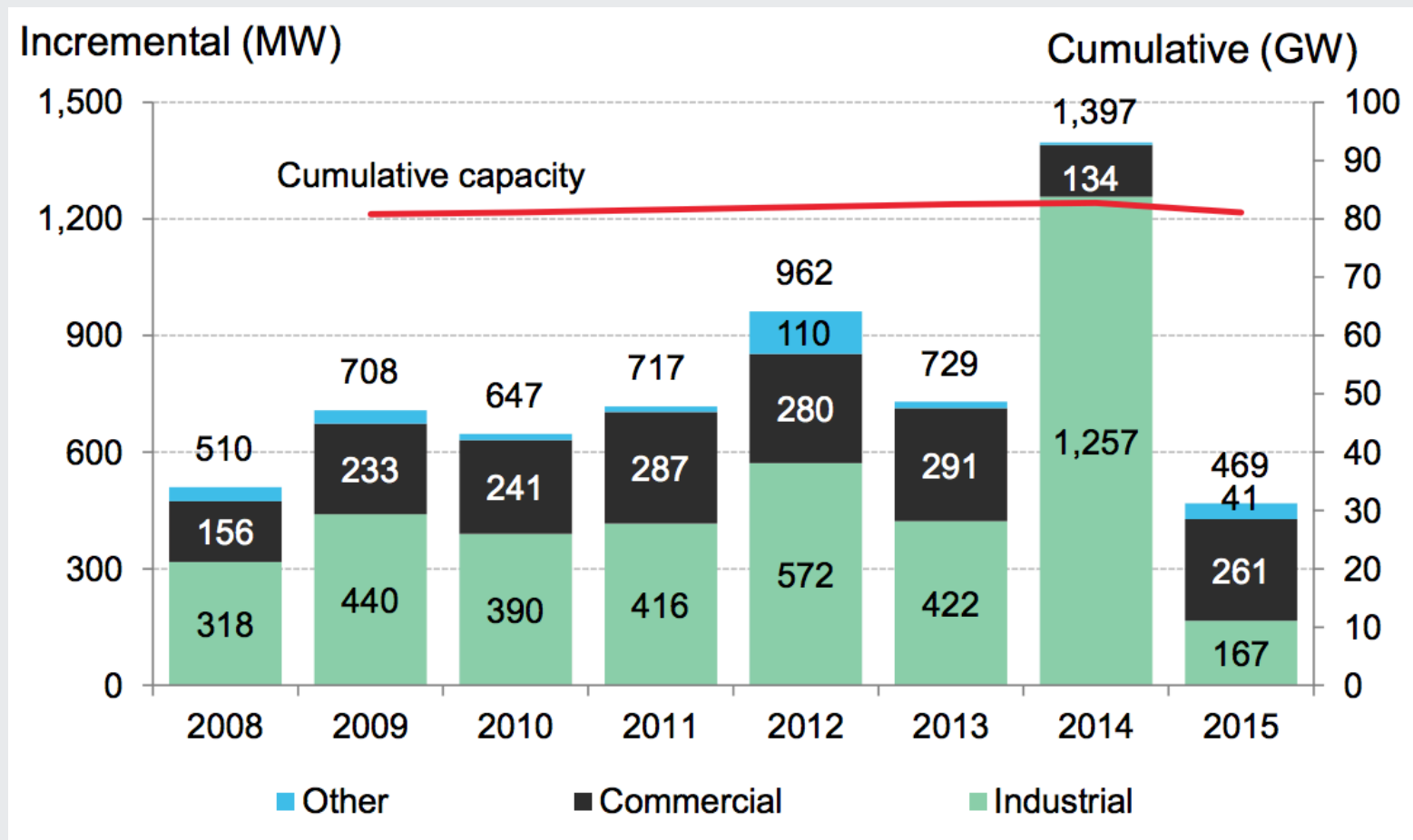
Alliance for Industrial Efficiency Report Findings

By investing in industrial energy efficiency (including CHP and WHP), the U.S. can

- Save 396-million megawatt-hours of electricity in 2030
- Save businesses \$298 billion in avoided electricity purchases (cumulative cost savings 2016-2030)
- Reduce annual CO₂ emissions by the equivalent of 46 coal-fired power plants in 2030



