

ThermWise® Rebate Programs



ThermWise®

Unlocking Customer Potential Through Data



Ted Peterson
Program Manager
Energy Efficiency, Questar Gas
BECC Conference, December 10, 2014

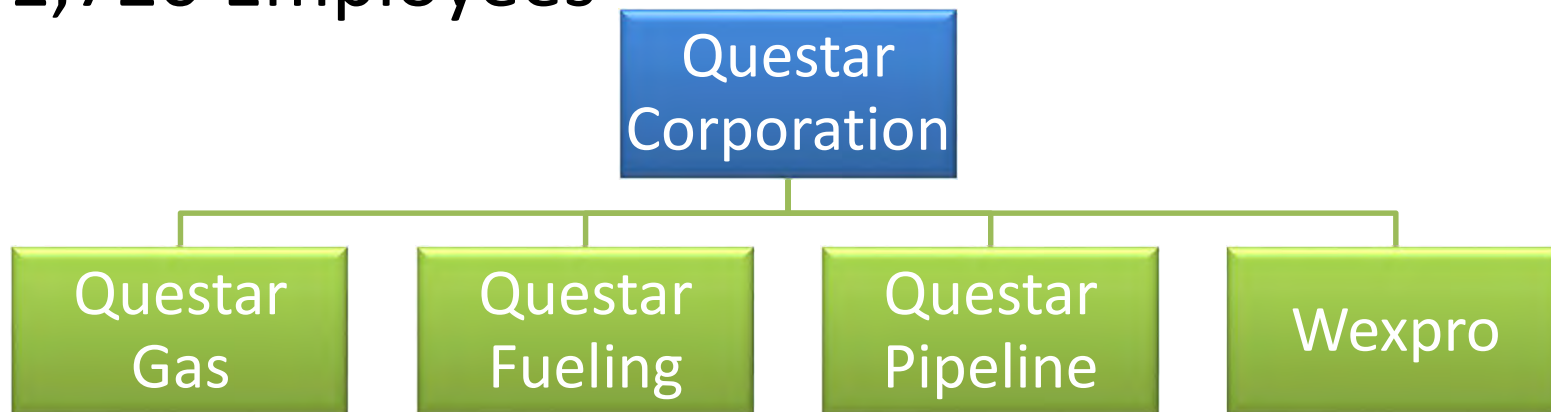


Agenda

- Introduction to Questar
- Introduction to ThermWise®
- Data efforts
 - ThermWise® Energy Comparison Report
 - ThermWise® Personalized Recommendations
 - Market Analysis



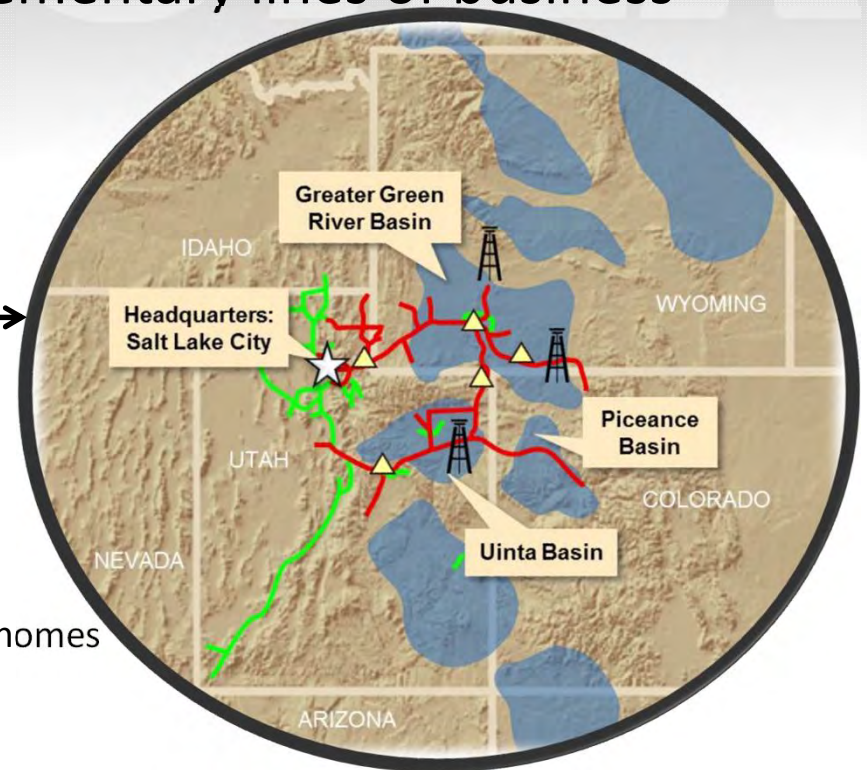
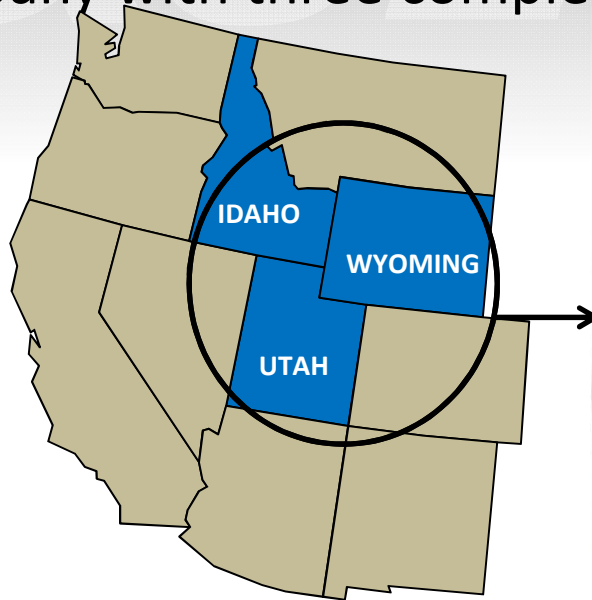
- Investor Owned Utility based in Salt Lake City, Utah
- Trades on the NYSE Under Stock Ticker: STR
- Enterprise Value: \$5.5 billion
- 1,720 Employees



