

# Wyoming Utility Efficiency Exchange Workshop

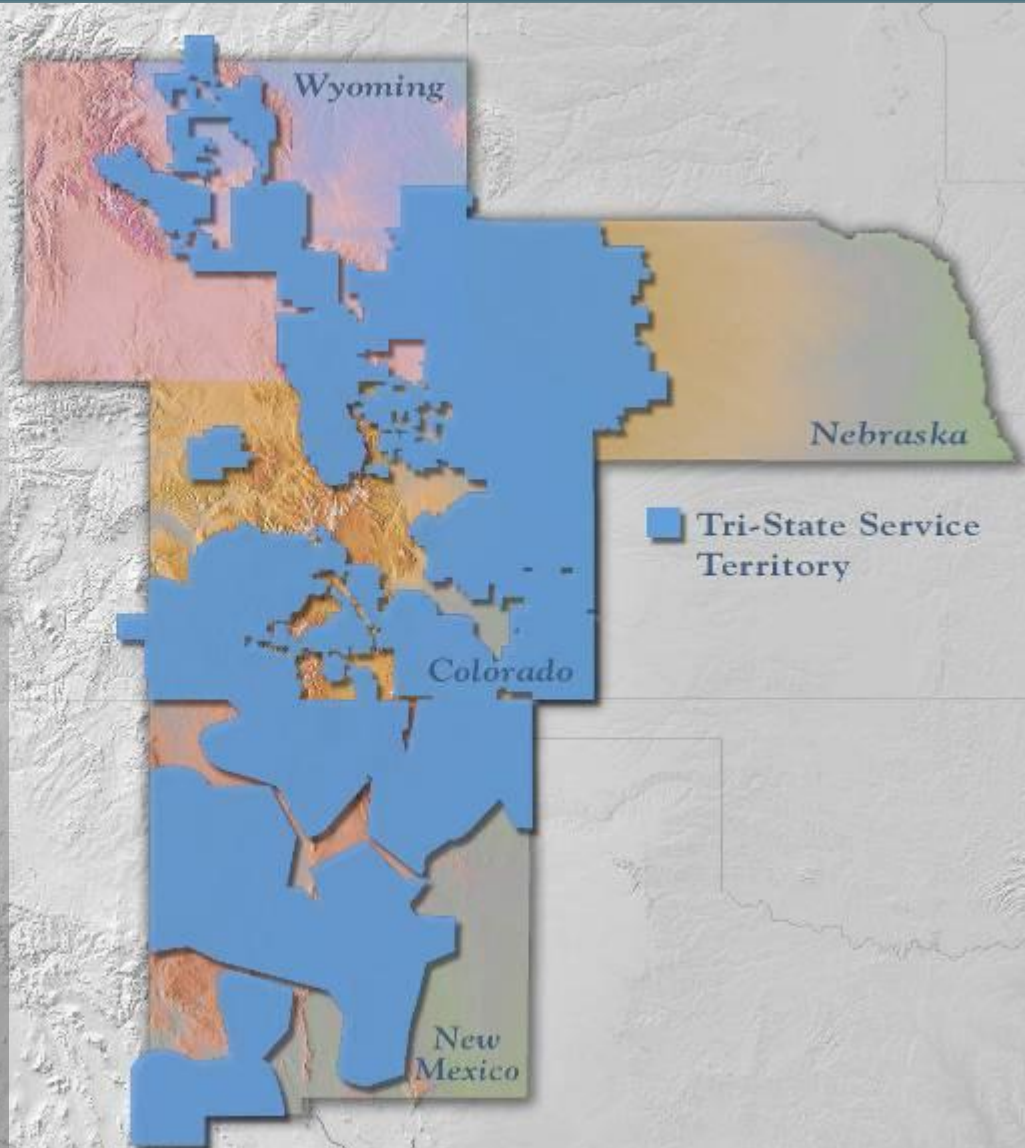


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# 44 Member-Systems are Tri-State

- ★ Consumer-owned, not-for-profit wholesale power supplier owned by 44 electric cooperatives and public power districts
- ★ Through its members, Tri-States serves a population of approximately 1.4 million people across 250,000 square miles over 5,000 miles of transmission line





