Agenda

- There is a huge opportunity for savings in Pennsylvania’s industrial sector
- Many barriers deter deployment – but well-designed policies can overcome them
Pennsylvania Energy Use By Sector

Transportation, 23.1%
Residential, 24.9%
Industrial, 35.2%
Commercial, 16.7%
Pennsylvania CHP Potential

Pennsylvania Has 2.9 Gigawatts of Installed CHP

PA Existing CHP Compared to On-Site Technical Potential by Sector

Sources: U.S. DOE CHP Combined Heat and Power Installation Database
U.S. DOE 2016 CHP Technical Potential Report
Utility as Partners

- **Industrial-funded**
  - 1-2 yr paybacks
  - 50-100% ROI

- **Co-funded time horizon**
  - 2-8 yr paybacks
  - 12-50% ROI

- **Utility-funded**
  - 10-30 year time horizon
  - 50-100% ROI

Source: Schlegel and Associates, 2015
Regulatory Barriers:
Interconnection & Standby Rates

States with Standardized Interconnection Rules

- Interconnection Size Cap
  - 100kW-1 MW
  - 1MW-5MW
  - 5MW-20MW
  - >20MW

- Eligible Fuel Type
  - Hatched: Renewable Fuels
  - Solid: Renewable Fuels & Fossil Fuels Eligible


Note: Arizona’s interconnection standard is voluntary and rule is currently under review. Hawaii not shown; state’s interconnection applies for all sizes and for both renewable and fossil fuels.
The Clean Power Plan should reduce power plant carbon pollution 32% below 2005 levels in 2030.

- 2005: 2,664 million short tons of CO₂
- 2030: 1,814 million short tons of CO₂

**Opportunity: Clean Power Plan**
Pennsylvania CPP Target Achievable through CHP and IEE

![Bar chart showing emission reduction required under the CPP and potential emission reduction achieved with IEE, CHP and WHP, 2030. The bar for emission reduction required under the CPP is significantly taller than the bar for potential emission reduction achieved with IEE, CHP and WHP, 2030. The chart indicates a 25% reduction.]
Conclusion

- There is a significant opportunity to deploy CHP and industrial efficiency in Pennsylvania

- Pennsylvania should adopt policies to overcome barriers:
  - Utility Incentives/ Utility Partnerships
  - Interconnection Standards
  - Standby Rates
  - Clean Power Plan
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