

VALUE  
**CUSTOMER  
SERVICE**  
PROPOSITION



PEOPLE  
**EMPLOYEE  
COMMITMENT**  
SAFETY



REDUCING  
**ENVIRONMENTAL  
RESPECT**  
IMPACT



CANDOR  
**REGULATORY  
INTEGRITY**  
TRUST



EFFECTIVE  
**OPERATIONAL  
EXCELLENCE**  
EFFICIENT



BERKSHIRE  
**FINANCIAL  
STRENGTH**  
OWNERSHIP



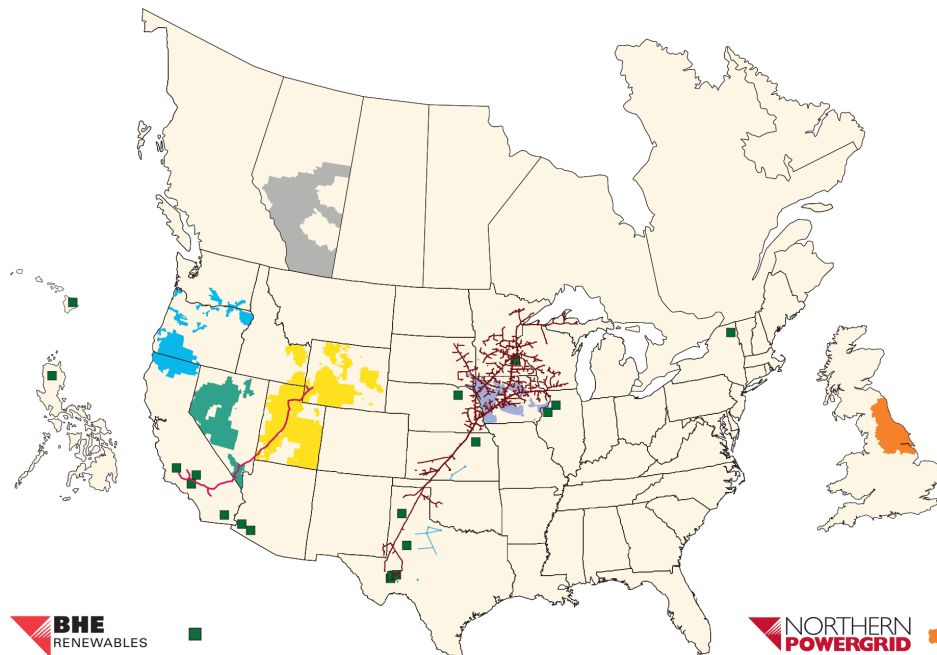
# LAMPAC Spring Conference Maui, Hawaii April 18 , 2018

**Jonathan M. Weisgall**

Vice President, Government Relations



# Berkshire Hathaway Energy



- 11.6 million customers worldwide
- Top-rated service provider within the industry



- 22,700 employees worldwide
- Exceptional safety and work environment



- 39% energy generation renewable or noncarbon



- Customer rates below national average



- \$91 billion of total assets
- 33,500 miles of electricity transmission lines
- 16,400 miles of natural gas pipeline
- 30,000 MW owned generation

# Factors affecting renewable energy today



- Lower costs for renewable energy
- Customers want renewable energy
- State and city renewable energy policies
- Federal tax credits (PTC/ITC) still in place
- Is mandate-driven push market to customer-driven pull market overtaking government policy as real driver?

# MidAmerican Energy Company

## Wind Generation



- > 4,400 MW of wind generation; electric prices are ninth-lowest in the U.S. – approximately 32% below the national average

