Solar Working Group
Activities and request for input & ideas

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Solar Subcommittee

- Solar selected from original brainstorm list

- Initial meeting
  - Facilitating solar use in city/university facilities
  - Identifying codes & standards
  - Conducting Applied Research
How Do We Pay For It?

$ $$ $$
Solar Financing

- Created another group to discuss solar financing
- First Meeting February 3
  - Mesa, Chandler, Scottsdale, Phoenix, ASU
  - Current Projects
  - Types of Financing
  - Goals for the Group
Solar Projects

- Remote Locations – Necessity
  - Bus Stops, Remote Lighting
  - Fiscally Driven

- Current Projects
  - Significant amounts of power

- Future Projects
Financing

- Types of Financing
  - Ownership
  - Leases
  - Power Purchase Agreements

- Tax Incentives
  - Tax Credits
  - Depreciation
Goals of Group

- Identify other types of Financing
  - CREBs
  - Tax-exempt financing
  - Private vs. Public Ownership
  - New Market Tax Credits
- Stimulus Money
- Regional Solar
Goals of Group

- Develop Model PPA
- Identify Key Constraints
- Education on Terminology
  - kW vs. kWh
  - Photovoltaic vs. CPV vs. Solar Thermal
- Networking
- Solar Advocacy
Next Steps

- Recruit New Members
- Schedule next meeting
9 Valley entities participated including Glendale, Scottsdale, Peoria, Apache Junction, Chandler, Maricopa County, Phoenix, Mesa and El Mirage

Solar Permitting Levels
- Highest in Phoenix with around 20 permits per month
- Peoria second highest with around 14 permits issued per month
- Vast majority are for residential
- Very limited solar commercial permitting occurring

Do entities utilize a standard application for solar permitting?
- Most local governments do not due to low levels of volume in this area
- Mesa exempted solar from permit requirements several years ago with the exception of commercial installations
Training Needs
  • All entities indicated that could use staff training on solar, both PV and thermal

Increase in solar permitting?
  • Yes - All entities indicated that solar permitting is increasing
  • Some noted the increase is limited to residential

Solar design guidelines for panels on the roof?
  • A variety of responses
  • Some use existing City design guidelines (Peoria, Mesa, Apache, Junction)
  • Some allow package installs only (Chandler)
  • Some use Maricopa Association of Governments (MAG) guidelines (El Mirage)
Solar Permitting Survey

✓ Over the Counter Permits?
  • Yes-3 entities, specifically for residential
  • No-4 entities
  • Others indicated solar hot water is over the counter, but PV takes 2-3 days for review—again this is in regards to residential

✓ Require Solar Plans to be Sealed by an Engineer?
  • Mixed response, some do, some don’t
  • Commercial applications-majority require both electrical and structural seal
  • For solar hot water or pool panels, most do not require sealed plans
Solar Electric (PV) and Hot Water Permits
Scottsdale Data

![Graph showing the number of Solar Electric (PV) and Hot Water permits from 1998 to 2008. The x-axis represents the years (1998-2008), and the y-axis represents the number of permits ranging from 0 to 50. Each year has a bar indicating the number of PV permits (in yellow) and Hot Water permits (in blue).]
# Solar Permits are Up

## Scottsdale Data

### Solar Electric (PV)

<table>
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<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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<th>2006</th>
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<th>2008</th>
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<td>13</td>
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### Solar Hot Water

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<th>2003</th>
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<th>2005</th>
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</thead>
<tbody>
<tr>
<td>No. of Permits</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>40</td>
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</tbody>
</table>
Solar Panels and Building Design

How can we address the incompatible placement of Solar Panels in the context of Building Design?
East and West Facing Pitched Roofs can be problematic

Without esthetic consideration of solar panel placement requiring southern exposure, panels could look like this lunar landing.
Solar Panel Placement Design Guidelines

- South Facing Pitched Roofs
- North and East/West Facing Pitched Roofs
- Flat Roofs