



August 23-25 | 2017

Veteran's Memorial Community Choice Credit Union Convention Center | Des Moines

# Iowa's Wind Energy Success Story

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August 24th, 2017 | Des Moines, Iowa



**What is the percentage of power in Iowa  
came from wind energy in 2016?**

**What are the top 3 states in wind  
generation?**

**When & How did Iowa's wind industry get  
started?**

# Sources:





**Wind provided 36% of  
Iowa's electricity in 2016**

**How did we get here?**

- 1. Local support**
- 2. Geography**
- 3. Economic benefit**
- 4. Pocahontas County**







**Wind has been used for centuries providing energy for transportation and work.**

Elk Horn Iowa



**Wind has been used for centuries providing energy for transportation and work.**



replica early Viking ship



**What happened in Iowa?**

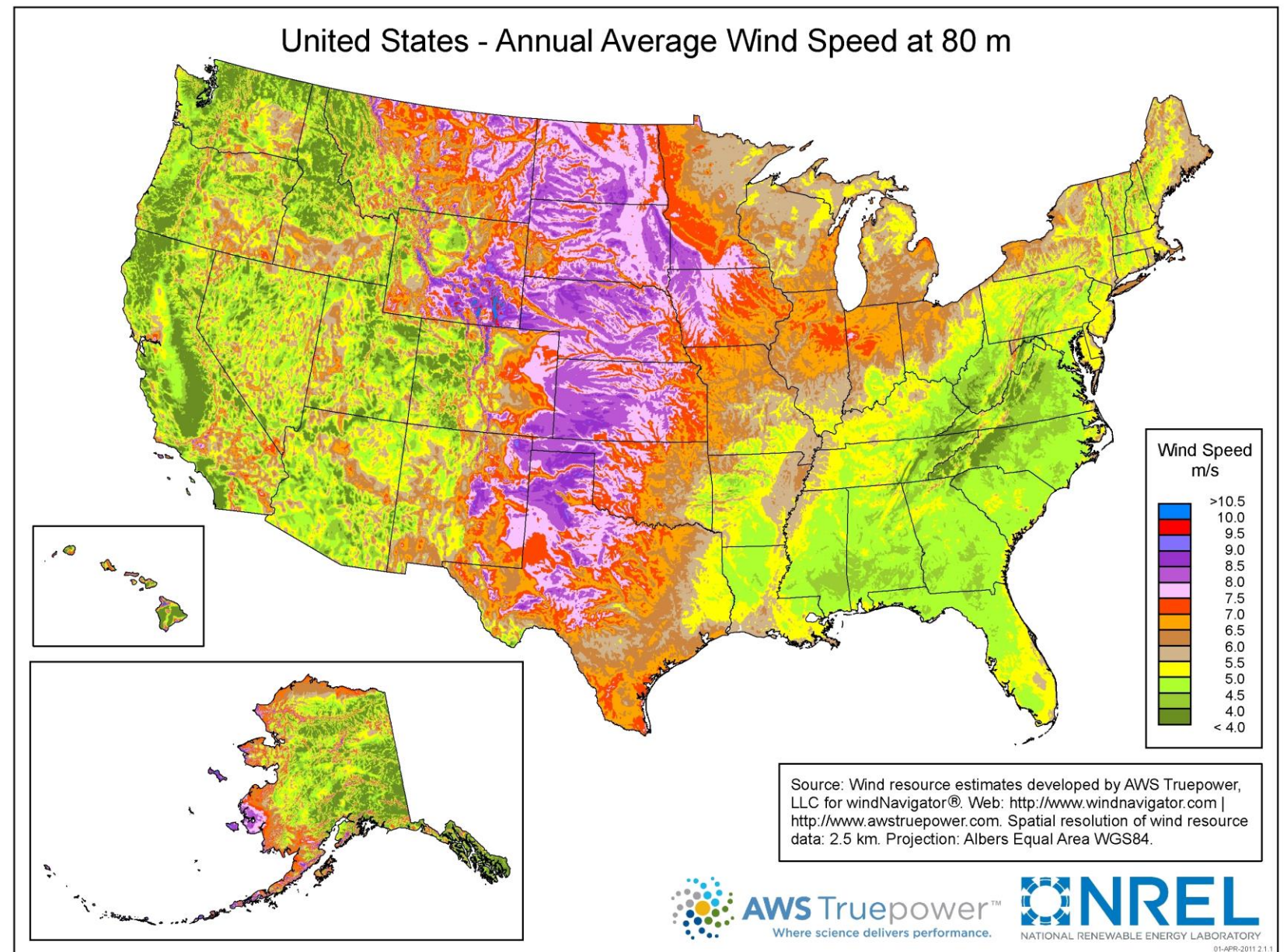
## Local Support:

“Iowa’s generation mix is changing in response to federal and state directives to reduce emissions,” says Iowa Utility Association spokesman Daniel Evans.

“Iowa has favorable wind resources, the support of legislative and regulatory leaders and the commitment of utilities to promote wind generation.”



# Geography: Iowa has wind energy potential



The top 5 windiest states are: Nebraska (1), Kansas (2), South Dakota (3), North Dakota (4), and Iowa (5)

# Politics:

Iowa has encouraged  
wind energy

1983 - 1st state to  
pass a renewable  
portfolio standard



1983 Gov. Terry Branstad, 1st term



**Politics:**

**1983 - Iowa Renewable Portfolio Standard, generation mix must include at least 105 megawatts of renewable capacity from wind.**

**476C continues support for all Iowa renewables.**

**476C.3 DETERMINATION OF ELIGIBILITY.**

1. A producer or purchaser of renewable energy may apply to the board for a written determination regarding whether a facility is an eligible renewable energy facility by submitting to the board a written application containing all of the following:

a. Information regarding the ownership of the facility including the percentage of equity interest held by each owner.

b. The nameplate generating capacity of the facility or energy production capacity equivalent.

c. Information regarding the facility's initial placement in service.

d. Information regarding the type of facility and what type of renewable energy the facility will produce.

