

# Alliant Energy's Sustainability Plans

Grinnell College Climate Dialogue

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Corporate Sustainability



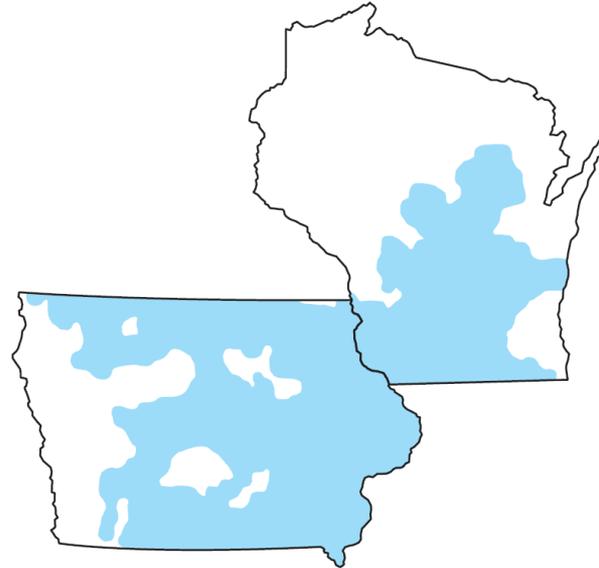
# About Alliant Energy

## Our mission

To deliver the energy solutions and exceptional service that our customers and communities count on – safely, efficiently and responsibly.

## Our operations

- 958,318 electric customers
- 411,758 natural gas customers
- 3,978 employees
- \$3.3 billion operating revenues
- \$13.4 billion total assets

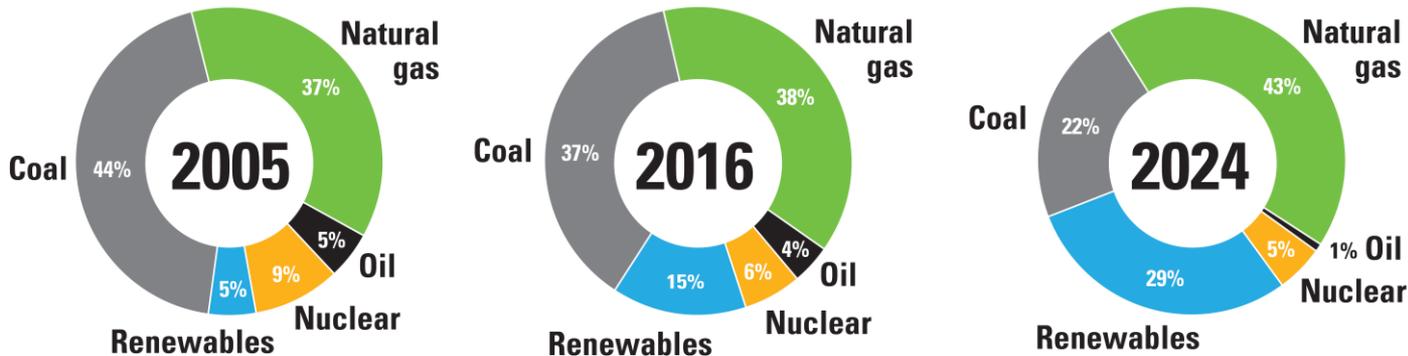


# Planning for long-term sustainability

## Our energy vision and strategy guiding principles:

- Innovative customer solutions
- Advancing clean energy
- Building a smarter, stronger power grid
- Strengthening our communities

## Transitioning our energy resources\*



\*Based on rated capacity in megawatts

# Our strategy will advance decarbonization

Our multi-faceted approach is reducing greenhouse gas emissions while providing economical and reliable power

- Expanding our renewable resources
- Enabling local renewable projects
- Ensuring flexibility and balance
- Staying focused on energy efficiency
- Building smarter resilient infrastructure
- Encouraging electric vehicle adoption



