



## Public Participation Process



## **Public Participation Process**

# **Town Hall Meeting Schedule**

**Jan 28 – Austin City Council Chambers**

**Feb 3 – Town Lake Center, Assembly Room**

**Feb 5 – George Washington Carver Branch Library**

# **Public Participation Meeting Agenda**

- **Welcome**
  - **Background – Issues**
  - **Citizen Participation & Input**
- Questions or Comments on:**
- **The Draft Energy Resource Plan**
  - **Energy Resources or Technologies**
  - **Conservation Measures**

# Future Energy Resources and CO<sub>2</sub> Cap & Reduction Planning



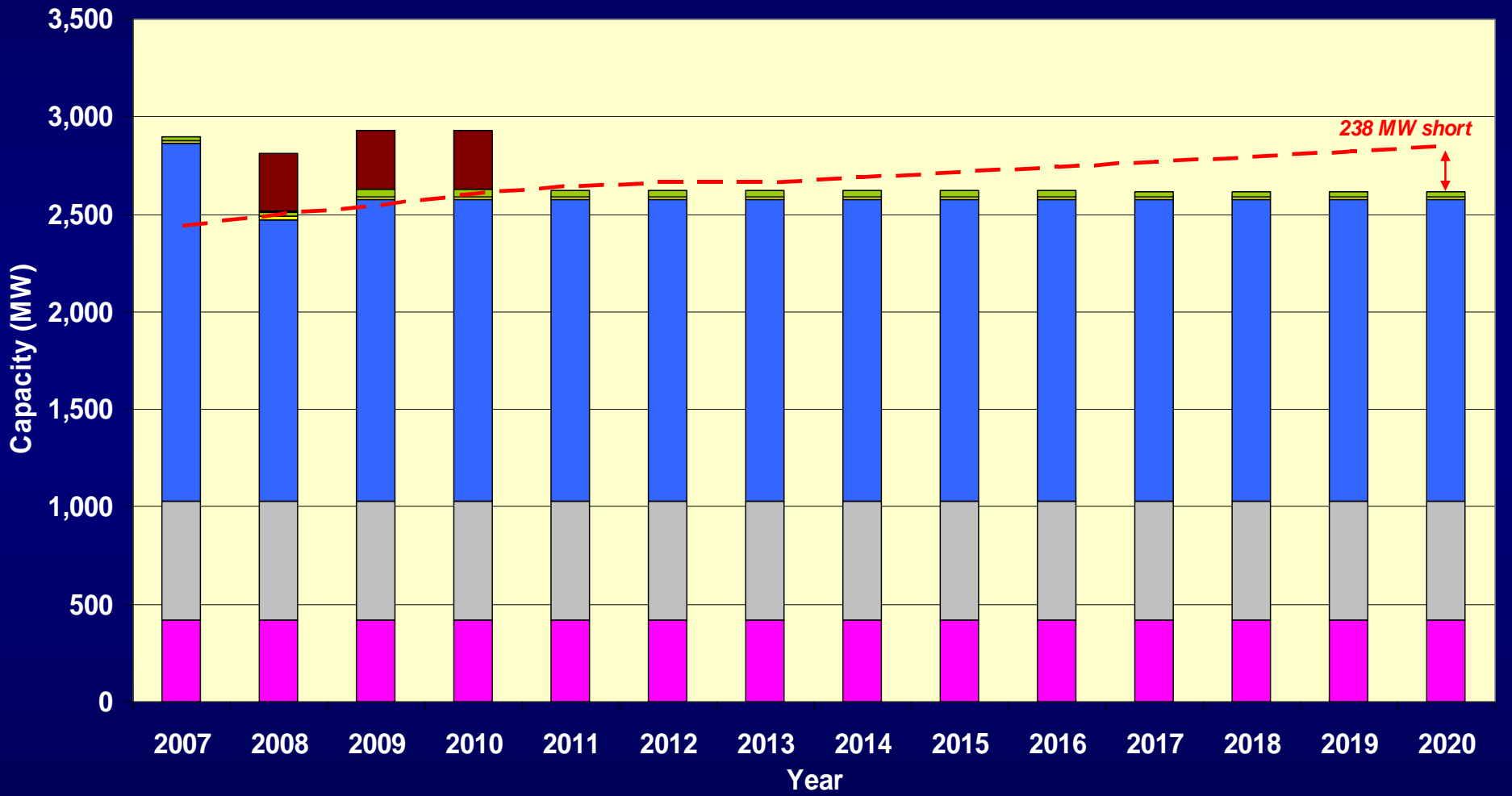
Michael McCluskey  
Deputy General Manager  
February 5, 2009