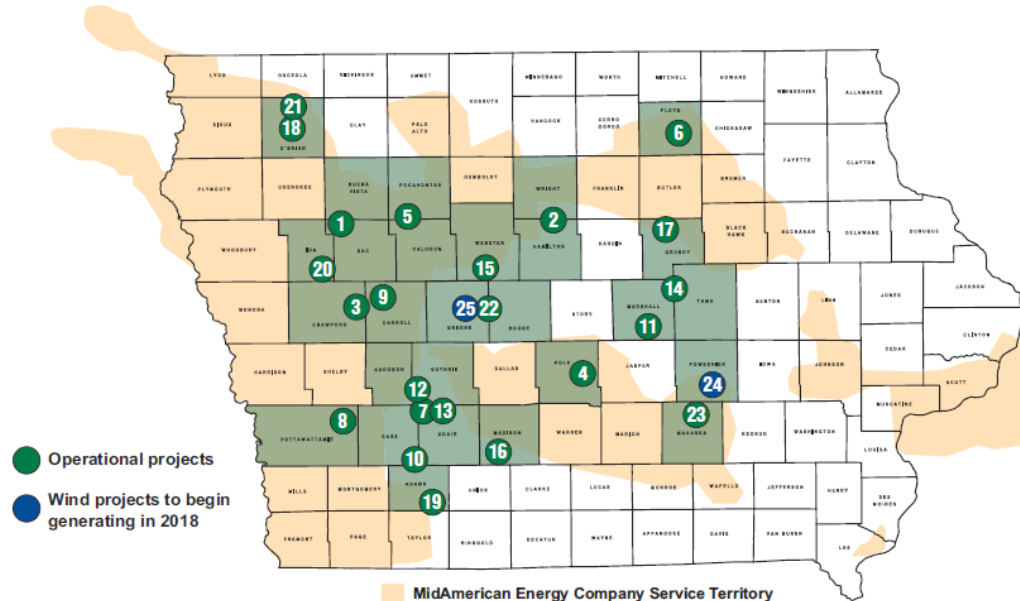
Year	Cumulative MW Installed	Cumulative Investment (\$000)	Residential Price Per kWh
2004	160.5	\$ 165	\$ 0.086
2005	360.5	\$ 389	\$ 0.087
2006	459.5	\$ 568	\$ 0.086
2007	673.0	\$ 938	\$ 0.086
2008	1,284.3	\$ 2,253	\$ 0.085
2009	1,284.3	\$ 2,253	\$ 0.084
2010	1,284.3	\$ 2,253	\$ 0.084
2011	1,877.7	\$ 3,224	\$ 0.084
2012	2,284.6	\$ 3,884	\$ 0.086
2013	2,329.2	\$ 3,949	\$ 0.088
2014	2,840.6	\$ 4,757	\$ 0.091
2015	3,448.6	\$ 5,744	\$ 0.094
2016	4,048.2	\$ 6,676	Wind XI project will be built without the need to increase customer rates
2017	4,388.2	\$ 7,680	
2018	5,103.0	\$ 9,123	
2019	6,053.9	\$ 10,944	
2020	6,053.9	\$ 11,417	

Source: Edison Electric Institute's Typical Bills and Average Rates Report (Summer), for 12 months ending June 30

# Wind Projects Owned by MidAmerican Energy Company



## WIND PROJECTS OWNED BY MIDAMERICAN ENERGY COMPANY



- |   |   |  |   |
|---|---|--|---|
| 1 Intrepid Project (175.5 MW)<br>Buena Vista and Sac counties   | 8 Walnut Project (153 MW)<br>Pottawattamie County                     | 15 Lundgren Project (251 MW)<br>Webster County           | 22 Beaver Creek Project (170 MW)<br>Boone and Greene counties – Wind XI |
| 2 Century Project (200 MW)<br>Wright and Hamilton counties      | 9 Carroll Project (150 MW)<br>Carroll County                          | 16 Macksburg Project (119.6 MW)<br>Madison County        | 23 Prairie Project (168 MW)<br>Mahaska County – Wind XI                 |
| 3 Victory Project (99 MW)<br>Crawford and Carroll counties      | 10 Rolling Hills Project (443.9 MW)<br>Adair, Adams and Cass counties | 17 Wellsburg Project (140.8 MW)<br>Grundy County         | 24 North English Project (200 MW)<br>Poweshiek County – Wind XI         |
| 4 Iowa State Fair Wind Turbine (0.5 MW)<br>Polk County          | 11 Laurel Project (119.6 MW)<br>Marshall County                       | 18 Highland Project (502 MW)<br>O'Brien County           | 25 Beaver Creek II Project (170 MW)<br>Greene County – Wind XI          |
| 5 Pomeroy Project (286.4 MW)<br>Pocahontas and Calhoun counties | 12 Eclipse Project (200.1 MW)<br>Audubon and Guthrie counties         | 19 Adams Project (154.3 MW)<br>Adams County              |   |
| 6 Charles City Project (75 MW)<br>Floyd County                  | 13 Morning Light Project (101.2 MW)<br>Adair County                   | 20 Ida Grove Project (301 MW)<br>Ida County – Wind X     |   |
| 7 Adair Project (174.8 MW)<br>Adair and Cass counties           | 14 Vienna Project (150.2 MW)<br>Marshall and Tama counties            | 21 O'Brien Project (250.3 MW)<br>O'Brien County – Wind X |   |



