

## DTE Energy EO Portfolio: Summary of PY4 Key Evaluation Findings

*Presentation to the EO Collaborative*



**DTE Energy**

Navigant Consulting, Inc.

November 19, 2013

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## Navigant's process evaluation research had six primary objectives.

Research Objectives	
Objective	Questions
Learn the effective installation rates	For each program, are (a sample of) the measures in the tracking system still installed?
Quantify the programs' net savings impacts	What is the program free-ridership? What market effects are potentially attributable to the program? Are there indications of spillover?
Measure participant and trade ally program satisfaction	How satisfied are participants and trade allies with DTE's programs? Which program processes are the most problematic? What suggestions do they have for improvement?
Assess channeling effectiveness	How many program participants have participated in other DTE programs? How many participants are aware of other DTE programs?
Identify opportunities to improve DTE's central tracking system	What changes to EOPT would improve DTE's tracking of program savings over the year and better enable Navigant to verify them?
Identify opportunities for program improvement	What could DTE consider doing to enhance customer participation in or customer satisfaction with DTE's programs? What might DTE do to increase program IRAs and NTGRs?

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# Navigant undertook a battery of research initiatives to conduct DTE's EO portfolio's process evaluation in PY4.

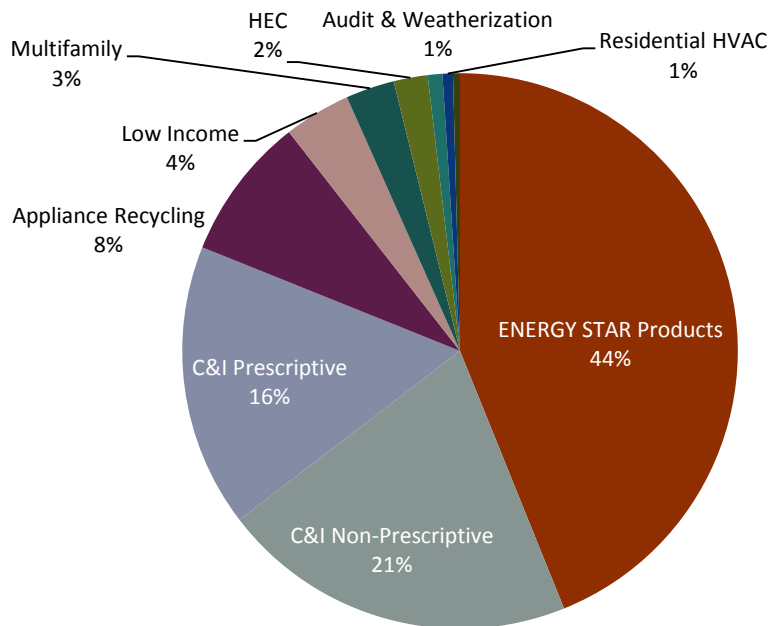
	Trade Ally Interviews 	Telephone Survey 	On Site Verification 	Billing Analysis 	Secondary Market Data Review 
ENERGY STAR Products	✓	✓	✓		✓
Appliance Recycling	✓	✓			
Residential HVAC	✓	✓	✓	✓	
Multifamily	✓	✓	✓	✓	
Audit and Weatherization	✓	✓	✓	✓	
Elementary School Education	✓	✓			
Home Energy Consultation		✓	✓	✓	
Low Income	✓	✓		✓	
<hr/>					
C&I Prescriptive	✓	✓	✓		
C&I Non-Prescriptive	✓	✓	✓	✓	

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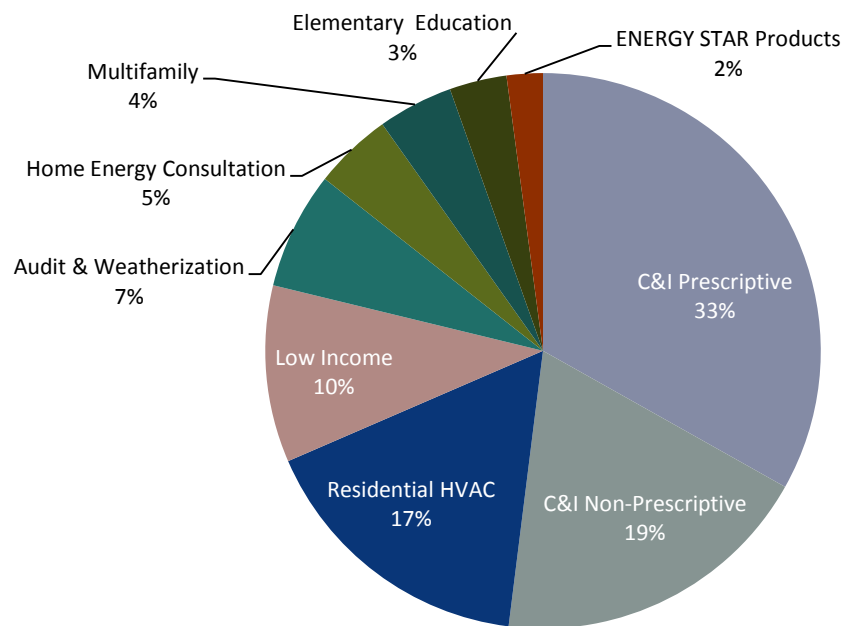
# DTE Energy's largest contributor to electric and gas savings is ENERGY STAR Products program and C&I Prescriptive program respectively.