# Agenda

- **Generation Resources**
  - Load Forecast
  - Goals, Options and Challenges
  - New Resources
- **CO<sub>2</sub> Cap and Reduction**
  - CO<sub>2</sub> Emissions
  - Goals, Options and Costs



# Load Forecast With Conservation



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

# City Council Goals for Austin Energy

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



# Options for Meeting Load Forecast

## Options

## Challenges

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



# Preliminary Recommendations

(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	
<b>Total</b>	<b>1,029</b>	<b>1,744</b>	<b>212</b>	<b>(203) 1,049</b>	<b>101</b>

Total Additional Resources 1,375 MW

\* King Mountain and Sweetwater wind contracts expire.



# Existing Participation Agreement for STP 1 & 2

- **Jointly Owned**
  - **Austin Energy** **16%**
  - **City Public Service San Antonio** **40%**
  - **NRG** **44%**
- **Output Capability of 2,725 MW**
- **STP Provides 436 MW to AE**
- **Provides for Additional Units and Option to Participate at same Ownership Share**

# NRG Proposal/Notice

- **Two Advanced Boiling Water Reactors (ABWR)**
- **Estimated Net Capacity: 1350 MW ea**
- **AE Share @ 16% Participation**
  - **Two Unit Net Capacity: 432 MW**
  - **AE's Estimated Cost to Build: \$ 2.0 B**

# Consultant Scope of Work

- **Risk Assessment**
  - **Licensing Risks**
  - **Engineering Risks**
  - **Effectiveness of Management Organization**
  - **Construction Risks**
  - **Schedule Risks**
- **ERCOT Market Assessment**
- **Project Financial Analysis**

# Financial Analysis

- 14 Economic and Business Environment Scenarios Analyzed
- Variables: Fuel Cost, Power Price, Interest Rates, Construction Costs, Construction Duration, Capacity Factor, Operational Life

Austin Energy Results	Scenario Ranges		Expected Scenario
	All Negatives	All Positives	
Net Present Value (\$B)	\$- 1.0	\$16.3	\$2.0
Rate of Return	Loss	17.2%	12.3 %
Power Cost, \$/MWh (2008 \$)	\$134.0	\$65.1	\$83.8

# Staff Recommendation

## Decline Participation in the Proposed STP 3 & 4 Expansion Project

- Analysis shows a \$2B Open-Ended Financial Obligation
- 9 Year Open-Ended Project Schedule
- Excess Baseload Generation for AE
- Nuclear Waste Issue Unresolved

# Renewable Energy: Wind

- **Continue to expand wind portfolio**
- **Explore Gulf Coast wind opportunities**
- **Include ownership and development**
- **Support transmission construction**
- **Explore low-power wind technology**
- **Explore energy storage for wind**