## Objectives of EEC program

- ★ Buy down the first cost of electric technologies that represent a value for our members
- ★ Evaluate energy efficiency as part of a consumer energy portfolio, not just kWh
- ★ Advance promising electric technologies through deployment and pilot opportunities
- ★ Prepare for possible future compliance requirements



# Premium Efficiency Electric Motors

- ★ The current premium efficiency incentive didn't reflect the value Tri-State receives
- ★ Federal standards will be moving up to the current "premium" efficiency level for general purpose motors up through 200 Hp as of December 2010

## **Change:**

- ★ Revised the incentive level as follows:
  - \$12 per Hp for motors from 10 Hp to 200 Hp
  - \$8 per Hp for motors from 201 Hp to 500 Hp
  - Clarify that the \$2 per Hp member match does not apply for motors over 500 Hp.



# Non-Standard Premium Efficiency Motors

- Vertical hollow shaft motors used in irrigation are not covered by NEMA
- The current “Non-Standard” motor table efficiency levels are set to where only one manufacturer qualifies

## Change:

- Lowering the premium level minimum efficiencies, where needed, to permit a second manufacturer to qualify



# Energy Efficiency – Energy Star

- ★ Current Energy Star regulations cover a number of household appliances
- ★ Presently Tri-State Energy Star Appliance incentives cover only new refrigerators and freezers but not recycling or other appliances

## Change:

- ★ Adding the following Energy Star related appliances...
  - Clothes washers - \$40
  - Dishwashers - \$30
  - Recycling of old refrigerators and freezers - \$40



## Deployment – LED Refrigerated Case Lighting

- Commercial refrigerated case lighting is a new opportunity
- Wal-Mart has already standardized this technology and others are evaluating it

### Change:

- Add an incentive of \$60 per case door and 50 doors per customer with a \$10,000 cap on the total program

#### REFRIGERATED CASE LIGHTING

Sat / Cost	160 doors	\$ 10,000
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## Deployment – LED Street Lighting

- ★ LED street lighting is here, with cost being the major hurdle to adoption
- ★ While induction lighting is currently the most cost effective option for energy saving street lighting, LED lights are on the horizon for street and area lighting

### Change:

- ★ match the member investment in LED lighting (or 1/3 for municipal systems) with a cap of \$50,000 on the total program

#### LED STREET LIGHTING

Sat / Cost	90 fixtures	\$ 50,000
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# Pilot – Low Temperature Heat Pumps

- ★ CRN supported research during last heating season had positive results
- ★ Although there were some issues, last winter's demonstration is ready for expansion

## Change:

- ★ Tri-State will fund half the equipment cost for one unit per member

### LOW TEMPERATURE HEAT PUMP

Sat / Cost	44 units	\$ 176,000
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# Pilot – Resistance Heating

- A number of resistance heating technologies are being developed and are entering the market
- Infrared and other unique resistance technologies use less energy while providing more greater comfort than baseboard and promote savings over whole house heating

## Change:

- Tri-State is funding half the equipment cost per installation for up to 2 homes per member

### RESISTANCE HEAT PILOT

Sat / Cost	44 homes	\$ 132,000
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## Pilot – Heat Pump Water Heaters

- Heat pump water heaters are nearing the mainstream and are part of an EPRI pilot
- Heat pump water heaters have had limited availability for more than a decade but production by major manufacturers is increasing and units are entering retail channels

### Change:

- Tri-State is funding up to 6 units in 2009 and will expanding the pilot in 2010

#### HEAT PUMP WATER HEATERS

Sat / Cost	6 units	\$ 12,000
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# Pilot – Variable Speed Drives

- Variable speed drives are well accepted in some areas but are not being adopted in some niche markets
- Adoption in irrigation pumping is lagging behind other markets

## Change:

- Tri-State is matching the member investment in Variable Speed Drive for irrigation use with a cap of \$20,000 on the total program

### VARIABLE SPEED DRIVES

Sat / Cost	325 hp	\$ 20,000
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## Pilot – Smart Grid