Verified Net Savings- Electric (MWh)



The C&I programs and Residential HVAC program account for about two-thirds of gas savings.

Verified Net Savings- Gas (MCF)



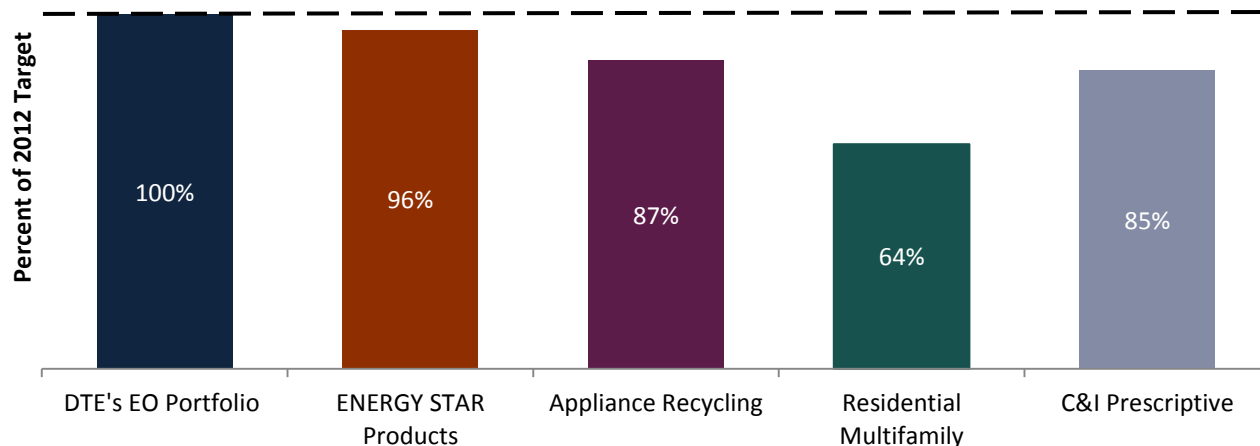
The ENERGY STAR Products program and the C&I programs account for over three-fourths of electric savings.



# Savings for DTE's EO portfolio and most individual programs evaluated by Navigant exceeded PY4 goals, despite significant increases from PY3 goals.

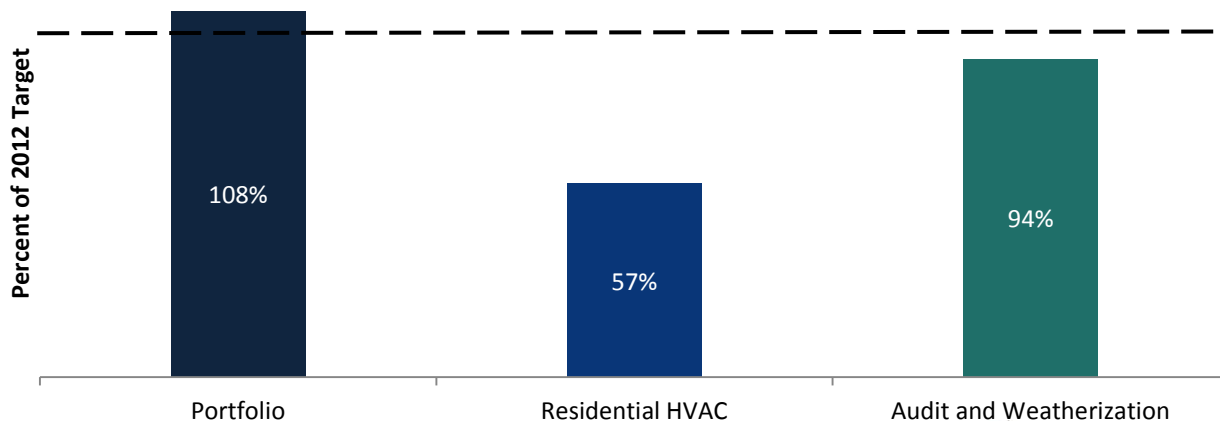
**Only four programs did not achieve their electric savings targets.**