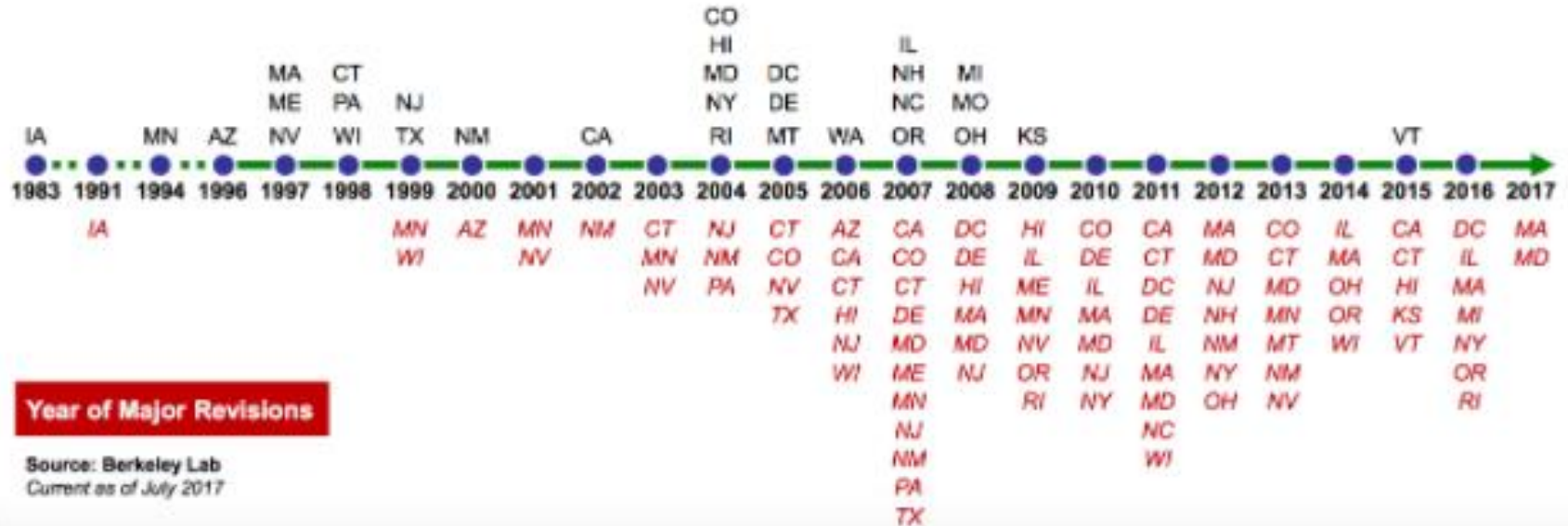
- Today: 51% of Iowa customers' annual electric use
- Next: Wind XI (\$3.6 billion; 2,000 MW); 95% of Iowa customers' annual electric usage
- \$1.9 billion in landowners easement and property tax payments over next 30 years
- Partnering with more than 2,400 landowners
- Thousands of construction jobs; > 200 permanent
- One rate increase 1997-2029 (scrubbers for coal plant)



