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MIDWEST MANUFACTURING SNAPSHOT: SOUTH DAKOTA

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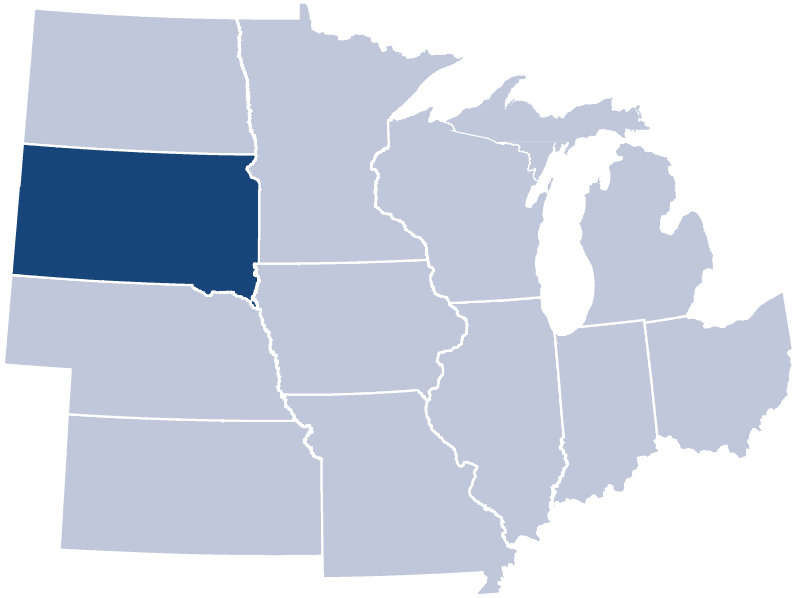

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This state handout is an excerpt from the WRI working paper entitled "Midwest Manufacturing Snapshot: Energy Use and Efficiency Policies". The working paper presents comprehensive manufacturing energy-use and economic-activity data along with state-by-state policy summaries for the 10 member states of the Midwestern Governors Association (MGA).[1] For more information on Midwest region manufacturing, the methods used to derive the data, and policy background, please see the full working paper at: http://www.wri.org/publication/midwest-manufacturing-snapshot.

1. Member states of the MGA are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Ohio, South Dakota, and Wisconsin.

SOUTH DAKOTA

In 2009 South Dakota consumed 0.36 Quads of energy. Industry plays a slightly larger role in South Dakota energy use, economic activity, and employment than other end-use sectors. Figure SD-1 shows the breakdown of statewide energy used for fuel and feedstock in 2006. Industry consumed approximately one-third of total energy (including feedstocks) in South Dakota—more than any other sector. Within industry, manufacturing accounted for only 16% of South Dakota industry energy use in the same year—the lowest share in the Midwest.

Food and nonmetallic minerals manufacturing accounted for the largest share of South Dakota manufacturing energy use in 2006.

South Dakota has 24 MW of total installed CHP capacity[SD-1], which is equivalent to 1% of total installed electricity generation capacity, versus the national average of 8%. Within total CHP, the remaining technical potential for industry CHP in South Dakota is estimated to be more than twenty-seven times larger than currently installed industrial capacity (Hedman, 2010).

South Dakota manufacturing energy expenditures (shown by "cost of fuels & electricity" in Figure SD-2) followed the national trend of peaking in 2008. Between 2000 and 2010, South Dakota's index of manufacturing energy costs rose much more rapidly than the value of shipments index (Figure SD-2). The average difference between these two series over the period is 140%. By 2010 South Dakota

SD-1 This number is higher than the installed CHP capacity number in Figure 9 because it includes all CHP installations (i.e., industrial, commercial, and institutional).

