



# **Nacogdoches Biomass Project Town Hall Meeting**

August 13, 2008

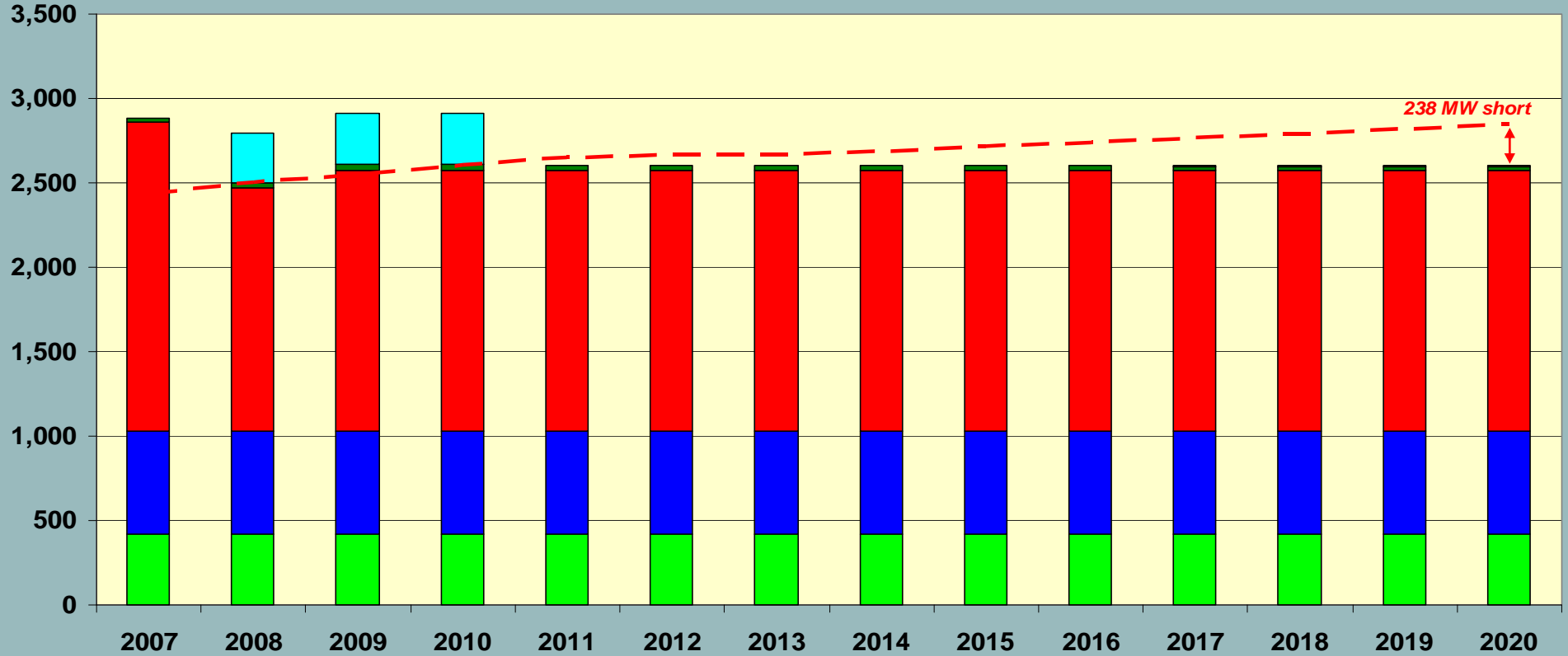
# City Council Goals for Austin Energy

- **30% renewables, including 100 MW of solar, by 2020**
- **700 MW of energy savings by 2020**
- **CO<sub>2</sub> cap and reduction plan**
- **New generation carbon-neutral**
- **Enhance building codes for zero energy-capable homes and buildings by 2015**



# Load Forecast with Conservation

Capacity (MW)



■ Nuclear   
 ■ Coal   
 ■ Nat. Gas   
 ■ Wind   
 ■ Solar   
 ■ Purch.Pwr   
 - - - PEAK LOAD FORECAST



# Options for Meeting Load Forecast

## Options

## Challenges

<b>Additional Conservation</b>	—————>	<b>Achieving &gt; 700 MW</b>
<b>Additional Renewables (wind, solar, biomass)</b>	—————>	<b>Congestion, Availability and Cost</b>
<b>Nuclear</b>	—————>	<b>Availability, Capital Cost and Waste Disposal</b>
<b>Coal with CO<sub>2</sub> capture</b>	—————>	<b>Immature Technology</b>
<b>Natural gas</b>	—————>	<b>Fuel Supply and CO<sub>2</sub></b>



# Projected New Resources (in MW)

Year	Coal/Nuclear	Gas	Biomass	Wind	Solar
2008	1,029	1,444	12	274	1
2009		100		165	
2010					30
2011				(77)*100	
2012			100		
2013		200			
2014				50	20
2015				100	
2016			100		
2017				(126)*200	20
2018					
2019				50	30
2020				110	
Total	1,029	1,744	212	(203) 1,049	101

**Total Additional Resources**      **1,375 MW**  
**\*Expiring wind contracts**



# So, Why Now?

- **Limited non-wind renewable resources in Texas:**
  - Up to 300MW wood based biomass in East Texas and 200MW in West Texas (Mesquite)
  - 145 MW in development in East Texas including this project
- **Fully permitted with complete plans and commitments for equipment and construction**
- **Under consideration since January 2007**
- **Costs for all forms of generation continue to rise sharply**
- **Competitive with other renewable and conventional alternatives**
  - More than wind but less than solar
  - Comparable to natural gas based generation



