



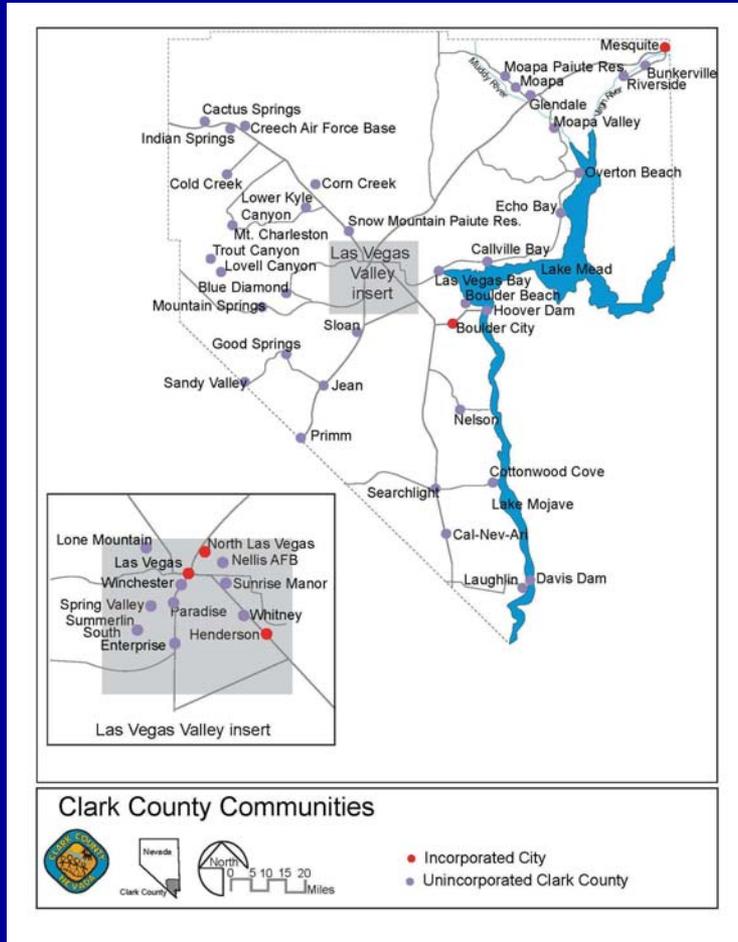
# Sustainability in Clark County, Nevada



*Presented By:*

**Ronald L. Lynn, Building Official and  
Director of Development Services**

# Clark County Facts



- 8,012 sq. miles
- Includes Las Vegas Strip
- Has 14 of the nation's 15 largest hotels
- 39.2 million tourists visit each year
- Population of 2 million – expected to reach 4 million by 2035
- Colorado River main water source
- Located in the Mojave Desert

# Energy Use in Clark County

- Climate Control: High summer temperatures lead to large amount of energy used to cool homes & businesses.
- Land Uses: Growth & casino development will generate tremendous need for more energy in future.
- Transportation: Development of different land uses will increase number & length of automobile trips.