Questar Corporation is a growing Rockies-based integrated natural gas company with three complementary lines of business

Western United States

Primarily Utah, Wyoming and Idaho



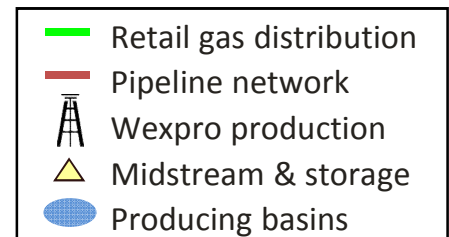
Questar Gas — *delivers* natural gas to nearly 946,000 homes and businesses in Utah, Wyoming & Idaho

Wexpro — *develops* low-cost natural gas for Questar Gas utility customers under the 1981 Wexpro Agreement

Questar Pipeline — *transports and stores* natural gas in the “heart of the Rockies” with over 2,600 miles of pipe and a 54 Bcf (working gas) storage field

Questar Fueling — manages and builds CNG stations for long-haul truckers

QUESTAR®

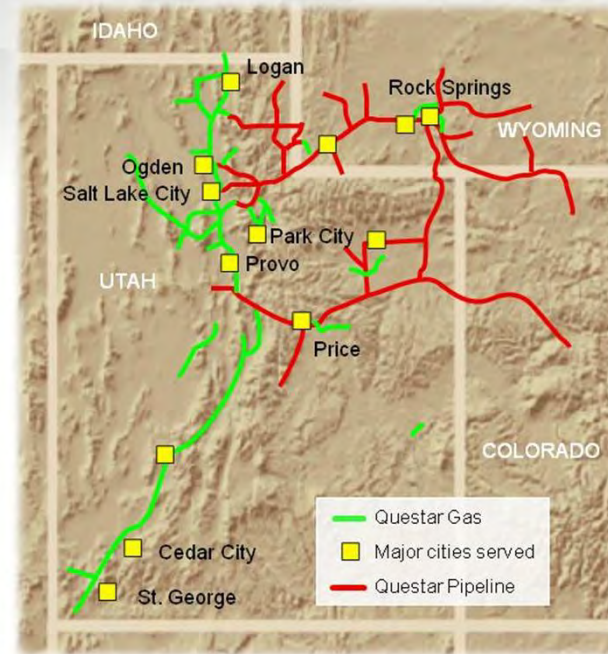


Questar Gas Overview

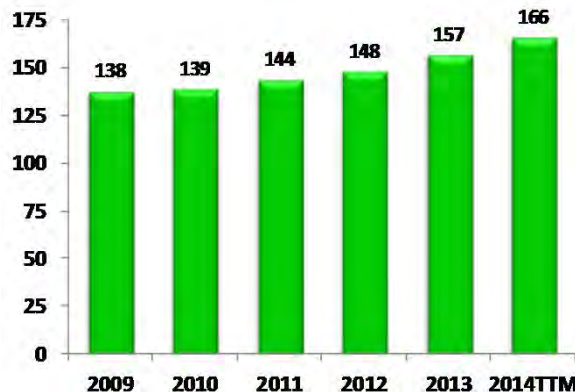
Key Facts & Statistics

Cities served	277
Customers @ 9/30/2014	954,754
Customer growth TTM 9/2014: 16,186	1.7%
Deliveries (TTM 9/30/2014)	189 MMdth
System miles (12/31/2013)	27,861 miles
Rate base (12/31/2013)	\$1,042 MM
Allowed Utah ROE (beg. 3/1/2014)	9.85%
Allowed equity percentage	52%
Ratings	A2 (Moody's) / A (S&P)
Regulators:	

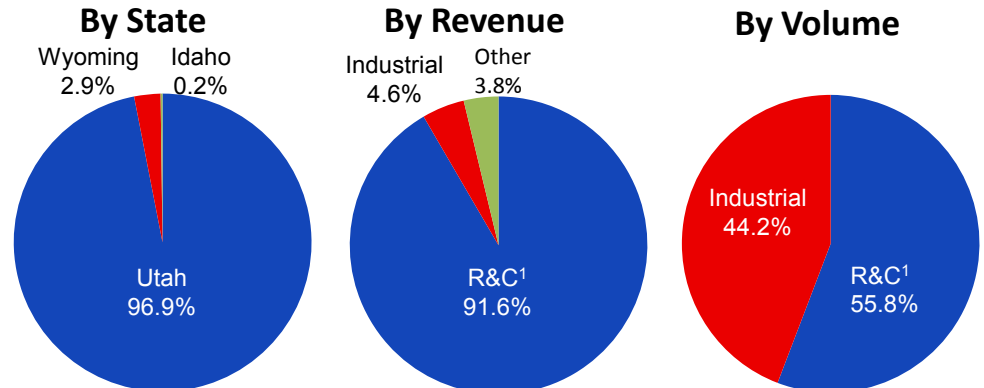
- Public Service Commission of Utah ("PSCU")
- Public Service Commission of Wyoming ("PSCW")