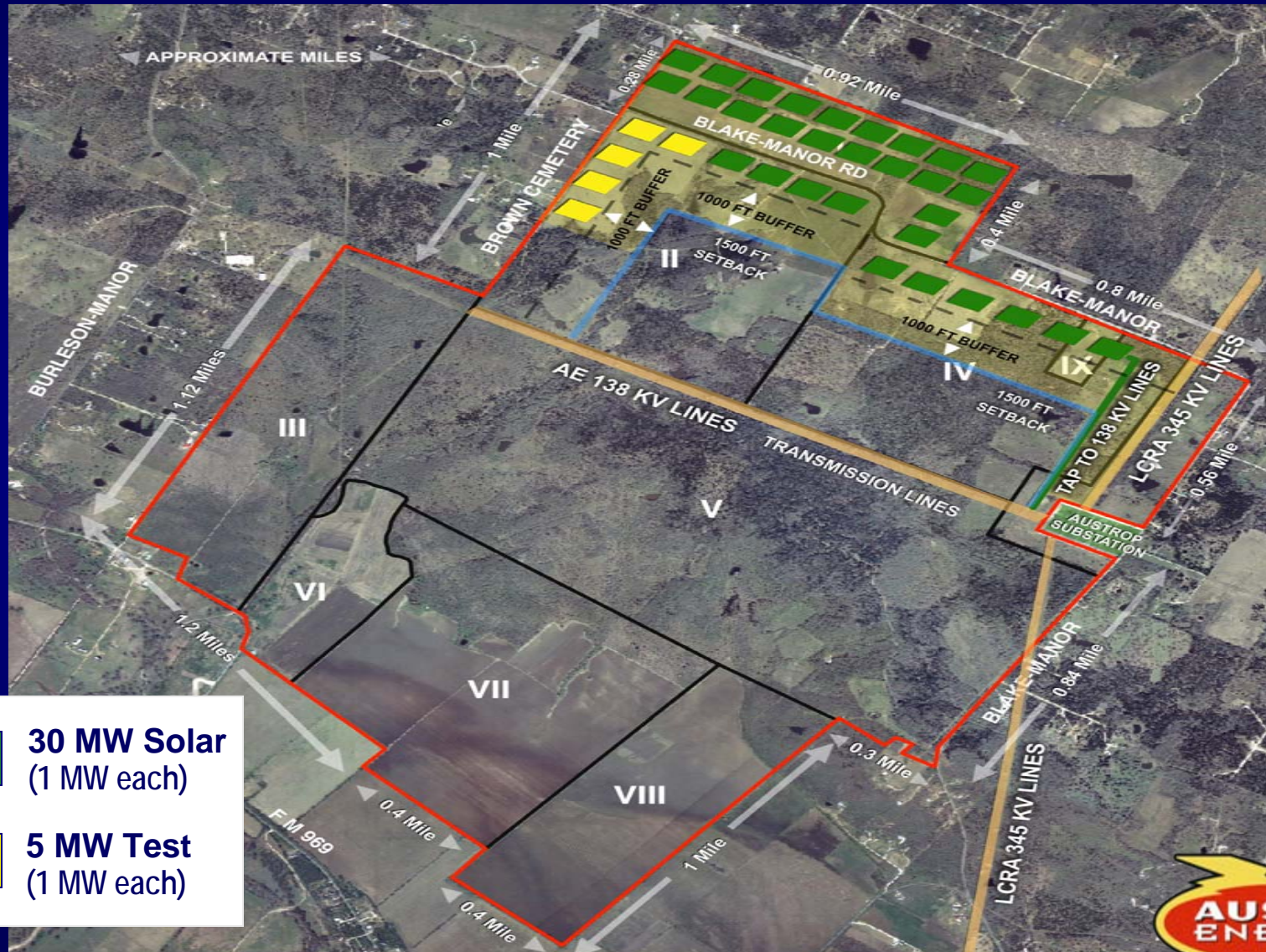




# Renewable Energy: Solar

- **30 MW facility at Webberville**  
(purchase power agreement or PPA)
- **Plan for covering PV applicable space in Austin** (public/private partnerships)
- **Large-scale West Texas solar plant**  
(joint utility project)
- **Energy storage for solar**



# Webberville Solar Site Layout



-  **30 MW Solar**  
(1 MW each)
-  **5 MW Test**  
(1 MW each)



# Scope of the RFP

- **Purchase 30 MW of solar capacity and energy**
- **Fixed price (\$/MWh) for all energy, capacity, RECs and environmental attributes**
- **25 year Power Purchase Agreement (PPA)**
- **AE provided site at Webberville**
- **Proposer responsible for permitting, design, construction, operation and maintenance**
- **Project online by 12/31/2010**

# Recommended Proposal

## **GEMINI SOLAR DEVELOPMENT COMPANY, LLC** **50-50 Joint venture of Suntech Power (Suntech) and** **MMA Renewable Ventures (MMARV)**

- **Suntech:**
  - Largest module producer in the world
  - Headquartered in China with US affiliate in San Francisco
  - 4 production sites in China; 1 in Japan
- **MMARV**
  - Develops, finances, owns and operates renewable projects in the US
  - Currently managing 29 solar installations (34 MW)
  - Largest project is a 14 MW ground-based solar PV installation at Nellis Air Force Base in Nevada completed in Dec. 07