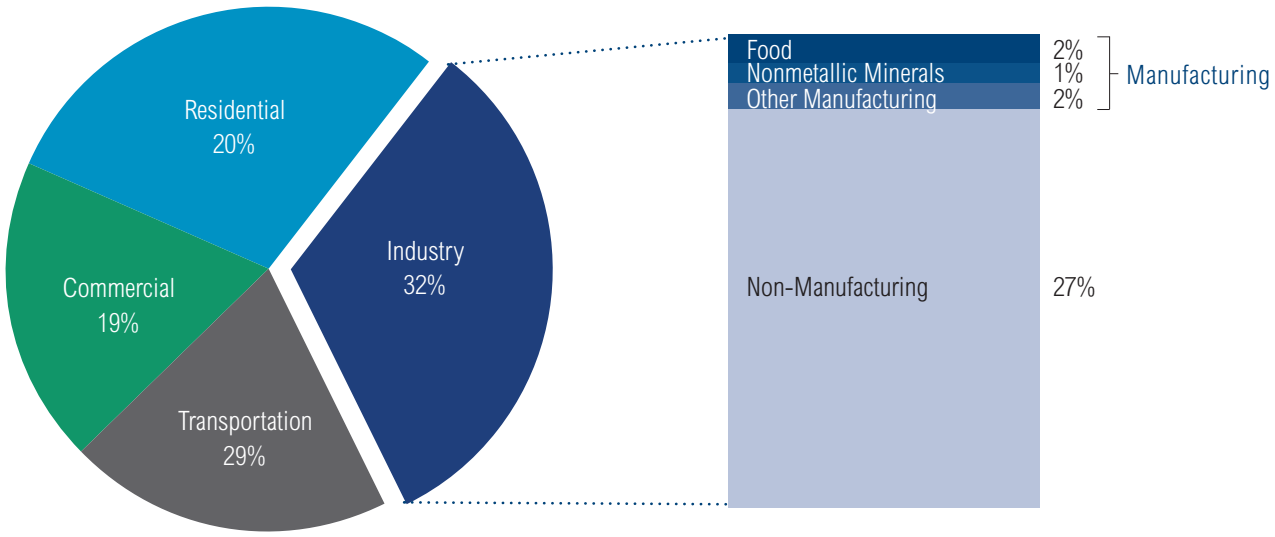
Table SD-1 | **South Dakota Industry Delivered Energy Annual Average Prices (2010)**

	ELECTRICITY (cents/kWh)	NATURAL GAS ($/1,000 ft³)	COAL[1] ($/short ton)
South Dakota	6.07	5.92	32.49
Midwest average	6.19	6.66	33.00
U.S. average	6.77	5.49	44.29

SOURCE: U.S. Energy Information Administration; for details see Appendix.

1 Because the EIA withheld South Dakota 2010 industry coal price data, electric utility coal price data are displayed in this table instead.

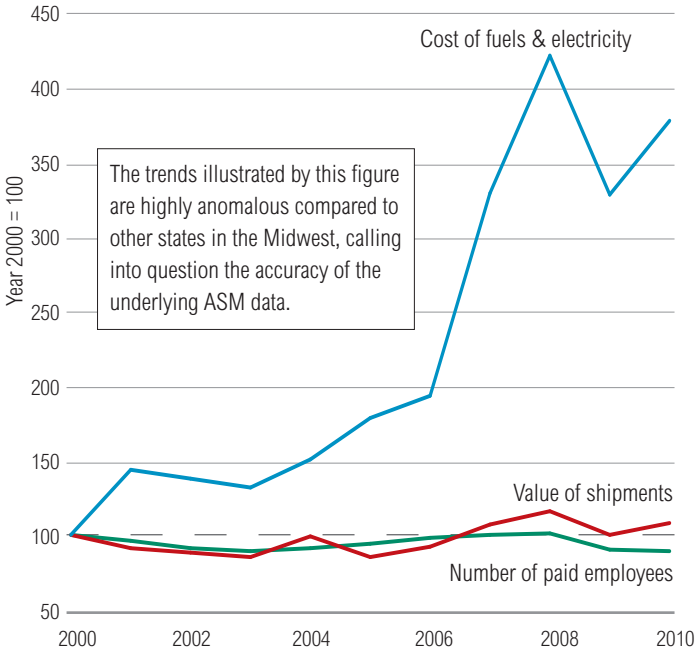
Figure SD-1 | **South Dakota Total Energy Use, 2006**



Total Energy Use: 0.3 Quad

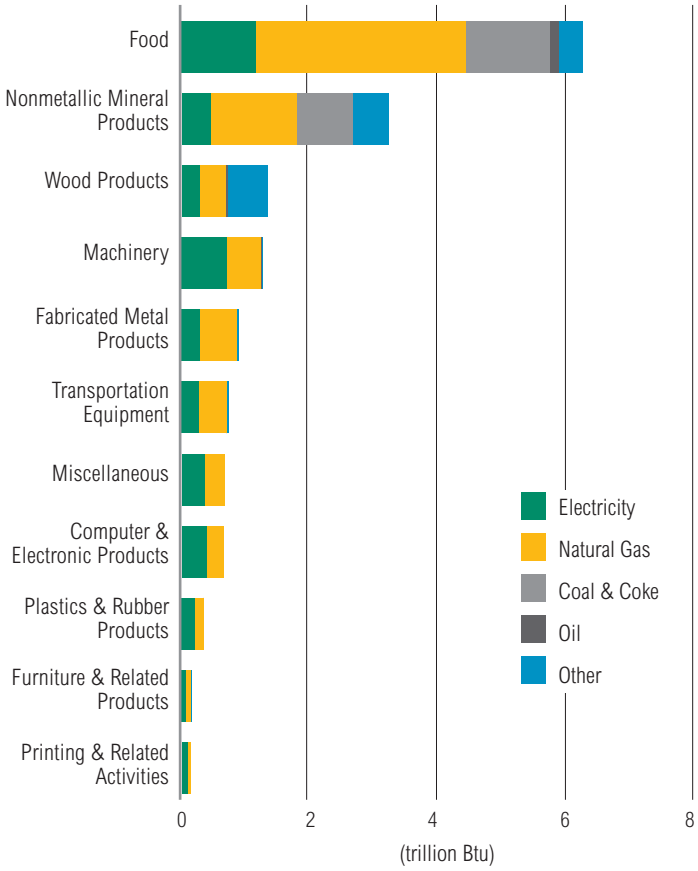
SOURCES: MECS; ASM; SEDS.