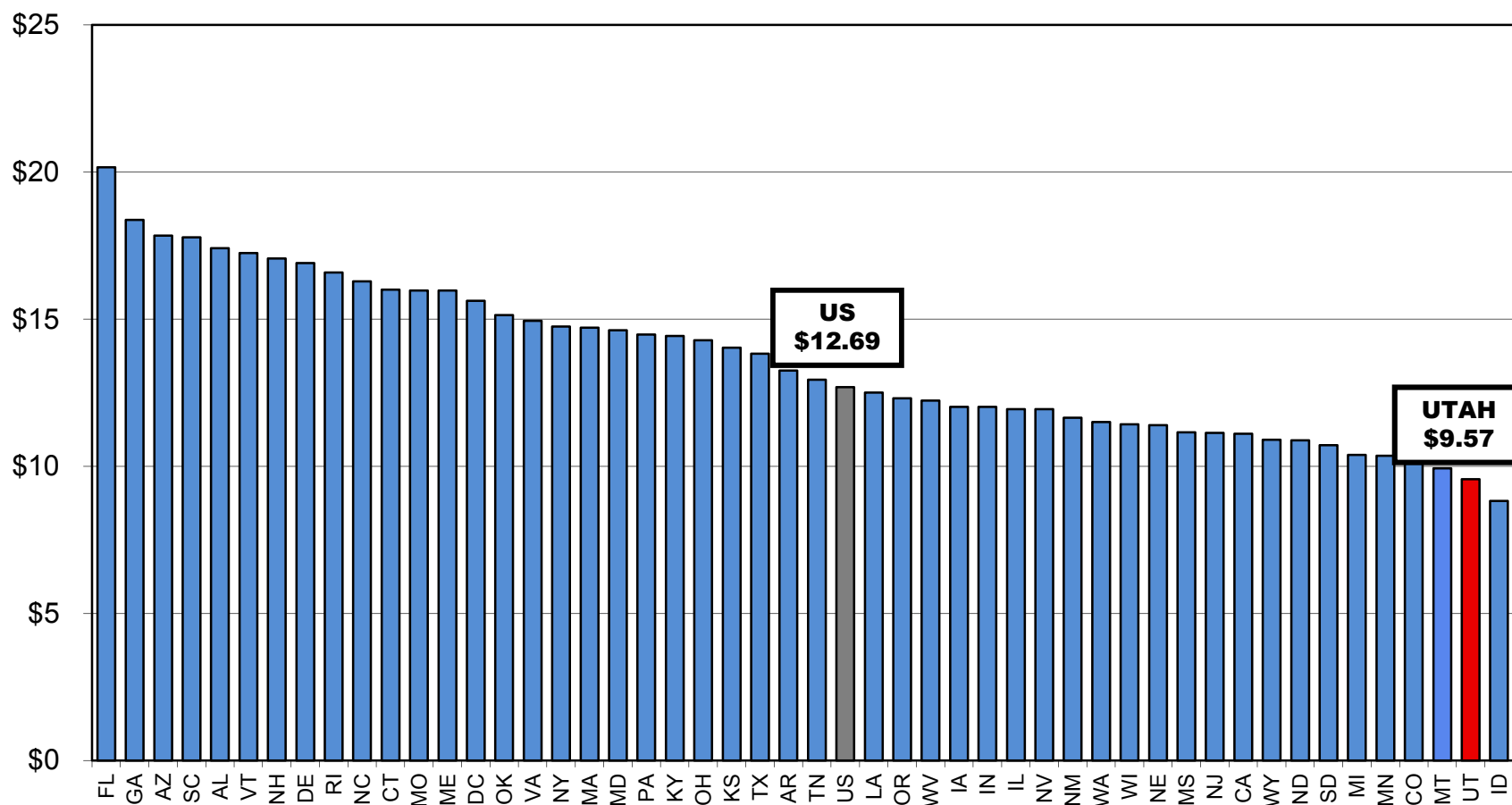
EBITDA (\$ millions)



Customer base (9/30/2014)



Questar Gas's residential rates are among the lowest in the continental U.S.



\$ per Mcf, TTM 7/14; Source: U.S. Energy Information Administration

What is ThermWise?



- Questar Gas' branding for rate payer funded Energy Efficiency Program introduced in 2007
- To date spent over \$200 million
- Over \$150 million paid out in incentives
- 3.91 Million Dth Saved to date

