



Using Online Feedback to Encourage Sustainable Behaviors

Garrison Institute, May 2012

C3 Overview

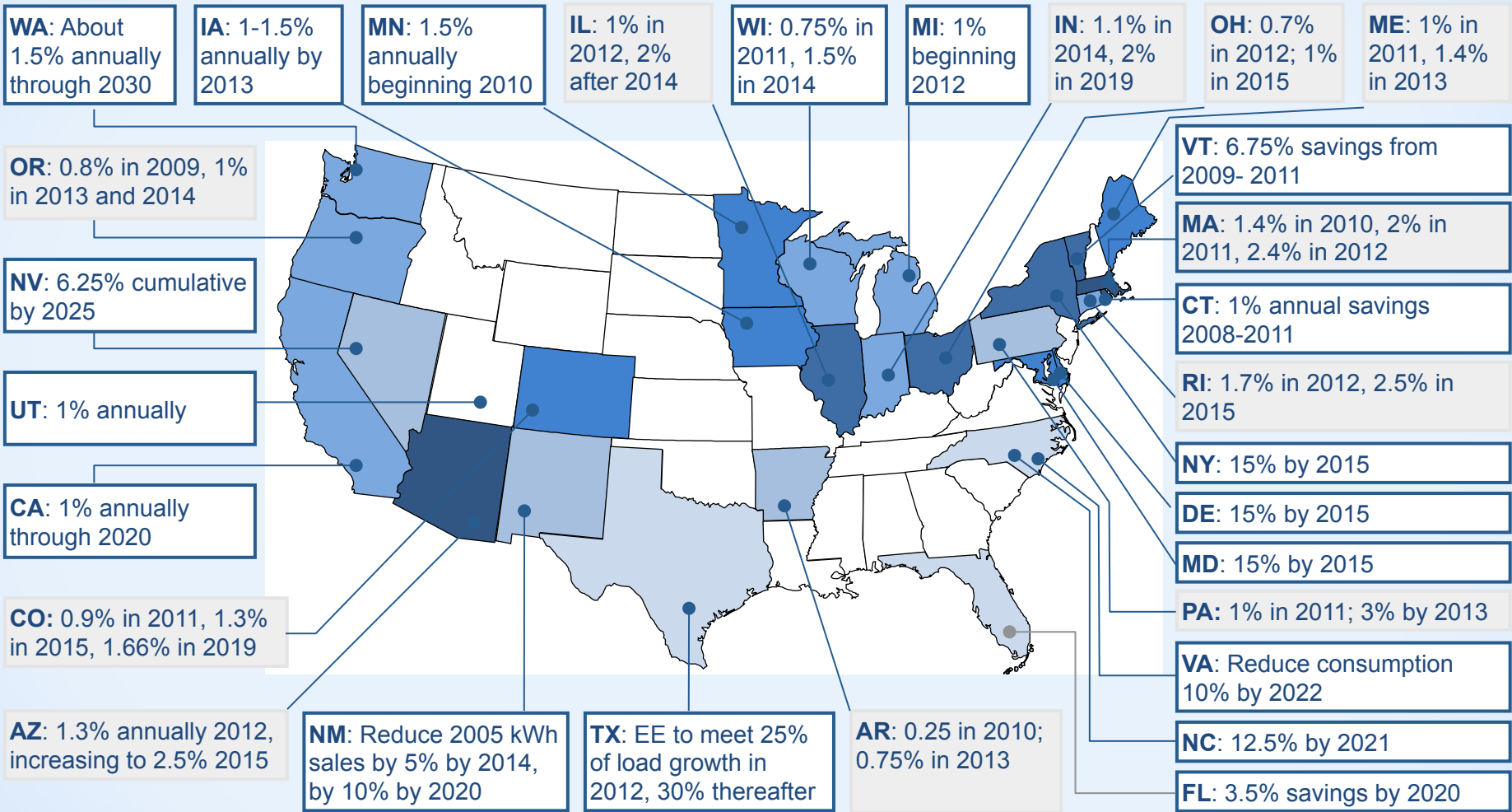
- Leading multi-segment energy management SaaS solution for utilities and enterprises
- Founded in 2009, based in San Mateo, CA and NYC
- Mission – enable utilities and enterprises to meet ambitious energy efficiency goals
- Rapidly growing company with world class team