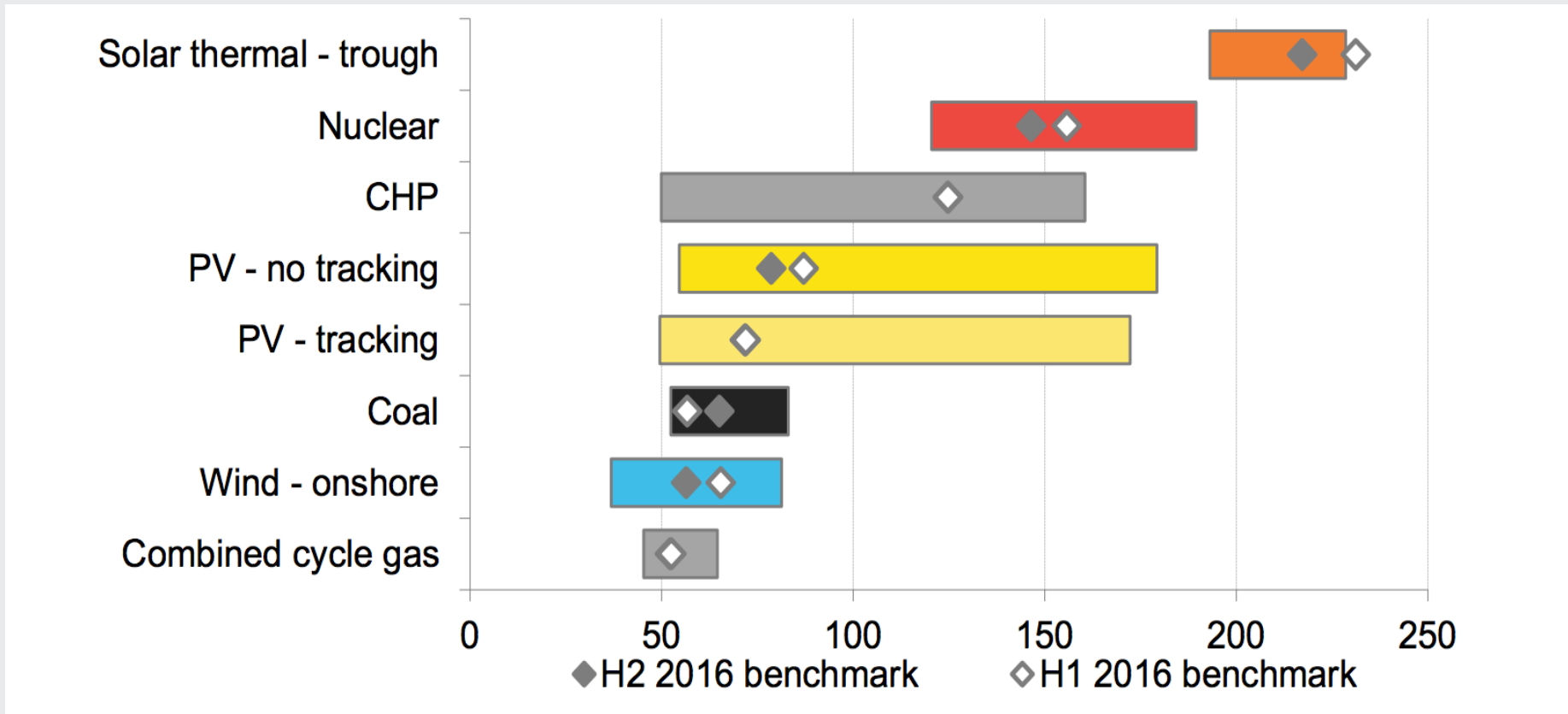
Barriers: CHP Deployment



BCSE Factbook 2017



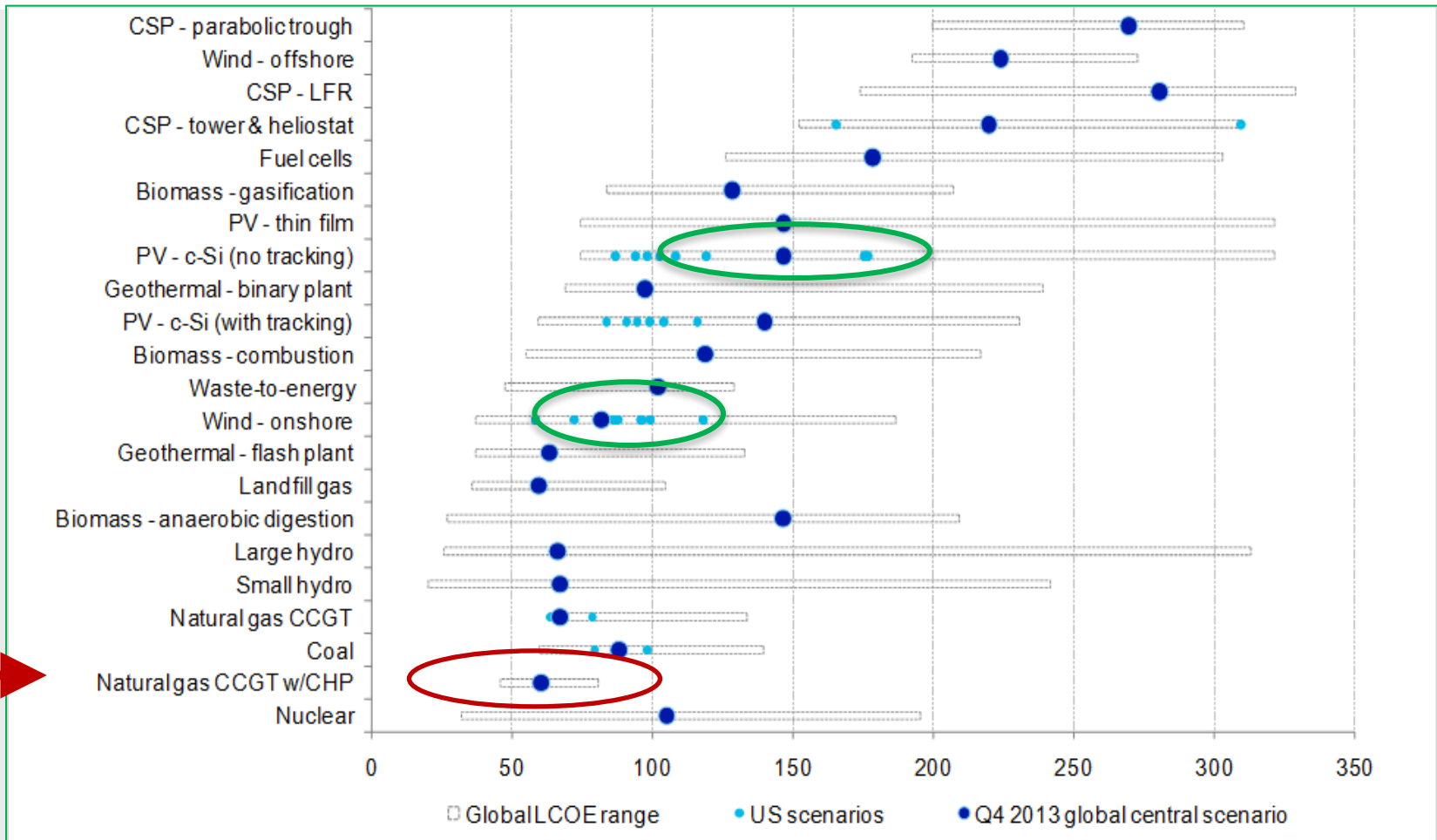
Barriers: Levelized Cost of Energy (2016) (no incentives)



BCSE Factbook 2017



Barriers: Levelized Cost of Energy (2013)

