

# Utilizing FinAnswer Express in Everyday Sales

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February 4, 2010  
Energy Efficiency Alliance Workshop

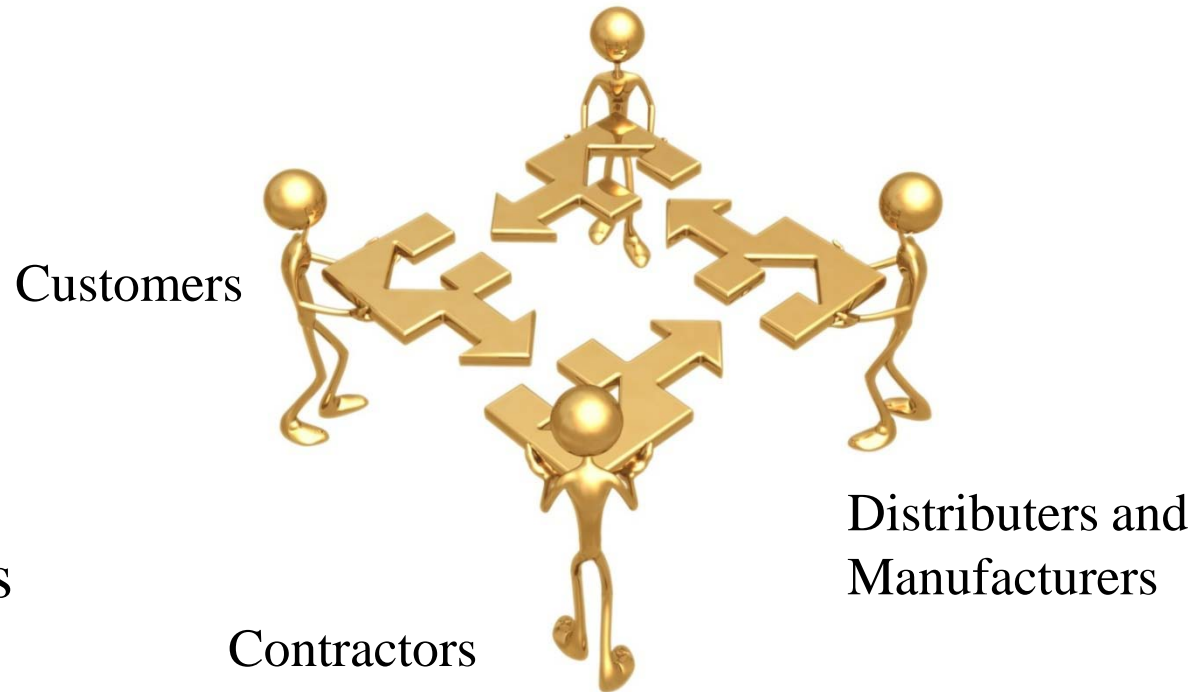
Track 3: Fundamentals of FinAnswer Express: HVAC, Motors &  
Other



# Working Together

## Rocky Mountain Power FinAnswer Express

- Support
- Incentives
- Training
- Energy savings



# The Case for Energy Efficiency – Win/Win/Win

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- For Rocky Mountain Power, energy efficiency is an energy resource . . .
  - ▶ “Nega-watts” (energy/watts saved)
  - ▶ Least-Cost Resource
  - ▶ Delayed capital projects
- For Customers, energy efficiency is a way to ...
  - ▶ Save energy and money
  - ▶ Be more “green”
  - ▶ Benefit customer’s bottom line
  - ▶ Realize other, non-energy benefits
- For Allies, participation is a way to ...
  - ▶ Improve visibility with customers
  - ▶ Close more sales with fair pricing

# FinAnswer Express Incentives

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- Commercial & Industrial Customers –
  - ▶ Rate Schedules: 6, 6A, 6B, 8, 9, 9A, 10, 12, 21, 23 and 23B
- Retrofit/New Construction Projects – any size facility
- Streamlined customer participation procedures
  - ▶ Access the program via Energy Efficiency Alliance vendors or Rocky Mountain Power
- Post Purchase incentives available for:
  - ▶ New construction lighting (lighting retrofits require pre-approval)
  - ▶ Motors, HVAC (RTUs), and qualifying Chillers
  - ▶ Evaporative Cooling
  - ▶ Programmable Thermostats
  - ▶ VFD's for HVAC Fans and Pumps
  - ▶ Occupancy based PTAC controls
  - ▶ PTAC's

# FinAnswer Express

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## – HVAC Incentives

- ▶ \$50/ton for qualifying unitary AC/HP equipment
- ▶ \$0.02 / CFM for qualifying evaporative cooling
- ▶ \$65/hp for eligible VFDs
- ▶ \$0.12/kWh and \$50/kW for Chillers
- ▶ \$50/ton for qualifying Package Terminal Air Conditioners (PTACs)
- ▶ \$50/controller for Occupancy Based PTHP/PTAC Controls