Select Clients



State Mandates Create the Pressure for Utilities to Pursue EE Initiatives

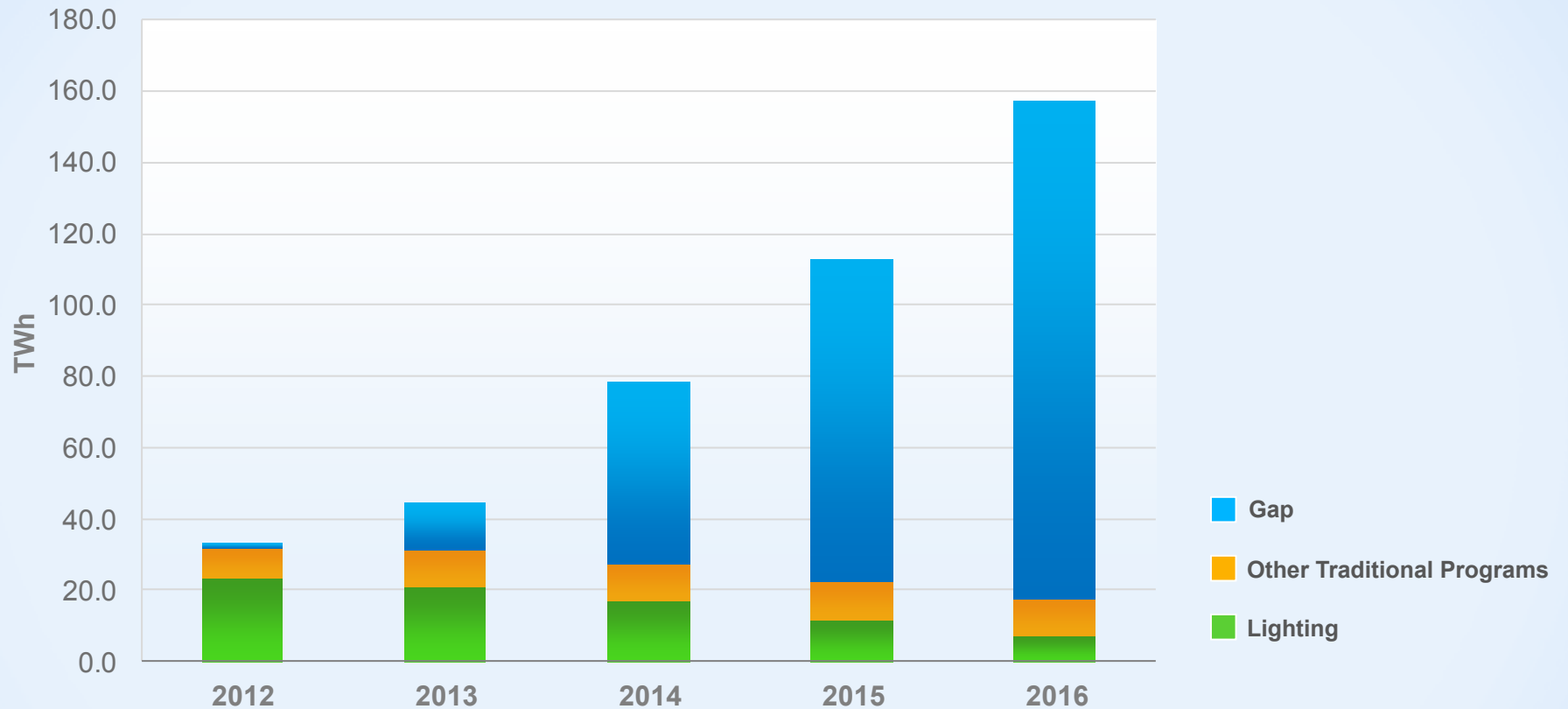
Mandated annual reduction, 2020¹
Percent of retail sales