# RPS Enactment Dates



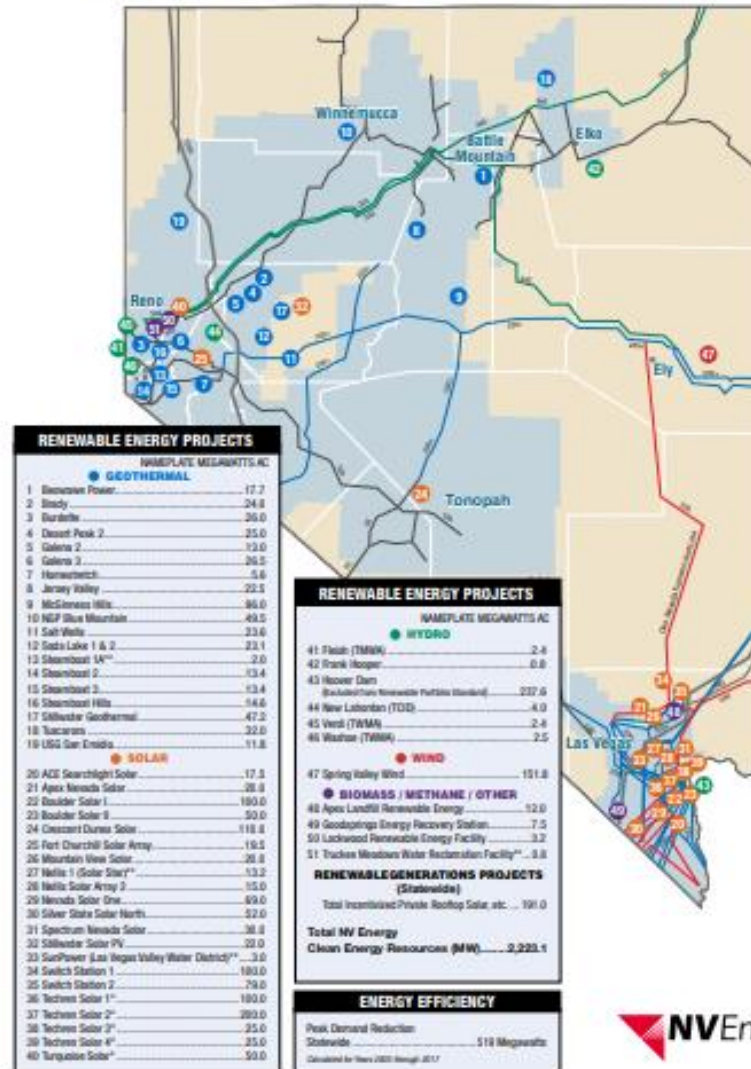
## Year of RPS Enactment



# Insert NV Energy renewables map



## NV Energy's Clean Energy Commitment



Updated 11/18/2017



# NV Energy renewables RFP



- RFP out for 330 MW renewable energy and battery storage options
- 100 bids, 18 companies, 26 project sites
- Bids: > 3,700 MW: > 700 MW battery storage
- Solar with and without battery storage, geothermal, wind and biomass
- Short listing; begin contract negotiations soon
- Plan: Submit winning bids to PUCN June; decision by late 2018; projects online by late 2020 or 2021
- BUT: All bets off if Question 3 passes 11-6-2018

# Ballot Question 3



- “[E]very person, business, association . . . political subdivision . . . or any other entity in Nevada has the right to choose the provider of its electric utility service”
- “Not later than July 1, 2023, the Legislature shall . . . establish an open, competitive retail electric energy market . . ., including provisions that reduce costs to customers . . . and prohibit the grant of monopolies and exclusive franchises for the generation of electricity.”
- “. . . [A]ny laws, regulations, regulatory orders or other provisions which conflict with this Act shall be void.”

# Deregulation of electricity markets



- Hasn't worked in other U.S. states
- California (1996) – disastrous
  - Rolling blackouts Jan.-March 2001
  - 46% rate increase; consumer complaints
  - Enron scandal; market manipulation
  - \$40 billion added costs
  - Gov. Davis: deregulation “a colossal and dangerous failure”
- Nevada initiated deregulation in late '90s; reversed
- 24 states moved to deregulate; 14 still deregulated
- 20 years since any state has initiated deregulation
- 3-29: MA AG: end deregulation; \$177 mm overcharges

# Nevada's electricity rates



- Lower than rates in all 14 deregulated states
- Average rates have decreased by 15% since 2009
- 45.5% lower than rates in California
- 17.1% lower than the national average

