

The image features a solid teal background. A horizontal band across the center contains a grayscale image of several coins, likely US quarters, showing their intricate designs. Overlaid on this band is the text "Green Sustainable Building" in a white, sans-serif font. A thick red diagonal line is drawn across the word "Green", striking through it from the top-left to the bottom-right.

~~Green~~ Sustainable Building

What is Sustainability?





What is Sustainability?

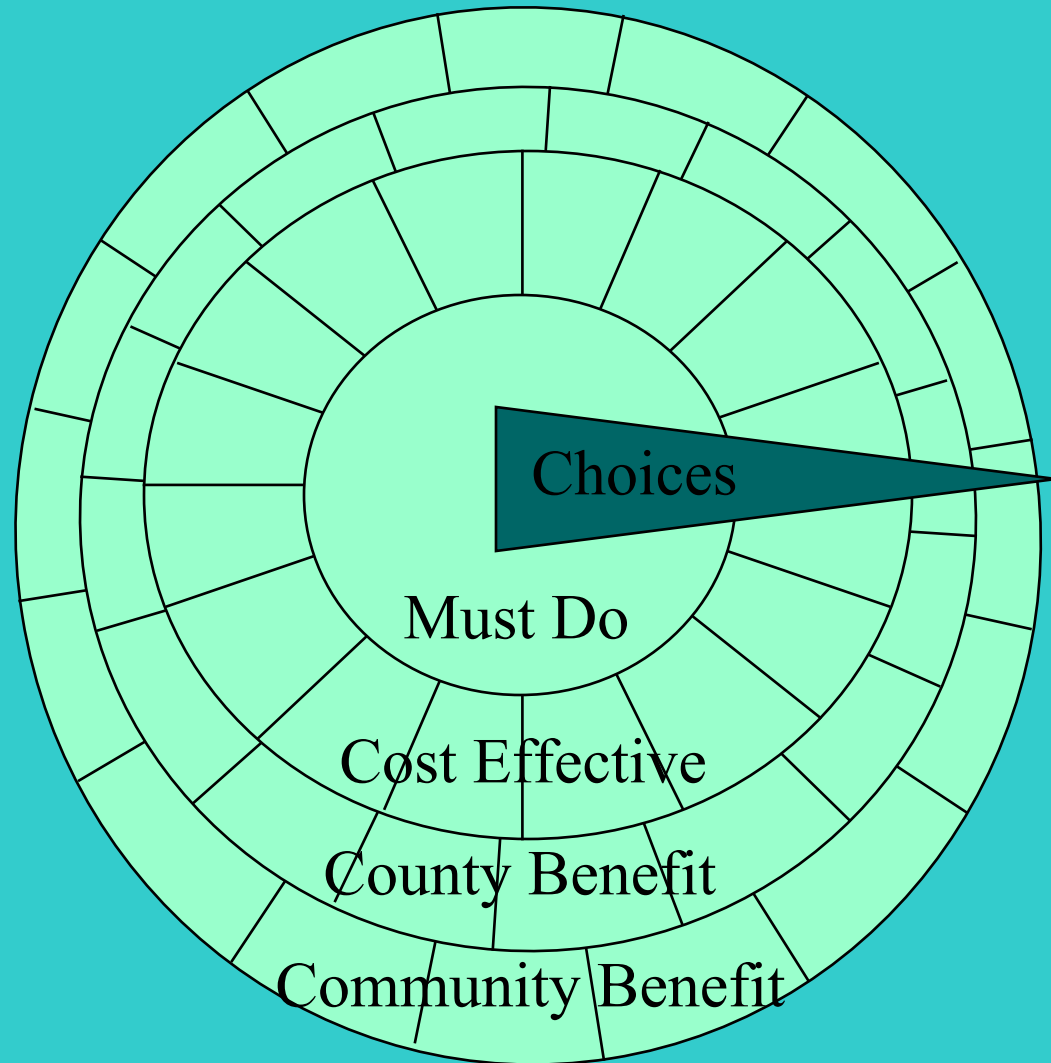
Can be defined as:

“Human activity that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Or, in the words of countless kindergarten teachers:

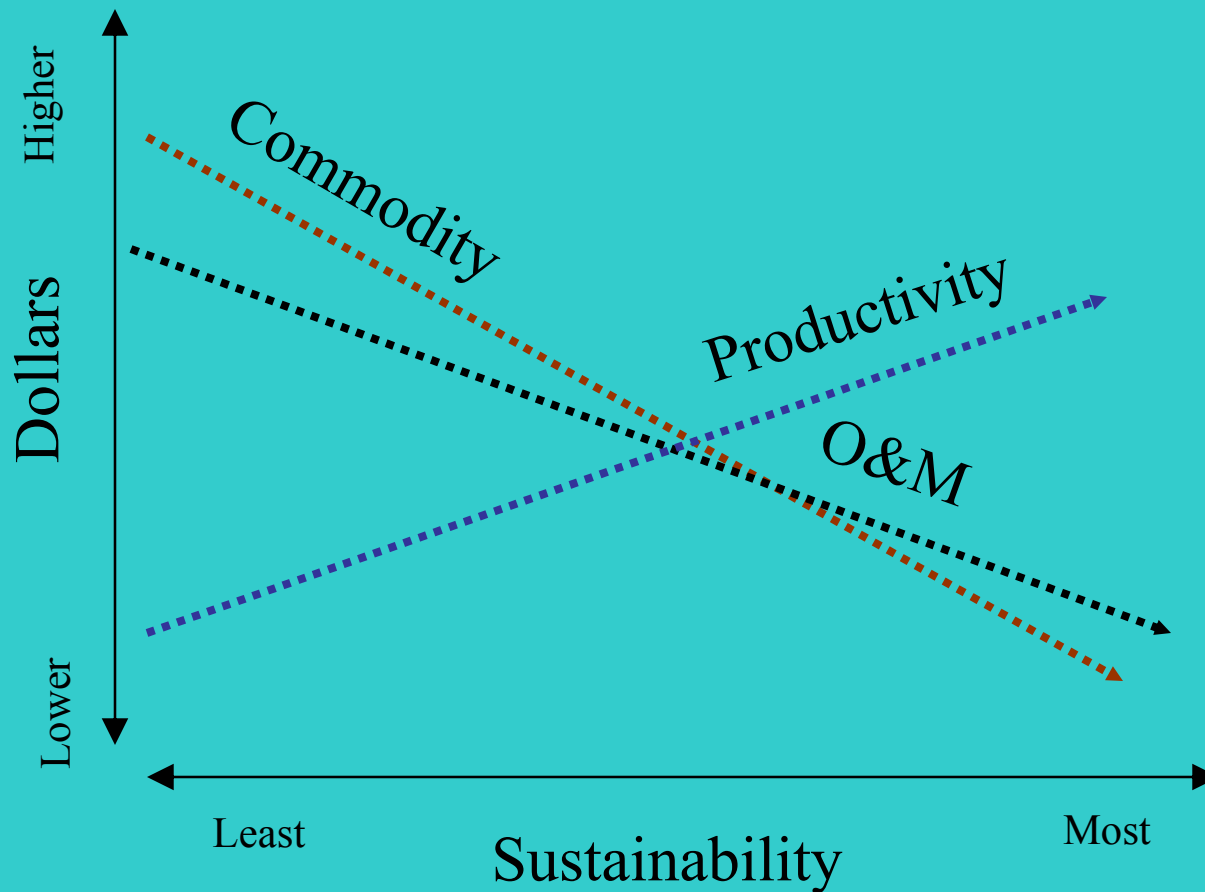
“Don’t take more than your share.”

