Federal, State and Utility Incentives for High Performance Homes in Nevada

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Presentation at the SWEEP Workshop on High Performance / Net-Zero Energy Homes
Las Vegas, Nevada
June 10, 2008

Overview

- Incentive types
- Federal and state tax credits
- Utility incentives
  - Homebuilders
  - Homeowners
- Examples
  - High Performance Home
  - Zero-Energy Home
- Summary
Incentive Types

**Federal and State Tax Credits**
- **Homebuilder**
  - New Homebuilder tax credit ($2,000)
- **Homeowner**
  - Solar PV tax credit ($2,000)
  - Solar thermal tax credit ($2,000)
  - State Property tax exemption for renewable energy systems

**Utility rebates and rate design**
- Cooling, lighting incentives
- Solar PV buydown
- Net metering with time of use rates

### Federal and State Tax Credits

<table>
<thead>
<tr>
<th>Tax Credit To / Amount</th>
<th>Builder</th>
<th>Homeowner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Tax Credits (expire 12/31/08)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy efficient new homes</td>
<td>$2,000</td>
<td></td>
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<tr>
<td>Solar PV systems</td>
<td></td>
<td>$2,000</td>
</tr>
<tr>
<td>Solar thermal systems</td>
<td></td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>State Tax Credits / Exemptions</strong></td>
<td></td>
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</tr>
<tr>
<td>Property Tax Exemption – solar systems</td>
<td></td>
<td>RE systems not included in assessment values</td>
</tr>
</tbody>
</table>
Utility Programs and Incentives

Energy Efficiency

- **Energy Efficiency**
  - **AC Rebates for Builders and Contractors**
    - $60 to $235 per ton for builders
      - Example (split system)
        - 5 Ton Air Conditioning Unit X $235 per Ton (Tier 3) = $1,175.00 rebate to homebuilder
  - **Contractor rebates**
    - Refrigerant Charge Air Flow Service: $20 per ton
    - Duct Testing and Sealing Service: $45 per ton
  - **New ENERGY STAR 'Plus' Incentive**

- **Renewable energy**
  - PV: $2.50/watt (grid connected)
    - 2 kW system = $5,000 rebate (approx. 33% of cost)
  - Net metering tariff with carry-forward and TOU rates

High Performance Home Example

- 30-40% energy savings versus 2006 IECC from EE measures
- **Builder incentives**
  - Incremental cost: $3,500 - $4,000
  - Federal tax credit: ($2,000)
  - Utility rebate (Tier 3 HVAC): ($1,175)
  - Net incremental cost: **$325 – $825**
- **Annual savings versus a typical home**
  - Grid electricity: 9,300 kWh (47% reduction)
  - Peak electricity demand reduced by 50%
  - Natural gas: 370 therms (56% reduction)
  - Annual energy cost savings: $1,600
Zero-Energy Home Example

- 50% or greater energy savings versus 2006 IECC
  - EE measures plus 2 kW PV
- Incremental cost to builder
  - Incremental cost: $19,000 - $20,000
  - Federal tax credit ($2,000)
  - Utility rebates – EE (Tier 3 HVAC) ($1,175)
  - Net incremental cost (builder): ~$16,000 – 17,000
- Annual savings versus a typical home
  - Grid electricity: 12,100 kWh (61% reduction)
  - Peak electricity demand reduced by 70%
  - Natural gas: 370 therms (56% reduction)
  - Annual energy cost savings: $1,700
  - Value of PV generation: $300 per year

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Summary: incentives and cash flow

<table>
<thead>
<tr>
<th></th>
<th>High Performance Home (EE only)</th>
<th>Zero Energy Home (EE and RE)</th>
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</thead>
<tbody>
<tr>
<td>Incremental cost to builder</td>
<td>$4,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Federal EE tax credit</td>
<td>$2,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Utility incentives</td>
<td>$1,175</td>
<td>$1,175</td>
</tr>
<tr>
<td>Total incentives</td>
<td>$3,175</td>
<td>$3,175</td>
</tr>
<tr>
<td><strong>Net cost to builder</strong></td>
<td><strong>$825</strong></td>
<td><strong>$16,825</strong></td>
</tr>
<tr>
<td>Homeowner tax credits (federal)</td>
<td></td>
<td>$4,000</td>
</tr>
<tr>
<td>Annual energy savings, homeowner</td>
<td>$1,675</td>
<td>$2,000</td>
</tr>
<tr>
<td>Net savings, homeowner (mortgage + utilities)</td>
<td>$130 / month</td>
<td>$50 / month</td>
</tr>
</tbody>
</table>
Homeowner cash flow

<table>
<thead>
<tr>
<th>Homeowner Net Cash Flow: Annual Mortgage plus Utility Costs</th>
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<tbody>
<tr>
<td>Typical Home</td>
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<tr>
<td>Utility Bill</td>
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Homeowner cash flow

- High Performance Home: net savings = $130/month
- Net-zero energy home: net savings = $65/month

Summary

- Federal, state and utility incentives are available for high performance homes
  - Designed to help overcome market barriers
  - High performance / net-zero energy homes will help Nevada homeowners reduce their monthly energy costs w/ net savings
  - EE is most cost-effective, but ZEH achieves greater peak, kWh savings

- What the homebuilding industry can do
  - Utilize incentives to build more efficient homes and advance new design practices/technologies within the industry
  - Educate homebuyers about why high performance is a better value, and their incentive options
  - Encourage federal and state policymakers to continue incentives and increase funding levels
For More Information

- Federal tax credits
  - www.energycodetaxes.org
  - www.dsireusa.org

- State tax credits
  - energy.state.nv.us/renewable/incentives.htm

- Utility incentives
  - Nevada Power
    - nevadapower.com/conservation/home/home_rebates/
  - Sierra Pacific Power
    - www.sierrapacific.com/conservation/home/home_rebates/
  - Solar PV systems
    - www.solargenerations.com

SWEEP:
Dedicated to More Efficient Energy Use in the Southwest

For More Information

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Southwest Energy Efficiency Project (SWEEP)
www.swenergy.org