# Energy Demand Forecasts

Figure 2: Electricity Demand

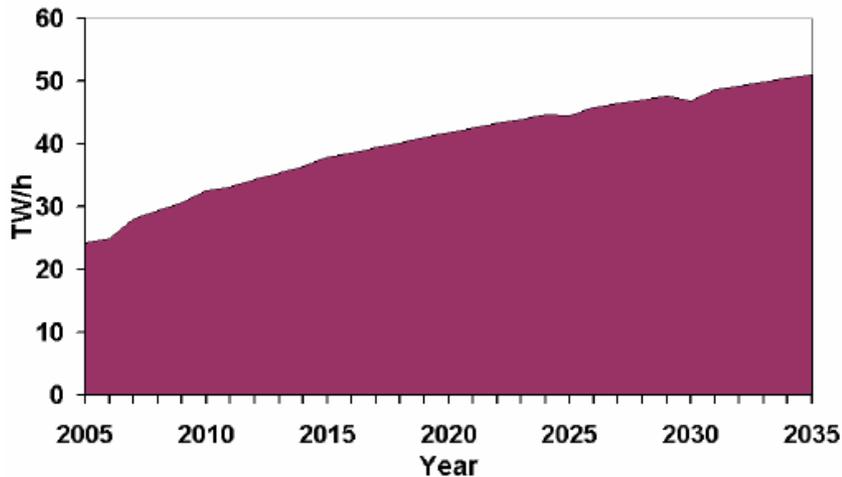


Figure 5: Natural Gas Demand

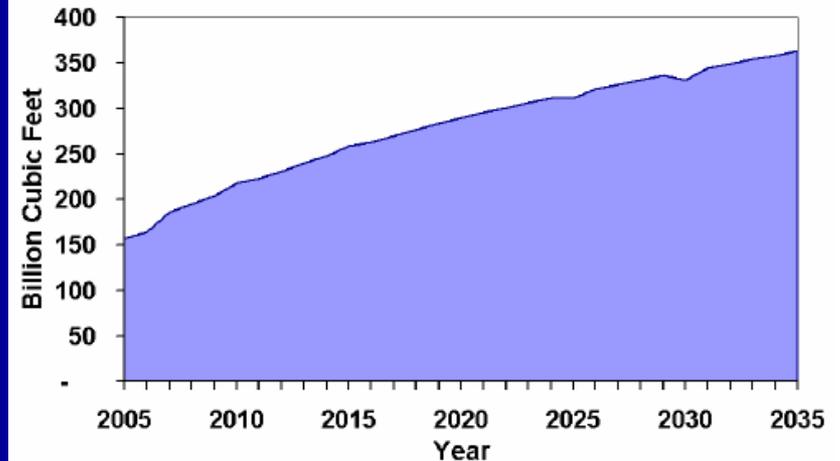
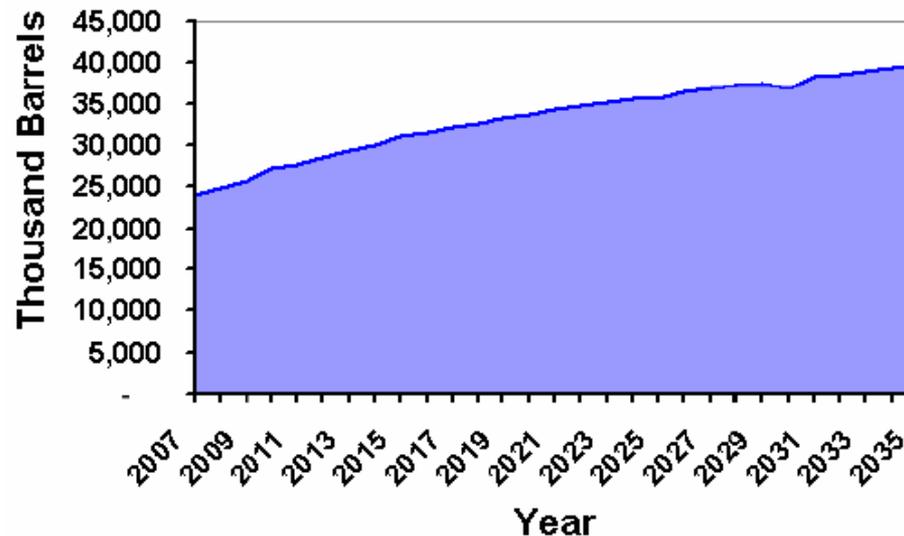


Figure 7: Gasoline Consumption



# 1<sup>st</sup> Eco-County Initiative

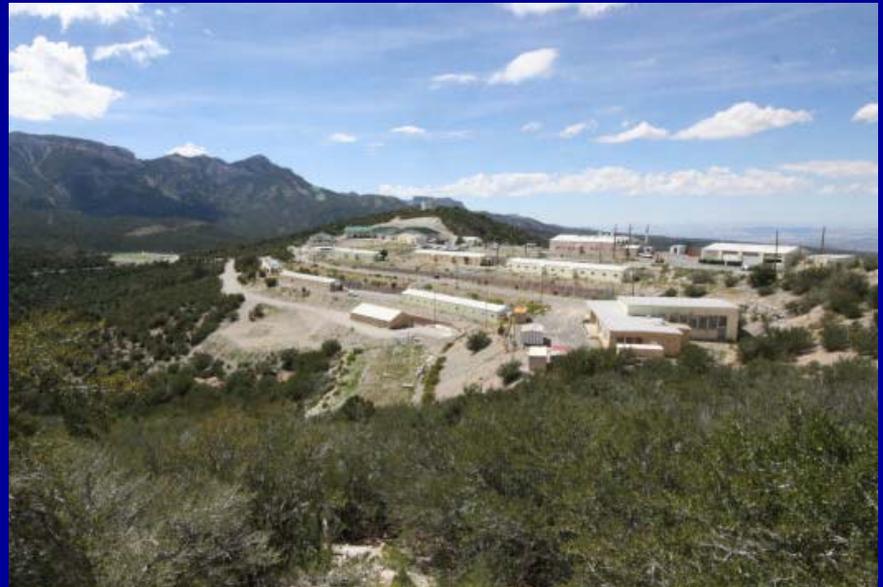
- Clark County Energy Management Policy, adopted August 2003
- \$1 million allocated each year to beef up energy conservation efforts in county's 600 buildings & facilities

Cont . . .