¹ Assumes reductions continue beyond final year unless otherwise specified
SOURCE: ACEEE, "The 2011 State Energy Efficiency Scorecard," October 2011



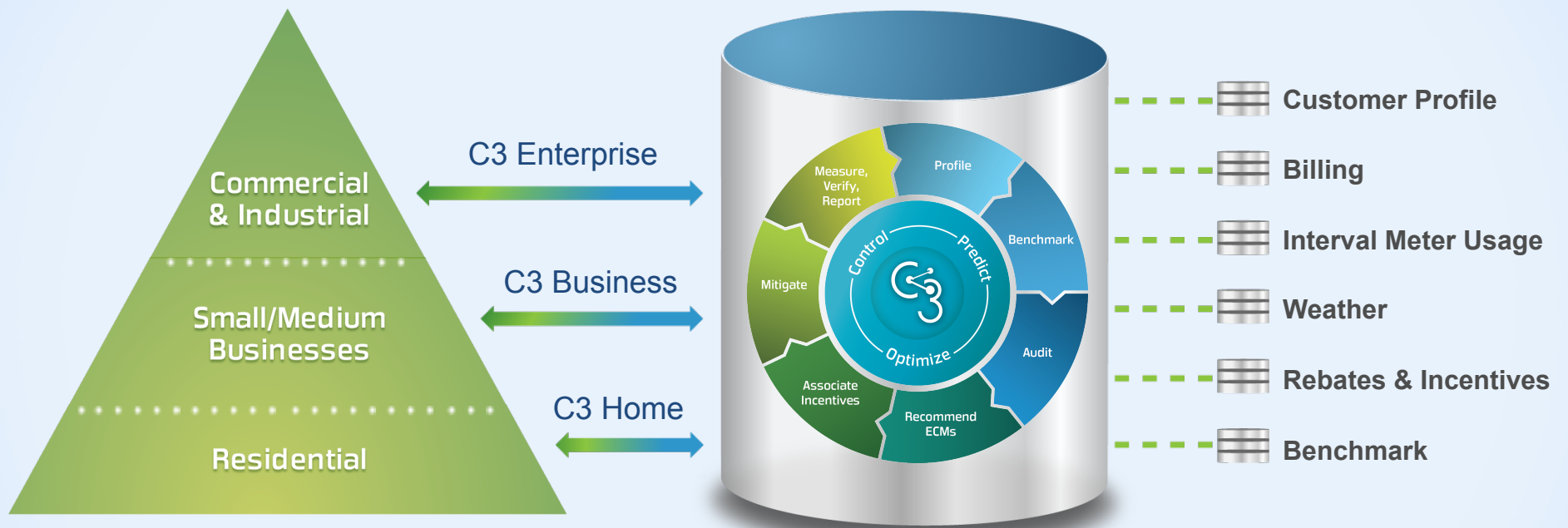
Large Gap Created by Savings Goals, New Lighting Standards and Failure of Other Programs to Scale



* Source: State energy efficiency legislation via ACEEE database. Assumes lighting standards ramp up to 40% “haircut” by 2016, and 25% annual growth by other traditional programs. All numbers residential only.