- ★ Smart Grid or AMI is receiving a good deal of attention and focus by utilities and others
- ★ SG/AMI is composed of:
- ★ Sophisticated metering
- ★ Two way high speed communications
- ★ Meter data analysis
- ★ Members' deployment of SG/AMI elements varies widely

### **Change:**

Tri-State will fund one Member System pilot project up to \$50,000



# Future Potential Projects

- ★ Commercial lighting
  - T8 retrofits
  - Metal halide conversion to fluorescent
  - LED technologies
- ★ Commercial HVAC
- ★ Residential weatherization
- ★ Evaporative cooling

## **Change:**

Review for inclusion in 2009 midyear or 2010 EEC program additions



# Expanding the New Energy Economy

## Efficiency across energy value chain

- ★ EEC program has been in place since 1985 as a means to encourage and reward energy-efficient purchases and practices
  - Tri-State and Members have saved 35,000 megawatt-hours in energy through its EEC program
- ★ New demand-side programs developed
  - Efforts aimed at optimizing generation costs and deferring the timing of new sources of power
- ★ Generation and transmission efficiency
  - Continuing efforts to increase efficiency of power production of the generation fleet
  - Utilizing higher transmission voltages to reduce system losses
- ★ Transmission and generation additions are needed in addition to energy efficiency, demand-side management and load management programs



# Expanding the New Energy Economy

## Cooperative renewables initiatives

- ★ Supported 10-percent RPS in Colorado and New Mexico
  - Issued renewable energy RFP in December 2007
  - Announcement in coming months
- ★ With other New Mexico utilities and EPRI, issued a RFP for concentrating solar power project
- ★ Founder of National Renewable Cooperative Organization
- ★ Green Power program since '98
  - priced to market
- ★ Unique role for community projects
  - Board policies facilitate and incentivize local renewable energy projects





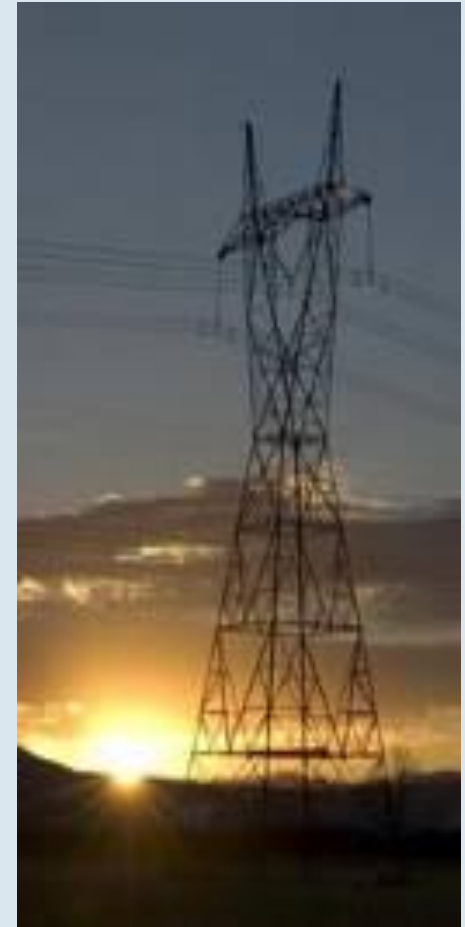
## Board policies support and incentivize local renewable energy projects

- ★ ***Provides for local renewable energy development***
  - Member Distributed Generation Policy - Governs how Members can have up to five percent of their consumers load met with local renewable energy or distributed energy generation that the Member owns or controls
- ★ ***Incentivizes local projects***
  - Member Local Renewable Project Policy - Provides financial support to Members for local renewable energy projects that contribute toward meeting renewable portfolio standard requirements
- ★ ***Provides a market for projects***
  - Member Participative Generation Policy - Provides a means to establish an arrangement whereby a Member and Tri-State can jointly fund and participate in renewable energy projects beyond the five percent.



# Transmission infrastructure and economic development

- ★ The transmission system is constrained
- ★ Utilities and transmission providers are working together to meet long-term transmission needs
- ★ Tri-State is planning for new or upgraded transmission across Colorado
- ★ Major projects are actively being developed





# Questions??

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