# Benefits

- **Firm & Dispatchable Renewable Resource**
  - High capacity factor (baseload – similar to coal or nuclear)
  - Dependable capacity for covering peak demand
- **Essential for Meeting AE's Renewable Goals**
  - Increases AE's Renewable supply in 2012 to 18%
  - Equal to 250 - 275 MW of wind energy
  - AE's Projected Resource Plan calls for 200 MW of Biomass
    - Need over 500 MW of additional wind (1400 MW total) if not attained
    - or approximately 600 MW of Solar
- **Opportunities for Reduced Cost or Cost Avoidance**
  - Production Tax Credit (PTC) if extended
  - State Fuel Grant if funded
  - Carbon neutrality avoids carbon penalty if enacted

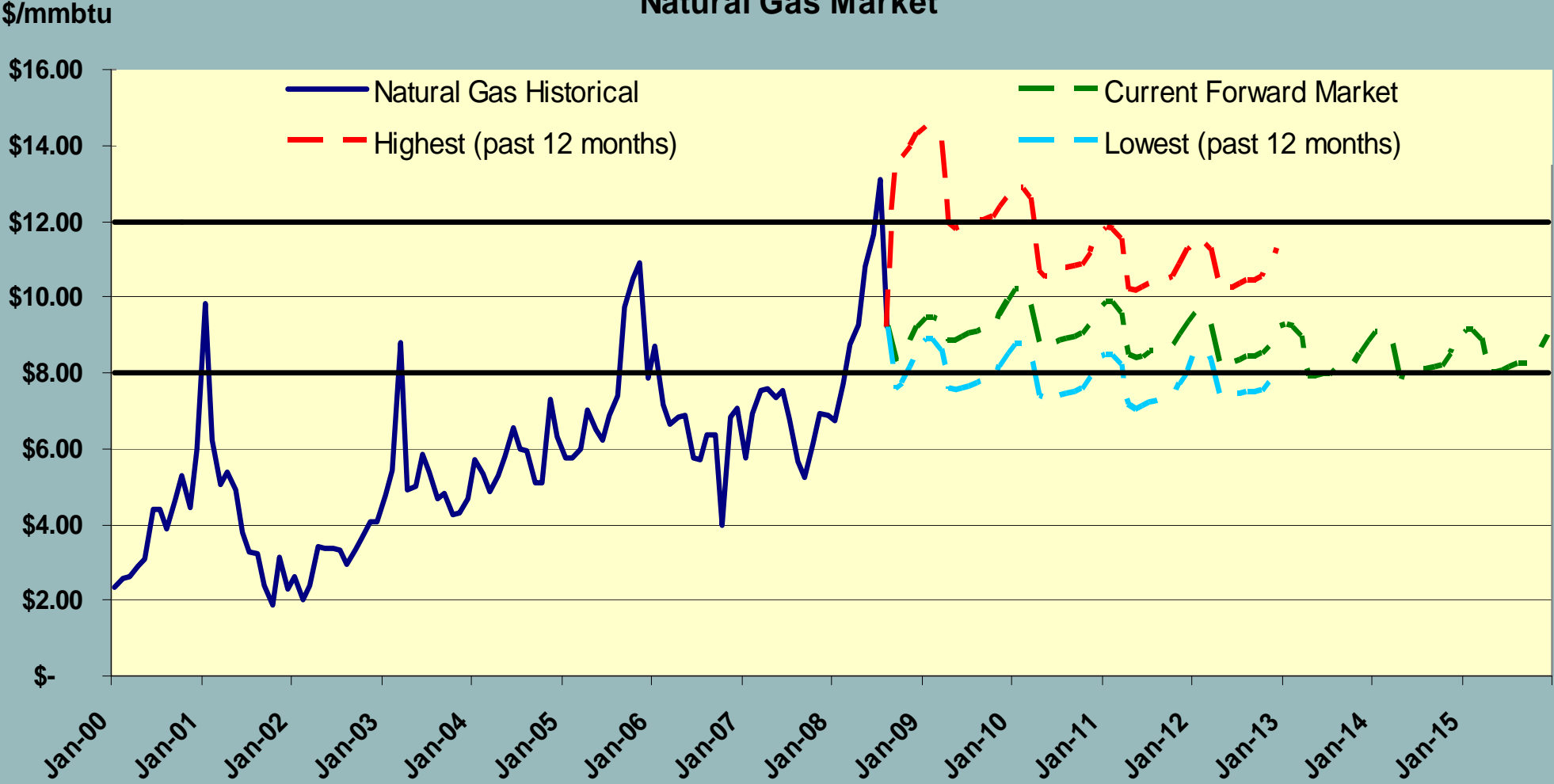


# Benefits

- **Diversifies AE's Renewables by Type & Location**
- **Avoids West Texas Transmission Congestion**
- **Hedge Against Future Carbon Legislation**
  - Price equal to gas based power at carbon cost of \$15-\$38/ton
  - European carbon currently trading at \$36
- **Hedge Against Natural Gas Costs**



# Natural Gas Market



# Projected Fuel Charge Impacts

- **Biomass Project Impacts 2012 Fuel Charge by -2% to +5%**
  - Equivalent to -\$1.50/month to +\$2.50/month on average residential bill
  - Range is a function of:
    - \$8 to \$12 Natural Gas
      - More competitive as natural gas increases in cost
    - Availability of Production Tax Credit (PTC)
    - Availability of State of Texas Wood Waste Fuel Grant
- **Fuel Charge projected to increase as much as 40% from 2009 to 2012 based on:**
  - Most fuel costs rising, particularly natural gas
  - Current fuel price estimates \$10 natural gas
  - Increased transmission congestion & ERCOT fees



# Conclusions

- **Biomass is needed for renewable energy diversity**
- **High capacity of Biomass is needed to meet AE's goal of 30% renewables by 2020**
- **Expected to have minimal impact on utility bills starting in 2012**





**END**