C3 Multi-Segment Energy Efficiency Solution



C3 Home



C3 Home Overview

- C3 Home a personalized online “Engagement Platform”, white-labeled for utilities to help meet efficiency goals
- Powerful analytics create personalized segmentation and savings calculations for each customer
- Integrated marketing services drive customers online
- Monthly feedback and reward points deliver continuous engagement



Hybrid Statistical and Engineering Model

Traditional approach made by and for engineers

Strict engineering-based models scaled from characteristic houses in each weather tape

C3 approach focused on consumer realities

Combines statistical and engineering models using zip code, property level and billing data to create parallel bottom-up and top-down models

- Higher resolution smart defaults
- Ability to rank most impactful audit questions
- Lower barriers to entry (e.g. no r-values required!)
- Better captures behavioral aspects of demographics

Intelligent & Personalized Feedback

Analytic models rigorously verified

- Accredited by RESNET
- Models published in peer-reviewed journal (Journal of Industrial Ecology)
- Model results compared to actual customer usage data explains 80%+ variation

Recommendations generated through segmentation processes

- Discounted expected lifetime returns
- Filter out inappropriate actions
- Weight actions based on popularity

Significant Energy Savings and Engagement


- 6% electricity savings from Online Rewards Portal
 - Savings levels sensitive to baseline usage, engagement levels, and community engagement

- 20%+ conversion to online engagement
 - Up to 6% direct mail response rate
 - 50%+ email open rate
 - 30%+ click-through rate
 - 10%+ increase in customer satisfaction

Source: Matthew Harding, Stanford University. *Goal-Setting, Social Comparisons and Rewards: New Behavioral Incentives for Energy Efficiency*. Presentation at Behavior, Energy and Climate Change (BECC) Conference. December 2011.



Personalized Savings & Program Recommendations



Home Energy Advisor
California Integrated Customer Energy Audit Tool

Profile Logout

Ways to Save Track Progress Learn

All


Most Popular

No Cost

Low Cost

Home Investment

My Actions (4)

 **My Home Profile**

In what type of building do you live?

House

Next Question [Take the full energy audit](#)

More ways to save

Programs to save more by conserving when many others are consuming on high-usage days










[Learn more](#)

Interested in solar?

The California Solar Initiative program provides incentives for solar electric technologies

[Learn more](#)

Actions for You Estimated Yearly Savings

	<p>Don't Heat Your Pool</p> <p>I did it</p>	\$340
	<p>Use a Pool Cover</p> <p>I did it</p>	\$272
	<p>Raise Your AC Thermostat</p> <p>I did it</p>	\$135
	<p>Ditch the Extra Fridge</p> <p>I did it Rebate available</p>	\$123
	<p>Replace Your Home Lights With CFLs</p> <p>I did it Rebate available</p>	\$91
	<p>Buy a Gas Clothes Dryer</p> <p>I did it</p>	\$75
	<p>Use a Drying Rack</p> <p>I did it</p>	\$62
	<p>Turn Off Coffee Maker After Brewing</p> <p>I did it</p>	\$39
	<p>Reduce Air Leakage</p> <p>I did it Rebate available</p>	\$91

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C3 Home – Action Detail

Ways to Save | Track Progress | Rewards | Learn | Community


Ways to save > Buy an efficient fridge

Buy an efficient fridge I did it Print



Replacing your old refrigerator with a new one is one of the best things you can do to lower your energy bill and cut your carbon footprint. The fridge is on 24 hours a day, so it's always using electricity. Older fridges use considerably more energy than newer efficient models. Switching to a newer model can help reduce your energy use. However, since fridges can be expensive, make sure that replacing your old fridge is really worth it. You can generally find the volume (in cubic feet) of your fridge on a sticker on the inside.

Rebate

 **Refrigerator & Freezer Recycling Program**
\$35 for each working refrigerator

We will pick up and recycle that second, working refrigerator or freezer. Recycle it and you will receive \$35! Plus you can save up to \$150 a year in electricity. Make your appointment today.





[Go to rebate web site](#)

Settings

I am replacing my year old fridge with a volume of cubic feet with a new energy-efficient model. I will be (note that this may substantially change both upfront cost and savings).

[Calculate](#)

Yearly savings:

- \$18** dollars  Money
- 160** kWh  Electricity
- 273** lbs  Carbon
- 3 Years**  Payback period

Buy an efficient fridge amounts to saving 2.9% of your annual electric use.