Washington

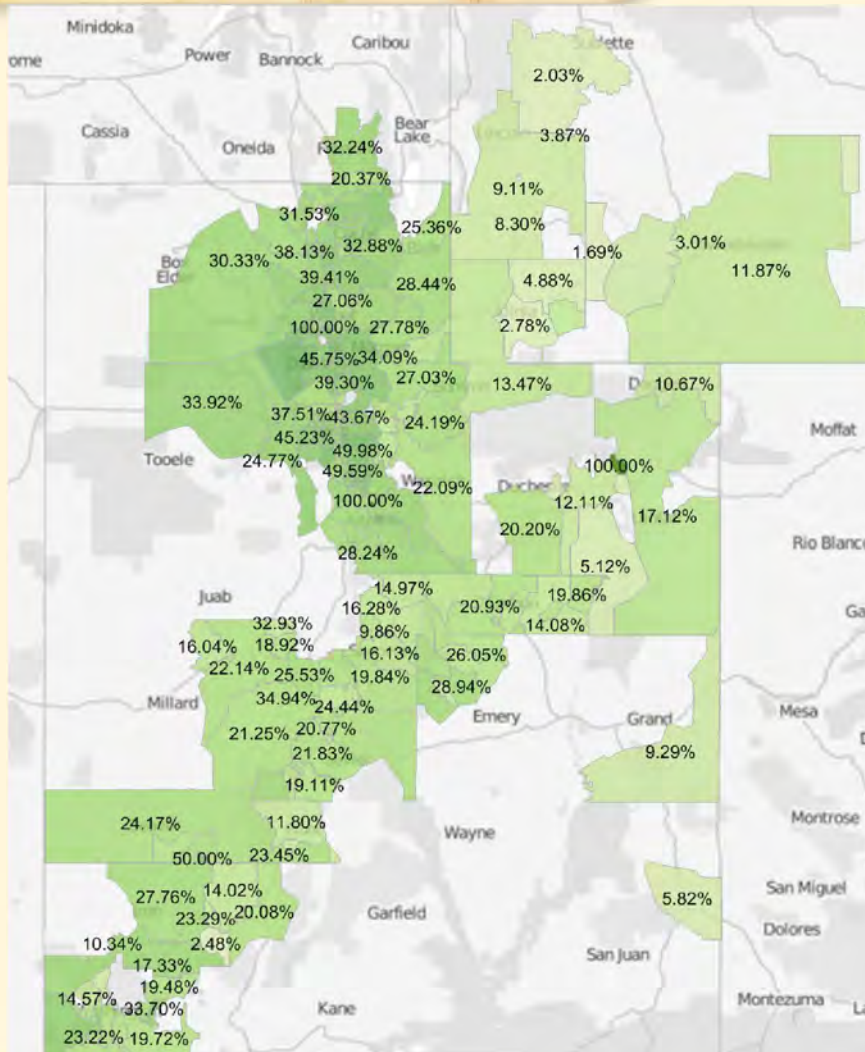


ThermWise Programs

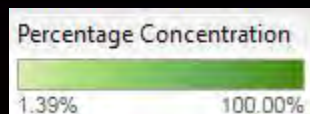
- Appliance Rebates \$50 - \$750
- Builder Rebates \$50 to \$750
- Business Rebates \$25 - \$1,000
- Business Custom Rebates \$1 / therm for first year after installation or 50% of eligible program costs
- Weatherization Program \$.18 / sqft to .32 / sqft
- Home Energy Plan - \$25 refundable
- Low Income Programs - \$500,000 provided to agencies
- Energy Comparison Report



ThermWise® Rebate Programs



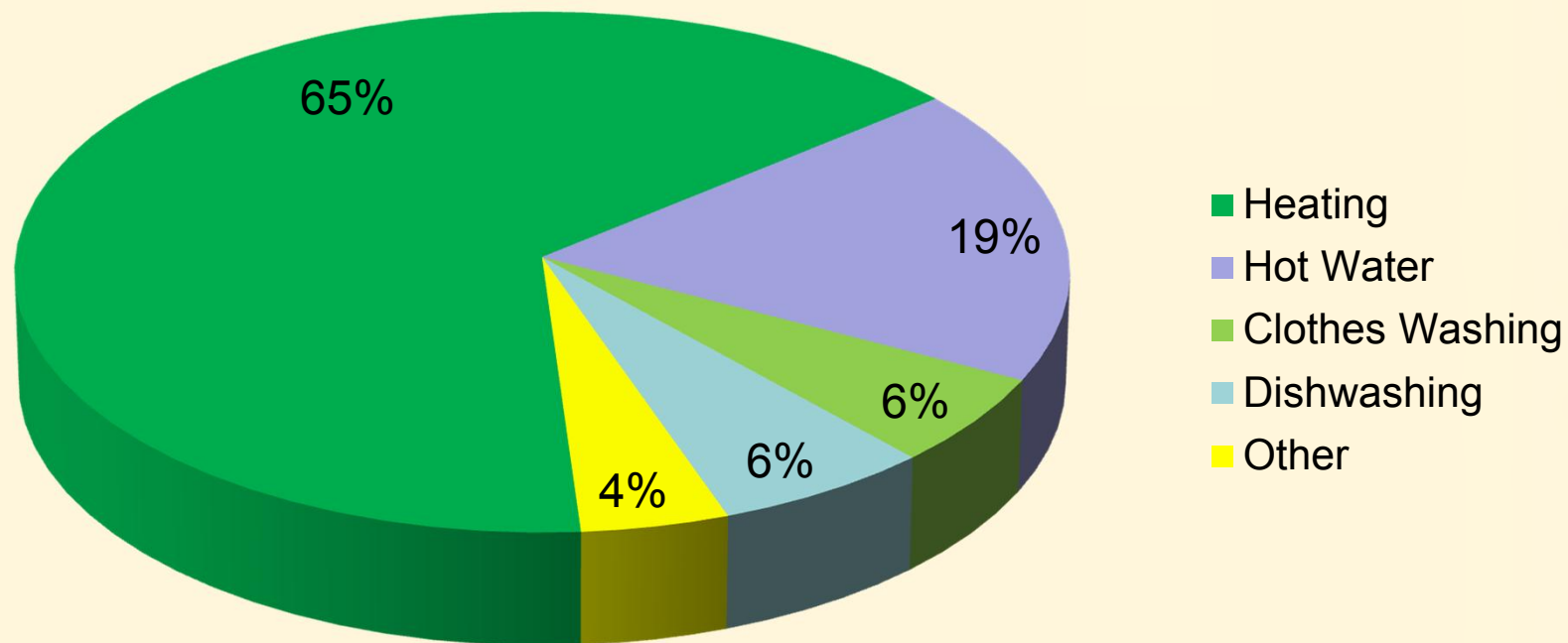
- ThermWise team works with manufacturers, distributors, retailers, builders and others to ensure natural gas equipment is available and installed
- 36% of Questar Gas customers had participated in at least 1 ThermWise Rebate program as of September 30, 2014
- According to AGA 2013 survey data, QGC is one of only five natural gas utilities to achieve 20% or greater market participation rates



As of 3rd Quarter 2014



Utah Residential Customer Usage Breakdown

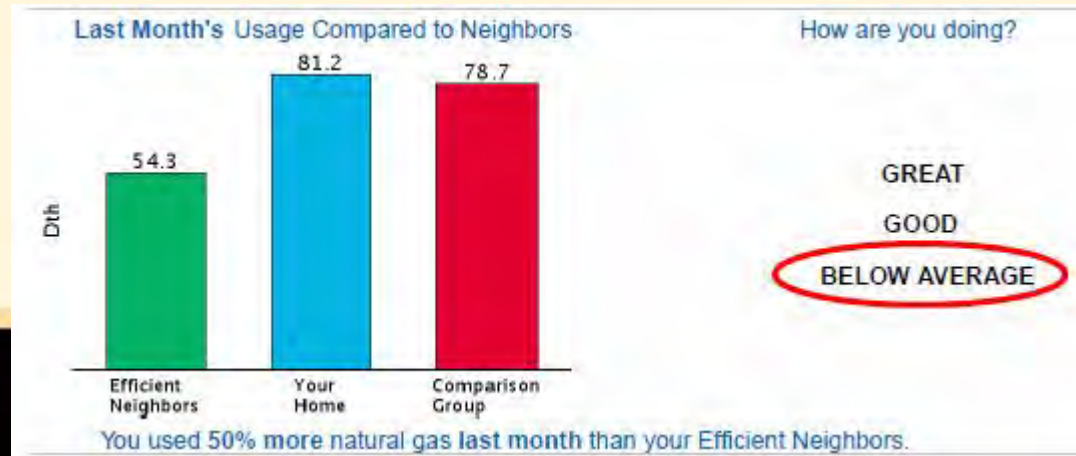


Typical residential customer 80 Dth per year
Typical customer bill \$737.01 per year
69% of gas burned is in the winter five months
Customers pay \$19.45 per year for programs