- Funding buys equipment & materials to reduce electricity and natural gas costs, including:
  - ✓ Automated systems to maintain room temps at 70 to 75 degrees in county facilities
  - ✓ Conversion to energy-efficient traffic lights
  - ✓ Replacement of inefficient lighting systems at county parks
  - ✓ Installation of 30 kilowatt solar system at Spring Mountain Youth Camp



# 2<sup>nd</sup> Eco-County Initiative

- Dec. 4, 2007: Eco-County Initiative adopted.
- Initiative Goals include:
  - ✓ Continued reduction of county energy purchases by 20% by 2015.
  - ✓ Promote solar demonstration projects.
  - ✓ Study impact of county facilities on the environment.

*Cont . . .*



## RESOLUTION TO ENCOURAGE SUSTAINABILITY IN CLARK COUNTY

WHEREAS, Sustainability means establishing policies that will protect, develop, and use resources in a manner that will sustain the economy and natural environment of Clark County for future generations;

WHEREAS, Clark County is located in the Mohave Desert with an abundance of clear day irradiation that sustains all of us on earth and will sustain an aggressive solar energy program at no energy cost to the public;

The citizens of Clark County would greatly benefit from development of Solar, among the world's leading scientists that global issues is among the most significant problems

are not limited to, impacts on

- ✓ Investing in cost-effective energy conservation projects, including replacing all light bulbs with energy efficient bulbs



- ✓ Replace grass with artificial turf and xeriscape in parks and medians (county already invested \$6.8 million into replacing almost 1.4 million sq. ft. of grass)

← *Winchester Demonstration Gardens*

- ✓ Promote the design and construction of sustainable and energy efficient buildings & facilities (county currently designing two buildings that meet LEED silver or higher)



*Clark County Development Services* →

# Issues to Consider

- Use Codes & Regulations to:
  - ✓ Provide homeowners energy assessment toolkits
  - ✓ Promote retrofitting existing residential buildings with solar system packages
  - ✓ Add new provisions in Unified Development Code for energy efficiency and green building design
  - ✓ Provide tax & fee incentives





***Planning for a Sustainable Future:  
The Current State of Sustainability in  
Clark County***

Prepared by:  
Clark County Department of Air Quality and Environmental Management  
and  
Sustainability Task Force  
April 2009

# What is a “sustainable community”?

Sustainable community, economic, environmental, and societal goals converge to provide a healthy, supportive, and meaningful existence for all community residents, both present and future. A sustainable community is one that uses its resources to meet current needs while ensuring that adequate resources are available for future generations.