How are savings calculated?

Refrigerators range considerably in size, and size is strongly linked to energy use. We assume that the average fridge is around 19 cubic feet, though this will vary considerably by user. The functional relationship between size and energy use is based on an analysis of 2100 fridge models produced between 2003 and 2007. Data on fridge age and efficiency comes from David Goldstein at the National Resources Defense Council.



C3 Home Savings Feedback

Ways to Save

Track Progress

Rewards

Learn

Community

Track Progress

Usage

Savings

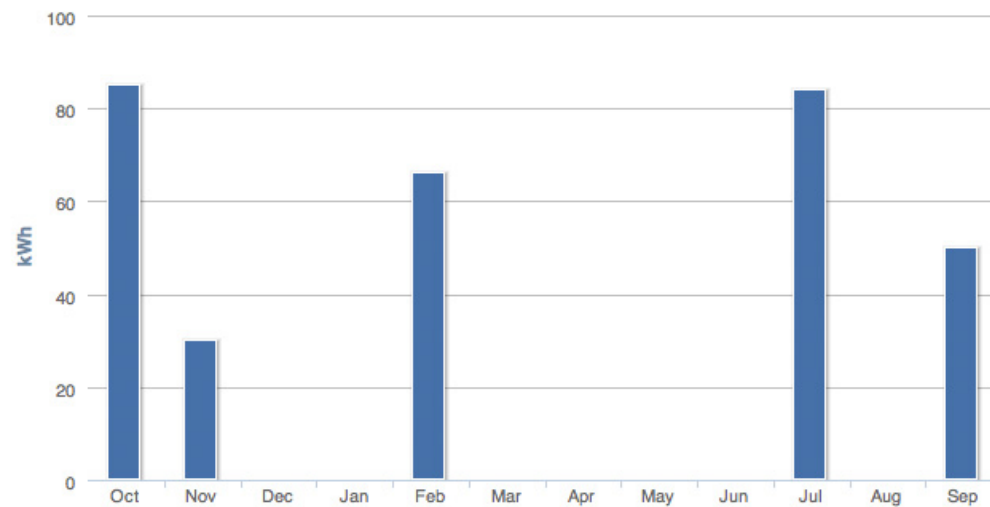
Breakdown

Compare

Congratulations, last month you saved \$5.

We calculate your savings by comparing your bill this year to the same period last year.

Electricity Savings in kWh






Email Rewards Reports Enable Continuous, Low Cost Engagement

The screenshot shows an email from Western Massachusetts Electric, a Northeast Utilities Company. The header features the company logo and the text "Western Mass Saves" above an illustration of a village. The main content congratulates Elaine for saving money and earning 100 points. A summary box displays a thumbs-up icon, a piggy bank icon for "\$1220 Money Saved", and a points icon for "1250 Rewards Points". Below this, it notes "Since Joining on 2/13/11". The email lists rewards: a 15% off \$75 or more online reward from Footlocker.com (30 points), a \$1 off \$5 or more printed coupon from Ritas (40 points), and another 15% off \$75 or more online reward from Footlocker.com (30 points). At the bottom, there is a green "Get Rewards Now" button, a link to find more energy saving recommendations, and two links for opting out of emails and editing notification settings.

Western Massachusetts Electric
A Northeast Utilities Company

Western Mass Saves


Good Job Elaine!
You have saved money on your electric bill compared to the same time last year.
You have **earned 100 points** this month thanks to your energy efficiency efforts!