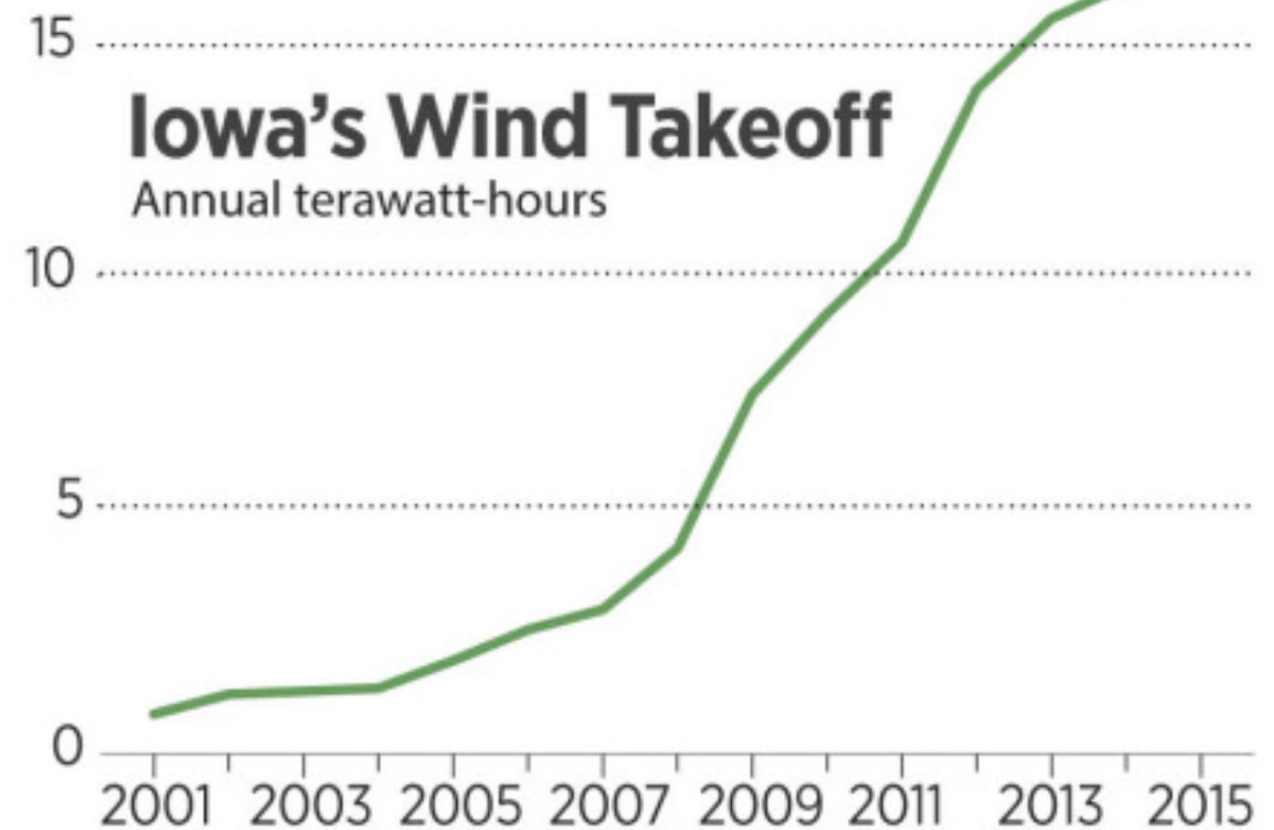
e. A copy of the power purchase agreement or other agreement to purchase electricity, hydrogen fuel, methane or other biogas, or heat for a commercial purpose which shall designate either the producer or purchaser of renewable energy as eligible to apply for the renewable energy tax credit.

f. Any other information the board may require.

2. The board shall review the application and supporting information and shall make a preliminary determination regarding whether the facility is an eligible renewable energy facility. The board shall notify the applicant of the approval or denial of the application within thirty days of receipt of the application and information required. If the board fails to notify the applicant of the approval or denial within thirty days, the application shall be deemed denied unless the application is placed on a waiting list as described in subsection 5. An applicant who receives a determination denying an application may file an appeal with the board within thirty days from the date of the denial pursuant to the provisions of chapter 17A. In the absence of a timely appeal, the preliminary determination shall be final. If the application is incomplete, the board may grant an extension of time for the provision of additional information.

3. A facility that is not operational within thirty months after issuance of an approval for the facility by the board shall cease to be an eligible renewable energy facility. However, a wind energy conversion facility that is approved as eligible under this section but is not operational within eighteen months due to the unavailability of necessary equipment shall be granted an additional twelve months to become operational. A facility that is granted and thereafter loses approval may reapply to the board for a new determination.