-  A uniform model of a sustainable community and an action plan

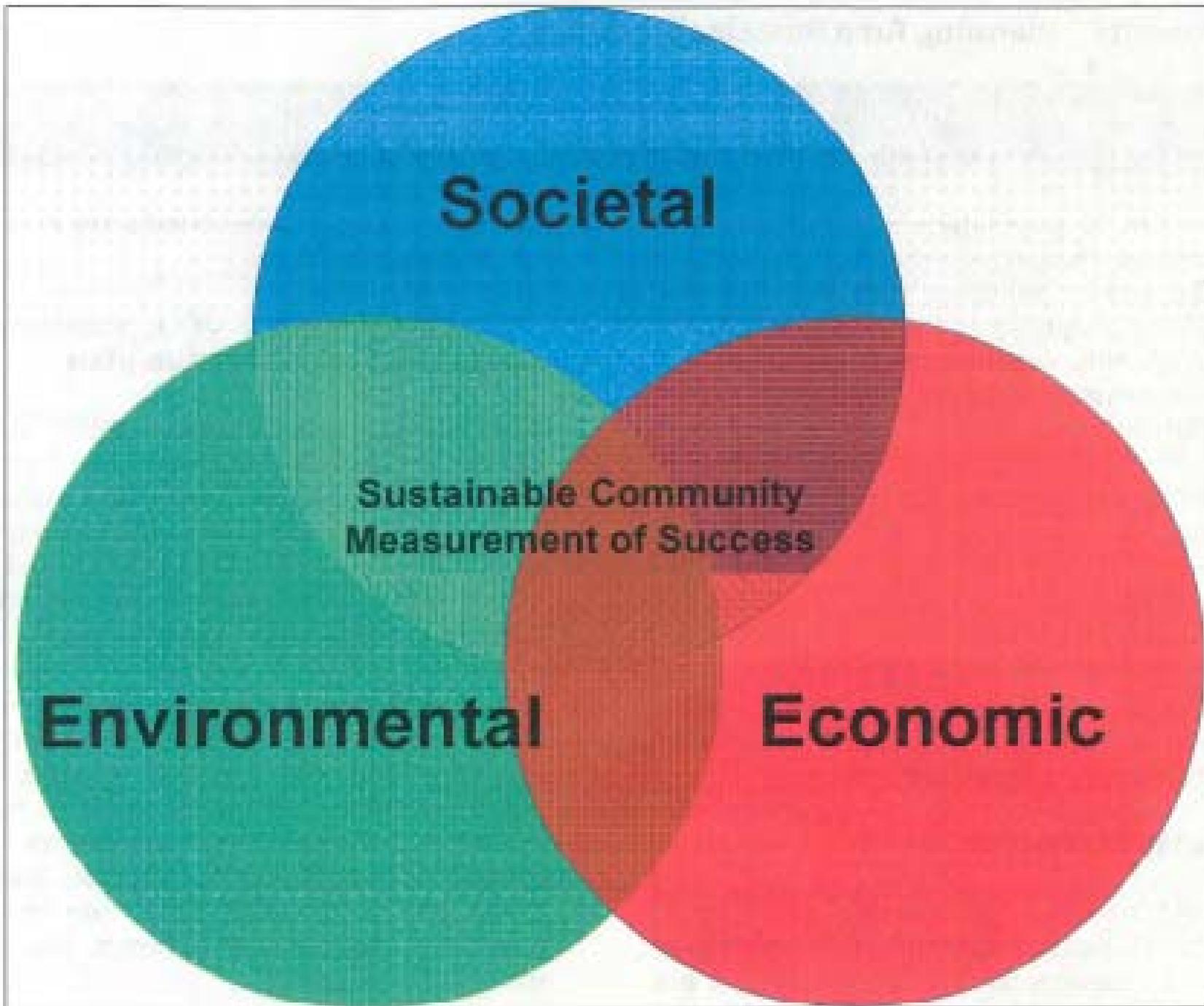
Sustainability action plans Maximize:

- Environmental system goals
- Economic system goals
- Societal system goals



# Identify a Clark County Sustainability Program Manager

- Drive/shepherd the Sustainability Task Force.
- Review sustainability action plans from other jurisdictions and recommend initiatives that might be useful for Clark County.
- Coordinate STF efforts to complete cost-effect analyses of mid-and long term sustainability initiatives.





# ICC-700

## The National Green Building Standard

- The standard **rates** residential buildings with respect to their potential **environmental impact**. It includes four **threshold levels** to **encourage the construction of higher performing green buildings**.
  - **Bronze**
  - **Silver**
  - **Gold**
  - **Emerald**



# ICC-700

## The National Green Building Standard

**Rates potential environmental impact  
in accordance with principles  
related to**

- Land Conservation
- Water Conservation
- Material Resource Conservation
- Energy conservation
- Indoor and outdoor air quality.



**Promotes owner education regarding  
Green Building**

- Operation
- Maintenance

# NGBS

## Scope, Intent, and Applicability

- The NGBS is intended to rate the environmental impact of
  - Low-rise
  - High-rise
  - Mixed use
  - Single-family and
  - Multi-family **residential** buildings.
- The standard will also rate
  - Renovations
  - Additions and
  - Subdivisions, as well as
  - Potential “green” sites on which these structures may be located.