# Expanding our renewable resources

## Current and Planned Wind Farms

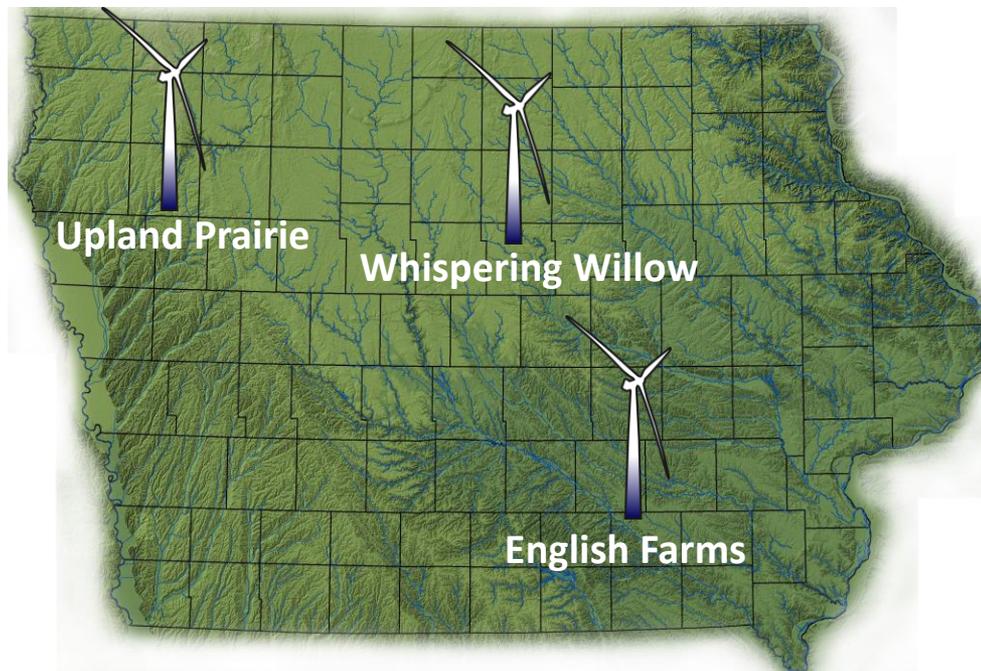
Current – Whispering Willow  
Franklin County

Planned – Upland Prairie  
Clay and Dickinson Counties

Planned – Whispering Willow addition  
Franklin County

Pending – English Farms  
Poweshiek County

More expected from 2017 – 2021



# Benefits of Wind Energy

1. Adding more wind energy will help keep rates competitive for our customers
2. Improved technology lowers costs while delivering reliable energy
3. Long-term cost stability increases from no variable fuel costs
4. Wind energy is renewable and clean



# Wind technology has improved (1999-2016)

## Reduced costs

- The cost of installed turbines has dropped 49% since a peak in 2009
- Maintenance costs have dropped 52%

## More energy

- Taller towers and longer blades allow more energy production in lower wind speeds
- Each wind turbine can produce four times more energy



# Co-existing wind energy with wildlife



*Picture of prairie pothole found during micro siting event in North Central Iowa*

## Responsible Development is Key

- Conduct Site Assessments (desktop & land-based)
- Locate Wind Turbines to minimize impacts
- Follow USFWS Land-Based Wind Energy Guidelines
- Need *Collective Commitment* to safeguard Wildlife
- Avian Protection Plan

# Example - Safeguards for Bats



## Automated Wind Turbine Curtailment System

- Co-Sponsored EPRI\* Research Project
- Look at it as “*Smart Curtailment*”
  - Acoustic-based
  - Integrates with Turbine management system
- Links Atmospheric Conditions with Bat Activity
  - Species Specific
  - Seasonal



\*<http://www.epri.com/Our-Work/Pages/Renewables.aspx>

# Expanding our renewable resources

## Dubuque solar

- Iowa's largest solar installation
  - Over 19,000 panels
  - 5 MW plus 1.2 MW (former brownfield)
- Pollinator-friendly habitat
  - 21-acres prairie planting
  - 20 beehives
- Now in-service will power about 850 homes a year