Figure SD-2 | **Index of South Dakota Manufacturing Energy Cost, Value of Shipments, and Employment (2000-2010)**



SOURCE: ASM; BEA (employment)
NOTE: 2002 ASM values were linearly interpolated due to a gap in the published data.

Figure SD-3 | **South Dakota Industry Fuel Use by Sector, 2006**



SOURCES: MECS; ASM.

manufacturing energy expenditures had increased by almost 400%, while the total value of shipments rose by only 8%, relative to year 2000 levels. Compared to other state profiles and national averages (see Figure 1 of this working paper), this result is difficult to explain and may indicate an artifact of the small sample size in the survey or another anomaly with the ASM data. Over the same 10-year period, South Dakota manufacturing employment dropped by 11%—from 44,000 to 39,200, compared to the national manufacturing employment decline of 37% over the same period (Figure 1).

Energy prices (Table SD-1) influence demand and end-use efficiency. Reported South Dakota delivered electricity and coal prices were 10% and 27% lower than the national average, respectively, while natural gas was 8% more expensive than the national average. Prices vary by end user and time of use, but this snapshot of 2010 prices suggests that South Dakota industry faces a mixed picture among different fuels.

In 2006 South Dakota manufacturing consumed 16 trillion Btu[SD-2] of energy for fuel use—the smallest amount of any state in the Midwest. Figure SD-3 shows the breakdown of South Dakota manufacturing fuel use by subsector. Food manufacturing accounted for 40% of South Dakota manufacturing fuel use in 2006.

South Dakota has a voluntary renewable energy standard, which gives credit for systems that produce electricity from waste heat. Although South Dakota does not have an energy efficiency resource standard, the Public Utilities Commission has partnered with utilities across the state to promote energy efficiency and has approved energy efficiency programs for several utilities.

SD-2 For energy unit conversion, 1,000 trillion Btu is equivalent to 1 Quad of energy.

Table SD-2 | **South Dakota Key Energy and Environmental Policies**

SOUTH DAKOTA	
REGULATORY ENVIRONMENT	
Renewable energy standard	South Dakota has a voluntary renewable, recycled, and conserved energy objective of 10% by 2015 of all retail electric sales in the state. SDCL § 49-34A-94 defines recycled energy as "systems that produce electricity from currently unused waste heat resulting from combustion or other processes and which do not use an additional combustion process" (ACEEE; DSIRE).
Energy efficiency resource standard	South Dakota does not currently have an EERS (ACEEE).
Emissions control programs	South Dakota does not have output-based emission standards (ACEEE).
Alternative business models	Although South Dakota does not have decoupling policies or programs in place, the Public Utilities Commission has authorized a lost revenue adjustment mechanism and performance incentives for several utilities with efficiency programs (ACEEE).
Grid access	In 2009 the PUC adopted four levels of interconnection standards for distributed generation, including CHP systems, with capacity ratings up to 10 MW. The rules adopt IEEE 1547 as technical standards (ACEEE; DSIRE).
FINANCIAL AND TECHNICAL ASSISTANCE	
Grants, loans	CHP systems are eligible for the no-interest Energy Efficiency Revolving Loan Program, which is available to schools, non-profits, and government agencies (DSIRE).
Tax incentives	The state exempts the greater of $50,000 or 70% of the assessed value of renewable energy systems, including CHP fueled by renewable resources, from property taxes.
Technical assistance	There are currently no technical assistance programs based in South Dakota.
UTILITY PROGRAMS	
Customer EE programs, with cost-recovery	The Public Utilities Commission (PUC) has approved efficiency programs for several utilities, which have made some rebates available for industrial efficiency (ACEEE; DSIRE). In 2010 the state energy efficiency program budget was $3.5 million for electricity and $1.4 million for gas. There are no opt-out or self-direct options (ACEEE).
EE as a resource	South Dakota has no policy in place that treats EE as a resource (ACEEE).

SOURCE: "ACEEE" refers to the American Council for an Energy Efficient Economy website: http://www.aceee.org/sector/state-policy(February, 2012).). "DSIRE" refers to the Database of State Incentives for Renewables and Energy Efficiency website: http://www.dsireusa.org. (February, 2012).

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