Verified Net Savings- Electric (MWh)



**Only two programs did not achieve their gas savings targets.**

Verified Net Savings- Gas (MCF)



# PY4 program IRAFs are generally lower than prior year IRAFs.

ENERGY STAR Products Non- Lighting

ENERGY STAR Products Lighting

Appliance Recycling

Residential HVAC

Multifamily Residential

Multifamily Commercial

Audit and Weatherization

Elementary School Education

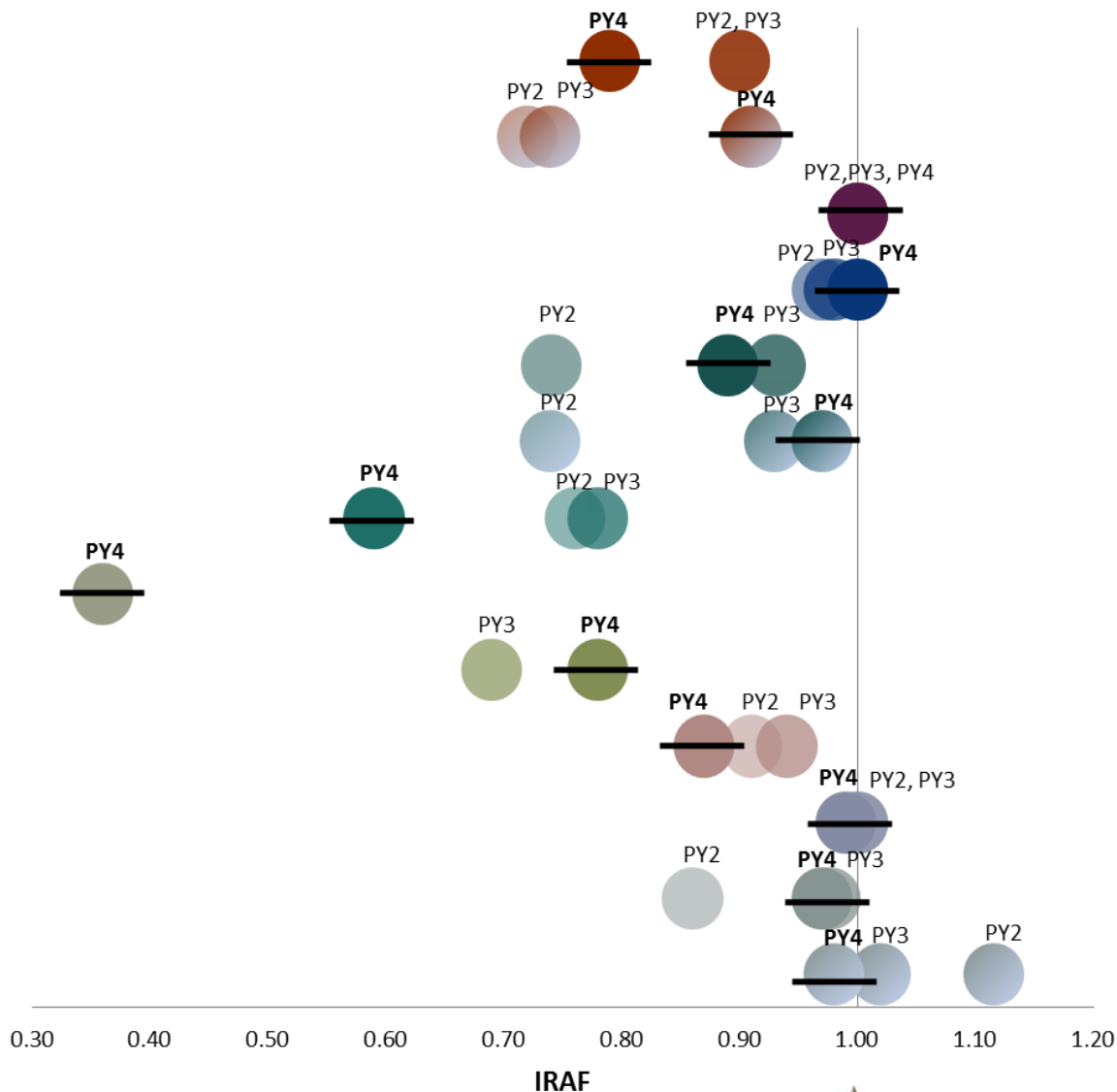
Home Energy Consultation

Low Income

C&I Prescriptive

C&I Non-Prescriptive Electric <sup>a</sup>

C&I Non-Prescriptive Gas <sup>a</sup>



