

## Status of Coal in Iowa

A number of the coal-burning plants in Iowa generate electricity for consumers while there are several coal-fired industrial plants. The coal fleet has been replaced by renewable energy over the last couple of decades. Wind energy provided 62 percent of the energy generation in Iowa in 2022.<sup>1</sup> In 2021 wind energy supplied 55.2 percent of Iowa's electricity, outstripping coal which supplied 32.89 percent.<sup>2</sup> Wind and solar are power sources found in the state. The money spent on coal is all shipped out of the state since Iowa has no functioning coal mines.

### Greenhouse Gas Implications

A comparison of the greenhouse gas emissions in Iowa by sector follows:

	2005 <sup>3</sup>	2015 <sup>4</sup>	2016	2017	2018	2019	2020	2021
Electricity, power plants	31%	23%	20%	20%	23%	19%	14%	19%
Transportation	17%	16%	15%	15%	15%	15%	15%	16%
Fossil Fuel Industry	2%							
Industrial Fuel Use	13%							
Residential and Commercial Fuel Use	7%							
Residential, commercial, industrial fossil fuel use		24%	25%	23%	22%	28%	30%	27%
Natural Gas Transmission and Distribution		1%	1%	1%	1%	1%	1%	1%
Industrial Process	4%	4%	4%	6%	5%	6%	6%	6%
Waste	2%	1%	2%	2%	2%	2%	2%	2%
Agriculture	23%	29%	31%	30%	30%	29%	31%	29%
Land use, land use changes, forestry		2%	2%	3%	1%			

Total greenhouse gas emissions in Iowa have increased since 2005, as shown by the following table:

Year	Total net emissions, million metric tons of carbon dioxide equivalents
2005	102.73
2020	112.12
2021	118.77 <sup>5</sup>

### Coal Plants Operating in Iowa

The following is a list of the coal-fired power plants in Iowa. Some facilities have more than one unit burning coal. Some of the electric utility power plants have additional owners who are not listed in this table.

<sup>1</sup> Brittney Miller, "Alliant's wind energy contributions in Iowa soar", Cedar Rapids Gazette, August 31, 2023

<sup>2</sup> See the Iowa Utilities Board website at <https://iub.iowa.gov/iowas-electric-profile>

<sup>3</sup> "Iowa Climate Change Advisory Council Final Report", December 23, 2008, pages 2-3 and 2-6.

<sup>4</sup> See Iowa Department of Natural Resources, [www.iowadnr.gov/Environmental-Protection/Air-Quality/Greenhouse-Gas-Emissions](http://www.iowadnr.gov/Environmental-Protection/Air-Quality/Greenhouse-Gas-Emissions) for 2015, 2016, 2017, 2018, 2019, 2020, and 2021 numbers.

<sup>5</sup> 2021 Iowa Statewide Greenhouse Gas Emissions Inventory Report, Iowa Department of Natural Resources, December 27, 2022

	Plant name	Plant owner	Plant location	Notes
1	Ottumwa Generating Station, unit 1 <sup>6</sup>	Alliant Energy , MidAmerican	Ottumwa	
2	Prairie Creek Generating Station, 3 generating units	Alliant Energy	Cedar Rapids	Will phase out coal by December 31, 2025
3	Streeter Station <sup>7,8</sup>	Cedar Falls Utilities, City of Cedar Falls	Cedar Falls	
4	Walter Scott Jr. Energy Center, units 3, 4	MidAmerican	Council Bluffs	Unit 4 began operating in 2007
5	George Neal Station North, unit 3	MidAmerican	Sergeant Bluff	
6	George Neal Station South, unit 4	MidAmerican	Salix	
7	Louisa Generating Station, unit 1	MidAmerican	Muscatine	
8	University of Northern Iowa Power Plant	University	Cedar Falls	
9	University of Iowa Main Power Plant <sup>9</sup>	University	Iowa City	Will migrate from coal by 2025 <sup>10</sup>
10	Muscatine Generating Station, units 7, 8, 8A and 9	Muscatine Power and Water, City of Muscatine	Muscatine	Studying retiring Unit 9 by 2028.