# NGBS

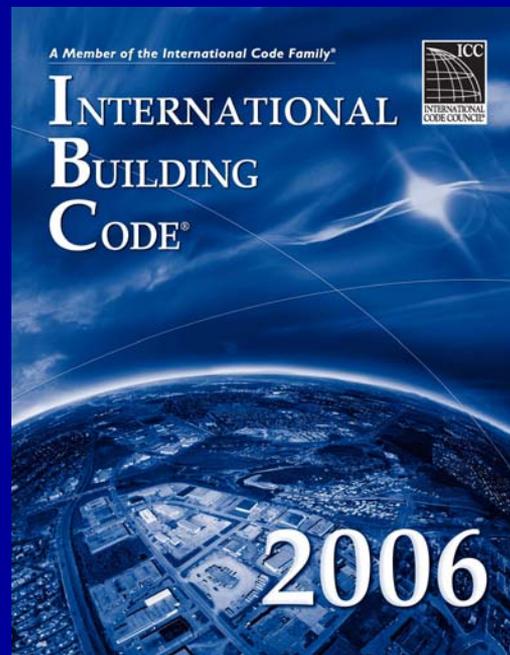
## Scope, Intent, and Applicability

A Major distinguishing feature of the NGBS is the **application to existing residential buildings.**

- Existing structures make up 90% of housing
- Existing buildings are not addressed by most current residential green building programs.
- Renovations and additions are specifically addressed and rated by the NGBS.

# We have building codes. Why do we need green building programs?

Traditionally, building codes and standards have addressed **how the environment affects buildings**. Green and sustainable building addresses the other half of the equation: **how buildings affect the environment**.



- Solar Energy:

- ✓ Clark County is uniquely suited for the use and development of solar energy due to climate and geography
- ✓ Growth of solar energy industry could contribute significantly to our region's economic growth



- Wind Energy:

- ✓ Requires lots of real estate
- ✓ Production challenges – high demand has created production backlog of between 3 to 5 years



# Nevada Solar One

- 3<sup>rd</sup> largest solar power plant in the world
- 2<sup>nd</sup> solar plant built in U.S. in past 16 years
- Located in Boulder City limits on 400 acres
- Cost \$266 million to build
- Production estimated to be 134 million kilowatt hrs/year
- In operation since June 2007
- Energy bought by NV Power Company and Sierra Pacific Power
- Privately owned

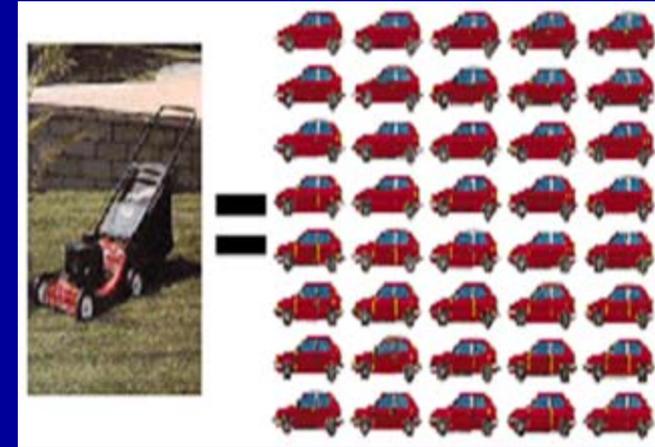




# Air Quality & Environmental Management

## Lawn Mower Exchange Program

- Began June 23, 2008
- Trade in gas-powered lawn mower for cordless Neuton
- AQ purchased 1000 Neuton cordless electric lawn mowers (\$400 value) offered to citizens for \$99 with trade in



# Regional Transportation Commission



- RTC is helping to create sustainable communities
- Truly sustainable communities support all types of transportation, including walking, biking and mass transit
- Alternative types of travel are key to cutting congestion in the Las Vegas Valley.

✓ Club Ride Program uses cash incentives to encourage people to commute, walk, ride bike, use mass transportation to get to work . . .





- ✓ ACE Rapid Transit Project – connects all corners of the Las Vegas Valley - 36 routes served by 360 vehicles equipped with bike racks that carry more than 190,000 passengers per week day
- ✓ Park & Ride - conveniently located park lots throughout the valley is an essential part of RTC's transportation future
- ✓ High Occupancy Vehicle Lanes (HOV) - available for vehicles carrying two or more people



# Alternative Fuel Vehicles

- Nevada law – 90% of vehicles purchased by county/local governments each year must use alternative fuel
- County fleet consists of 2,678 cars & trucks
- 70% powered by alternative fuels – gas/electric powered hybrids, biodiesel and CNG



# Development Services' Fleet



- 243 vehicles
- 95% use alternative fuel -  
majority are biodiesel, few CNG
- 36 gas/electric hybrids

purchased in June 2008



# Thank you very much!