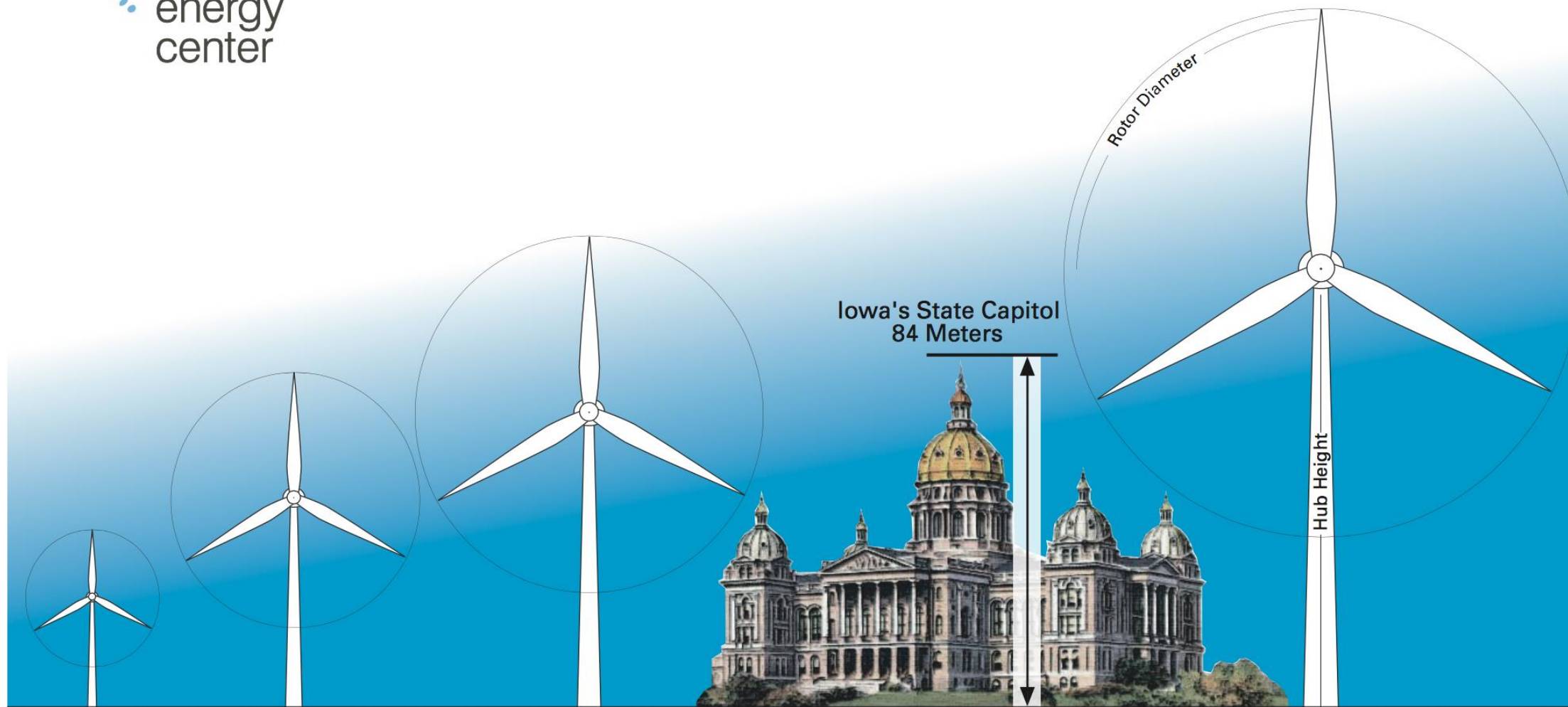
**Local support,  
politics and  
geography helped  
Iowa wind takeoff.**



Source: Energy Information Administration



# How Tall Are Wind Turbines?

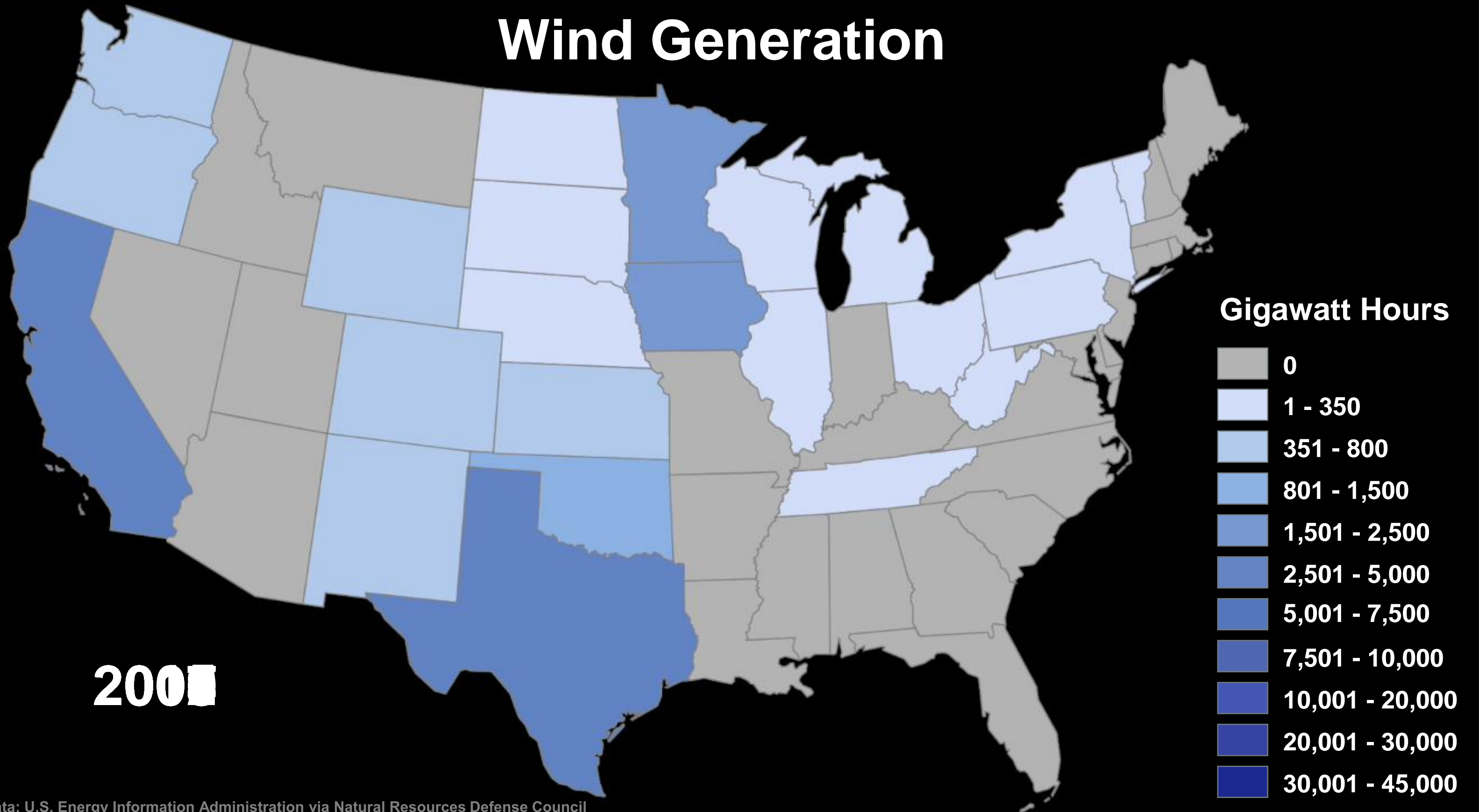


27m	50m	70m	Rotor Diameter	94m
40m	65m	80m	Hub Height	120m
225kw	750kw	1.5MW	Rating	2.3MW
Schafer Systems Adair, IA	Storm Lake Wind Power Facility Storm Lake, IA	Flying Cloud Wind Power Plant Spirit Lake, IA	Manufactured by GE Wind	