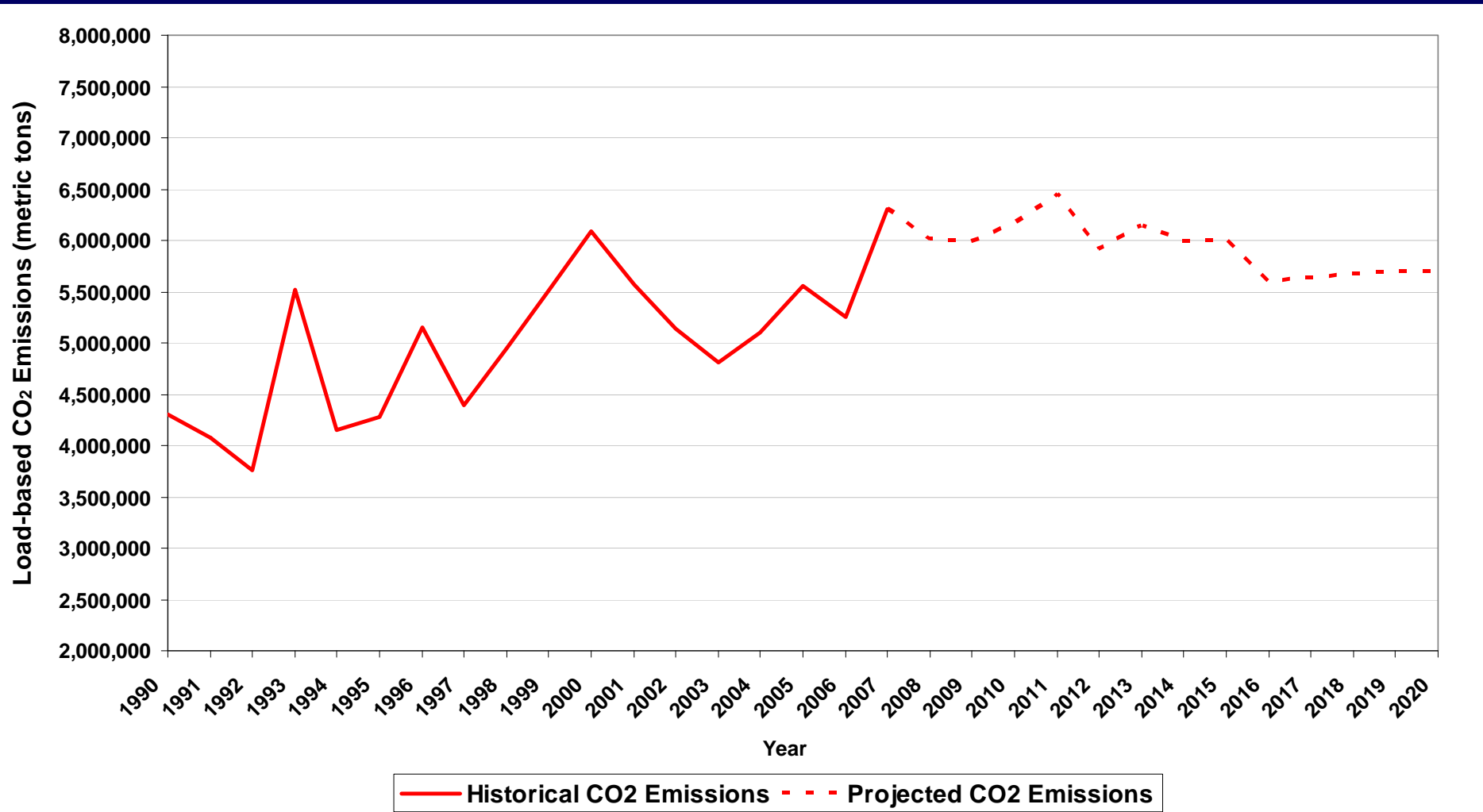
# 30 MW Project Overview

- **Largest single solar PV project in the U.S.**
- **Approximately 171,000 Suntech polycrystalline silicon modules**
- **Ground-mounted on single-axis trackers with 20 degree tilt**
- **300 acre footprint (within planned project area)**
- **Interconnect to AE's 138kV transmission system**
- **Includes decommissioning of the PV plant and recycling of modules at end of term**