  **\$1220** Money Saved
 **1250** Rewards Points

Since Joining on 2/13/11

Visit [Western Mass Saves](#) to redeem your points! You have 1250 total points to redeem on rewards. Here are some rewards you can get right now:

Footlocker.com 15% off \$75 or more Online Reward
Redeem 30 points

 **\$1 off \$5 or more** Printed Coupon
Redeem 40 points


Footlocker.com 15% off \$75 or more Online Reward
Redeem 30 points

[Get Rewards Now](#) or [find more energy saving recommendations](#)


[Click here to opt-out of future emails.](#) [Click here to edit your notification settings.](#)




Email Rewards Reports Enable Continuous, Low Cost Engagement

 **Western Mass Saves**


Elaine - this month you did not really save.
We looked at your bill compared to the same time last year and you did not save. To get you back on track you need to follow through on some energy saving actions.

 **\$1220** Money Saved

 **1250** Rewards Points

Since Joining on 2/13/11

**Enjoy the rest of the summer outside,
save energy and earn points.**





Barbeque time
When you cook outside, you'll save on cooling since your air conditioner won't have to counteract all the heat that the stove or oven produces.
[Enjoying the summer saves energy](#)


Give the A/C a rest
Leave the house for the day and turn your air conditioner off! Along with enjoying the great outdoors, when you turn your A/C off you will save a lot of energy.
[Link to program.com/learn/outside](#)
[Tips for cooling intelligently](#)

Find more summer saving tips at:
www.WesternMassSaves.com/learn

You did not earn any points this month.
You have 1250 total points to redeem on rewards. Here are some rewards you can get right now:

 **15% off \$75 or more** Online Reward
[Redeem](#) 30 points

 **\$1 off \$5 or more** Printed Coupon
[Redeem](#) 40 points

 **15% off \$75 or more** Online Reward
[Redeem](#) 30 points

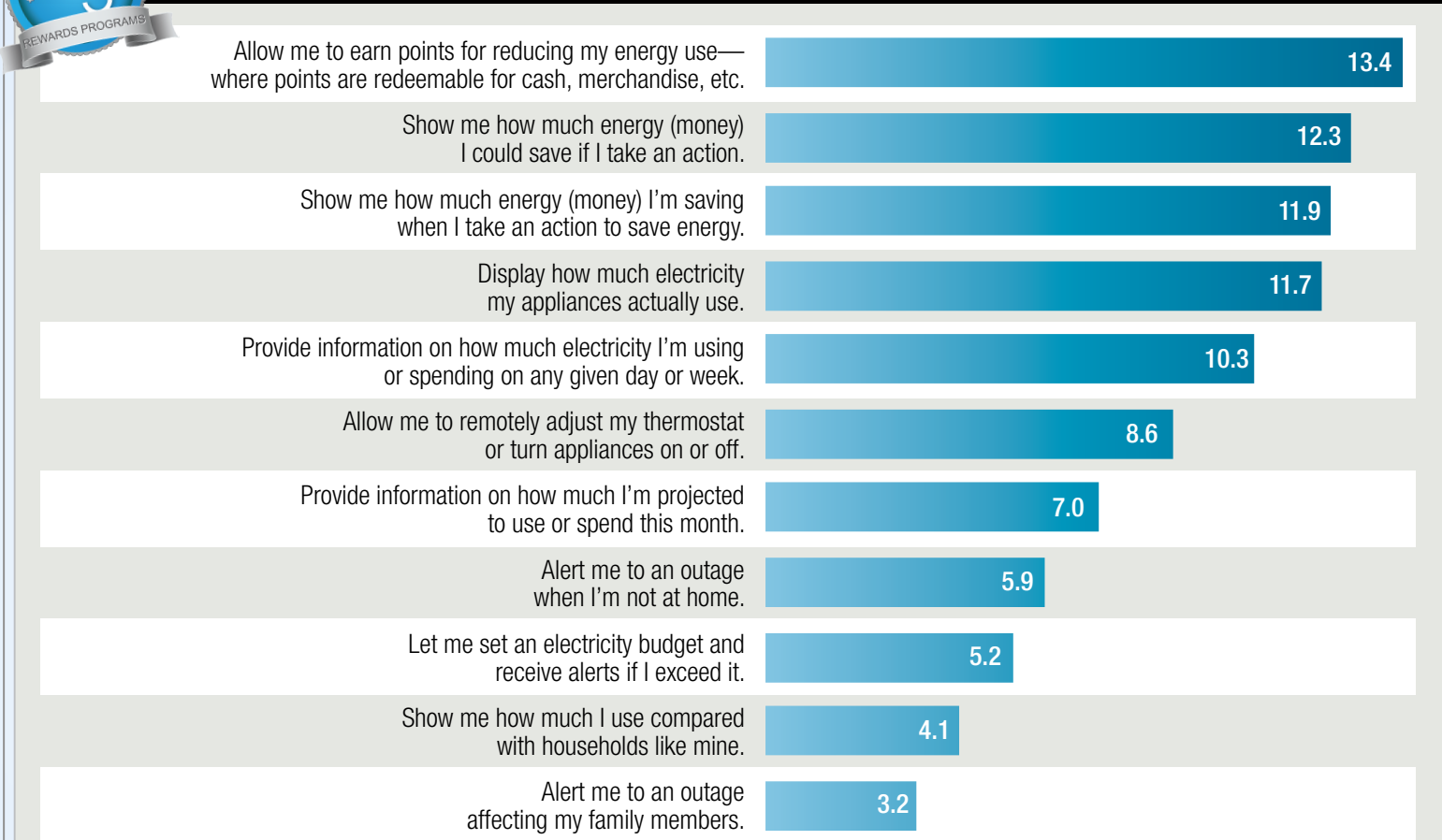
[View All Rewards](#) or find more energy saving recommendations