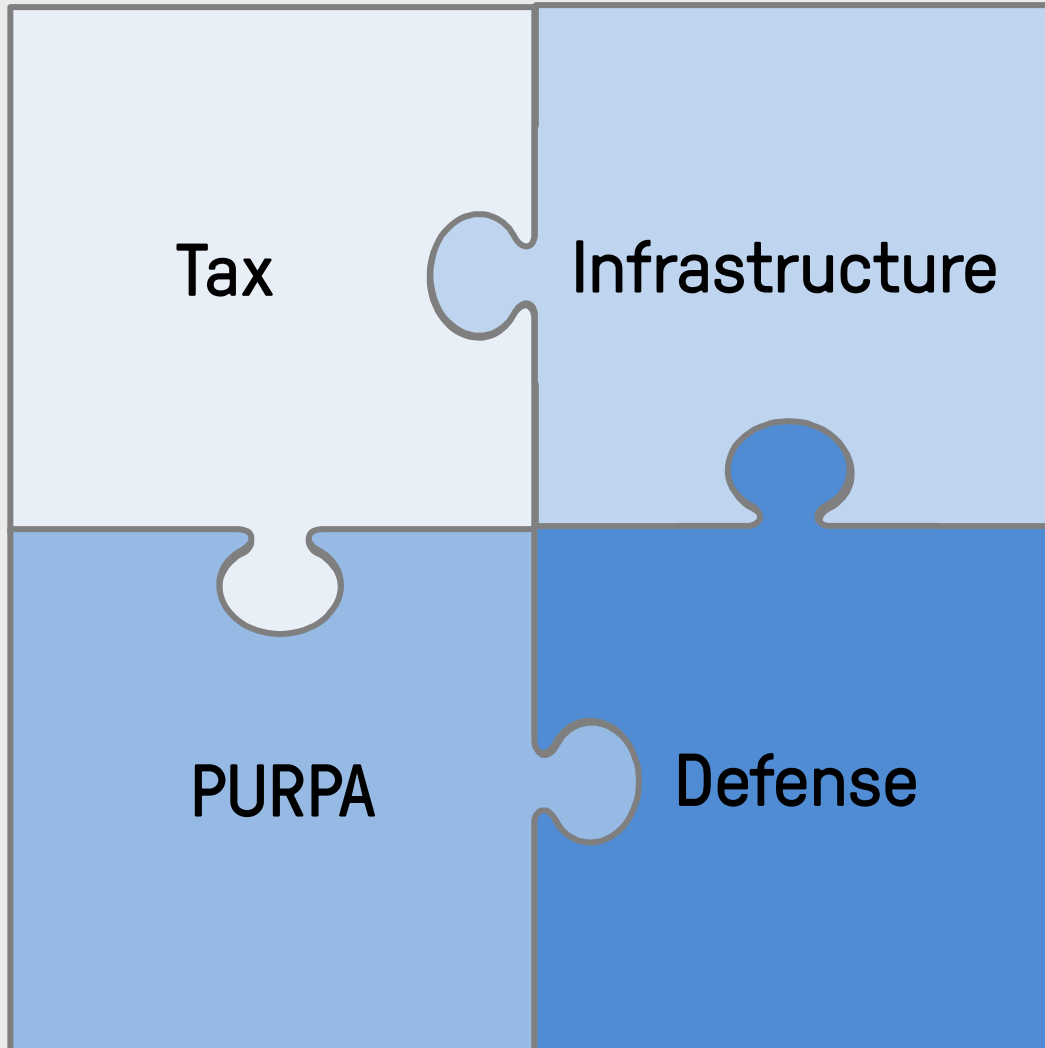


Levelized Costs of Energy across Power Generation Technologies, Q4 2013 (\$/MWh)



Source: BCSE 2014

Federal Policy Priorities



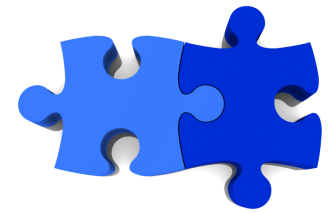
Policy Solutions: Restore (and Improve) the Investment Tax Credit



Section 48 Tax Credit	WHP 2015 Bill (S. 913)	The POWER Act (2016) (S. 1516, H.R. 2657) The Reed-Blumenauer Bill	Section 48 Extension (H.R. 5167, H.R. 5172) Reed Tax Extenders Bill
10% ITC for combined heat and power		Expand ITC to 30%, on par with other technologies such as solar	Extend current ITC for combined heat and power
Does not include waste heat to power	Include waste heat to power as qualifying technology for 10% credit	Include waste heat to power as qualifying technology for 30% credit	Does not include waste heat to power
Applies to the first 15MW of projects which are smaller than 50 MW	Applies to projects which are smaller than 50 MW	Apply to first 25MW, eliminate project size cap	Same as current law
Expired Dec. 2016	Expire Dec. 2016	Expire Dec. 2018	Expire Dec. 2021