Alliant Energy announced that all of its coal plants would be shuttered by 2040.<sup>11</sup> Alliant Energy reported that 53 percent of the energy provided to Iowa customers was from renewable sources, mostly wind.<sup>12</sup>

Muscatine Power and Water (MP&W) commissioned a Power Supply Study to review the power plant's electricity generation and fuel sources. As a result of the study, officials began looking at replacing the power plant with solar

<sup>6</sup> John Strope, "Alliant's renewable energy use in Iowa jumps in 2020", *Cedar Rapids Gazette*, July 20, 2021, reported "The coal plant in Ottumwa, which Alliant and Des Moines-based MidAmerican Energy co-own, is the only plant Alliant operates that does not have plans to shut down or transition to natural gas." According to Barbara Tormaschy, Alliant's vice president and treasurer, "Alliant is in "on-going discussions" with MidAmerican about retiring the Ottumwa coal plant. We all have different goals and different financial analyses we have to run."

<sup>7</sup> Pat Kinney of the Waterloo-Cedar Falls Courier interviewed Jim Krieg, the general manager for Cedar Falls Utilities, about Streeter Station. "Krieg noted CFU can burn coal or natural gas at either of Streeter's generating units, as opposed to some facilities which burn only coal, some of which are being decommissioned rather than those utilities pay the cost of retrofitting them. 'The direction we are going more all the time is burning natural gas in our facilities when we have to use them,' Krieg said." See Pat Kinney, "Cedar Falls power plant plans control system upgrade", *Waterloo-Cedar Falls Courier*, February 10, 2016.

<sup>8</sup> According to an article titled "CFU looking at feasibility of new multi-million dollar electric generating plant" by Andy Milone in the June 22, 2023, *Waterloo-Cedar Falls Courier*, Cedar Falls Utilities is studying installing a reciprocating engine electric generating plant that runs on natural gas and can ramp up and own quickly compared to Streeter Station which requires 12 hours if it is starting up from being cold.

<sup>9</sup> Vanessa Miller, "Would privatizing UI utilities pay off? Public-private partnership could create endowment", *Cedar Rapids Gazette*, February 9, 2019

<sup>10</sup> University of Iowa officials committed to transitioning off coal by 2025; the recent announcement of privatizing the coal plant to Engie North America and Meridiam included a pledge to move off coal by 2023. See Vanessa Miller, "UI Lands \$1.165B in Utilities Deal", *Cedar Rapids Gazette*, December 11, 2019 and Wendy Moorehead, "UI announces it will be coal-free by 2025", *Iowa Now*, February 20, 2017

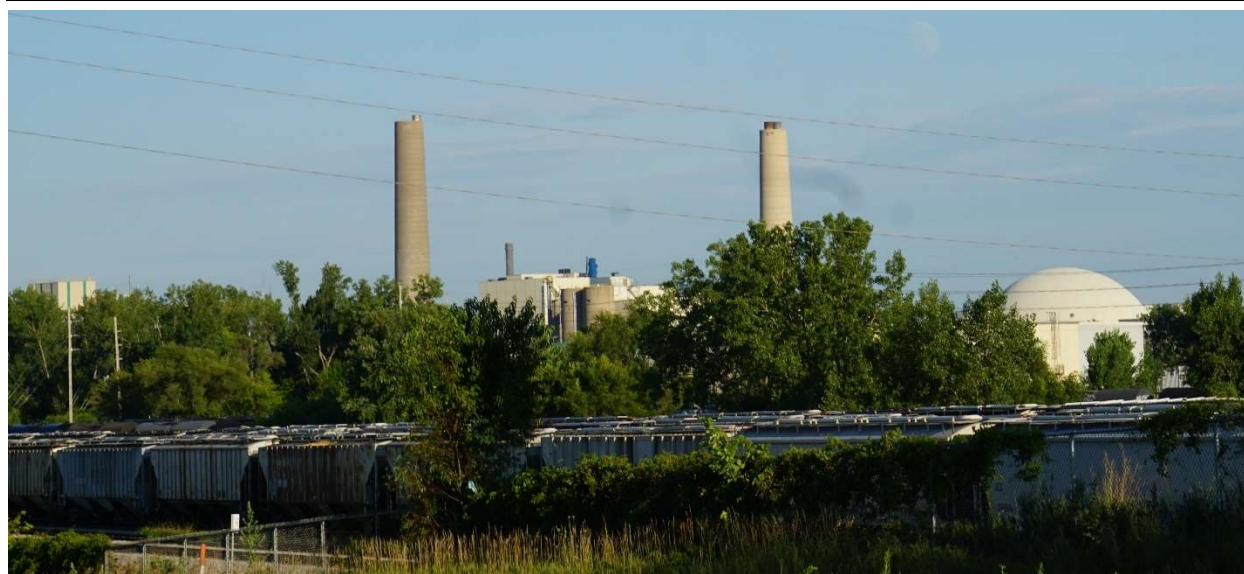
<sup>11</sup> "Alliant announces net-zero power generation goal", *Corridor Business Journal*, July 22, 2020