**How do we rank against  
other states?**

# Wind Generation



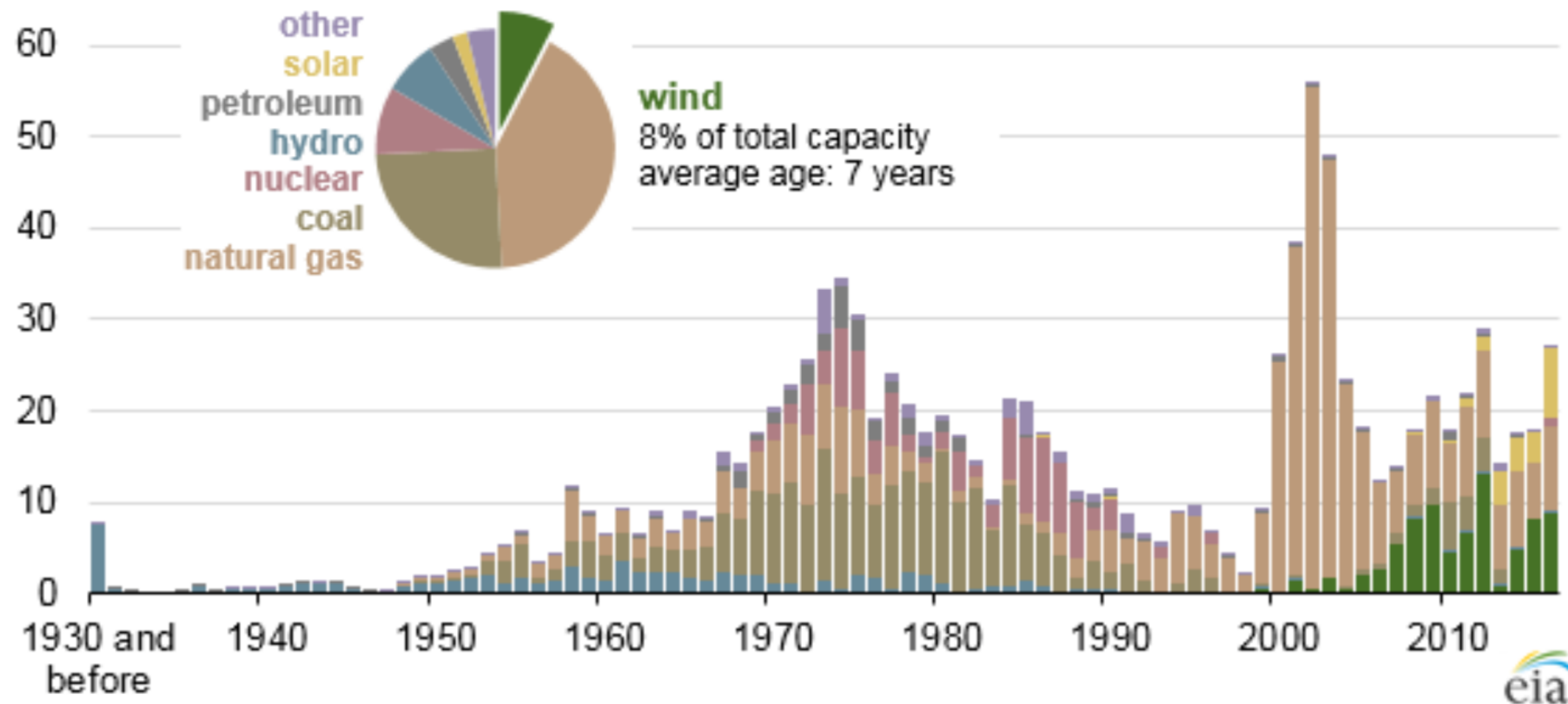


**Iowa ranks #1 in the U.S. in the percentage of electricity that comes from wind**

**Iowa ranks #2 in the U.S. in the total generation that comes from wind**

# Wind turbines provide 8% of U.S. generating capacity, more than any other renewable source

U.S. utility-scale electric generating capacity by initial operating year (as of Dec 2016)  
gigawatts