Policy Solutions: Infrastructure

Making Manufacturing Great Again



What

- \$2.5B public-private partnership/ 10 years
- 80-20 private-public cost-share
- CHP, energy efficiency, and demand response

Outcomes (over 10 years)

- Energy Savings (1,304-3,000 TBtu)
- Bill Savings (\$36.9-\$39.1B)
- Job Creation (97,000-112,000 jobs)
- GDP (\$3.7-\$4.5B)
- CO2 Savings (76-120 power plants)



Policy Solutions: Defense Initiatives



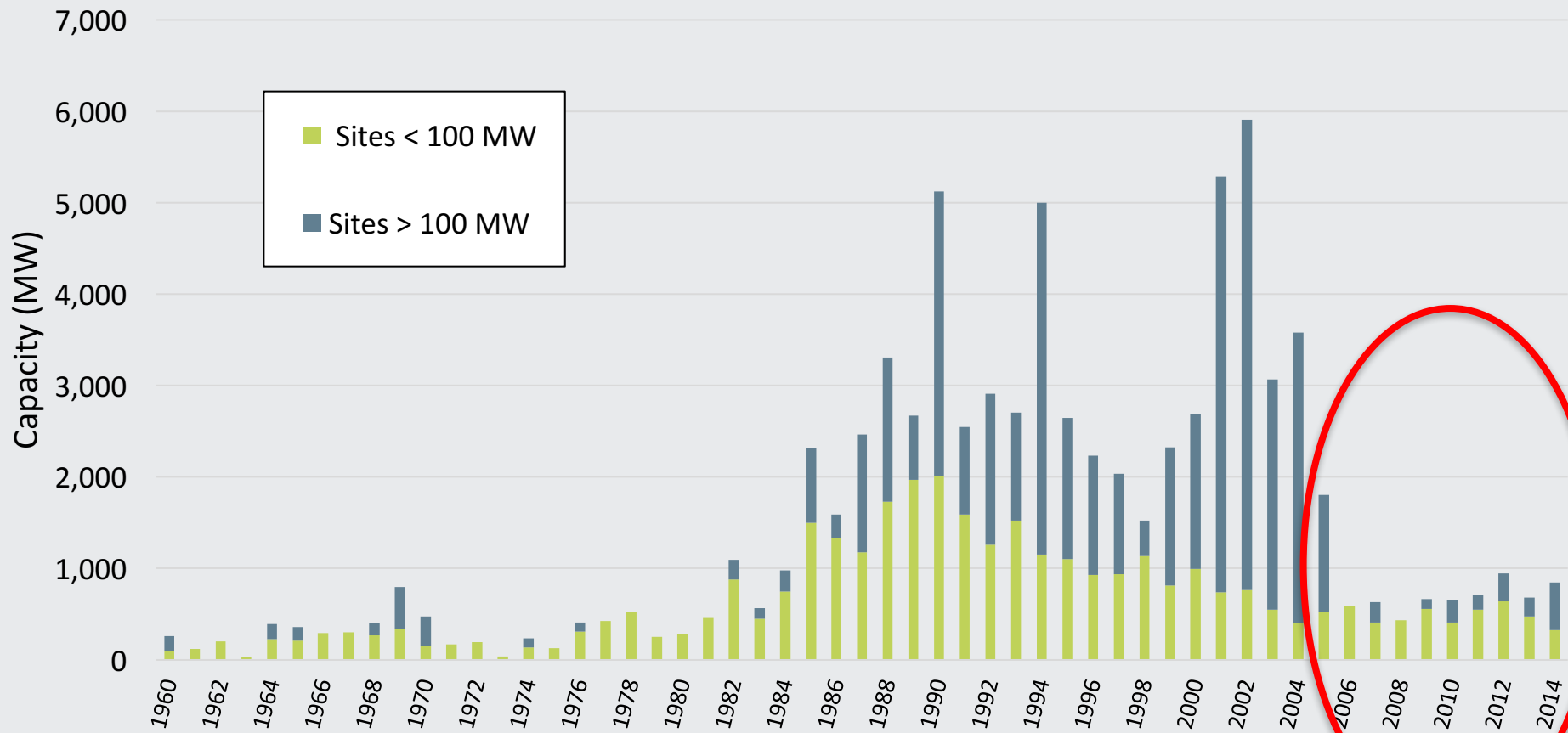
- Limit DOD exemptions
- Support deployment goals
- National Defense Authorization Act report language
 - Support deployment
 - Convene a forum
- Seeking expanded definition of renewable energy



