Federal Policy Priorities to Advance Combined Heat and Power

Midwest Cogeneration Association

Jennifer Kefer
Executive Director
Alliance for Industrial Efficiency
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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

State Governors After the 2016 Elections

Party Control
- Democratic (16)
- Republican (33)
- Independent (1)

- Alaska's governor is an independent supported by the Democrats
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

- Residential, 21%
- Commercial, 18%
- Transportation, 28%
- Industrial, 32%
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

Incremental (MW)

Cumulative capacity

Cumulative (GW)

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

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<tr>
<td>10% ITC for combined heat and power</td>
<td>Expand ITC to 30%, on par with other technologies such as solar</td>
<td>Include waste heat to power as qualifying technology for 10% credit</td>
<td>Extend current ITC for combined heat and power</td>
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<tr>
<td>Does not include waste heat to power</td>
<td>Include waste heat to power as qualifying technology for 30% credit</td>
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<td>Does not include waste heat to power</td>
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<td>Applies to the first 15MW of projects which are smaller than 50 MW</td>
<td>Applies to projects which are smaller than 50 MW</td>
<td>Apply to first 25MW, eliminate project size cap</td>
<td>Same as current law</td>
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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
  - 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
Jennifer Kefer
Alliance for Industrial Efficiency
Executive Director
202-816-9302
jennifer@dgardiner.com
CHP Technical Potential by State

Current: 82 GW
Potential: 149 GW
CHP Technical Potential by Sector