# While C&I NTGRs are higher than in prior years, interim Lighting results fell between PY2 and PY3 at 0.54.

ENERGY STAR Products Non- Lighting

ENERGY STAR Lighting (Interim\*)

Appliance Recycling

Residential HVAC

Multifamily

Audit and Weatherization

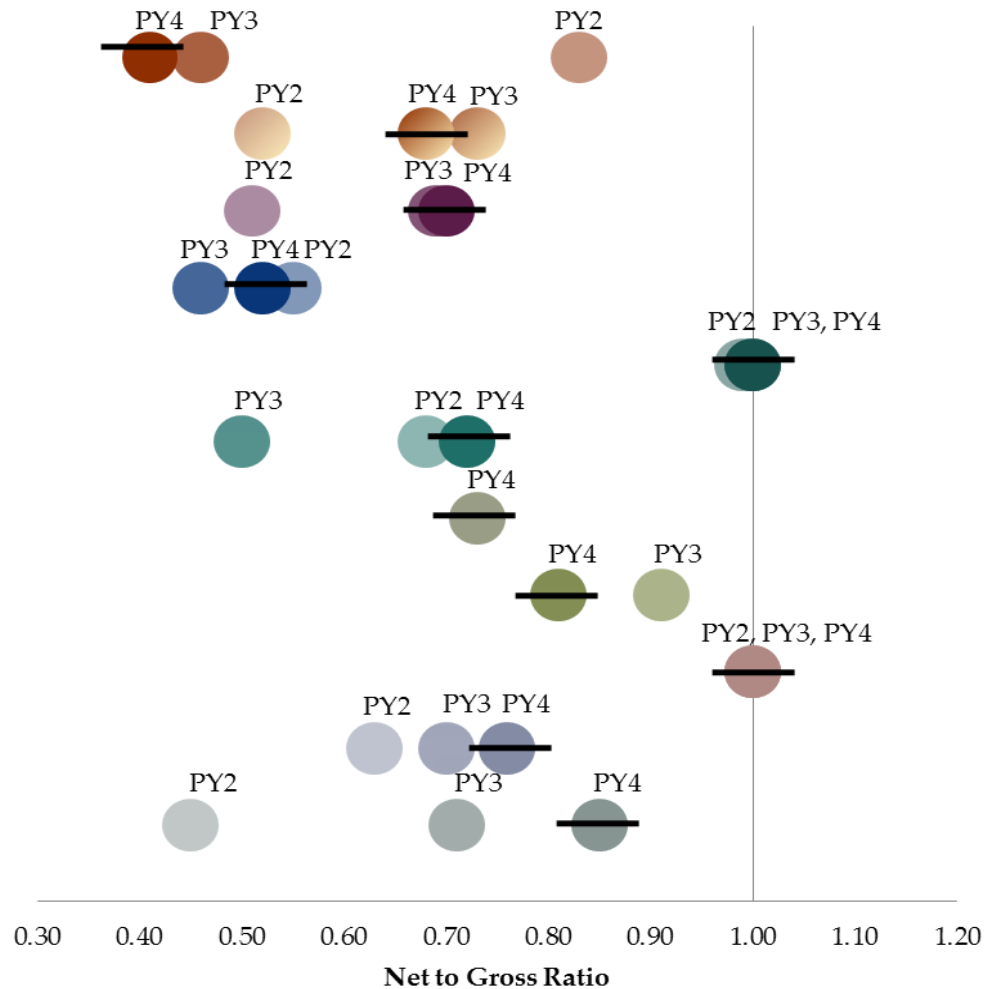
Elementary School Education

Home Energy Consultation

Low Income

C&I Prescriptive

C&I Non-Prescriptive



\*Lighting NTGR research continues with completion aimed for late 2013

**PY4 research is the first year of a multi-year Navigant effort to identify DTE program net impacts and increase focus on spillover.**