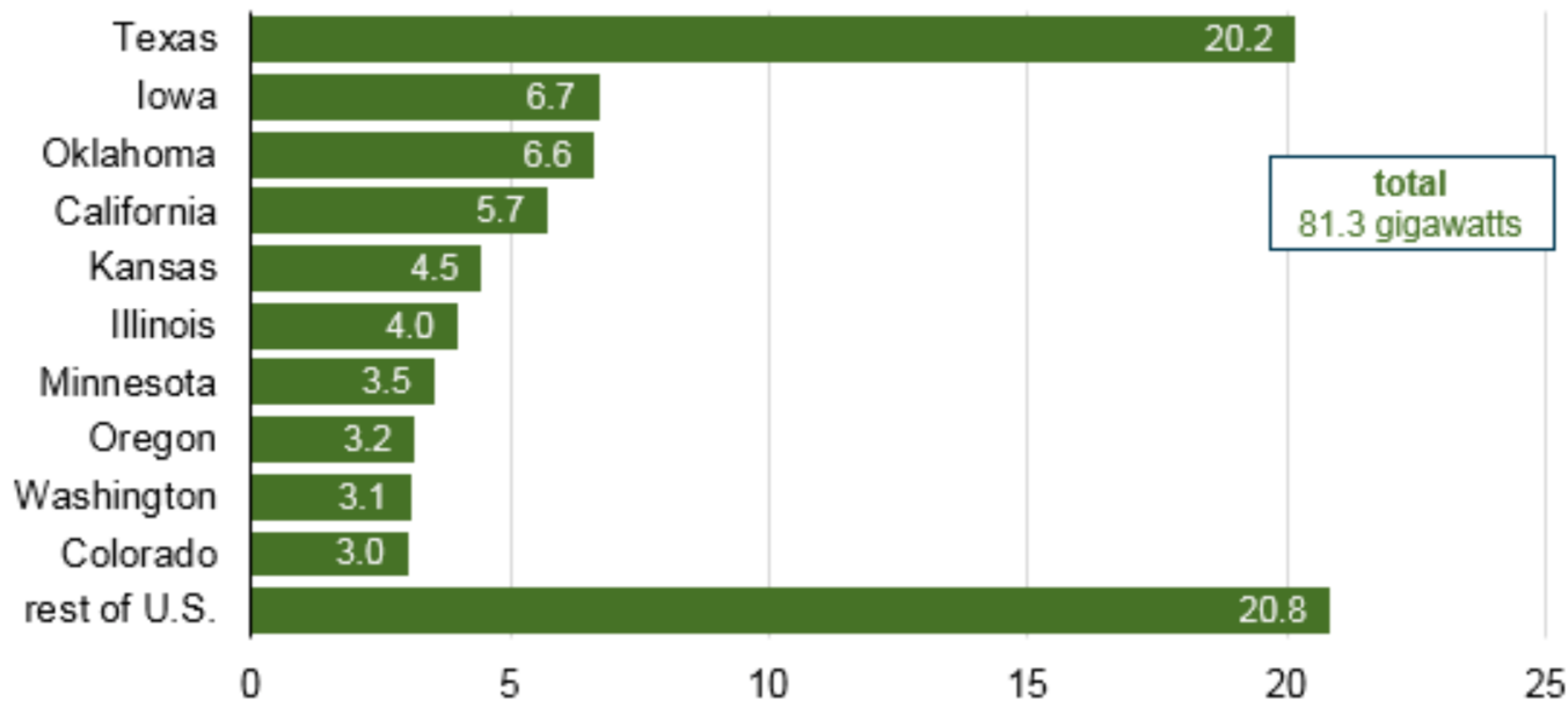
Source: U.S. Energy Information Administration, [Preliminary Monthly Electric Generator Inventory](#)





## Operating wind generating capacity by state (as of Dec 2016)

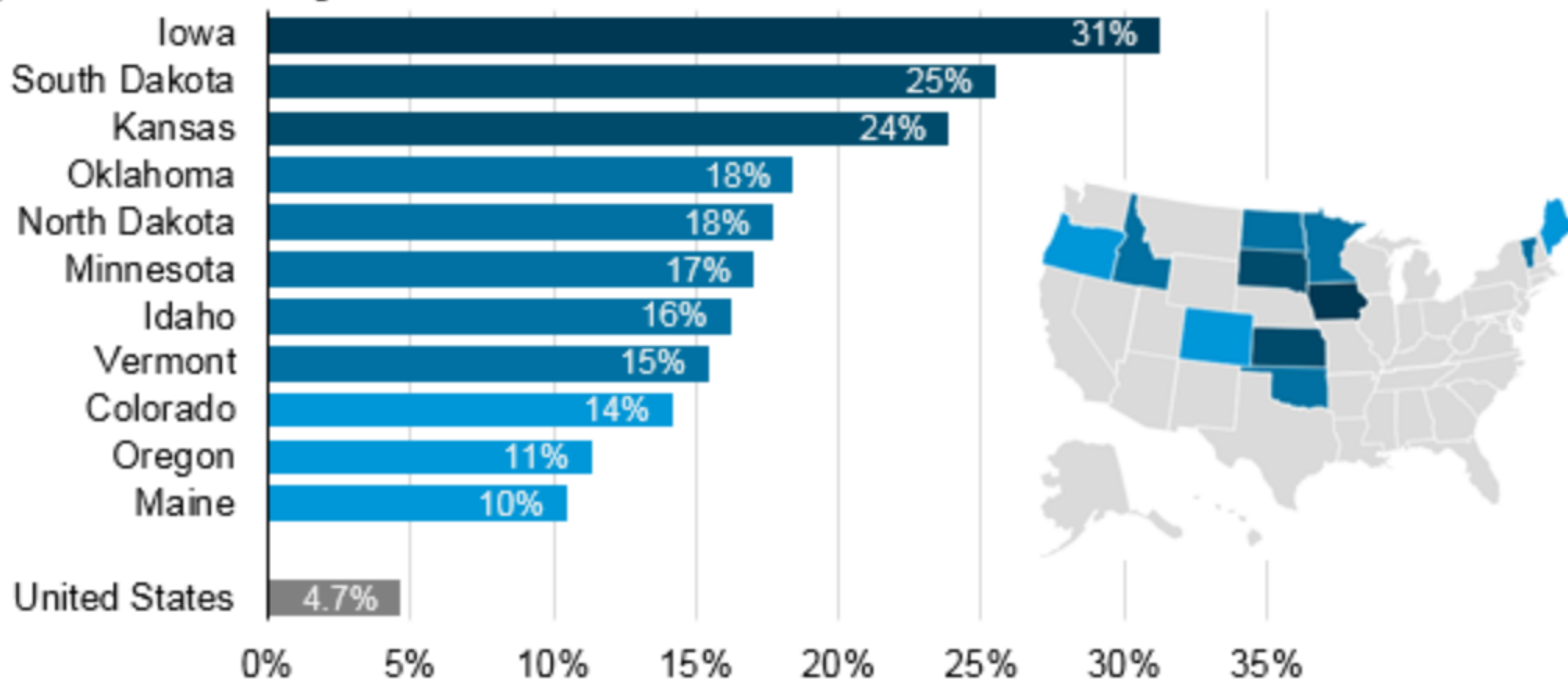
gigawatts



Source: U.S. Energy Information Administration, [Preliminary Monthly Electric Generator Inventory](#)