State	Average Electricity Price (cents/kWh)
Connecticut	17.24
Massachusetts	16.48
Rhode Island	16.28
New Hampshire	15.66
New York	14.47
New Jersey	13.38
Maine	12.80
Maryland	12.21
District of Columbia	11.73
Delaware	11.09
<b>U.S. Average</b>	<b>10.27</b>
Pennsylvania	10.19
Ohio	9.84
Illinois	9.38
Texas	8.43
<b>Nevada</b>	<b>8.38</b>
<u>Source:</u> U.S. Energy Information Administration 2016 Annual Electricity Price Data by State (most recent available)	

# Uncertainty, risk, cost



- Disrupt progress on renewable energy
- Only state to deregulate under its constitution
  - Would take at least 4 years to repeal/undo
- First state to deregulate without having a wholesale electricity market in place
  - Trust legislature to get it right?
  - “Protracted litigation is highly likely”
- Would Nevada join California ISO? Rates/governance
- Public programs (net metering, energy efficiency, demand-side management, EVs)?
- Stranded costs from selling power plants and terminating long-term contracts

# What is NV Energy doing?



- Pledging to:
  - Double current renewable energy portfolio by 2023
  - Keep rates stable for 10 years
- NextGen ballot initiative to increase RPS
- Can Question 3 be defeated? Lost 72-28% in 2016
- Polling
  - 80% of voters don't remember how they voted
  - 60% potential swing
- Coalition to Defeat Question 3 – [www.NOon3.com](http://www.NOon3.com)
  - IBEW, Teamsters, AARP Nevada, Fire Fighters, Public Safety Officers, Nevada AFL-CIO, Wells Rural Electric
- Bottom line: Uncertainty, risk, cost



# What could deregulation look like? CCA status



## Operational

### **MCE Clean Energy**

*includes Marin and Napa Counties,  
parts of Contra Costa and Solano Counties (1)*

### **Sonoma Clean Power**

*Includes Mendocino County in mid-2017*

### **Lancaster Choice Energy (2)**

### **Clean Power San Francisco**

### **Peninsula Clean Energy**

*San Mateo County*

### **Redwood Coast Energy Authority**

*Humboldt County*

### **Silicon Valley Clean Energy**

*Santa Clara County*

### **Town of Apple Valley (3)**

### **Clean Power Alliance of Southern CA**

*Phase 1, formerly Los Angeles Community Energy*

### **Pioneer Community Energy**

*formerly Sierra Valley Energy, Placer County*

### **PRIME (4)**

*Pico Rivera Innovative Municipal Energy*

## 2018 Launch (anticipated)

### **City of Solana Beach (5)**

### **San Jose Clean Energy (6)**

### **Clean Power Alliance of Southern CA\*\***

*Phase 2, formerly Los Angeles Community Energy,  
includes Ventura County*

### **Contra Costa County**

*As part of MCE Clean Energy*

### **Desert Community Energy \*\* (7)**

*Coachella Valley*

### **East Bay Community Energy**

*Alameda County*

### **King City\*\* (8)**

### **Monterey Bay Community Power**

*Monterey, Santa Cruz and  
San Benito Counties*

### **Rancho Mirage Energy Authority (9)**

### **San Jacinto Power (10)**

### **Silicon Valley Clean Energy\*\***

*Program expansion*

### **Valley Clean Energy Alliance**

*Yolo County, Cities of Davis  
and Woodland*

### **Western Riverside Council of Gov'ts\*\* (11)**

*WRCOG*

*\*\*Impacted by Resolution E-4907*

## Exploring / In Process

### **City of Hanford (12)**

### **City of Hermosa Beach (13)**

### **City of Palmdale (14)**

### **Butte County**

### **Fresno County**

### **Kings County**

### **Modoc County**

### **Nevada County**

### **City of San Diego (15)**

### **San Joaquin County**

### **City of San Luis Obispo (16)**

### **Santa Barbara County**

### **Solano County**

# Location of CCAs



# 2018 midterm elections



VALUE  
**CUSTOMER  
SERVICE**  
PROPOSITION



PEOPLE  
**EMPLOYEE  
COMMITMENT**  
SAFETY



REDUCING  
**ENVIRONMENTAL  
RESPECT**  
IMPACT



CANDOR  
**REGULATORY  
INTEGRITY**  
TRUST



EFFECTIVE  
**OPERATIONAL  
EXCELLENCE**  
EFFICIENT



BERKSHIRE  
**FINANCIAL  
STRENGTH**  
OWNERSHIP

