

# **Golden Valley Electric Assoc.**

## **Update & Eva Creek Wind**

**RCA Public Meeting – Oct. 26, 2011**

**Dr. Brian Newton, President & CEO**

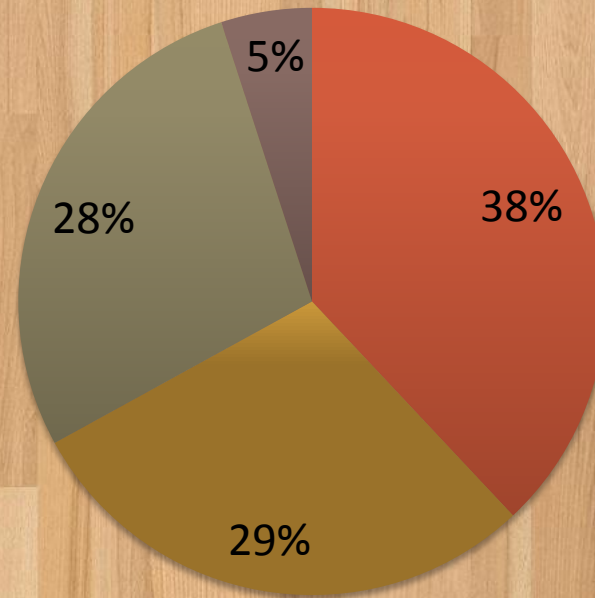
**Golden Valley Electric Assn.**

# Agenda

- Interior Needs/Potential
- GVEA Generation Sources
- Why Wind?
- Eva Creek Specifics/Cost Recovery Considerations

# GVEA Generation Fuel Sources

## 2010 Fuel Make Up



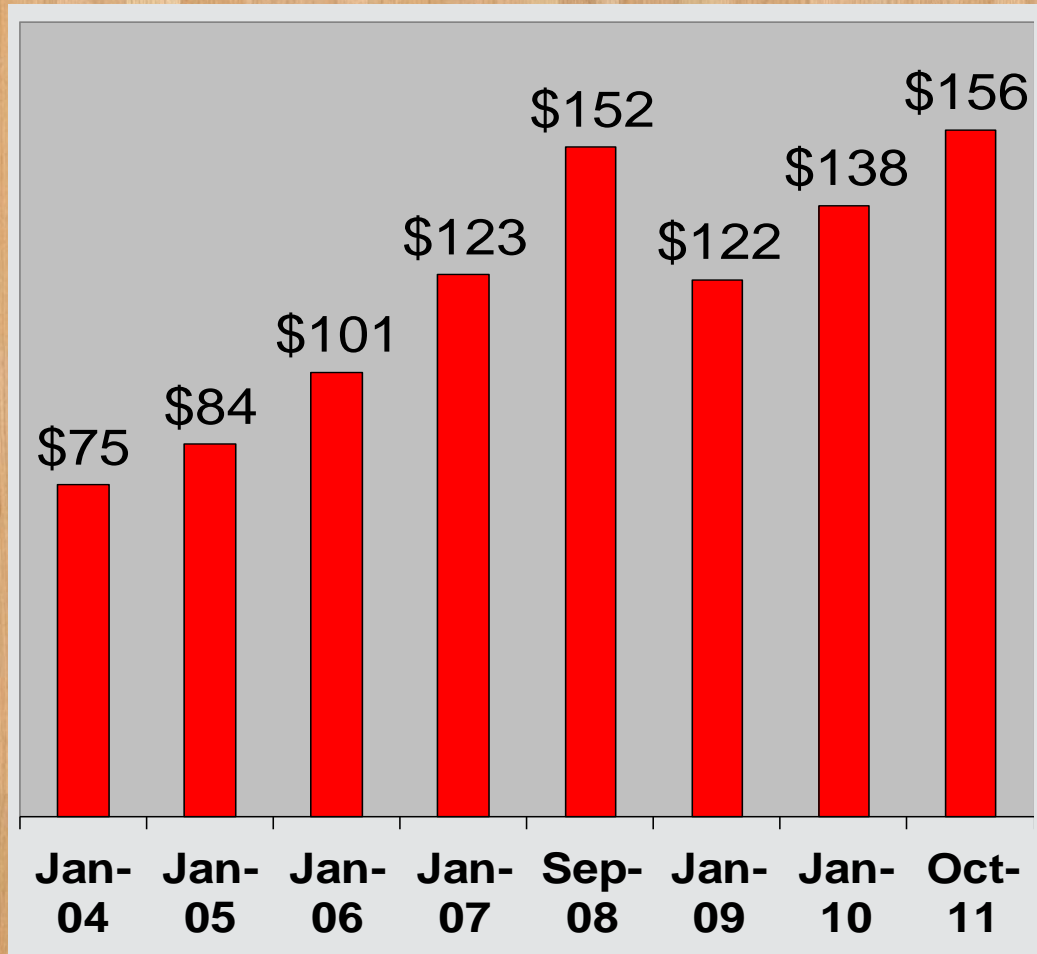
 Oil

 Coal

 Natural Gas

 Hydro

# GVEA Residential Bills



## 2004 - 2011

2004 - \$75

2005 - \$84

2006 - \$101

2007 - \$123

2008 - \$152

2009 - \$122

2010 - \$138

2011 - \$156

Oil volatility!