Policy Solutions: PURPA



Annual Capacity Additions Since 1960



Source: DOE CHP Installation Database (U.S. installations as of December 31, 2014)

How Can MCA Help Achieve Our Goals?

- Ask your policymakers to cosponsor CHP tax proposals
- Make Manufacturing Great Again by supporting energy infrastructure
- Help DoD lead by example
- Preserve PURPA





ALLIANCE

FOR INDUSTRIAL EFFICIENCY

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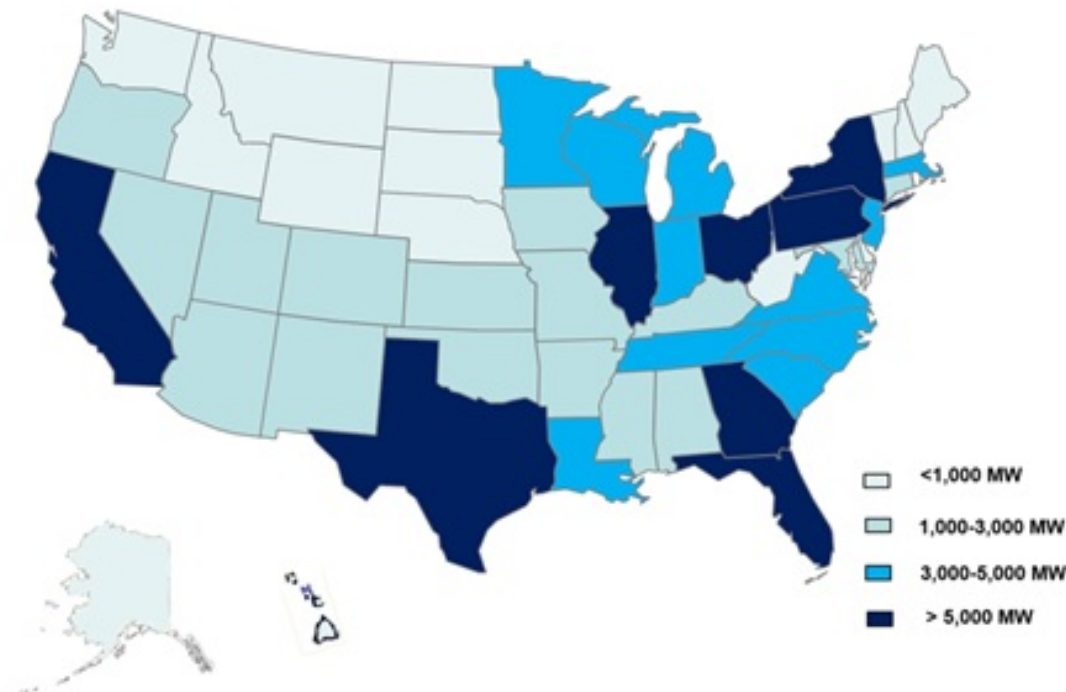
Executive Director

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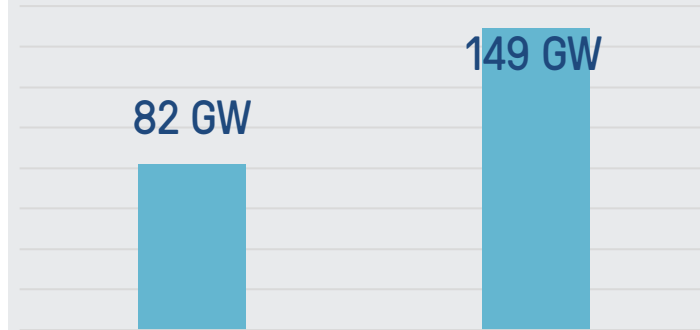
jennifer@dgardiner.com

CHP Technical Potential by State

On-Site Technical Potential by State



U.S. DOE CHP Deployment Program, 2016.