<sup>12</sup> Brittney Miller, "Alliant's wind energy contributions in Iowa soar", *Cedar Rapids Gazette*, August 31, 2023

and natural gas. The discussion by MP&W officials centered on replacing units 7, 8, and 8A by 2022 and unit 9 by a natural gas plant by 2029<sup>13</sup> or 2030.<sup>14</sup> Since then, MP&W indicated that Units 7, 8, 8A are slated for retirement on May 31, 2023<sup>15</sup> and they are studying retiring Unit 9 by 2028.

The following is a list of industrial plants that burn coal.

	Plant name	Use of the plant	Plant location
1	Ag Processing Eagle Grove Power Plant	soybean processing	Eagle Grove
2	Archer Daniels Midland Cedar Rapids Power Plant <sup>16</sup>	Corn processing	Cedar Rapids
3	Archer Daniels Midland Clinton Cogeneration Plant <sup>17</sup>	Corn processing	Clinton
4	Archer Daniels Des Moines Cogeneration Plant	Soybean processing	Des Moines
5	Iowa Army Ammunition Plant	Ammunition plant for Department of Defense	Middletown
6	Roquette America	Wet corn milling	Keokuk



Coal train at the Archer Daniels Midland Cedar Rapids plant.

### Migration Away From Coal

In the 21<sup>st</sup> Century, several coal-fired power plants and related projects have been suspended before they were built, have been retired, or have transitioned to natural gas.

<sup>13</sup> David Hotle, "Study recommends Muscatine Power and Water focus on green energy sources", *Muscatine Journal*, July 2, 2020

<sup>14</sup> Charles Potter, "Group pleased at MPQ plan, says more can be done", *Muscatine Journal*, October 28, 2020

<sup>15</sup> Charles Potter, "MPW Plant 1 to retire May 31, 2023", *Muscatine Journal*, September 2, 2021

<sup>16</sup> This plant was responsible for 82.55 percent of the stationary fuel combustion emissions in Linn County, and 24.22 percent of the total emissions, in 2010. It emitted more carbon than the Prairie Creek Generating Station, a coal-fired power plant also in Linn County. ADM was burning subbituminous coal. See Gage Miskimen, "Agribusiness big driver of greenhouse gases, Linn report shows", *Cedar Rapids Gazette*, August 5, 2021.

<sup>17</sup> The current power plant in Clinton, which began operating in 2009, is co-generating with biomass. This power plant replaced several old coal boilers.

