



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

Building Technologies Program



**Building
AMERICA**  SM
U.S. Department of Energy
Research Leading to Zero Energy Homes

On the Path to Zero Energy Homes in New Mexico

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Moving Towards Zero Energy Homes

Goals: Develop and Package Programs
Build Market Demand

Attractive to Builder

- Buildable
- Marketable
- Substantially reduced cost
- Substantial marketing

Attractive to Buyer

- Large energy bill reduction (~75%)
 - Add value
 - Cash flow
 - Resale





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Near-Zero Energy Homes

Strategic EE + RE Home Designs

Improved EE Design

- Envelope, heating, cooling, water heating, and lighting:
- Target > 50% energy savings and
> 60% peak demand reduction to maximize cost-effectiveness;
NMGB Gold (HERS60, without solar)
- Readily-available features;
- Optimize efficiency and solar requirements
- Optimize builder position
- Target positive cash-flow to homeowner





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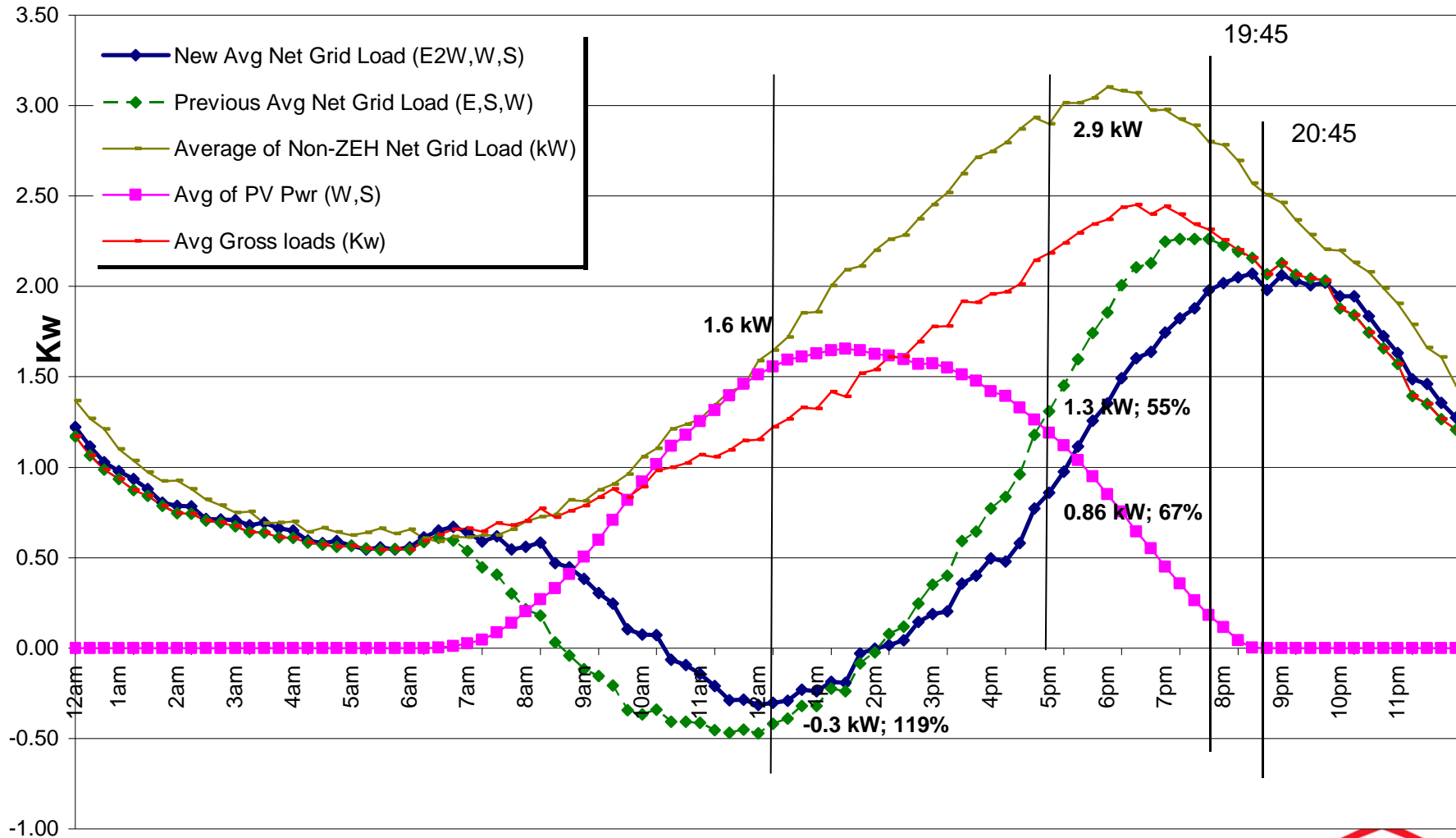
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No East , Eleven South , And Seven West