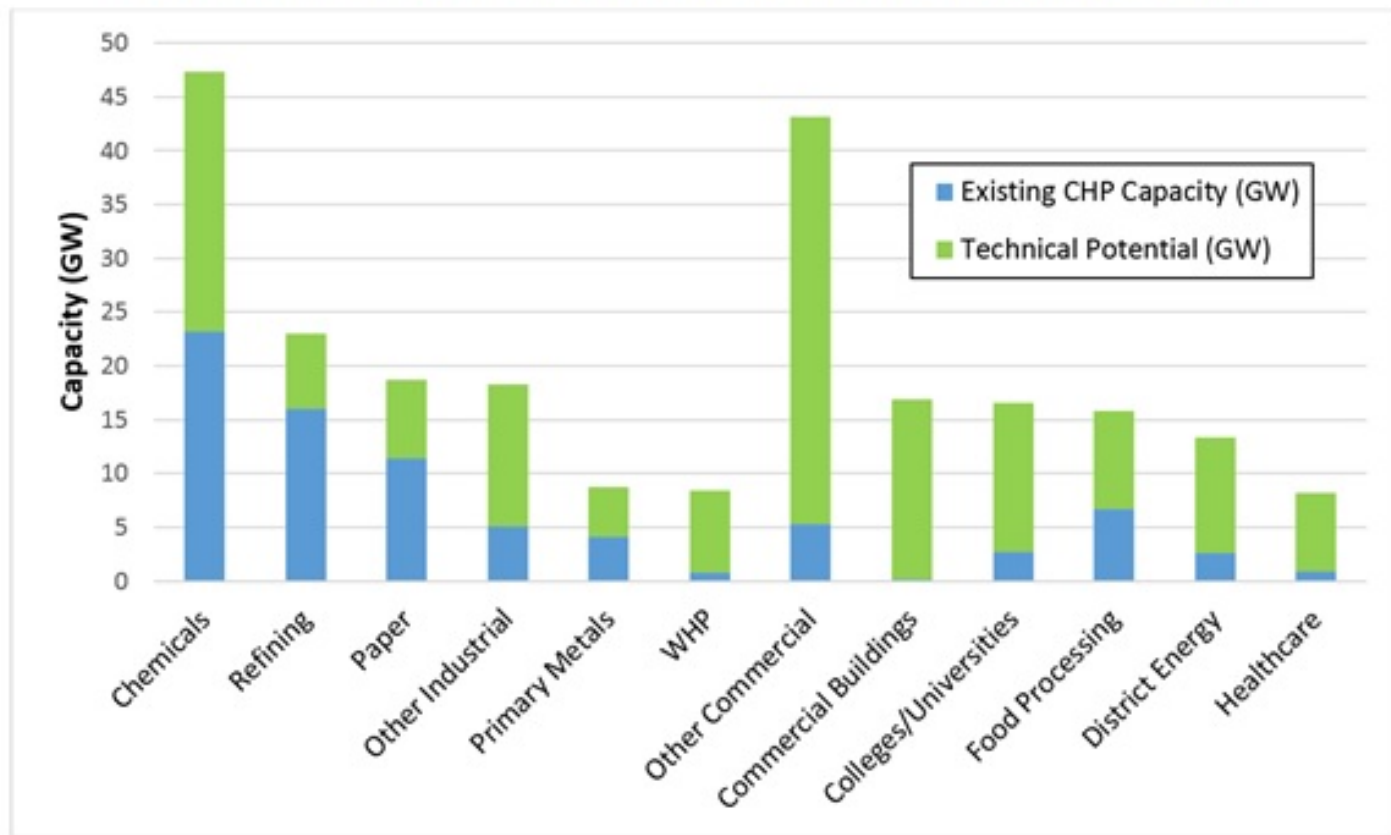
Current

Potential



CHP Technical Potential by Sector

Existing CHP Compared to On-Site Technical Potential by Sector



U.S. DOE CHP Deployment Program, 2016.