$$\text{NTG} = 1 - \text{FR} + \text{SO}$$

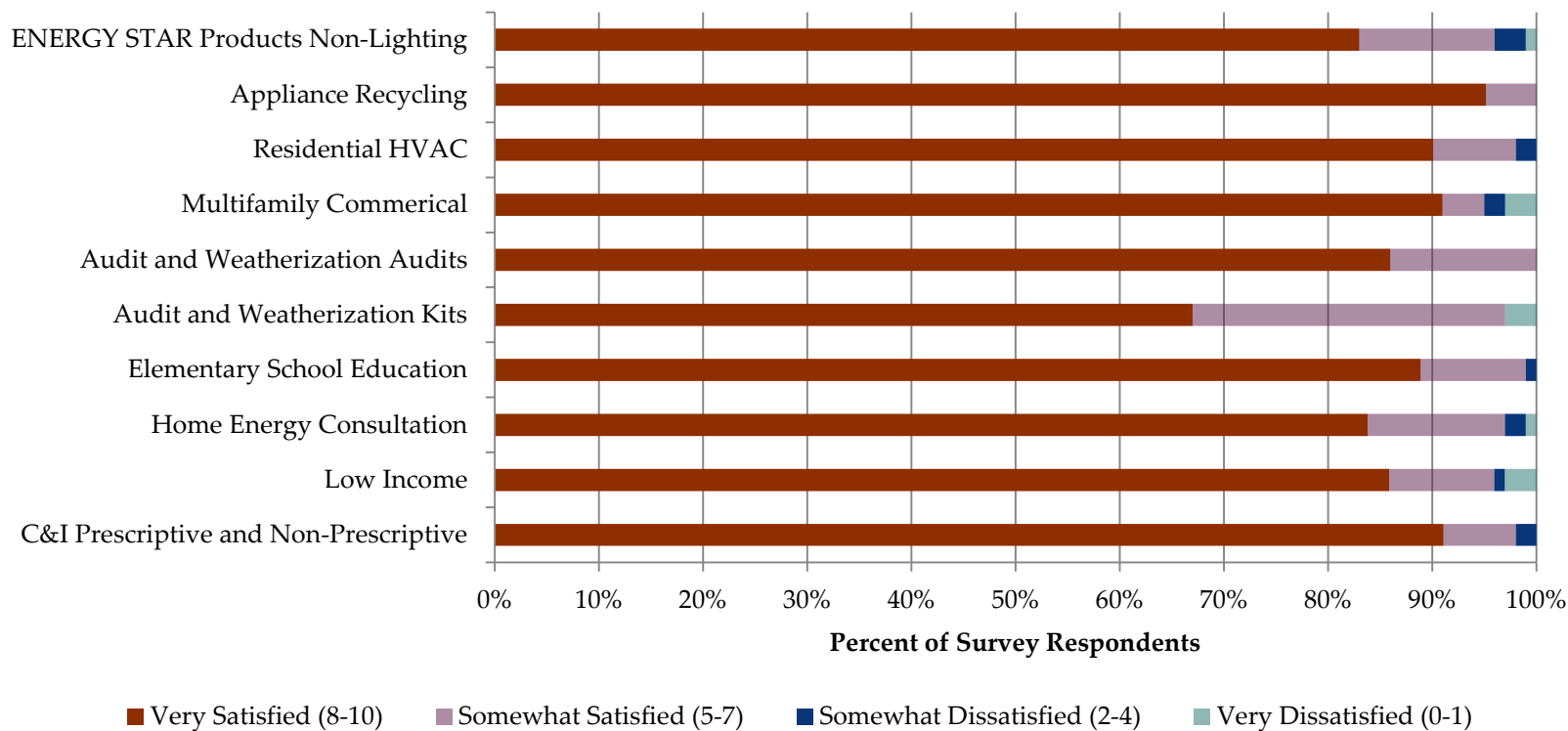
ENERGY STAR Products Appliances	0.44	0.61	0.05
ENERGY STAR Products Lighting	0.68	0.37	0.05
Appliance Recycling	0.70	0.31	0.01
Residential HVAC	0.52	0.50	0.02
Multifamily	1.00	0.00	0.00
Audit and Weatherization	0.72	0.29	0.01
Elementary School Education	0.73	0.41	0.14
Home Energy Consultation	0.81	0.21	0.03
Low Income	1.00	NA	NA
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C&I Prescriptive	0.76	0.25	0.01
C&I Non-Prescriptive	0.85	0.17	0.02