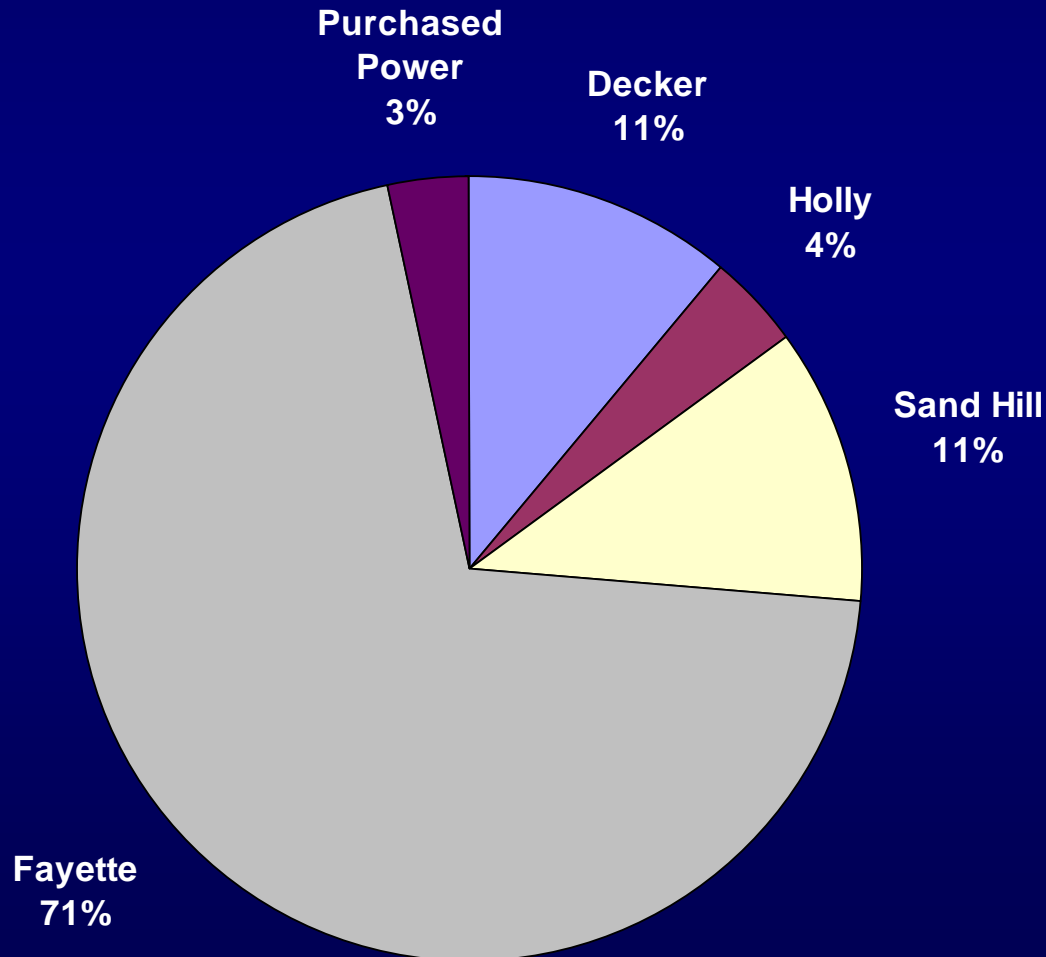
**14 MW Nellis Air Force Base – Completed Dec 07**