Sustainability Wheel



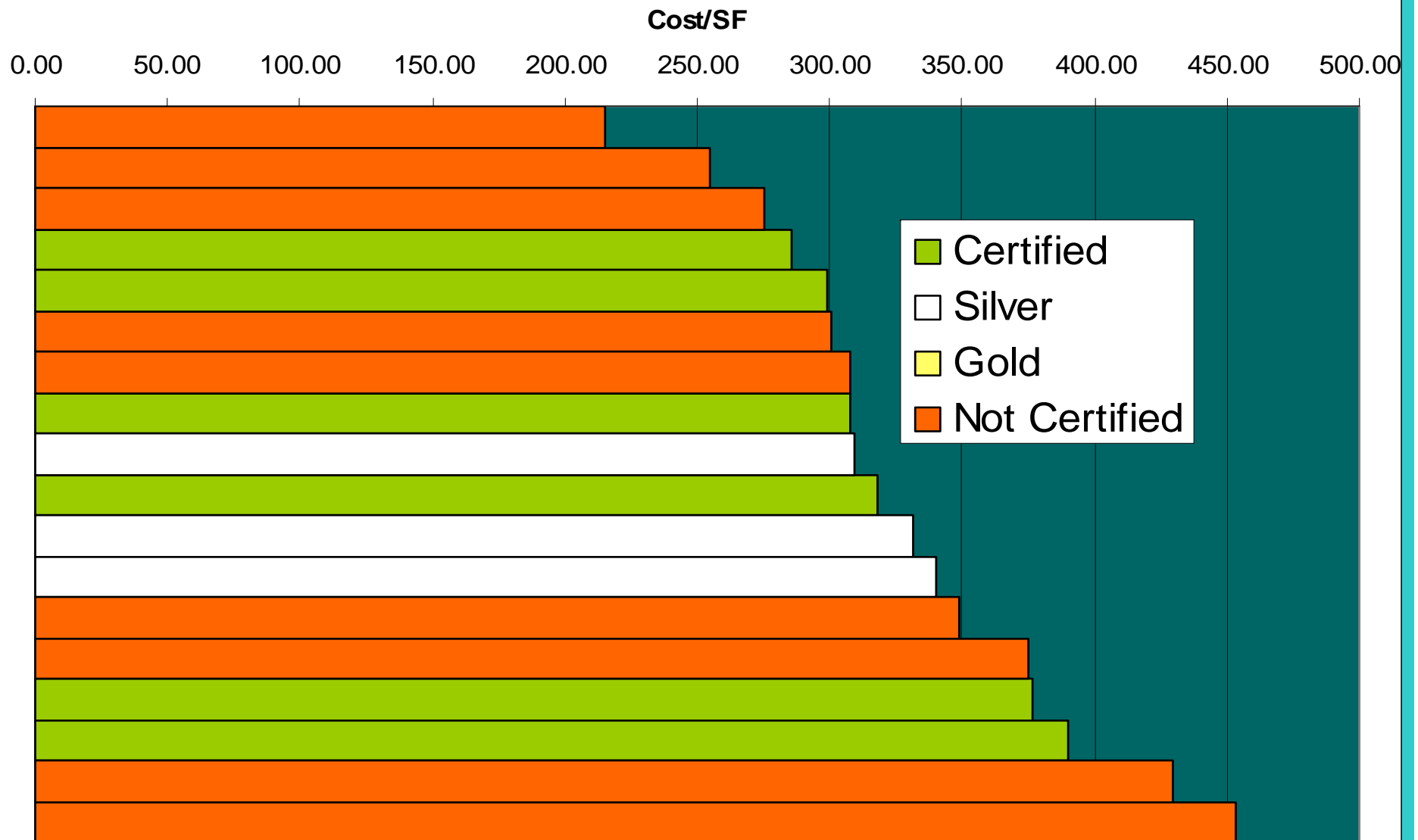


County Benefit Analytical Factors



The more sustainable, the lower the commodity, operations and maintenance costs will be AND the higher worker productivity will be...

Cost of Sustainability



What is Sustainability

Site Development & Water Use

blue = cost neutral/standard green = cost savings orange = cost premium

- **Courtyard bioswale** pre-treats and filters storm-water runoff
- **Native & drought tolerant landscape** creates habitat, saves water (wisteria at trellises for flowering and deciduous shade)
 - **Detention basin** (underground gravel box in parking) lot reduces peak storm water flow
- **Narrow building footprint** maximizes access to natural light and ventilation
- **Waterless urinals** save thousands gallons of water per year (one gallon per flush)

Materials

- **Steel framing in the building** is highly recyclable, and exposed wherever possible to reduce material use
- **Lobby, kitchen and laboratory floors** use the exposed concrete slabs and eliminate the need for decorative flooring
- **Exposed ceilings in workspaces** (suspended ceilings eliminated), painted white to increase light reflectivity
- **ACQ-treated** wood at grade replaces pressure-treating and eliminates potential chrome and arsenic groundwater contamination
- **Medium density fiberboard (MDF)** is used in the interior and is certified formaldehyde-free
- **Paint products** (interior and exterior) meet Green Seal standards for low and no VOC paints
- **Carpeting** has 66% recycled content (100% recycled backing), is modular, recyclable, self-adhering – and avoids out-gassing
- **Recycled plastic** used for Shade fabric panels and bathroom stall partitions
- **Roof and infrastructure** designed to accommodate future photovoltaic