Average residential bill of 700 kWh per month

# GVEA's 3-Step Plan

- Wind
- Liquefied Natural Gas
- HCCP

## Other Efforts:

- Conservation
- Efficiency
- Gas Pipeline
- Susitna/Watana



# System Growth/Decline Data

- Growth/Decline (last 3-years)
  - 3% growth in total services
  - 3% growth in miles of line
  - 5% decline in commercial load
  - 5% decline in residential consumption
- Aging Generation Infrastructure
- Alternatives to Oil-fired Generation
  - Gas Line/LNG
  - Renewables (SNAP/Wind)
  - Coal



# GVEA Resources

Resource	Fuel	FuelCost	Use of Resource	Age
John Brown	No. 2	High	Negligible	1976
Zehnder	HAGO	High	5 - 20,000 MWh/year	1970/72
North Pole	HAGO	Med/High	25 - 50,000 MWh/year	1976/77
NP Expansion	Naphtha/LNG	Med	400,000+ MWh/year	2007
Eva Creek	Wind	Medium	77,000 MWH/year	2012
Non-Firm	Gas	Low	Varies	1985
Healy	Coal	Low	200,000 MWh/year	1967
Aurora	Coal	Low	200,000 MWh/year	1997/05
HCCP	Coal	Low	Hopeful	1992



# Why Wind?

- GVEA's Goals:
  - Renewable Energy Pledge
    - 10% of peak by 2007
    - 20% of peak by 2014
  - Limit Rate Impact!
  - Reduce Oil-fired Generation!
  - Maintain Reliability!





# Utility-Scale Alternatives

- Alternatives:
  - Eva Creek
  - Fire Island (portion)
  - Delta Wind
- Commonalities:
  - 25MW (77,000 MWH)
  - 3-4¢/kWh regulation cost
  - Renewable Energy Credits
  - Capacity Factor (30-35%)
  - Commercial Operation 2012



# GVEA's Utility-Scale Alternatives

## Economics (77,000 MWH)

- Eva Creek
  - 9.5¢/kWh
- Fire Island
  - PSA 10.8¢/kWh (\$975,000 more)
- Delta Wind
  - Initial PSA 14¢/kWh (\$3,375,000 more)
  - Final PSA 12.5¢/kWh (\$2,250,000 more)



# Eva Creek Project Specifics

- Location
  - On GVEA's Northern Intertie



# Eva Creek Project Specifics

- Integration/Regulation (why 25 MW)

Typical Day Unit Output (MW)					
Unit Min	Unit Max	Unit	Summer	Fall	Winter
24	24	Aurora	24	24	23
18	28	Healy #1	28	26	28
10	55	NP1			
10	55	NP2			31
38	55	NP3&4	38	51	47
4	18	ZN1	*	*	
4	18	ZN2			
4	23	DPP			
0	75	Econ/BLH	63	60	58
Total			153	161	187

# Eva Creek Project Specifics

- Integration/Regulation Cost

25 MW Farm	MWH	Cost/Savings	\$/MWH	bbl Oil Savings
No Wind	0	0	0	0
All Wind	77,000	\$2,046,000	\$89.10	57,532
Firm Wind	77,000	(\$4,814,570)	0	120,271
Spill Wind	75,817	(\$1,576,357)	\$42.71	90,522
50 MW Farm	MWH	Cost/Savings	\$/MWH	bbl Oil Savings
All Wind	154,000	\$24,428,346	\$226.79	(114,353)
Firm Wind	154,000	(\$10,497,634)	0	240,296
Spill Wind	133,370	\$576,827	\$83.04	157,460



# Eva Creek Project Specifics

- Economics
  - Turbines \$37M
  - BOP \$43M
  - GVEA costs \$15M
  - Other cost \$3M
  - State Grants (\$13.5M)
  - Total \$84.7M
  
  - Debt service \$5.5M/yr (\$84.7 M@ 1.5%, 18 yrs)
  - TIER \$.5M (1.4 TIER)
  - O&M \$1.2M/yr
  - 9.5¢/kWh



# GVEA Cost Recovery Issues

- Traditional Utility Cost Recovery
  - SRF Issues
  - Mismatch of Costs & Benefits
  - Base Rate Increase to Members!
- Cost Recovery through COPA
  - Cost Recovery Matches Fuel Savings
  - Fuel Cost Savings to Members!
  - No Base Rate Increase to Members!
  - No Impact to Avoided Cost Calculation



# GVEA Cost Recovery Issues

(cont.)

- GVEA Subsidiary
  - Power Sales Agreement (fuel contract)
  - COPA Cost Recovery
  - Less Regulatory Treatment Uncertainty
  - Increased Cost to Members!



# Summary

- “Kick the Oil Habit”
  - GVEA’s Three-Step Plan (Wind, HCCP, & LNG)
- Growth/Decline/Aging Infrastructure
- Eva Creek Project Attributes
- GVEA Cost Recovery Challenges

# Questions?