- The last coal mine in Iowa closed in 1994.<sup>18</sup> Historically Iowa had many coal mines (at least 278), particularly in southern Iowa.
- In 2004, Dairyland Power Cooperative abandoned plans to build a power plant in either Mitchell or Chickasaw Counties near Mona.
- A proposed coal-fired ethanol plant for Des Moines was withdrawn by Lincolnway Energy in 2006.
- Lansing Generating Station stopped using boiler unit 1 in 2006.
- The Sixth Street Generating Station in Cedar Rapids was shuttered by Alliant Energy after the plant was heavily damaged in a flood in 2008. The plant was demolished in 2015. Alliant removed the coal ash ponds from the site in 2017.<sup>19</sup>
- LS Power abandoned plans to build a coal-fired power plant near Waterloo in 2009.
- Alliant Energy cancelled a new coal-fired power plant in Marshalltown in 2009.
- A coal heap planned to be built by Southern Coal Handling near Nevada was abandoned in 2009.
- In 2010 Alliant retired Unit 2 at its Dubuque Generating Station, Unit 1 at M. L. Kapp Generating Station in Clinton, Unit 2 at Prairie Creek Station in Cedar Rapids, Unit 2 at Sutherland in Marshalltown, and Unit 2 at Lansing.<sup>20</sup>
- In November, 2011, Alliant transitioned its 2 boilers (Units 3 and 4) at its Dubuque Generating Station from coal to natural gas in preparation for final closure in 2017.
- In 2011, John Deere Dubuque Works, a farm machinery manufacturing plant in Dubuque, ceased burning coal and stated one of the reasons for that decision was the proposed maximum achievable control technology (MACT) standards for mercury and other hazardous air pollutants.
- Alliant completed converting two of its coal-fired boilers (Units 1 and 3) at Sutherland Generating Station in Marshalltown from coal to natural gas in 2012. However these boilers are still licensed to burn coal. These two boilers are expected to be repowered or retired in 2019, based on the Consent Decree signed between the Sierra Club and Alliant.
- In 2012 the Pella Municipal Power Plant announced it would be shuttering its coal-fired power plant.
- The Central Iowa Power Cooperative Fair Station in Montpelier was shuttered in November, 2013, with plans to tear it down.<sup>21</sup>
- In 2013 Iowa State University decommissioned one coal boiler (unit 5) and converted two boilers to run on natural gas (units 3 and 4).
- Alliant Energy shuttered Unit 3 at Lansing Generating Station in 2013.
- Corn Belt Power Cooperative converted its Earl F. Wisdom Generating Station in Spencer to natural gas and fuel oil in 2014.
- In 2014 Lincolnway Energy, a dry-mill ethanol plant in Nevada, switched from coal to natural gas.<sup>22</sup>
- Alliant transitioned from burning coal at the Milton L. Kapp Generating Station, Unit 2, in Clinton, to natural gas in 2015.<sup>23</sup> This plant was demolished in 2020.<sup>24</sup>



*Prairie Creek Generating Station. Photo by Elwood Garlock.*



*Sixth Street Generating Station. Photo by Elwood Garlock.*

<sup>18</sup> Jim Pollock, "Eyeing a career in Iowa coal mining? Too late", *Business Record*, April 27, 2008

<sup>19</sup> B. A. Morelli, "Alliant to cap ash ponds near Cedar Lake," *Cedar Rapids Gazette*, August 16, 2016 and

B. A. Morelli, "Alliant begins work to cap coal ash ponds," *Cedar Rapids Gazette*, May 5, 2017.

<sup>20</sup> Dave DeWitte, "Alliant to Close Dubuque Power Plant," *Cedar Rapids Gazette*, November 3, 2010

<sup>21</sup> Joe Jarosz, "Coal plant powers down," *Muscatine Journal*, November 14, 2013

<sup>22</sup> Jolene Stevens, "Lincolnway Energy converts to gas," *Farm News*, January 18, 2015

<sup>23</sup> "Alliant transitioning M.L. Kapp Generating Station to natural gas," *Corridor Business Journal*, January 3, 2014

<sup>24</sup> Dave Vickers of KROS in Clinton, "Retired Clinton power plant brought down", *Radio Iowa*, July 10, 2020