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Federal Tax Credits

Energy Efficiency

- 50% better than IECC
- \$2,000 to builder
- Likely to be extended to 2013

Solar

- 30% of cost
- \$2,000 cap
- To homeowners
 - Likely to be extended to 2013
 - Need to change to be to purchaser: Builder *or* homeowner



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New Mexico State Tax Credits

Existing Solar Tax Credit (to Homeowner)

- 30% of cost
- take federal tax credit first
- \$9,000 cap on NM tax credit

Energy-Efficiency Tax Credit (to Builder)

- Build Green NM Gold (60 HERS w/o solar)
- \$4.50/sqft for the first 2000 sq ft
- \$2.00/sqft for the next 1000 sq ft





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Zero Energy Homes – New Mexico

Public Service of New Mexico

Net Metering in Place

RPS Tariff: \$0.13/kWh Generated

- In addition to net metering

Marketing Support

- Agreement in principal for ZEH subdivisions





Zero Energy Homes – New Mexico

ZEH Program, Example 2500 sqft home

Benchmark: No Tax Credits or Programs

- \$20,000 Incremental cost to homebuilder (added to sales price)
- \$134/mo Increase in mortgage
- \$7/mo Positive cash-flow (due to new RPS Tariff)

ZEH Program: State and Fed tax credits

- \$8,000 Incremental cost to homebuilder (added to sales price)
- \$54/mo Increase in mortgage
- \$85/mo Positive cash-flow
- Plus \$5,000 Solar tax credit to **buyer**



Zero Energy Homes – New Mexico

ZEH Program, Example 1538 sqft home

Benchmark: No Tax Credits or Programs

- \$15,600 Incremental cost to homebuilder (added to sales price)
- \$104/mo Increase in mortgage
- \$8/mo Positive cash-flow (due to new RPS Tariff)

ZEH Program: State and Fed tax credits

- \$6,500 Incremental cost to homebuilder (added to sales price)
- \$43/mo Increase in mortgage
- \$66/mo Positive cash-flow
- Plus \$3,800 Solar tax credit to **buyer**



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Community Energy Efficiency Program (CEEP – in CA)

Voluntary Program from Building Industry Institute

Submit Plans and Build 15% above CA Energy Code

- 3rd Party inspections required

Local Governments Provide Incentives (one or more)

- Recognition
- Faster plan check turn-around and/or special status and/or priority field inspections
- Reduced fees/subsidies
- Fee deferral





Zero Energy Homes

Additional, Potential NM ZEH Benefits

CEEP-type Program for Albuquerque

- Recognition
- Faster Turn-Around
 - NMGB Qualified: Building permits
 - NMGB Gold: Land entitlement
- Fee-deferrals (NMGB Gold)

Marketing and Branding

- NM Green Builder
- ABQ Green Program
 - Need program brand
- DOE Builders Challenge?



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Next Steps

- Builder/Developer Outreach
 - Mesa del Sol
- Consumer Education and Marketing
- Determine Value under Cap and Trade
- Move Closer to True ZEH



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Thank You! Questions?

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