Energy Comparison Report



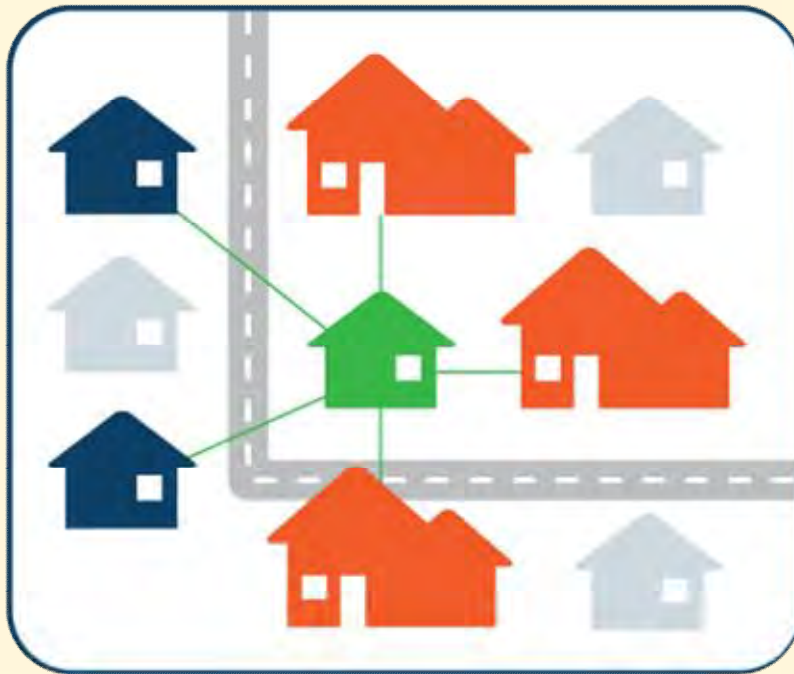
- Home Energy Reports – ThermWise® Energy Comparison Report
 - Sent out to over 230,000 customers
 - Using data to educate our customers about their usage & help us better market to them.



Energy Comparison Report Changes

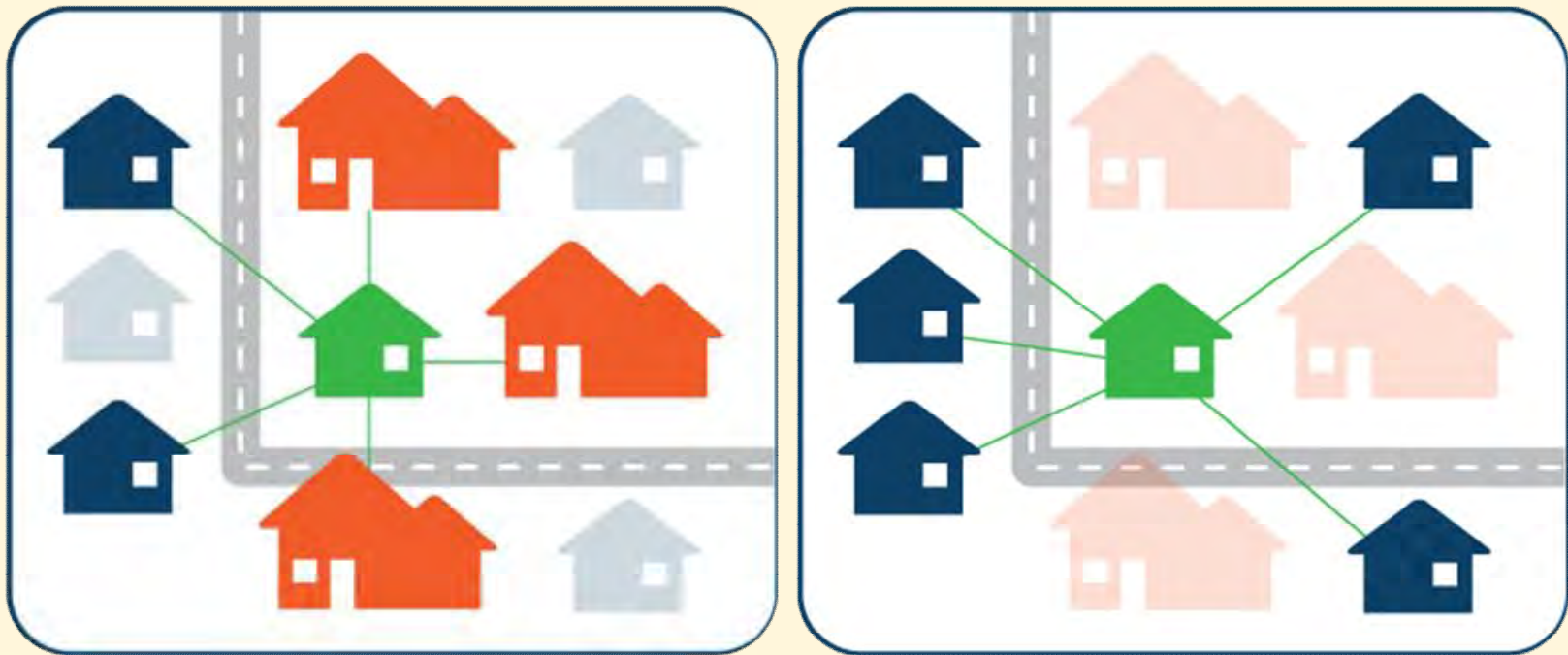
Version Prior to Fall 2014	Fall 2014 Version
Elements of Comparison	Improved elements of Comparison:
<ul style="list-style-type: none">- Square Footage Bands (250 increment up to 5,000)- Year built (10 year bands)- Closest neighbors within weather zone- Premise to premise comparison	<ul style="list-style-type: none">- Square Footage- Year built- Base load- Peak to base / load factor- Weather Sensitivity (LRS)- Use cosine similarity between customers- Weather zone- Service Agreement to Service Agreement Comparison

