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ACEEE American Council for an Energy-Efficient Economy

Illinois Combined Heat and Power Fact Sheet

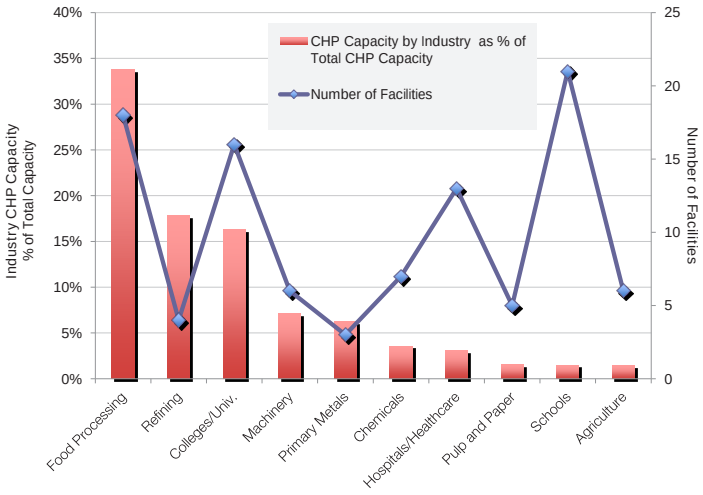
State Energy Profile

Energy consumption per capita:	**309 mmBtu (2011)**
Electric industry:	**Deregulated**
Total electric generation capacity:	**49,739 MW (2011)**
Average retail electricity price:	
All sectors:	**8.57 cents/kWh**
Residential:	**11.97 cents/kWh**
Commercial:	**8.31 cents/kWh**
Industrial:	**5.92 cents/kWh**
Average retail natural gas price:	
Residential:	**8.22 $/MCF**
Commercial:	**7.79 $/MCF**
Industrial:	**6.84 $/MCF (2011)**
Population:	**12,830,632 people (2010)**
State Real GDP:	**$594 billion**

(Statistics for the year 2012 unless otherwise noted)

CHP Snapshot

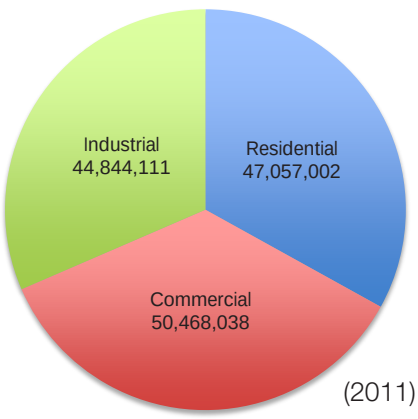
Number of CHP facilities and capacity by industry as a percentage of total state CHP capacity



There are 137 CHP sites in Illinois, representing a total installed capacity of 1,329 MW. The largest CHP site in the state is Archer Daniels Midland Company in Decatur (230 MW), and the smallest site is a residential project located in Aurora (6 kW). As the graph above illustrates, the number of CHP facilities by industry is not necessarily correlated to an industry's share of total CHP capacity. Nationally, according to ICF International, 87 percent of current Installed CHP generation capacity is found at industrial facilities with high electric and steam demands such as chemical, paper, refining, food processing and metal manufacturing. Natural gas has been the preferred fuel for CHP systems in the U.S., accounting for around 70 percent of existing CHP capacity.

Electricity Sales

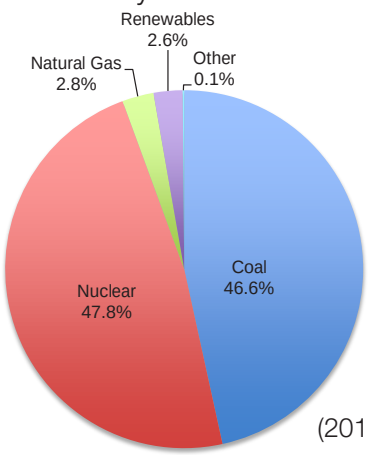
MWh



(2011)

Source: EIA

Electricity Production



(2010)

Source: EIA

Electricity sales are spread evenly between the three sectors in Illinois and together they represent 142,369,151 MWh in total sales. Electricity generation from coal and nuclear accounts for 95 percent of the state's electricity production while natural gas, renewables, and other energy sources make up the remaining 5 percent of generation.