- MidAmerican Energy Company converted Riverside Generating Station in Bettendorf to natural gas in 2015.
- MidAmerican Energy Company also retired units 1 and 2 at Walter Scott, Jr. Energy Center in Council Bluffs in 2015.
- Grain Processing Corporation transitioned its wet corn processing plant in Muscatine from coal to natural gas in July, 2015.<sup>25</sup>
- George Neal Station North, units 1 and 2 were retired in April, 2016; the plant is located in Sergeant Bluff.<sup>26</sup>
- Between 2006 and 2016, amount of power generated by coal fell by 25.6 percent, from 34,405,000 megawatts to 25,601,000 megawatts.<sup>27</sup>
- Between April and June, 2016, the City of Ames transitioned two coal boilers to natural gas.<sup>28</sup>
- Monsanto's Boiler number 8 was switched from coal to natural gas in 2017, in Muscatine.<sup>29</sup>
- By 2017, MidAmerican reported that it was generating 47 percent of its electricity from wind and 31 percent from coal. Twelve years prior, MidAmerican generated 70 percent of its electricity from coal.<sup>30</sup>
- In November, 2017, Alliant Energy converted its largest coal boiler at the Prairie Creek Generating Station, in Cedar Rapids, to natural gas.<sup>31</sup>
- An August, 2020, open records request to the Iowa Department of Natural Resources asking for the Title V permits of industries that burn coal showed that the following plants no longer had permits: Cargill Corn Milling Power Plant, corn milling, Eddyville; Cargill-Cedar Rapids, grain processing, Cedar Rapids; Central Iowa Renewable Energy (CORN) LP, dry mill ethanol, Goldfield; Monsanto (Iowa), pesticide manufacturing, Muscatine.
- Burlington Generating Station in Burlington, Iowa, stopped burning coal and began the transition to natural gas late in the year of 2021.<sup>32</sup> It is operated by Alliant Energy.
- In 2022, Iowa State University in Ames began transitioning its coal burners to natural gas and the first boiler was fully transitioned.<sup>33</sup> The second boiler was slated for completion in April, 2023.
- The end of 2022, Alliant ceased operating Boiler Unit 4, its last boiler at the Lansing Generating Station.<sup>34</sup>
- Iowa State University Power Plant in Ames fully transitioned off coal in 2023.<sup>35</sup>
- Muscatine Generating Station, Units 7, 8, 8A were slated for retirement on May 31, 2023.<sup>36</sup>

### Mercury Contamination of Fish and Turtles

One of the pollutants emitted into the air when coal is burned is mercury. When mercury emissions settle in water bodies, the fish can be contaminated. People who eat the mercury-contaminated fish can face a number of health concerns since mercury is a powerful neurotoxin. It can interfere with normal fetal development if a mother ingests mercury-laden fish. Mercury has also been implicated in coronary disease in men.

<sup>25</sup> George C. Ford, "Grain Processing Corp. now exclusively using natural gas," *Cedar Rapids Gazette*, July 17, 2015

<sup>26</sup> MidAmerican Energy Company, "Just the Facts", April, 2016

<sup>27</sup> Yvette Romero, "States' Appetite for Coal Shrinks, Except in Nebraska", *Bloomberg*, May 30, 2017. See <https://www.bloomberg.com/graphics/2017-coal-states-shrinking-appetite/>

<sup>28</sup> Austin Harrington, "City officials celebrate move to natural gas", *Ames Tribune*, May 20, 2016

<sup>29</sup> "Sulfur Dioxide Data Requirements Rule – 2019 Annual Review", Iowa Department of Natural Resources, May 8, 2019, Draft

<sup>30</sup> Rod Boshart, "A green future", Iowa Ideas – Building a Roadmap for the Future, *The Gazette*, Cedar Rapids, Iowa, March, 2017, page 42

<sup>31</sup> Mitchell Schmidt, "Alliant shifting C.R. coal unit to burn natural gas", *Cedar Rapids Gazette*, November 2, 2017

<sup>32</sup> Michaele Niehaus, "Alliant Energy's Burlington power station goes greener with elimination of coal", *The Hawk Eye*, Burlington, Iowa, May 11, 2022

<sup>33</sup> Jack McClellan, "Iowa State facing the future of powering campus", *Iowa State Daily*, November 13, 2022

<sup>34</sup> Brittney Miller, "End of an era for Alliant's Lansing coal power plant", *Cedar Rapids Gazette*, November 27, 2022

<sup>35</sup> Anne Krapfl, "So long, coal", Iowa State University Strategic Relations and Communication, February 23, 2023

<sup>36</sup> Charles Potter, "MPW Plant 1 to retire May 31, 2023", *Muscatine Journal*, September 2, 2021

The Iowa Department of Natural Resources (Iowa DNR) has listed several water bodies in Iowa where there are fish advisories that warn sensitive populations (pregnant and nursing women, those planning to become pregnant, young children) to limit the number of fish they eat each week because the fish are contaminated with mercury. Advisories are also given for the consumption of turtles.