# Austin Energy CO<sub>2</sub> Footprint Profile

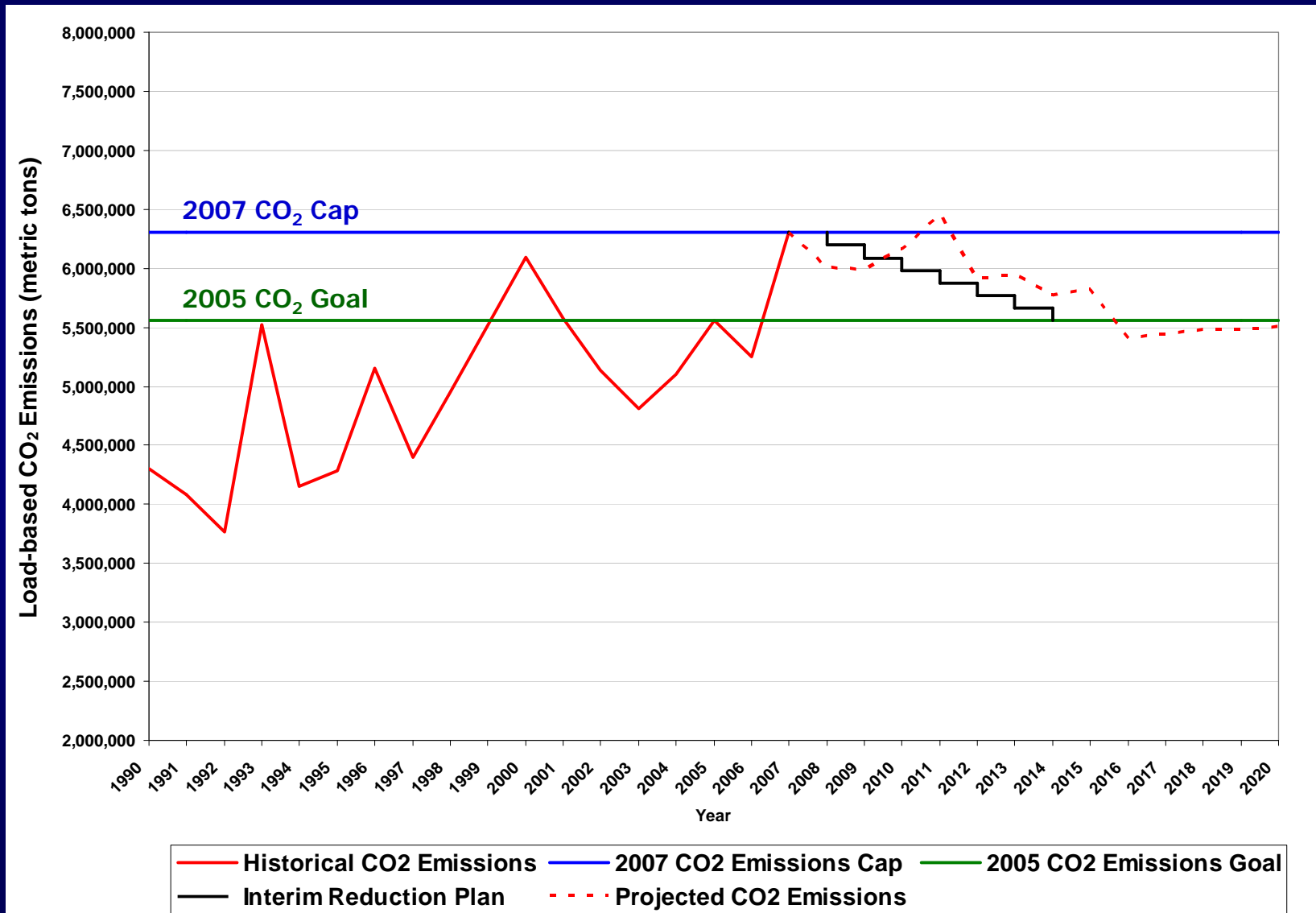


# FPP is Nearly $\frac{3}{4}$ of Austin Energy's CO<sub>2</sub>

## 2007 Emissions Profile



# CO<sub>2</sub> Cap & Reduction Plan 2008-2014



# Options for Reducing CO<sub>2</sub> Footprint 2010-2014

- Operate generation fleet normally and purchase offsets for CO<sub>2</sub> emissions that exceed cap
- Replace coal with gas generation
- Combination of both



# Offset Cost Summary

Year	Offset Only Cost (in millions)	Fuel Switch + Offset Cost (in millions)
2008	\$0	\$0
2009	\$0	\$0
2010	\$1.6	\$41.9
2011	\$5.3	\$104.8
2012	\$1.4	\$29.0
2013	\$2.9	\$47.7
2014	\$7.6	\$29.8
Cumulative	\$18.8	\$253.2



# Preliminary Recommendations to Mitigate CO<sub>2</sub> Footprint

- Operate generation fleet normally
- Purchase offsets for CO<sub>2</sub> emissions that exceed cap



# Summary

- **Add 200 MW Combined Cycle at Sand Hill by 2013**
- **Cap CO<sub>2</sub> at 2007 level**
- **Reduce CO<sub>2</sub> to 2005 level by 2014 through offset purchases**
- **30% renewables, with 100 MW solar, by 2020**
- **700 MW energy savings by 2020**



# Next Step: Public Participation Plan

- **Public information campaign**
  - Resource guide on current energy resources, options
  - Brochures, bill stuffers, ads, Channel 6 video
  - Web site to inform and solicit public input
    - <http://www.austinsmartenergy.com>
    - Documents, Calendar, Blog
- **Broad-based, inclusive public input process**
  - Town Hall Meetings
  - Presentations, discussions with stakeholder groups
  - Presentations, discussions with community groups

## **Questions or Comments on:**

- **The Draft Energy Resource Plan**
- **Energy Resources or Technologies**
- **Conservation Measures**

**Thank you for your  
participation and input!**

**Town Hall Meeting Schedule:**

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**Feb 5 – Carver Branch Library, 1161 Angelina**

**For more information, go to:**

**[www.austinsmartenergy.com](http://www.austinsmartenergy.com)**