## PY4 Research began the exploration for market effects.

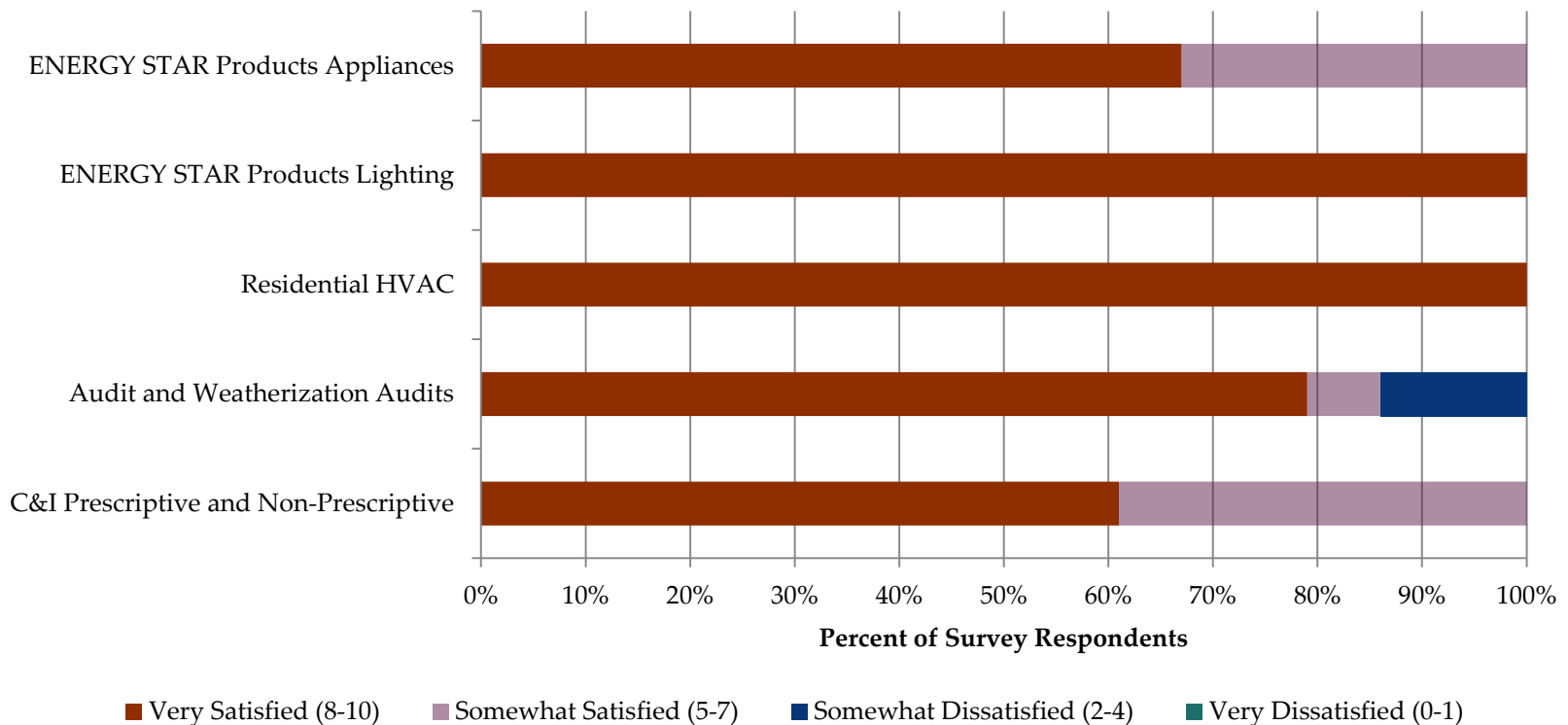
	Changes in Trade Ally Sales Practices	Changes in Supply Chain Stocking Practices	Changes in Supply Chain Structure	New Market Entrants to Supply Chain	Supply Chain Reaches "Untouched" Sub-Markets	Price of Qualifying Products Declines
ENERGY STAR Products	X	?	X	X	X	?
Appliance Recycling	X	X	X	X	X	X
Residential HVAC	X	?	X		X	
Multifamily						
Audit and Weatherization	X	X	?	?	X	
Elementary School Education					?	
Home Energy Consultation						
Low Income						
C&I Custom/Prescriptive Lighting	✓	✓		?		
C&I Non-Lighting						
C&I Express				?		

