



# ALLIANCE FOR AFFORDABLE ENERGY



*Advocates for  
Sustainable Energy Policy  
for over 29 years*

**Casey DeMoss, CEO Alliance for Affordable  
Energy**

# Modernizing and Integrating the Grid



1900



2014



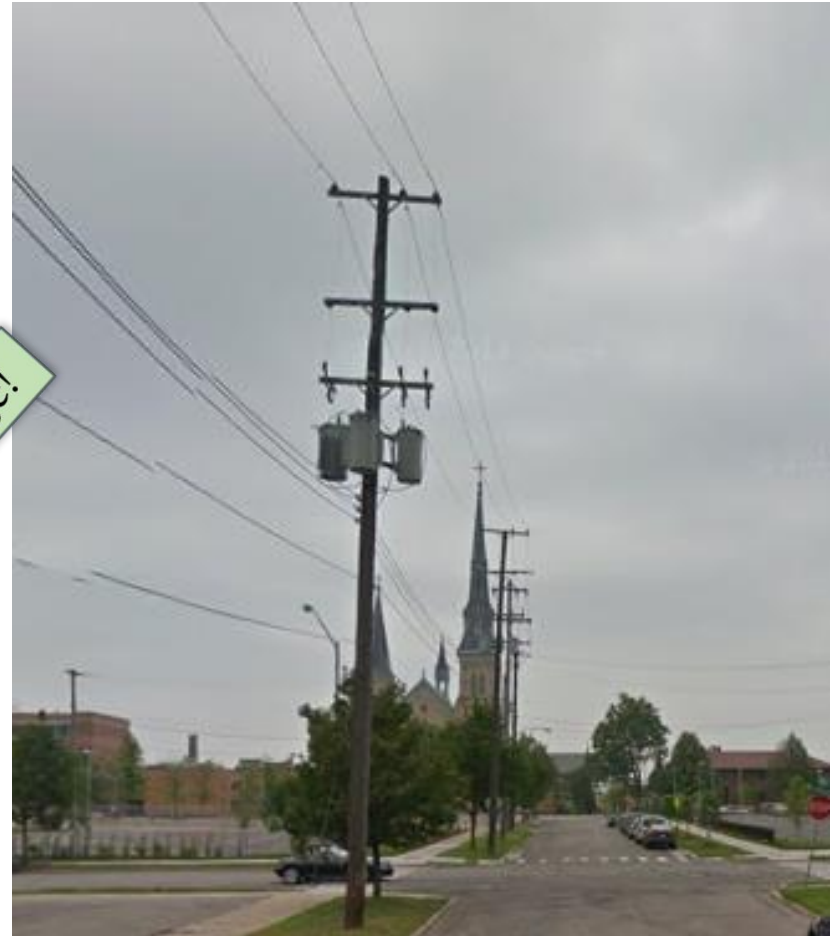


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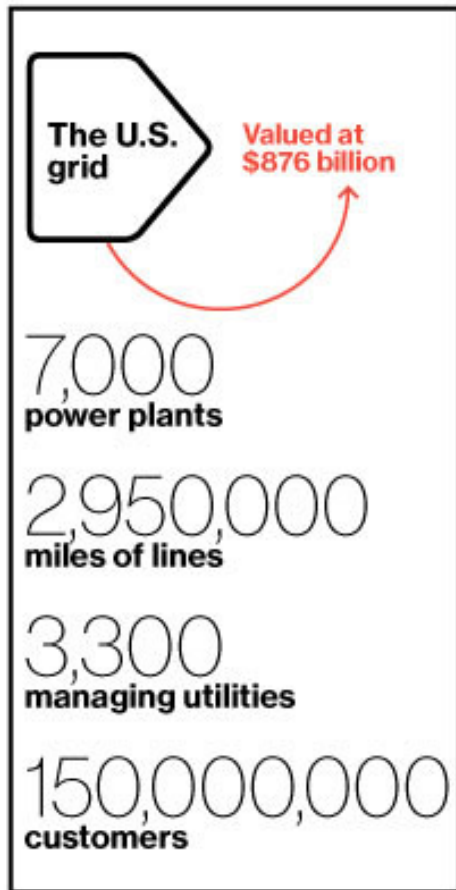


Horse drawn carriage!

2014



# Why Are Power Outages up 285%?



GRAPHIC BY BLOOMBERG BUSINESSWEEK  
DATA: COMPILED BY BLOOMBERG

*Many utilities are blind beyond the substation*

*- Edward Kennedy, chief executive officer of Tollgrade Communications*

- Thousands of miles of power lines can't be monitored from a central location
- Repair crews spend 60% of their time searching for breaks
- Breaks in the lines typically take hours, even days, to find, particularly in the wake of bad storms

# Improving the Grid with Transmission Alternatives

- Demand Response
- Distributed generation
- Transmission system efficiency
- Storage (batteries, electric and plug-in hybrid electric vehicles)

# Demand Response



## **VOLUNTARY LOAD RESPONSE**

**Save money and help the environment  
by reducing energy use at peak times**



- Common with Industrial Customers
- Commonwealth Edison (ComEd) is officially enrolling customers in its residential demand response program. By volunteering to reduce electricity consumption during specified peak hours, ComEd customers will earn a \$1 bill credit for every kilowatt hour they reduce.

# Distributed Generation's 2 Paths: The Death Spiral *or* Filthy Lucre

- THE DEATH SPIRAL SCENARIO

- As customers leave the grid, Utility revenue requirement is spread among fewer accounts, causing . . .
  - Rates to increase which leads to . . .
  - More customers leaving the grid, causing . . .
  - Rates to go up even more which
  - leads to . . .
- Utilities respond by
    - Digging in and fighting DG, which has the opposite intended effect.

DEATH SPIRAL





# Distributed Generation's 2 Paths: The Death Spiral *or* Filthy Lucre

- FILTHY LUCRE SCENARIO from Secretary Chu
  - Utilities install solar and battery systems on their customers' homes and then sell the customer the electricity
  - Customers benefit
    - Do not have to pay for installation, get power during outages
  - Utility benefits
    - Customers stay on the grid.
    - A distributed network of panels and batteries is located where it is needed most, at the end of the distribution system
    - Allows utility companies to expand without installing new transmission lines and complying with environmental regs

# System Efficiency through Better Communication

*We're bringing a mechanical system into the digital age*  
- Jeff Myerson, CenterPoint

- Digitize energy-use data so that power generators and customers can exchange information about demand to eliminate overbuilding and waste
- CenterPoint is investing in technology to help pinpoint a problem to a single block, almost instantaneous
- Using sophisticated models to analyze weaknesses in the lines and predict weather-related failures.

# Storage or “Virtual Power Plants”

JOURNAL REPORTS: ENERGY

## Electric Vehicles Sell Power Back to the Grid

Delaware Test Fleet Makes Money by Serving as an Electricity Reserve



# Gulf Coast Electricity Transmission Summit



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