Improvements in Comparison

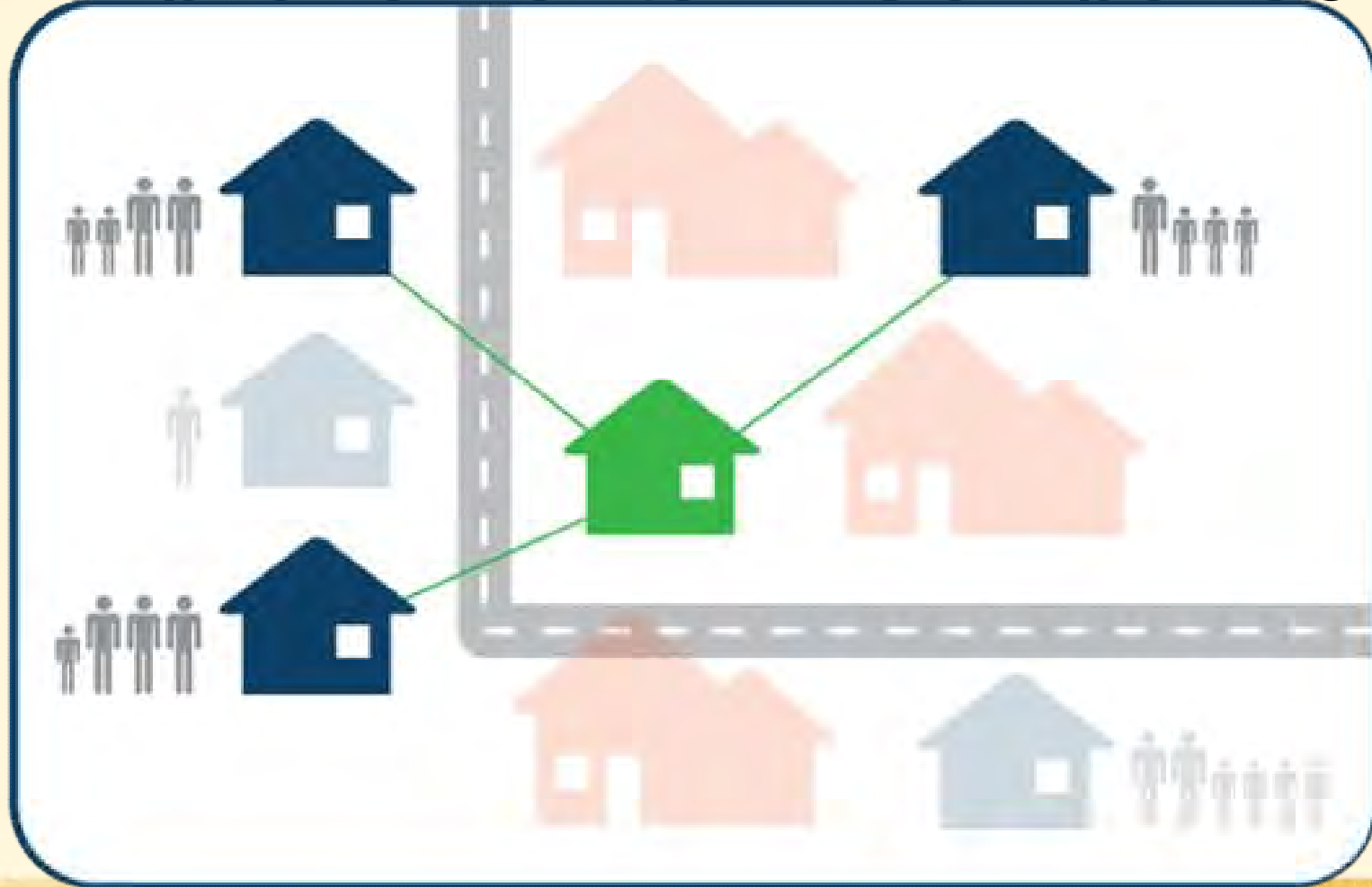


Company characteristics for comparison has improved with each subsequent rollout.

Improvements in Comparison



Improvements in Comparison



- Cosine Similarity
 - Mathematical formula which guarantees only the most similar customers will be compared
 - Able to quantify similarity between customers and avoid unwarranted comparisons



Upselling



ThermWise® Rebate Programs

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- ☒ **This item:** 1500 Thread Count Queen 4pc Bed Sheet Set Egyptian Quality Deep Pocket White by Choice Linen **\$25.75**
- ☒ Chezmoi Collection White Goose Down Alternative Comforter, Full/Queen with Corner Tab by Chezmoi Collection **\$44.49**
- ☒ Dream Supreme Plus Gel Fiber-Filled Pillows, Standard (Set of 2) by Dream Supreme Plus **\$23.99**

Customers Who Bought This Item Also Bought

Page 1 of 11



1500 Thread Count Queen 4pc Bed Sheet Set Egyptian Quality Deep Pocket Sage
★★★★☆ (216)
\$25.75



Dream Supreme Plus Gel Fiber-Filled Pillows, Standard (Set of 2)
★★★★☆ (920)
\$23.99