✓ = Early Evidence of Market Effect; ? = Market Effects Research Inconclusive – More Data Collection Planned for PY5;  
 X = PY4 Data Collection revealed No Evidence of this Market Effect

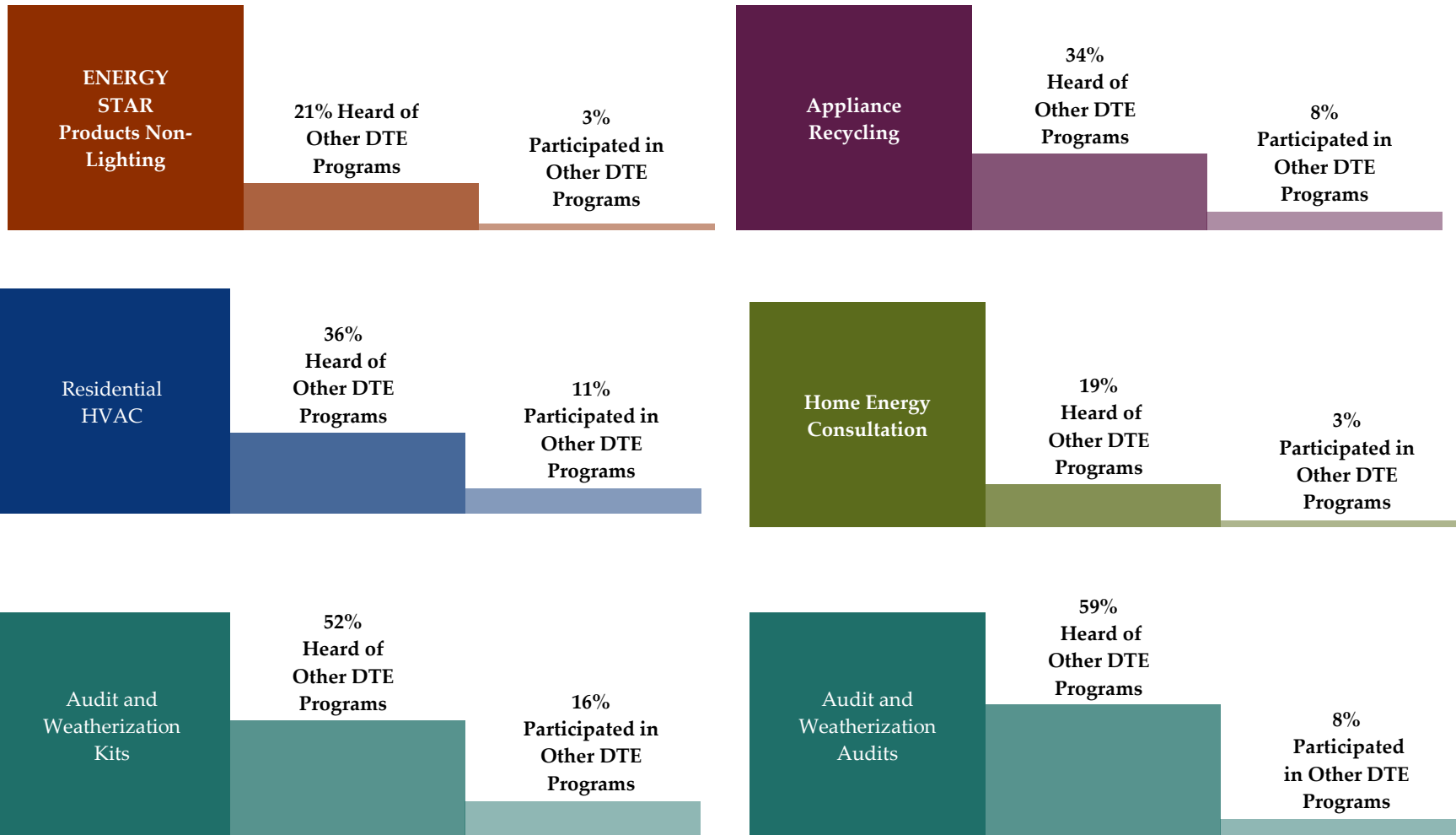
# At least 95% of participants are either very or somewhat satisfied with the program they participated in.



**Very satisfied trade allies range from 50% for the ENERGY STAR Appliance program to 100% for the ENERGY STAR Lighting and Residential HVAC programs.**



# Considerable opportunity to increase channeling exists with every program surveyed.





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## Navigant has a number of high priority recommendations for modifications to EOPT-related matters.