Rewards Drive Customer Engagement



SMART ENERGY SERVICE PLAN PREFERENCES



* Source: J.D. Power And Associates, October 2011, “2011 Smart Energy Consumer Behavioral Segmentation Study”.

C3 Home Rewards

[Ways to Save](#) | [Track Progress](#) | **Rewards** | [Learn](#) | [Community](#)

Rewards

Most Popular

Local

Apparel

Electronics

Free Shipping

Gifts

Health and Beauty


Home




Jewelry

Kids

All

My Points

 **575** My points balance

 =  = 

1 bulb for 1 day 1 kWh 2 points

We give you rewards points for using less energy than you did last year. For every kWh you save we give you 2 rewards points.

Points are issued everytime we receive a bill from your utility, and can verify that you saved save over last year. If you used the same or more electricity than last year, we do not issue points.

sears **\$5 off \$50 at Sears.com** Emailed reward
[Redeem](#) 100 points

Kmart **\$5 off \$50 at Kmart.com** Emailed reward
[Redeem](#) 100 points [Local Reward](#)

Office DEPOT **Free Next Business Day Delivery With \$50 Order** Online reward
[Redeem](#) 50 points

REI **Free Shipping on Orders of \$50 or More at REI.com** Online reward
[Redeem](#) 110 points

macys **Free Shipping on Orders \$99 or More at Macys.com** Online reward
[Redeem](#) 90 points

Footlocker.com **Save up to \$20 on Select Under Armour Clothing** Online reward
[Redeem](#) 100 points