Royal Hotel's 1200 Thread Count Queen Size Siberian Goose Down Alternative Comforter 100% Egyptian ...
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\$84.99



Chezmoi Collection White Goose Down Alternative Comforter, Full / Queen with Corner Tab
★★★★☆ (242)
\$44.49



3pc Egyptian Duvet Cover Set 1200 Thread Count Queen Size White
★★★★☆ (139)
\$23.49



Queen Size White Goose Feather and Goose Down Pillows - Set of 2
★★★★☆ (39)
\$26.24



Clara Clark Goose Down Alternative Double Fill Comforter (Duvet) Queen Size, White / White
★★★★☆ (95)
\$36.99

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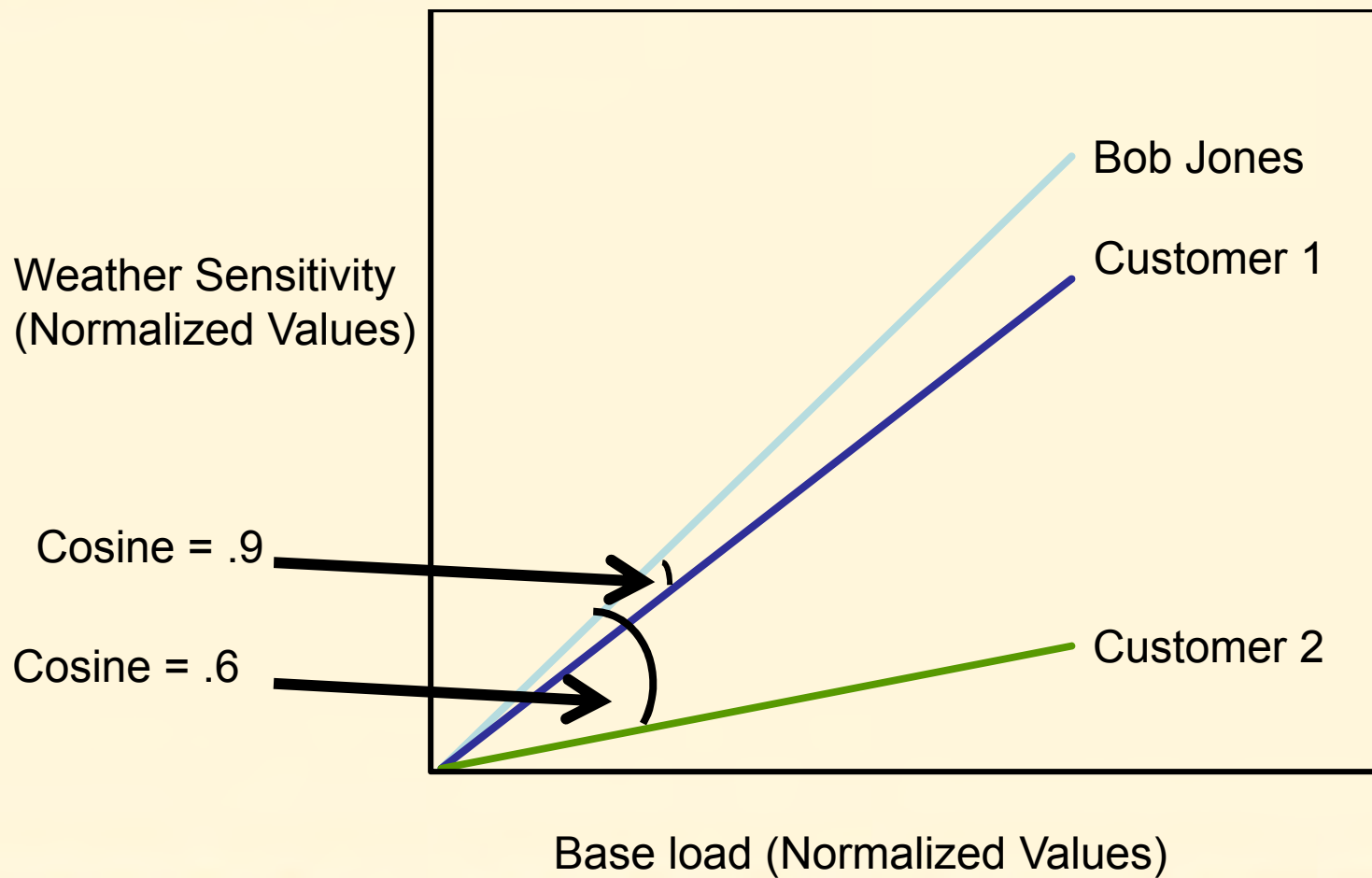


Add
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QUESTAR®
Gas
ThermWise.com

ThermWise® Rebate Programs



Bob Jones
Customer



Similarity Computed



A cosine similarity index is computed across five characteristics (Square Footage, Year built, Base load, Peak to base (load factor), Weather Sensitivity (LRS) for each customer in weather zone by dwelling type.

Bob lives in Salt Lake City

Sim (n1, Bob)	0.7
Sim (n2, Bob)	0.3
Sim (n3, Bob)	0.5
Sim (n4, Bob)	0.4
Sim (n5, Bob)	0.99
...	
...	
Sim(n530,329,Bob)	

Possible Recommendations

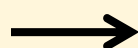
16 possible recommendations across the Weatherization and Appliance Programs



Recommendations Calculated

Cosine similarity calculations are considered for all of the possible rebate promotions.

Sim (n1, Bob)	0.7
Sim (n2, Bob)	0.3
Sim (n3, Bob)	0.5
Sim (n4, Bob)	0.4
Sim (n5, Bob)	0.99
...	
...	
Sim(n530,329,Bob)	




























	Water Heater	Furnace	Insulation	Washer
n1	0.7	0.7	0.7	0.7
n2		0.3		0.3
n3	0.5	0.5	0.5	0.5
n4		0.4	0.4	
n5	0.99	0.99		
Average	0.73	0.66	0.53	0.50

For computation purposes in this example only the top three customers who have participated in the measure are included in the average computation.