Once a fish consumption advisory has been issued for a water body, the fish are periodically tested to determine whether the contaminant remains present in the fish. Once two successive tests show that the contamination levels have been reduced below the threshold for that chemical, the advisories are removed.<sup>37</sup>

The DNR encourages Iowans and out-of-state visitors to fish. Not only does fishing provide recreation and food, but it also provides economic activities to the communities where fishing is prevalent. Mercury-contaminated fish can impact the tourism and economic benefits the state receives from people who fish.

Because lakes and rivers can be added to the list of consumption advisories, check for updates at the DNR website: [www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring/Fish-Tissue](http://www.iowadnr.gov/Environmental-Protection/Water-Quality/Water-Monitoring/Fish-Tissue). The lakes and rivers in Iowa with mercury advisories in 2023 are:

<b>Water body</b>	<b>Location</b>	<b>Eat 1 fish a week of the following species<sup>38</sup></b>
Chatfield Lake	Lee	largemouth bass
Grade Lake	Clarke County	largemouth bass
Lake Geode	Henry County	largemouth bass
Lake Iowa	Iowa County	largemouth bass
Lake Keomah	Mahaska County	largemouth bass
Lake Miami	Monroe County	largemouth bass
Lake Wapello	Davis County	largemouth bass
Little River Lake (Decatur)	Decatur	largemouth bass
Mormon Trail Lake	Adair County	largemouth bass
Nine Eagles Lake	Decatur County	largemouth bass
North Banner Lake	Warren County	largemouth bass
Pollmiller Park Lake	Lee County	largemouth bass, snapping turtle
Red Haw Lake	Lucas County	largemouth bass
South Banner Lake	Warren County	largemouth bass
Upper Centerville Reservoir	Appanoose County	largemouth bass
Yellow Smoke Lake	Crawford	largemouth bass
Cedar River	from the Highway 218 bridge at Floyd in Floyd County to the Iowa and Minnesota state line	Any predator fish
Iowa River	Upper end of Coralville Reservoir near Swisher in Johnson County to the dam at Iowa Falls in Hardin County	any predator fish
Shell Rock River	From the West Fork Cedar River confluence near Cedar Falls in Black Hawk County to the Winnebago River confluence near Rockford in Floyd County	any predator fish

<sup>37</sup> Pool 12 of the Mississippi River, which is the area between Lock and Dam 11 in Dubuque and Lock and Dam 12 at Bellevue in Jackson County had an advisory for mercury removed after follow-up testing in the fall of 2006 and in 2007. The original advisory warned people to eat only 1 meal a week of walleye, sauger, largemouth bass, white bass or northern pike.

<sup>38</sup> Note: predator fish includes smallmouth bass, white bass, walleye, and northern pike.

Water body	Location	Eat 1 fish a week of the following species <sup>38</sup>
Chatfield Lake	Lee	largemouth bass
Turkey River	From confluence with the Mississippi River 21 miles upstream to confluence with Volga River near Garber, all in Clayton County	any predator fish
Upper Iowa River	from Mississippi River confluence in Allamakee County upstream to the Iowa and Minnesota state line	All species of fish
Volga River, Little Volga River, and the North Branch Volga River	upstream from the town of Volga in Clayton County into its Fayette County headwaters near Hawkeye; including the Little Volga River and the North Branch Volga River	smallmouth bass
Wapsipinicon River	County road D16 at Littleton in Buchanan County to Independence Mill Dam in Buchanan County	walleye
West Fork of the Des Moines River	from the confluence with the East Fork of the Des Moines River in Humboldt County to state highway 15 south of West Bend in Humboldt and Pocahontas Counties	Any predator fish

### Sources

“Alliant announces net-zero power generation goal”, Corridor Business Journal, July 22, 2020

Alliant Energy 2012 Annual Report

“Alliant Energy begins demolition of old generating station in Dubuque”, KCRG, October 31, 2018

“Alliant to phase out coal from Cedar Rapids plant,” *Corridor Business Journal*, June 29, 2015

Marlys Barker, “SCH Wounded But Not Dead,” *Nevada Journal*, February 3, 2009

“Coal, Ash Levels Below Standards,” *Iowa City Press Citizen*, February 18, 2011

Sean Cockerham, “Lack of coal waste oversight is under fire,” *Cedar Rapids Gazette*, March 2, 2014