What is Sustainability

Energy

blue = cost neutral/standard green = cost savings orange = cost premium

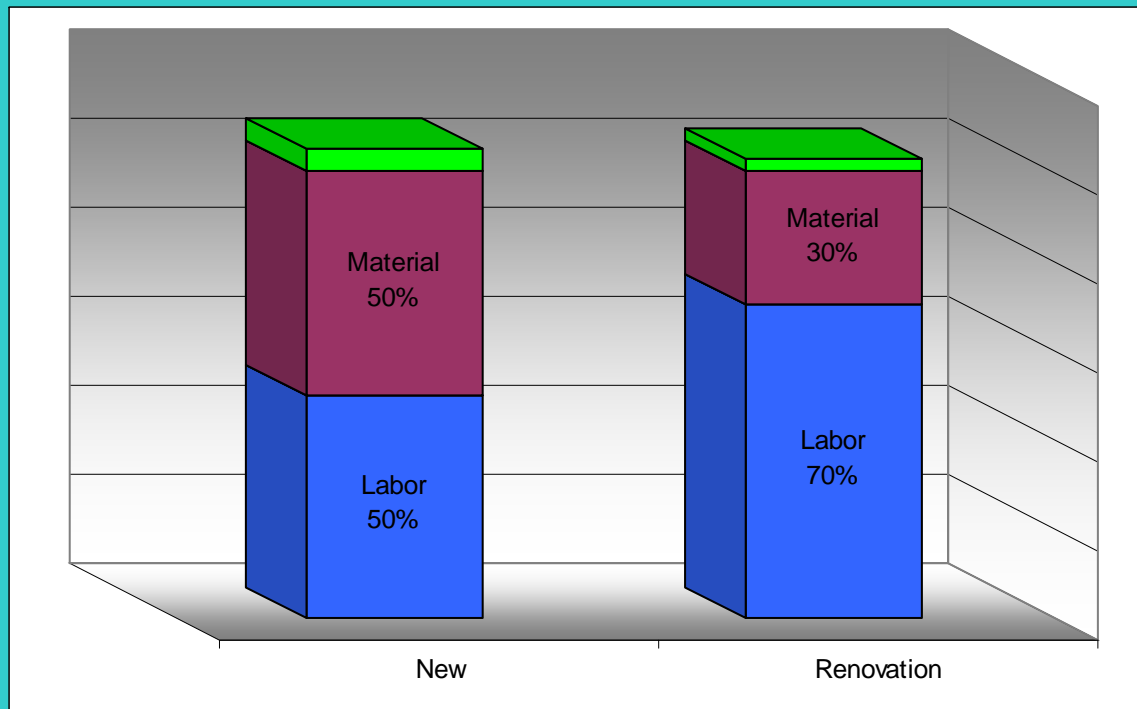
- **Modular workspaces** throughout the building interior allow natural light and ventilation to serve the entire building
- **Lighting system** - fewer watts/square foot, automatic dimming for daylight - HVAC equipment is reduced
- **California Energy Commission grant** for light and energy modeling
- **Southern California Edison \$11,000 grant** due to designed energy performance exceeding 2001 Title 24 requirements
- **High performance glazing** on south and west facing windows cuts UV exposure and heat load
- **Shade trellis, screen fabric & wisteria** improves comfort and building energy performance, and allows smaller HVAC system
- **HVAC system uses fresh air** while turning off the air conditioning, saving cooling or heating energy on mild days
- **Roof screens** of shade fabric lower roof and intake air temperature, and allow smaller HVAC system
- **Operable windows** allow control by users, and take advantage of Santa Barbara's temperate climate

Community

- **Protected outdoor spaces** (created by placement and shape of building) provide terraces for working, meeting, and recreation
- **Building location** along transit. MTD, Clean Air Express, and Coastal Express provide easy commuting options