## – Premium Efficiency Motors

- ▶ \$/motor based on size/type of motor

# Program Application Process

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- *Applies to motors, HVAC, and other non-lighting equipment listed on incentive tables*
- Step 1: Obtain an incentive application and catalog (available on the Web)
- Step 2: Purchase and install a qualifying unit at an eligible location
- Step 3: Submit incentive application
- Step 4: Receive incentive check within 45 days of application submission

# A Case Study – Packaged Rooftop Units

## Ferrari Color

Salt Lake City, Utah

### Project:

Installed high-efficiency packaged air conditioners in new headquarters

### Annual energy savings:

\$2,600 (25,500 kwh/yr)

### Energy efficiency upgrade costs:

\$10,425 before incentives  
– 5,792 incentive payment  

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\$4,633 after incentives

### Simple payback:

4.1 years before incentives  
1.8 years after incentives

### Other benefits:

- improved working conditions
- easier equipment maintenance

## Rocky Mountain Power FinAnswer Express cooling incentives for businesses

| Equipment   | Incentive  |
|---|------------|
| <b>Evaporative cooling</b> – a highly effective, economical and environmentally friendly way to cool your business that can reduce energy costs by as much as 75 percent.   | \$0.02/CFM |
| <b>High-efficiency packaged air conditioning units</b> – use as much as 20 percent less energy than an older unit, while providing the same level of cooling. Models with high SEER or EER ratings and the ENERGY STAR® label offer higher potential for savings. | \$50/ton   |

# Unitary Air Conditioning Example

## Small Office Warehouse

| Proposed                     | Installed                                    |
|------------------------------|--|
| 2 - 13 SEER Condensing Units | 2 - 15 SEER /12.5 EER Air Conditioning Units |
| 2 – 80% Efficient Furnaces   | 2 – 94% Efficient Furnaces*                  |
| 2 – Standard Unit Heaters    | 2 – 90% Efficient Unit Heaters*              |

Additional Cost to Customer: \$4,000

Available Incentive Amount: \$3,020 (75% !!)

\*Rebates available through Questar ThermWise Rebates program

# Unitary Air Conditioning Example

## Large Office/Warehouse

| <b>Proposed</b>                        | <b>Installed</b>                              |
|--|---|
| 2 - 10.5 SEER 3-Phase Condensing Units | 2 - 11 EER / 11.4 IPLV Air Conditioning Units |
| 2 - Air Handlers without VFD's         | 2 - Air Handlers with VFD's                   |
| 6 - Standard Unit Heaters              | 6 - Infrared Heaters*                         |
| 1 - 80% Efficient Boiler               | 1 - 92% Efficient Boiler*                     |
| 2 - Pumps without VFD's                | 2 - Pumps with VFD's                          |

Additional Cost to Customer: \$7,200

Available Incentive Amount: \$4,050

\*Rebates available through Questar ThermWise Rebates program

# Unitary Air Conditioning Example

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## – Big Box Store

- ▶ Installed: 14 – Packaged Rooftop Units
- ▶ Cost to Customer: \$18,000
- ▶ Incentive Amount: \$9,200

## – Simple Payback

- ▶ 5.3 years before incentive
- ▶ **2.4 years after incentive**

# What's the Difference?

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## – Commercial Roof Top Units

- ▶ Integrated Controls
  - ▶ Hinged Access
  - ▶ Rollout Blower Deck
  - ▶ Hot Gas Bypass
  - ▶ VFD's (Option)
  - ▶ Greater Filter Selection
  - ▶ Self-Diagnostics
- Incentives Build an even better business case for efficient HVAC equipment.

# What equipment qualifies? - Chillers

Chillers must exceed the minimum efficiency requirements below:

| Heat Rejection | Type                | Size Category (tons) | IECC 2006   |              |
|----------------|---------------------|----------------------|-------------|--------------|
|                |                     |                      | Minimum COP | Minimum IPLV |
| Air cooled     | Screw               | < 150                | 2.80        | 2.80         |
|                |                     | ≥ 150                | 2.50        | 2.50         |
|                | Reciprocating       | < 150                | 2.80        | 2.80         |
|                |                     | ≥ 150                | 2.50        | 2.50         |
| Water cooled   | Reciprocating       | All capacities       | 4.20        | 4.65         |
|                | Rotary/Screw/Scroll | < 150                | 4.45        | 4.50         |
|                |                     | ≥ 150 & < 300        | 4.90        | 4.95         |
|                |                     | ≥ 300                | 5.50        | 5.60         |
|                | Centrifugal         | < 150                | 5.00        | 5.00         |
|                |                     | ≥ 150 & < 300        | 5.55        | 5.55         |
| ≥ 300          |                     | 6.10                 | 6.10        |              |

\*Incentive is calculated by Rocky Mountain Power (\$0.12/kWh + \$50/kW)

# Another Case Study – Chillers

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## Project Economics

- Annual Energy Savings: 8,000 kWh/yr
- Annual Cost Savings: \$900/yr
- FinAnswer Express Incentive: \$1300
  
- Simple Payback:
  - 10.4 years before incentives
  - 8.4 years after incentives

# Chiller + HVAC Waterside/Airside Equipment

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- Chiller
- VFD on Water Pumps (\$65/hp)
- VFD Air Handling Motors (\$65/hp)
- Cooling Tower VFD's (\$65/hp)
- ECM Motor VAV Boxes (\$50/hp)
- Boiler: 92% efficient (\$3.25/kbtu input)\*