# Enabling local renewable projects

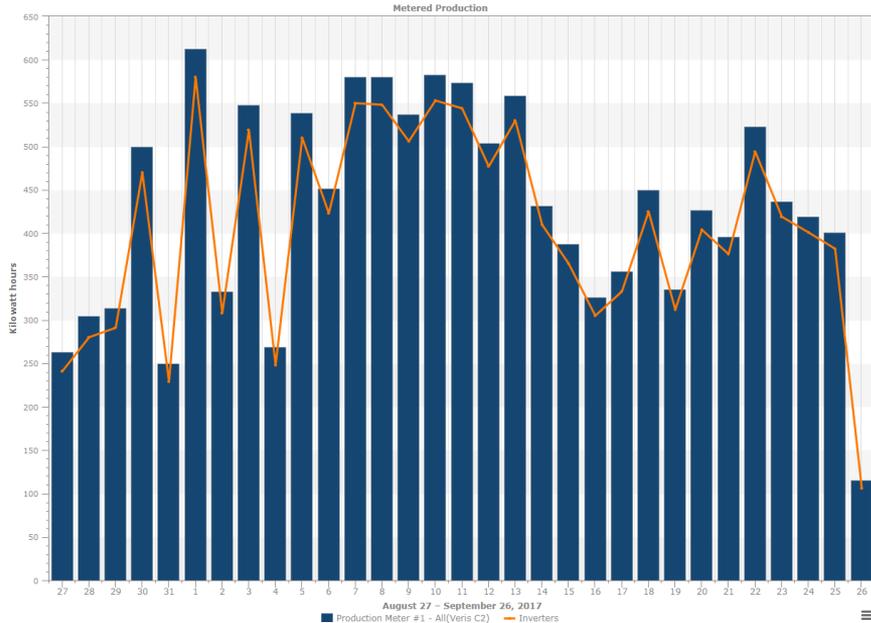


## Alliant Energy Iowa: Private Generation

Generation type	Projects	MW
Solar	2535	42
Wind	161	112
Other (hydro, biomass, digester, etc.)	13	29

# Indian Creek Nature Center Partnership

In 2016, the Amazing Space facility at the Indian Creek Nature Center in Cedar Rapids was completed. Alliant owns and operates a solar array on the building and on the ground near it.



Real-time solar production information:  
[www.alliantenergy.com/solar](http://www.alliantenergy.com/solar)

# Ensuring flexibility and balance

## Marshalltown

- In-service Spring 2017
  - Highly-efficient natural gas
  - Adjusts generation quickly
- Envision™ certification
  - Infrastructure sustainability rating system considers over 60 criteria
- Offsetting auxiliary power needs
  - Adding 1.5 MW of solar and 250-kilowatt battery system in 2018



Marshalltown Generating Station  
(650 Megawatts) – Envision  
Platinum Award, 1<sup>st</sup> in Iowa

# Staying focused on energy efficiency

- Iowa Energy Efficiency Plan
- Example of success
  - Grinnell College Athletic Facility
  - Annual utility cost savings \$267,730
  - Alliant new construction rebate \$89,800
- Future projects
  - Admissions and Financial Assistance Building
  - Humanities and Social Studies Complex



**Charles Benson Bear '39 Recreation and Athletic Center**

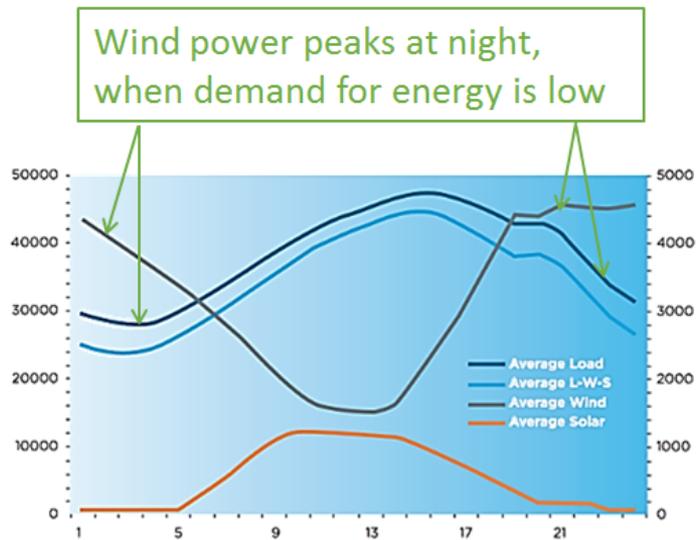
# Building smarter resilient infrastructure