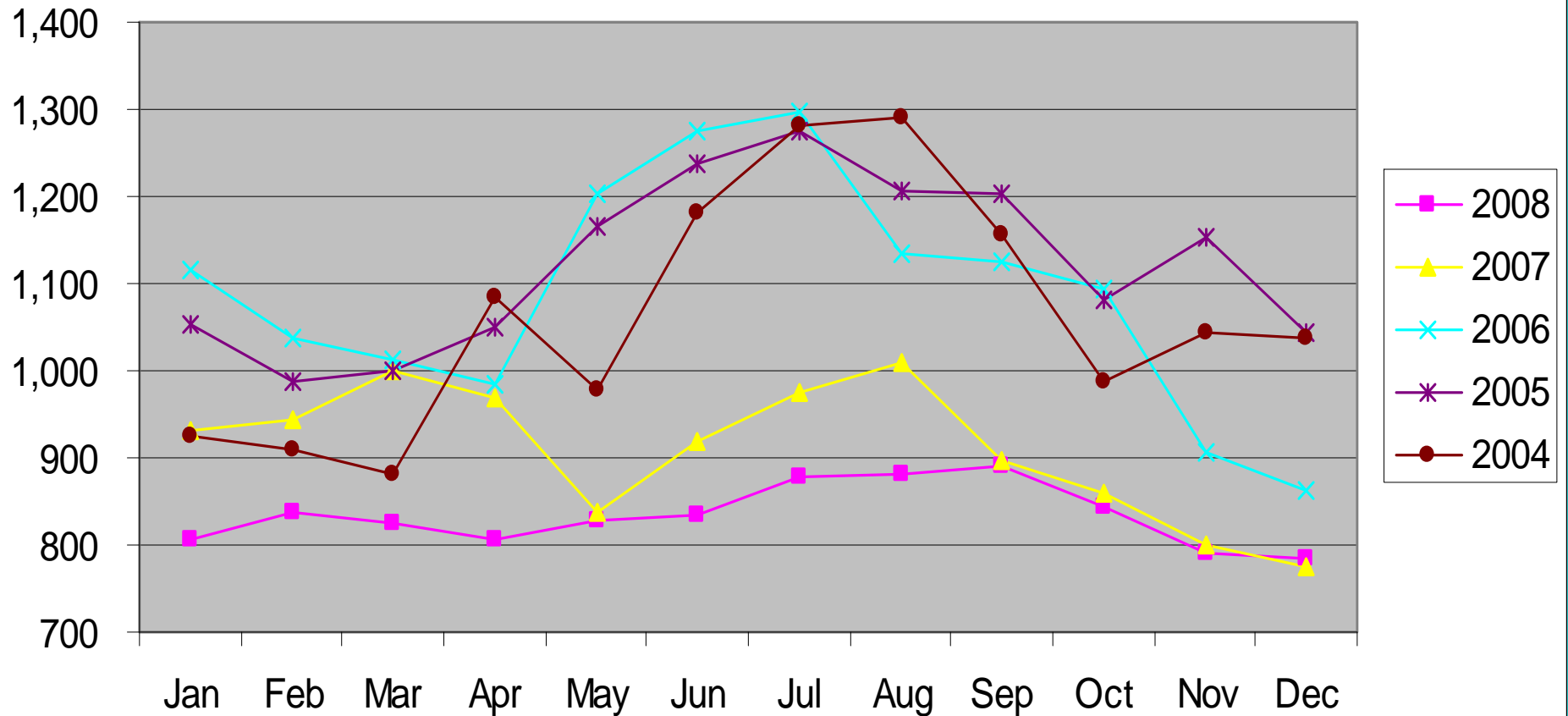
Programmed renovation

- Results generally similar to new construction
 - Green features are usually a smaller percentage of total cost (1% to 8%)



Commissioning

**Casa Nueva Office Building
(kWh/Day)**



Utility Cost—Our Experience

<u>Budgeted Building Utility Costs</u>	
2005 Utilities/SF/Year Electricity, Natural Gas	\$2.13/sf E: \$1.70/sf NG: 43¢/sf
2008 Utilities/SF/Year Electricity, Natural Gas	\$2.15/sf E: \$1.76/sf NG: 39¢/sf

Commodity	Lompoc Wellness (7,900 sf)	Public Works SM (11,000 sf)	Casa Nueva (28,000 sf)
2005 Utilities/SF/FY Electricity, Natural Gas	57¢/sf E: 57¢/sf NG: 0/sf	90¢/sf E: 65¢/sf NG: 25¢/sf	\$2.29/sf E: \$2.12/sf NG: 17¢/sf
2008 Utilities/SF/FY Electricity, Natural Gas	64¢/sf E: 64¢/sf NG: 0/sf	78¢/sf E: 56¢/sf NG: 22¢/sf	\$1.82/sf E: \$1.58/sf NG: 24¢/sf