## Wind share of electricity generation by state, 2015

percent of total net generation



Source: U.S. Energy Information Administration, Electric Power Monthly



**Wind is on track to provide  
40% of Iowa's total electricity  
generation by 2020**


**By 2020, wind power in Iowa  
will grow to 40%.**



Source: The Post Bulletin; American Wind Energy Association  
Photo: © 2014 AP Photo/Charlie Neibergall

*Adair, Iowa*

**Is it realistic to get beyond  
40%, how about to 50%, or  
85%, or 100%?**



**If Iowa's wind power potential were fully developed, wind could provide more than 44 times the state's annual electricity needs.**

**How much investment, who  
is growing wind in Iowa?**





# BUSINESS



## ALLIANT TO SPEND \$1B ON NEW WIND FARM

Project will add 500 megawatts of energy over next 5 years to an existing site in Iowa

DONNELLE ELLER [DDELLER@DMREG.COM](http://DDELLER@DMREG.COM)

Alliant Energy says it will invest \$1 billion over the next five years to add 500 megawatts of wind energy to an existing farm in north-central Iowa.

Alliant CEO Patricia Kampling announced the project Wednesday with Gov. Terry Branstad in Cedar Rapids, headquarters of Alliant's Iowa utility, Interstate Power & Light.

"Our customers expect low-cost, clean energy, which is exactly what this project will bring to our communities," said Doug Kopp, president of Interstate Power & Light. "Wind has no fuel costs and zero emissions, making it a win-win for Iowans and the Iowa economy."

Interstate Power & Light seeks regulatory approval to expand Whispering Willow, a wind farm in Franklin County that already generates 200 megawatts of renewable energy. The utility also said it may develop wind energy in other areas of the state.

The project would add enough energy to power about 215,000 Iowa homes, the utility said.

Alliant leaders said the company hopes to take advantage of production tax credits that are slated to expire in three years. Alliant Energy said the project fits into its plan to cut carbon dioxide emissions by 40 percent between 2005 and 2020.

The investor-owned utility said the project will generate \$90 million in property taxes over 20 years. And it will

create more than 1,500 jobs at the height of construction.

Interstate Power and Light has requested regulatory approval for the project. In its request to the Iowa Utilities Board, the utility seeks a 11.5 percent return on equity.

Environmental groups in the state were quick to praise Alliant's proposal. "Alliant Energy's new wind project will continue Iowa's strong momentum on clean energy leadership," Nathaniel Baer, energy program director at the Iowa Environmental Council, said in a statement.

Josh Mandelbaum, staff attorney with the Environmental Law and Policy Center, said the project "further cements Iowa's position as a national renewable energy leader."

The state received 31.3 percent of its electricity in 2015 from wind generation and leads the nation in the percentage of electricity from wind, according to the U.S. Energy Information Administration.

Alliant's announcement follows a large investment from MidAmerican Energy, Iowa's other investor-owned utility.

MidAmerican plans to invest \$1.6 billion in building a 2,000 megawatt wind farm in Iowa. It also seeks regulatory approval.

Register reporter Matthew Patino contributed to this story.

# July 28th, 2016

# Alliant Announces \$1B on wind

# 500 MW

# MidAmerican Energy: April 14th, 2016 - Largest infrastructure project in the history of the state

2000 MW of generation

\$3.6 Billion investment

Will achieve 85% wind power

Source: NASA



The screenshot shows a news article from NBC 43. The headline reads "Wind Will Provide Most of MidAmerican's Energy With \$3.6 Billion Expansion". The article is dated April 14, 2016, and was posted at 11:49 AM. It was written by a staff writer and updated at 04:17 PM. The article features a video player with a "Play video" button and a thumbnail image of a wind turbine. The video title is "Wind Will Provide Most of MidAmerican's Energy Wi...". The article text begins with "DES MOINES, Iowa -- Just 12 years ago, MidAmerican Energy didn't get any of its energy from wind turbines. But leaders announced a major project Thursday that they".

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## Our 100% Renewable Vision

MidAmerican Energy began investing in renewable energy in 2004, and we're not done yet. Our vision is to provide 100% renewable energy for our customers. It's a bold vision.