\*Rebates available through Questar ThermWise Rebates program

# Evaporative Cooler Comparison (\$0.02/cfm)



**Standard**  
**Evaporative Cooler**



**High-Capacity Axial Fan**  
**Evaporative Cooler**

- Rigid Evaporative Media
- Lower Discharge Air Temperature
- Lower Humidity
- Higher Cool Air Delivery per Horsepower



**Premium**  
**Evaporative Cooler**

- Rigid Evaporative Media
- ECM Motor
- Lower Discharge Air Temperature
- Lower Humidity

# PTAC Example in Hotels (\$50/ton incentive)

| Location           | Equipment Type | Quantity | Size  | Incentive Amount | Cost Difference | Total Incentive Amount | Return on Investment |
|--------------------|----------------|----------|-------|------------------|-----------------|------------------------|----------------------|
| Salt Lake City, UT | PTAC           | 81       | 8900  | \$37             | \$68            | \$2,997                | 1.5 Years            |
| West Valley, UT    | PTAC           | 99       | 11900 | \$48             | \$74            | \$4,752                | 1.8 Years            |

- For additional savings, add PTAC occupancy controllers
- Incentive of \$50/controller

# VFD Example (\$65/hp incentive)

| <b>VFD Applicability</b>        |                      |
|---------------------------------|----------------------|
| <u>New</u>                      | <u>Retrofit</u>      |
| <10 horsepower                  | Up to 100 horsepower |
| <b>HVAC Applications</b>        |                      |
| Air handlers                    |                      |
| Exhaust Fans                    |                      |
| Cooling Towers (HVAC Only)      |                      |
| Chilled Water Pumps (HVAC Only) |                      |
| Boiler Pumps (HVAC Only)        |                      |

# ECM Motor Refrigeration Example

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## Large Grocery Chain

- Upgraded 27 stores in Northern Utah with high-efficiency ECM refrigeration motors.
  - ▶ 613 motors replaced
- Eligible for **\$14,000** in incentives
- Estimated **266,000 kWh** per year in energy savings

# Retrofit Call Center

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- Specifications:
  - ▶ Room size: 40x80 ft – 3200 Sq. Ft.
  - ▶ 60 People
  - ▶ 60 Computers
- Problems:
  - ▶ Unable to maintain consistent temperature
  - ▶ Odor
  - ▶ Lack of return air
- **Competing Vendor Recommendation:**
  - ▶ **Replace two ten ton rooftop units with two 15 ton rooftop units**

# Report Card

| <b>Conditions of Space</b>                        | <b>Suggested Actions</b>         |
|---|----------------------------------|
| Rooftop units in poor condition                   | Replace rooftop units            |
| Economizer not working properly                   | Add new motors to economizer     |
| Ductwork in poor condition – too much flex        | Seal and tighten ductwork        |
| Registers provide poor air diffusion – wrong kind | Replace registers                |
| Lack of return air                                | Add 30% more return air capacity |
| Attic insulation lacking                          | Add R8 insulation in attic       |
| Poor air quality                                  | Increase outside air             |

# Menu of Recommendations

| <b>To Do:</b>                      |                          |
|------------------------------------|--------------------------|
| Install Two 7.5 ton Rooftop Units  | \$750 Incentive for RTUs |
| Install Power Exhaust              |                          |
| Install Air to Air Heat Exchangers | \$260 Incentive for VFDs |
| Redo Ductwork                      |                          |
| Install Slotted Diffuser           |                          |
| Relocate Return Air                |                          |
| Add Attic Insulation               |                          |
| Lighting                           | \$2,200 Incentive        |
| <b>Total Incentive Amount</b>      | <b>\$3,210</b>           |

# Energy Efficiency Alliance

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- Rocky Mountain Power Energy Efficiency Alliance
- Benefits of Membership
  - ▶ Marketing visibility
  - ▶ Training for alliance vendors
  - ▶ Opportunity to increase sales of high efficiency equipment
  - ▶ Possible co-op marketing opportunities

# Recap – What Can You Do to Benefit Customers?

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- Be aware of incentive programs
  - ▶ Identify energy savings opportunities
  - ▶ Confirm customer eligibility
  - ▶ Submit low-cost & life-cycle cost bid proposals
  - ▶ Contact Rocky Mountain Power for assistance
  - ▶ Assist with application submission
- Join the Energy Efficiency Alliance
  - ▶ Network of industry professionals
  - ▶ Name listed on utility website

# What Will We Do?

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- Trade Alliance Coordinator
  - ▶ Provide training and support on how to effectively utilize FinAnswer Express incentive program with customers
  - ▶ Partner with EEA participants to identify which energy-efficiency program/equipment most suitable for a project
  - ▶ Communicate regularly with you regarding program updates and qualifying vendor equipment you sell

## For More Information ...

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- Rocky Mountain Power Incentive Programs
- [rockymountainpower.net/wattsmart](http://rockymountainpower.net/wattsmart)
  
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