Sustainability Initiative for the Coachella Valley

Voluntary Green Building Program
Voluntary Green Building Standards

“soft-opening”
local jobs/business
comprehensive

Green Buildings

RetroCommissioning (RCx)
Building Energy Use Manager
Benchmarking Buildings
Voluntary Green Building Standards

Climate Action Planning

Greenhouse Gas Inventory
Climate & Energy Action Plans
Regional Framework for Collective Action

Under one umbrella ...
Regional Green Building Program

• A Model Green Building Standards Policy
  . . . tailored to the region
The Inland Empire
Heat in the Inland Empire
Regional Green Building Program
Coachella Valley Wildlife, Snakes
• Even our Actors have adapted to our climate!
  - George Hamilton
Shade Makes it Cooler
Regional Green Building Program

Why a Voluntary Approach???

Didn’t want to Anger our Development Community
Regional Green Building Program

New Construction CVAG Territory

- Residential Dwelling Units

Year: 2005/2006 to 2010/2011
Regional Green Building Program

How does it help?

Elected Officials

• Efficient Buildings will help boost the Economy
• Train their local contractors for FREE
  • Help local Mom and Pop Contracts build cost effective Buildings
  • Help local contractors to be able to reach Zero Net Energy standards for Residential and Commercial by 2020 and 2030
  • Regional Wide Program- No City implements it alone
Regional Green Building Program

Southern California Edison
EVERY MONTH WE EXPORT $60 MILLIONS OF DOLLARS from the COACHELLA VALLEY FOR ELECTRICITY…

OF THAT ONLY A TINY FRACTION STAYS LOCAL
Increases revenues to the City coffers!

- About **$700 Million** a year is spent on electricity in the Coachella Valley.

- imagine if collectively we could **SAVE** just 10 percent.

- Increase consumer spending on goods and services
- Increase in Local Tax Revenues
  - Sales Tax, Property Tax, TOT and Income Tax
- **$70 million** dollars a year would stay in the Coachella Valley.

- **Now THAT would create a lot of JOBS.**
LIKE HEALTHCARE – LEAST INVASIVE FIRST

- Environmental Factors
- Stop the bleeding
- Treat the skin
- Better Circulation
- Organ Transplant
- Shade
- Seal the Cracks
- Cool Roof/Window Film/Tint
- Ceiling & whole house fans
- Conditioner / Replace the air
For every area of improvement which requires permit.
## TECHNICAL BUILDING MEASURES AND POINT SYSTEM

FOR THE HOMEOWNER PLANNING TO BUILD A NEW HOME

### ROOF:

- **9.1** T24 • Rigid insulation on top of roof sheathing.
- **9.2** T24 • Install "cool roof" system.
- **9.3** T24 • Install a radiant barrier at the roof level.
- **9.4** T24 • Consider "cool roof" coating for roofing.
- **9.5** T24 • In a vented attic design, install continuous ridge vent and eave vents for effective thermally-driven ventilation.
- **9.6** T24 • Use solar powered attic exhaust fan.
- **9.7** If metal roof system is being considered, design metal roof with stand-off battens to allow free flow thermally-driven air between roof sheathing and metal roofing.
- **9.8** Avoid petroleum-based roof system.
- **9.9** Use roof with a high durability/low maintenance material such as concrete, slate, clay or fiber cement.
- **9.10** In a vented attic design, install continuous ridge vent and eave vents for effective thermally-driven ventilation.
- **9.11** Use non-sawn lumber to frame the roof structure (at least 75%). Non-sawn lumber uses less lumber. SEE FRAMING CONSIDERATION.
- **9.12** Energy heels on roof trusses (75% of attic insulation height at outside edge of exterior wall)

**Subtotal:** 10

### ATTIC:

- **10** ATT: • Add insulation in the attic; Ventilate the attic; With evaporative coolers, discharge upducts through roof or the exterior.
Green Building Program

• Practical
  – what should I do?

• Informative
  – why will that help?

• Comprehensive
  – works with Title 24 & CALGreen
What Should I Do?
The Basics

1. SHADE
2. WINDOWS (E, S & W)
3. COOL ROOF
4. AIR SEAL
5. DUCT SEAL
6. ENVELOPE INSULATION
7. HVAC ≥SEER 13
8. EVAPORATIVE COOLER
Site Considerations

1. TREES
2. PATIO COVER
3. LATTICE/VINES
4. VENTILATED WALL

Shade, western exposure
Passive-Shade

Porch
Shaded wall
Shaded hardscape and landscape

JUNE 21, 8am
Passive-Shade

JUNE 21, 12 p.m.
Site Considerations
Make the Site Work for You

1. TREES
2. SAW CUT INTO PATTERN & REMOVE SOME
3. INSTALL GUTTER & CREATE DRY CREEK BED RETENTION AREA
4. SEPARATE THE CONCRETE, REPLACE WITH PAVERS (SEE DETAIL BELOW)

5. exposure
Cool Roof

- **Air Temperature**: 37°C (99°F)
- **DARK ROOF**: 80°C (177°F)
- **LIGHT ROOF**: 44°C (111°F)
- **66°F Difference**
Cool Roof

<table>
<thead>
<tr>
<th>METHOD</th>
<th>COST</th>
<th>LIFE SPAN (YEARS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Spray Coating</td>
<td>$2-3/SF</td>
<td>5 - 10</td>
</tr>
<tr>
<td>2 Single-ply Roof Membrane</td>
<td>$4-5/SF</td>
<td>30</td>
</tr>
<tr>
<td>3 New tiles</td>
<td>$4-5/SF</td>
<td>30</td>
</tr>
</tbody>
</table>

1  
2  
3
What is the existing condition?

DO YOUR HOMEWORK
- Leaky ducts?
- Leaky house?
- Leaky windows?
- Oversized equipment?

Team involved:
- HERS professional
- Mechanical Contractor
- SCE audit
Invisible Carbon Dioxide

Emissions Time Bomb

1 TON CO2

32 ft.
Carlos Ortega Villas
Zero Net Energy MFH
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Zero Net Energy MFH