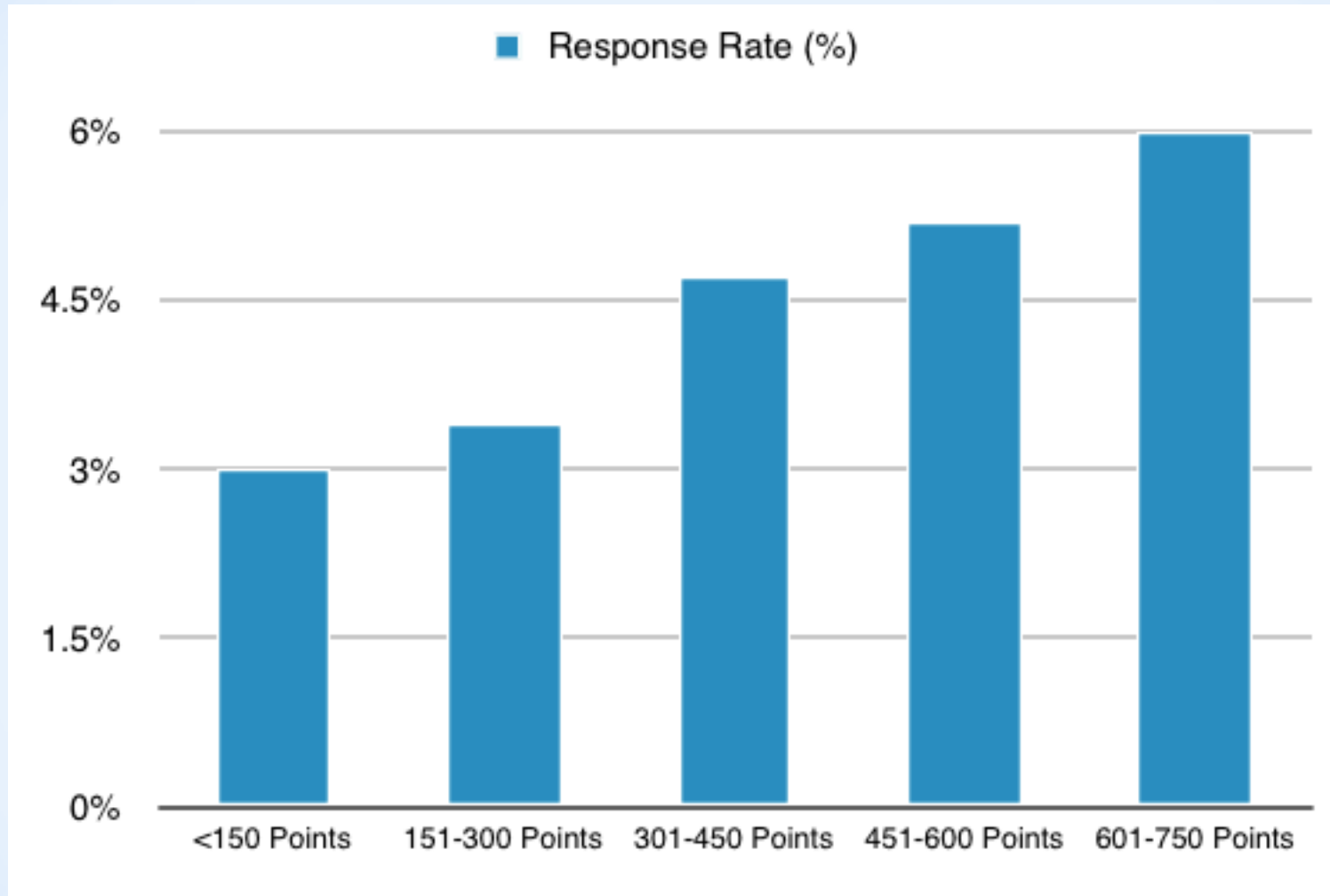
drugstore **Free Shipping on Non-Prescription Orders of \$25** Online reward
[Redeem](#) 50 points

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Rewards Points Key to Engagement & Conversion



Relative Impact of Online Feedback Strategies

Engagement

- 85% more savings when participants linked their utility account
- 100%+ more savings when participants sign into website 5 times or more versus 1-2 times

Positive Feedback

- 550% more savings after months in which participants received positive feedback
- Negative feedback can increase usage

Demographics

- No significant savings differences between education level
- No significant savings difference between homes and apartments

What's Next?

- How do you integrate more positive feedback while remaining authentic?
- Do reward points and/or redemption correlate with energy savings?
- What are the relative effects of the various treatments (personalized recommendations, rewards, feedback, etc.)?

Thank You!

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