**Mid American will continue to grow and invest in renewable energy to 100%**

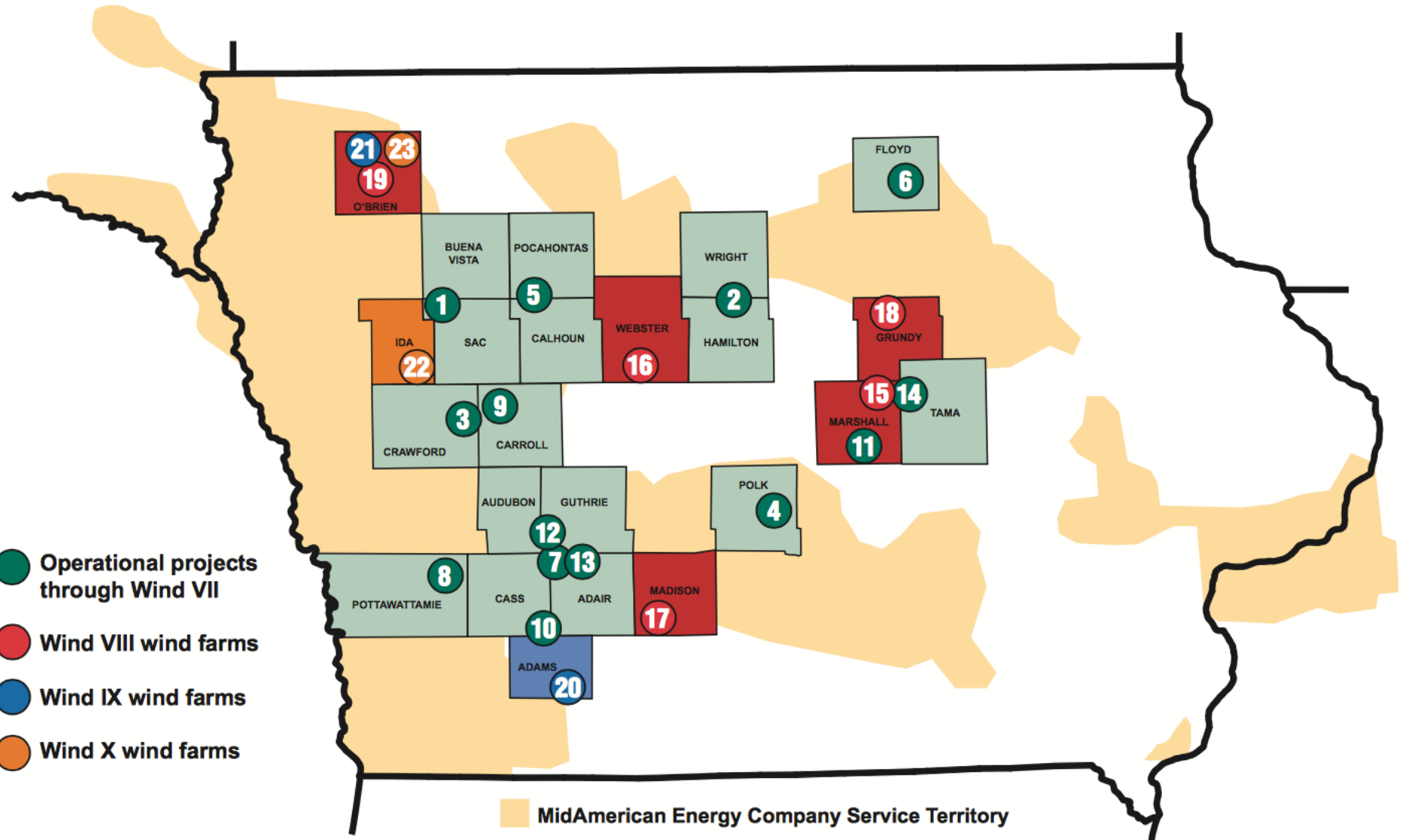
MidAmerican Energy Company is No. 1 in the U.S. in ownership of wind-powered electric generation among rate-regulated utilities.

at the end of 2015:

23 wind farms

3500 MW Generation

WIND PROJECTS OWNED BY MIDAMERICAN ENERGY COMPANY



- |   |  |   |
|---|--|---|
| <p><b>1 Intrepid Project (175.5 MW)</b><br/>Buena Vista and Sac counties</p> <p><b>2 Century Project (200 MW)</b><br/>Wright and Hamilton counties</p> <p><b>3 Victory Project (99 MW)</b><br/>Crawford and Carroll counties</p> <p><b>4 Iowa State Fair Wind Turbine (0.5 MW)</b><br/>Polk County</p> <p><b>5 Pomeroy Project (286.4 MW)</b><br/>Pocahontas and Calhoun counties</p> <p><b>6 Charles City Project (75 MW)</b><br/>Floyd County</p> <p><b>7 Adair Project (174.8 MW)</b><br/>Adair and Cass counties</p> <p><b>8 Walnut Project (153 MW)</b><br/>Pottawattamie County</p> | <p><b>9 Carroll Project (150 MW)</b><br/>Carroll County</p> <p><b>10 Rolling Hills Project (443.9 MW)</b><br/>Adair, Adams and Cass counties</p> <p><b>11 Laurel Project (119.6 MW)</b><br/>Marshall County</p> <p><b>12 Eclipse Project (200.1 MW)</b><br/>Audubon and Guthrie counties</p> <p><b>13 Morning Light Project (101.2 MW)</b><br/>Adair County</p> <p><b>14 Vienna I Project (105.6 MW)</b><br/>Marshall and Tama counties</p> <p><b>15 Vienna II Project (44.6 MW)</b><br/>Marshall County</p> <p><b>16 Lundgren Project (251 MW)</b><br/>Webster County</p> | <p><b>17 Macksburg Project (119.6 MW)</b><br/>Madison County</p> <p><b>18 Wellsburg Project (140.8 MW)</b><br/>Grundy County</p> <p><b>19 Highland Project (495 MW)</b><br/>O'Brien County</p> <p><b>20 Adams Project (154.3 MW)</b><br/>Adams County</p> <p><b>21 Highland Expansion Project (7 MW)</b><br/>O'Brien County</p> <p><b>22 Ida Grove Project (301 MW)</b><br/>Ida County</p> <p><b>23 O'Brien Project (250.3 MW)</b><br/>O'Brien County</p> |
|---|--|---|

# Alliant's Latest Announcement

July 2017

500 MW

\$900M Investment

2020 Completion

 Utility **DIVE**



**BRIEF**

## Alliant Energy spending \$900M to expand Iowa wind resources

By Robert Walton • Aug. 7, 2017

**Who else is achieving  
these numbers?**

# Rock Port, Missouri



**Rock Port is the first 100%  
wind-powered town in the U.S.**



**U.S. Cities  
Using 100%  
Renewable  
Energy**

**Rock Port, Missouri  
Greensburg, Kansas  
Burlington, Vermont  
Aspen, Colorado  
Columbia, Maryland  
Kodiak Island, Alaska**



**Globally, wind could supply  
worldwide electricity consumption  
40 times over**

**What about the jobs?**

**9,000 wind related jobs in Iowa**



**The wind industry in Iowa employs nearly 9,000 people**

Source: The Post Bulletin  
Photo: © 2011 AP Photo/The Hawk Eye, John Lovretta

*Siemens Wind Turbine Blade Factory, Danville, Iowa*




**Wind and solar energy support about 30,000 jobs at approximately one thousand companies in Wisconsin, Illinois and Iowa**



**The number of “clean jobs”  
postings in the U.S. climbed  
88% in the last 12 months.**

**What is the #1 fastest growing  
job?**



**“Wind turbine service technician” is forecast to be the fastest-growing job category in the U.S. through 2024**

*Colorado Highlands Wind Farm,  
Fleming, Colorado*

# Wind Turbine Technician !









*Pocahontas*

# Wind Engery Benefits in Pocahontas County

**Sue Reigelsberger**  
**Pocahontas County Assessor**  
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How many wind turbines are in Pocahontas County?