State CHP Policies

Standby Rate Design

Excelon/Commonwealth Edison's Rate 18
Demand-based, but averages out three separate peak demand periods over a month to calculate demand.

Ameren/Illinois Power Company's Rider BSF-L
Wholly energy based, real-time prices conveyed to customers.

Impact on CHP Development
Neutral

Interconnection Standards

- No system capacity limit specified.
- Systems <10 MW require 4 levels of review for interconnection.
- Rules define time limits and technical screens for each level of evaluation.
- IEEE 1547 and UL 1741 adopted as certification standards.
- Fees/insurance requirements determined on case-by-case basis for systems >10 MW.
- Rules specify procedure for dispute resolution.
- Standard interconnection agreement form available from utility.

Net Metering

CHP not listed as eligible technology

Output-Based Emissions Regulation

Illinois Pollution Control Board R06-26
As a part of the US EPA's Clean Air Interstate Rule, CHP is an eligible technology for EE set-aside allowances. For purposes of regulating NOx and SO_2, the output of particular CHP systems is considered and factored into a determination of the system's total emissions.

Note: The EPA is developing new cross-state air pollution rules, and states will likely have to implement new plans that will replace the CAIR requirements outlined above

Financial Incentives

Grants
- Biogas and Biomass to Energy Grant Program
- Illinois Clean Energy Community Foundation Grant
- Proposed DCEO competitive grant solicitation for CHP projects

Decoupling Utility Revenues

North Shore Gas and Peoples Gas and Coke were approved for 4-year revenue-per-customer decoupling pilots in 2008. No mechanism in place for electric utilities.

Portfolio Standards

EERS
CHP and WHR not explicitly included, but, in 2013, definition of EE project expanded to include measures that reduce total Btus of electricity and gas. DCEO submitted a template for EE incentives for CHP projects in the public sector in their 3-year plan beginning June 2014. Approval by ICC will be made Dec 2013. Incentives are capped at $2M per project and up to 50% of project costs.

0.2% annual electric savings in the year starting in June 2008, 1% in the year starting June 2012, increasing to 2% in the year starting June 2015 and each year beyond. For natural gas, 0.2% annual savings by May 2012, increasing to 1.5% by May 2019 and each year beyond (total savings of 7.1% as of May 2019). These are statutory goals subject to statutory budget cap. ICC can approve implementation plans with lower savings goals.

RPS
CHP and WHR not explicitly included. Utilities required to generate 25% of electricity sales using renewables by 2026. At least 75% of IOU renewable energy (60% for alternative retail electric suppliers) must come from wind and remaining 25% (40% for alternative suppliers) can be met using other renewables and "alternative sources of environmentally preferable energy."

State CHP Technical Potential (MW)

Facility Size	50-1000 kW	1-5 MW	5-20 MW	>20 MW	Total
Industrial	519	641	978	2,001	4,139
Commercial	1,972	1,232	40	134	3,379
Total	2,491	1,873	1,018	2,135	7,518

Source: ICF

Technical potential is defined as the CHP electrical capacity that could be installed at existing industrial and commercial sites based on their electric and thermal needs (under the assumption that the facilities would utilize thermally loaded CHP systems sized to meet their electric demand).

Boiler MACT Affected Boilers

Facilities	155
Coal Units	37
Biomass Units	0
Gas Units	418
Heavy Oil Units	2
Light Oil Units	15
Total Capacity (mmBtu/hr)	44,914

Application	Units	Facilities	Capacity (mmBTU/hr)
Petroleum and Coal Products Manufacturing	105	5	18,790
Chemical Manufacturing	101	31	5,841
Food Manufacturing	46	15	7,303
Utilities	39	18	4,669
Pipeline Transportation	37	18	290
Transportation Equipment Manufacturing	32	8	3,786
Fabricated Metal Product Manufacturing	23	23	196
Primary Metal Manufacturing	20	2	1,454
Machinery Manufacturing	16	3	855
Printing and Related Support Activities	15	5	310

For more information on data sources, see CHP Factsheet Appendix at gpisd.net