As part of the recommender the top 100 cosine similarities relative to that customer are averaged.



Recommendation Illustration

Customer	Furnace	Water Heater	Insulation	Furnace	Fireplace
N1					
N2					
N3					
N4					
N5					



=



ThermWise® Rebate Programs

ThermWise Personalized Recommendations

For residential customers to drive engagement in the program.

Set up Control / Experimental Group for the Program

10,000 – print recipients

10,000 – email recipients

With associated control groups

Will disseminate to customers twice per year.


Evaluation to occur after one year's time.

ThermWise® Personalized Recommendations

ENERGY EFFICIENCY JUST FOR YOU!



Account #: 01234500000
Report Period: 01/17/2015 - 02/19/2015
Report for Service Address:
123 Gas Lane, Salt Lake City, UT






ThermWise.com

John Q. Customer
123 Gas Lane
Salt Lake City, UT

Your personalized ThermWise Recommendation shows you what users like you have done to save energy and money. The recommendations are based on homes with similar usage patterns, the age of the home, square footage, and location.

Based on of your unique usage characteristics including your annual consumption of ___ Dth and yearly bill of ___, customers with similar usage have done the following to improve their home's efficiency.

RECOMMENDATION 1:	RECOMMENDATION 2:	RECOMMENDATION 3:
<p>WATER HEATER</p> <p>Upgrade your water heater to a high efficiency model and take advantage of ThermWise rebates. Call 800-886-7375, or visit ThermWise.com for details. Questar Gas offers rebates up to \$750.</p>  <p>Save up to \$18 per year.</p> <p>Customers who purchased this product have usage 73% similar to you.</p>	<p>FURNACE</p> <p>Upgrade your furnace and take advantage of ThermWise rebates. Call 800-886-7375, or visit ThermWise.com for details. Questar Gas offers rebates up to \$600.</p>  <p>Save up to \$175 per year.</p> <p>Customers who purchased this product have usage 88% similar to you.</p>	<p>ATTIC INSULATION</p> <p>Improve the comfort of your home, reduce your energy costs, and receive ThermWise rebates by adding insulation to your attic. Call 800-886-7375, or visit ThermWise.com for details. Questar Gas offers rebates up to \$0.25/sq. ft.</p>  <p>Save up to \$62 per year.</p> <p>Customers who purchased this product have usage 53% similar to you.</p>

For more energy saving tips visit ThermWise.com *If you conserve, you can save.*



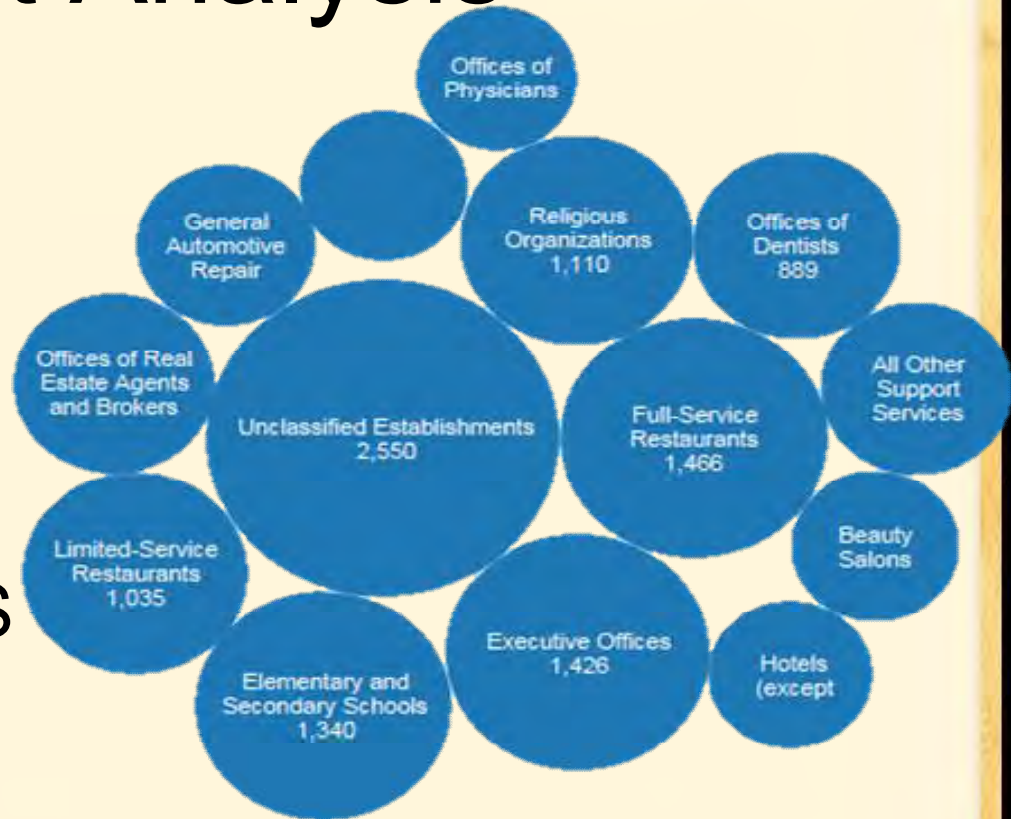
Recommender Strategy

- Considerations:
- Expansion to online rebate application process
- Incorporate methodology to Company's Energy Comparison Report tips.



Market Analysis

- Engaged in a Customer Segmentation Study
- Analytics on customers profiles
- Begin utilizing NAICS codes for business customers.



Conclusion

- Questar Gas is beginning to take advantage of data to further drive savings beyond just the low-hanging fruit
- Questar Gas believes that this effort will further drive savings by new programs, better analysis, and enhanced marketing deployment.



ThermWise® Rebate Programs



Questions?



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