SWEEP Workshops

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Energy Efficiency & Renewable Programs
Combining Energy Efficiency and Renewable Energy

- Overview of Companies and Programs
- Net Zero Homes
- LEED Buildings
- Grant Opportunities
- Community Solar
UNS Map and Company Info

TEP Electric Service Area*
- Customers: 399,989
- Sales: 9,503 GWh
- Peak Demand: 2,376 MW

UNS Gas Service Areas*
- Customers: 145,725
- Sales: 111,967,741 therms

UNS Electric Service Areas*
- Customers: 89,775
- Sales: 1,663 GWh
- Peak Demand: 424 MW

* 2008 data
# Residential DSM Programs

<table>
<thead>
<tr>
<th>Programs</th>
<th>TEP</th>
<th>UNSE</th>
<th>UNSG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-Income Weatherization</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>New Home Construction+</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Residential HVAC Retrofit+</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Shade Tree</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>CFL Bulb Program+</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>Education and Outreach</td>
<td>✓</td>
<td>✓</td>
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+Update for Dollars, Design, and/or new measures
## Commercial DSM Programs

<table>
<thead>
<tr>
<th>Programs</th>
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</thead>
<tbody>
<tr>
<td>Large Business+</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Business+</td>
<td>✓*</td>
<td>✓*</td>
<td>✓</td>
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</tbody>
</table>
* Direct Install

| Commercial Building Design (new construction) | ✓   |      |      |
Historic and Anticipated Savings (MWh)

Tucson Electric Power

- 2001: 0
- 2003: 0
- 2005: 0
- 2007: 0
- 2009: 0
- 2011: 0
- 2013: 0
- 2015: 0
- 2017: 0
- 2019: 0
- 2021: 0
- 2023: 0
- 2025: 0
The Nexus of Energy Efficiency and Renewable Energy

Energy Efficiency

Program Design & Marketing

Renewable Energy
How to get to Net Zero Homes

Energy Star Level 1
- HERS 85
- $400 to builder

Energy Star Level 2
- Add 14 SEER
- Additional $150 to builder

Energy Star Level 3
- Add Solar
- Approved with Renewable filing (2009)
- Additional $500 per kW to builder
**Step it up!**

**Ahead of the Curve!**
(proposed)

**Tier 1**
HERS 85 Index = $400/home

**Tier 2**
HERS 70 = $1,500/home

**Tier 3**
HERS 45 = $3,000/home
Progress

- Project at Davis Monthan Air Force Base
  - 550 Guarantee Homes
  - 3 MW on roof tops
    - 80% with PV
  - (3MW ground mount)
- 4 builders / subdivisions
- Solar H2O – all homes
- Solar Electric – selected homes
Commercial New Construction

- Co-Marketing and Branding
- LEED Buildings for Commercial

LEED Platinum Research Center at NAU, Flagstaff
ARRA Grants (Demonstration Grant)

Firming Renewable Energy

- Solar PV Field (1.6 MW)
- Compressed Air Energy Storage
- Direct Load Control
- Lithium Ion Battery (1MW)
- 40 MW C&I Program
- Pilot Residential Program
ARRA Grants (Arizona Energy Office)  
State Energy Program Funds  

$10 Million Distributed Generation for AZ Utilities  

1. Training Program (10%)  
2. Low Income Housing (20%)  
   - Guarantee Subdivision  
   - Structural Integrity  
   - Administration  
3. Non-Profit Program (70%)  
   - Provide EE Audit  
   - Commercial Program Incentives
Community Solar Program

- Option “Roof Top” Solar
- One kW block = 150 kWh
- Additional $3 per month / block

- No PPFAC or adjustor charges
- Simulates “net metering”
- 10-year contract

Add Energy Efficiency?
Combining Energy Efficiency and Renewable Energy

Now is the time to make smart energy choices. TEP gives you the power to choose wisely — and make a difference.

Take control of your energy future by getting the facts. Knowing your options. And taking action that can save you real money over time — and help conserve our precious resources.

Conservation starts by equipping your home or business with the latest Bright Solutions™ from TEP — programs designed to both conserve energy and explore renewable energy options.

ENERGY STAR® Lighting.
Save on compact fluorescent light (CFL) bulbs purchased through selected local retailers.* CFLs use 75% less energy than standard bulbs, last up to 10 times as long and are better for the environment than traditional bulbs.

Guarantee Home.
Each TEP Guarantee Home is thoroughly inspected at critical stages of construction to ensure that our stringent efficiency standards get built in from the start. The result is an energy-efficient new home that’s good for the environment and good for your wallet.

Plant a tree.
In partnership with “Trees for Tucson,” TEP will help you pay to plant a tree. Trees do more than just beautify. They also conserve energy by shading buildings, provide a habitat for wildlife, control stormwater runoff and pollutants, and block soil erosion and wind.

The Energy Advisor.
Check out TEP’s FREE energy audit on tep.com. Use it to quickly discover where your home or business is using the most energy and to review suggestions on ways to save.

REBATES! Efficient Home Cooling.
Cooling is the largest energy expense for most homes. Receive up to $250 in rebates when you buy a qualified high-efficiency air conditioner or heat pump installed through a preferred contractor.

Shift electricity usage and save.
The Time-of-Use program can help reduce your electric bill at home or work, as it benefits the environment. Shift your energy usage from peak periods to off-peak times of day, and save. It’s FREE to sign up, including installation of a special meter.

Renewable Energy Rebates.
Generous rebates are now available to encourage solar hot water heating, solar electric, wind and other alternative energy resources for your home or business. Combined with federal and state tax incentives, it’s never been easier to invest in a renewable energy system. You’ll save money on your monthly electric bill and help promote Arizona’s energy independence.

*While supplies last.

THE TIME FOR ACTION IS NOW. Learn more by visiting tep.com or calling (520) 623-7711.
Combining Energy Efficiency and Renewable Energy

- Co-Brand
- Co-Market
- Combine Efforts
- Program Design