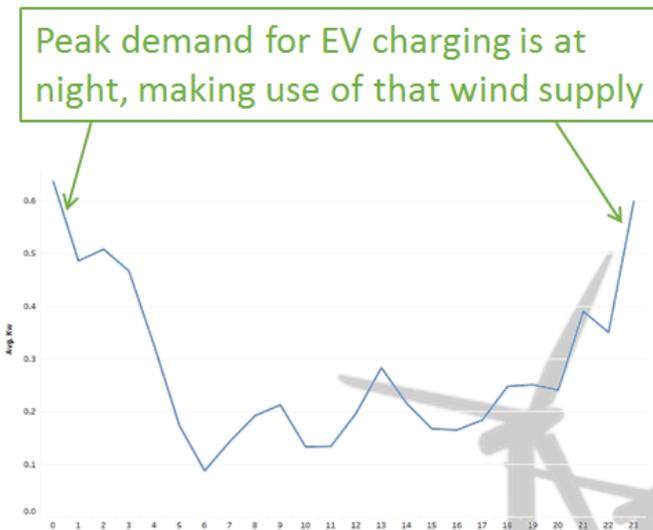
- Improving reliability
  - Equipment underground, stronger poles, larger wires
  - Length of outages reduced 30%
- Higher voltage lines
  - 25-kilovolt equipment
  - Carries 4 times more power
  - Needs fewer substations
- Optimizing our grid
  - Advanced metering infrastructure
  - Two-way flow of energy

# Encouraging electric vehicle (EV) adoption

EVs complement other green energy advancements



Source: <https://blogs.scientificamerican.com>



Source: EPRI

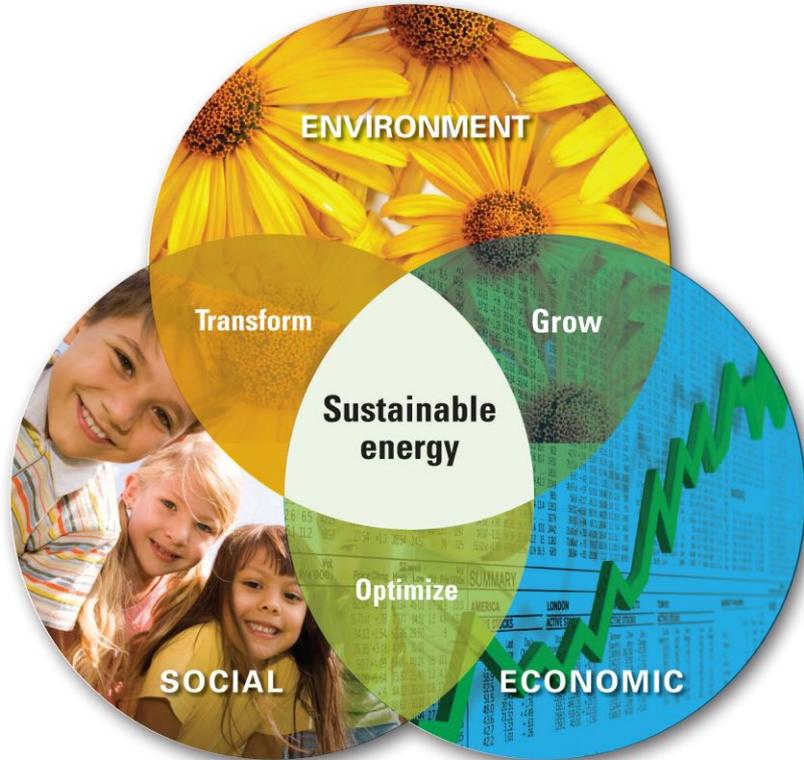
# Three different EV rebates available

- **Home charging**
  - \$500 rebate for Level 2 home charging station
- **Workplace charging**
  - \$1,000 rebate for a single plug-in Level 2 unit (charges one car)
  - \$1,500 rebate for a dual-prong Level 2 unit (charges two cars)
- **New construction and multi-family housing**
  - \$100 rebate for installing dedicated 240 volt wiring



# Our Sustainability Pillars

*Powering beyond to transform, grow and optimize*



Our sustainability strategy looks into the future, promoting responsible company growth through the economic, social and environmental decisions we make today.

Learn more at:

[\*alliantenergy.com/sustainability\*](http://alliantenergy.com/sustainability)