Consent Decree filed July 15, 2015, Case number 15-0061, United States District Court for the Northern District of Iowa, case United States of America, State of Iowa, Linn County Iowa, and Sierra Club versus Interstate Power and Light Company

Dave DeWitte, “Iowa power plants leave coal for natural gas,” *Cedar Rapids Gazette*, March 15, 2012

Donnelle Eller, “Coal ash waste is leaking from a Muscatine landfill”, *Des Moines Register*, February 9, 2018

<http://www2.epa.gov/enforcement/interstate-power-and-light-company-clean-air-act-settlement>

[www.epa.gov/region7/cleanup/](http://www.epa.gov/region7/cleanup/)

William Garbe, “Alliant announces plan to close Dubuque station in 2017”, *Dubuque Telegraph Herald*, November 30, 2015

Letter from Kathleen Gibson and Jeff Kaman, John Deere, to Executive Secretary of Iowa Utilities Board, December 22, 2011, re “Utility Coal Plant Planning, NOI-2011-0003”

Jason Hancock, “Coal ash consequences – report suppressed,” *Iowa Independent*, May 7, 2009

Jason Hancock, "Secret EPA coal ash report increases fear on contamination in Iowa," *Iowa Independent*, May 13, 2009

Tina L. Hoffman, "MidAmerican Energy to Close Ash Ponds and Iowa Power Plants", MidAmerican Energy Company Press Release, March 1, 2018

David Hotle, "Study recommends Muscatine Power and Water focus on green energy sources", *Muscatine Journal*, July 2, 2020

Nick Hytrek, "MidAmerican reviewing effects of new EPA emissions rules", *Sioux City Journal*, August 5, 2015

"Iowa Climate Change Advisory Council Final Report," December 23, 2008, pages 2-3 and 2-6

Wendy Moorehead, "UI announces it will be coal-free by 2025", *Iowa Now*, February 20, 2017

Angela Neville, JD, "Top Plant: ADM Clinton Cogeneration Plant, Clinton, Iowa," *Power Magazine*, October 1, 2010, [www.powermag.com/top-plantadm-clinton-cogeneration-plant-clinton-iowa/](http://www.powermag.com/top-plantadm-clinton-cogeneration-plant-clinton-iowa/)

Dan Piller, "Alliant plans more natural gas projects," *The Des Moines Register*, February 18, 2012

Mitchell Schmidt, "Alliant shifting C.R. coal unit to burn natural gas", *Cedar Rapids Gazette*, November 2, 2017

Eileen Mozinski Schmidt, "Alliant power plant goes coal turkey," *Dubuque Telegraph Herald*, November 4, 2011

Mitchell Schmidt, "Alliant aims for coal elimination by 2050", *Cedar Rapids Gazette*, August 4, 2018

Mitchell Schmidt, "Iowa's utilities look more to wind, natural gas", *Cedar Rapids Gazette*, October 30, 2016

Mitchell Schmidt, "Iowa taps 'abundant' biomass resources", *Cedar Rapids Gazette*, October 31, 2018

[www.sourcewatch.org/index.php?title=Portal:Coal\\_Issues](http://www.sourcewatch.org/index.php?title=Portal:Coal_Issues) has information about the coal-fired power plants in Iowa.

Staff and wire reports, "MidAmerican, Alliant is closing coal ash landfills at several power plants", *Des Moines Register*, March 2, 2018

Jeff Stant, "In Harm's Way: Lack of Federal Coal Ash Regulations Endangers Americans and Their Environment," Environmental Integrity Project, Earthjustice and Sierra Club, August 26, 2010

UI Statement on Coal Ash Displacement, February 18, 2011, [www.facilities.uiowa.edu/uem/coal-ash-displacement.html](http://www.facilities.uiowa.edu/uem/coal-ash-displacement.html)

Thomas Friestad, "Hawkeye Downs was a fly ash dump site", *Cedar Rapids Gazette*, January 5, 2020

Jack McClellan, "Iowa State facing the future of powering campus", *Iowa State Daily*, November 13, 2022

Jack McClellan, "Power plant to burn through final shipments of coal", *Iowa State Daily*, March 1, 2023