216

Of those, MidAmerican Energy owns

176





**Wind Resolution**

**Escalating Tax Basis**



**Tax revenue for 2016/2017 on the project was \$3,031,370 with another 1/2 million in tax growth left.**

**So far, MidAmerican has paid over \$13 million dollars in tax on wind energy in Pocahontas County.**



These wind generators, photographed Jan. 5, 2009, are part of the 123-megawatt MidAmerican Energy project near Pomeroy, Iowa.

*(Photo: Rodney White, The Des Moines Register)*



**40 turbines are owned by Pocahontas Prairie Wind.**

**Currently at 20% of cost on this project for 2017 valuation.**

**Tax revenue for 2016/2017 was \$229,156.**

**By the time it reaches full growth, the revenue will be approximately \$687,468 annually**

A screenshot of the Mortenson website's project page for the Pocahontas Prairie Wind Project. The page features a navigation menu with "HOME", "YOUR INDUSTRY", "OUR APPROACH", "COMPANY", "CONTACT", and "SEARCH". The "WIND" section is active, and the "PROJECTS" tab is selected. The main content area shows a large photograph of construction workers on a rebar grid for a foundation. To the right of the image is a sidebar with "Project Facts" (Gamesa Technology Corporation, Completed December 2011, 80 MW), "Related" (Wind, Gamesa), and "Delivery Methods" (Engineer, Procure, Construct). The project title "POCAHONTAS PRAIRIE WIND PROJECT" and location "Pomeroy, IA" are displayed at the bottom of the image.

HOME YOUR INDUSTRY OUR APPROACH COMPANY CONTACT SEARCH Mortenson

WIND GET IN TOUCH

WELCOME EXPERTISE PEOPLE PROJECTS NEWS & INSIGHTS

1 OF 3

**POCAHONTAS PRAIRIE WIND PROJECT**  
Pomeroy, IA

**Project Facts**  
Gamesa Technology Corporation  
Completed December 2011  
80 MW

**Related**  
Wind, Gamesa

**Delivery Methods**  
Engineer, Procure, Construct



**Township Levies**

**School Bond Issues**

**– Pay down Rate on Principle**



# Pocohantas County



**Questions ?**

# **Additional Wind Engery Facts**

# U.S. Cities Using 100% Renewable Energy



**Greensburg, KS**



**Burlington, VT**



**Georgetown, TX  
(by 2017)**

On May 11, 2014, Germany generated **74%** of its electricity from solar and wind energy





**On August 7, 2016  
100% of Scotland's electricity  
came from wind power**

**In May 2016, Portugal  
operated for four days  
straight on renewable  
energy alone.**



# Royds Farm, Yorkshire, England



**The United Kingdom got more electricity from wind than from coal in 2016.**



# World's Largest Wind Turbine Goes Online

Østerild, Denmark  
October 6, 2012

**Deployed offshore,  
this turbine can  
power 6,000 homes**



# The London Array, England



The world's largest offshore wind farm, the London Array, can power **470,000** homes

# The Ngong Hills, Kenya

October 29, 2010



# Melloussa, Morocco

June 28, 2010



# Belen, Turkey



# Weifang, China

April 10, 2009



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# La Ventosa, Mexico

**Mexico has invested heavily in wind, including building one of the world's largest windfarms**

# Sherman County, Oregon





**Existing US wind power capacity at the end of 2013 was 61 gigawatts: enough to power all the homes in the state of California.**



**A 14-year-old boy  
built a working  
windmill to power  
his village in Malawi**



**Speak to  
Your  
Legislators!**



# Stay Informed: Wind Energy Foundation



The screenshot shows the top portion of the Wind Energy Foundation website. At the top left is a hamburger menu icon. In the center is the Wind Energy Foundation logo, which includes a stylized wind turbine and the text "WIND ENERGY FOUNDATION". At the top right is a search icon. Below the navigation bar is a large hero image of a wind farm at sunset. Overlaid on the image is the text "A Renewable America" in a large, white, sans-serif font. Below this is a smaller line of text: "ARA is a project of WEF that highlights the economic benefits of developing renewable power." At the bottom of the hero image are four small white circles, with the first one being slightly larger and filled, indicating the current slide in a carousel. Below the hero image are two white rectangular boxes. The left box contains the text "Achievements in American Wind Energy" in a blue, sans-serif font. The right box contains the text "Recent News" in a blue, sans-serif font, followed by "12 April, 2017" and "NEW REPORT FROM A" in a smaller, grey, sans-serif font.

WIND ENERGY FOUNDATION

## A Renewable America

ARA is a project of WEF that highlights the economic benefits of developing renewable power.

Achievements in American Wind Energy

Recent News

12 April, 2017  
NEW REPORT FROM A

# IWEA Email List

Sign up



# Attend events!

# WIND DAY ON THE HILL



IOWA STATE HOUSE • MARCH 27, 2017 • 12 PM - 4 PM

## EVENT INFO

Iowa Wind Energy Day at the Capitol is an opportunity to showcase that positive economic impact of the wind energy industry. Last year, 36% of electricity in Iowa was generated from wind power, making Iowa a national leader in percentage of electricity produced from wind, wind related employment, component manufacturing and installed capacity. We want to continue that momentum. Join the Iowa Wind Energy Association as a sponsor and/or exhibitor at this year's event scheduled for March 27, 2017. The event runs from 12 - 4, with a special appearance by Governor Branstad at 3. This is a great opportunity to inform our legislative leaders about the benefits of Iowa's wind energy industry!



**EXPANDING WIND ENERGY CAN SAVE IOWA CONSUMERS \$12.6 BILLION OVER 25 YEARS**



**FIXED-PRICE WIND ENERGY BECOMES AN EVEN BETTER DEAL AS OTHER FUELS INCREASE IN PRICE OVER TIME**



**WIND ENERGY CONSERVES WATER, CREATES JOBS AND ECONOMIC DEVELOPMENT AND REDUCES THE PRICE OF FOSSIL FUELS**

## CONTACT

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**Thank You for your time!**

**Questions?**