- **Zip code to weather station map** needs to be the same between DTE, IC, and the Measure Library Report. (*MMP Statewide Mapping Adopted*)
- Review and **revise Measure Library Report to match with the MEMD**. The transfer of savings values from the MEMD to the Measure Library Report should eventually be automated based on the unique ID. (*Underway*)
- Work with the EO Collaborative to **create a unique ID in the MEMD to track through to the Measure Library Report**. In the meantime, DTE should be sure the Measure Library Report measure name matches the MEMD measure name exactly. (*In-Process*)
- Include in **EOPT DTE Electric and/or Gas account numbers** for cross-referencing, track customer gas and electric account number in separate EOPT columns. (*Investigating*)
- Maintain a **unique record level ID between EOPT and IC database**, ideally measure-level, would allow for a direct line by line comparison. (*Investigating*)

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## Lighting

- **Increase data tracking of changes in lighting product merchandising and experiment with variations in pricing to maximize program impacts, while improving accuracy of NTGR and market effects estimation.** Non price factors change throughout the year but are not tracked as accurately as changes in price making it almost impossible to distinguish their impacts from price impacts.
- **Continue incentives for CFLs and LEDs to combat shift to minimally-EISA-compliant bulbs.** Trade allies suggest that compliant halogens are already seeing an increase in sales in part because they are being marketed as energy efficient.

## Non-Lighting

- **Educate customers and explore programming thermostats purchased during event days.** Thermostats have the lowest IRAF and most are sold on event days.
- **Reduce appliance free ridership by increasing efficiency eligibility requirements for selected appliances.** ENERGY STAR dehumidifiers, room A/C and clothes washers already represent the majority of sales for leading appliance retailers.
- **Revise method for calculating MCF savings from programmable thermostats.** Savings should be based on actual information included in rebate applications, not deemed based on location of in-store event.

- DTE Energy should investigate the **cost effectiveness of offering an instant incentive in the form of a prepaid card** given that participants highly value quick receipt of their incentive.
- Offering participants **incentive payment options (check, bill credit, donation to charity)** could also be investigated to maintain high participant satisfaction surrounding incentive payment.
- DTE Energy should consider providing JACO with **leave behind materials which promote other DTE EO programs and energy savings actions**, such as energy savings tips cards or refrigerator magnets displaying the DTE Energy EO program website.
- DTE Energy should **investigate and pilot test providing energy savings kits to customers who participate in the ARP** and express interest in also receiving a kit. These kits could be left behind at the time of appliance collection and would contribute to higher program savings, pending IRAF verification.

## Based on Residential HVAC survey data from participants and trade allies, Navigant recommends the following.

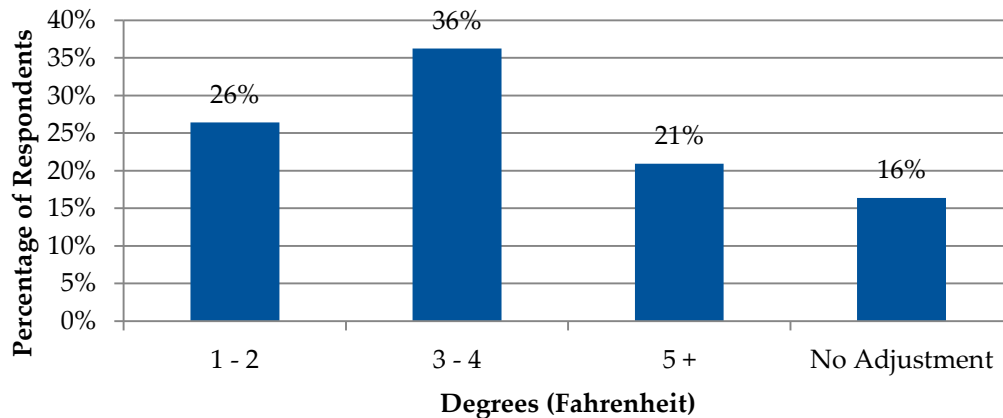
- DTE assess the potential for **increased efficiency in rebate processing**
- ICF explore more **avenues to promote increased channeling** to other DTE Energy rebate programs to both customers and trade allies.
- DTE Energy **better utilize the “Find A Contractor” tool** to simplify their website.
- **Review the potential for emphasizing whole-house performance of HVAC systems** as opposed to only HVAC equipment and tune-up rebates for increased program savings. To enhance cost-effectiveness, review feasibility of merging or consolidating programs (e.g., res HVAC, HEC, A&W) that can be overseen and promoted by the same IC.

## **The Multi-family program may offer opportunities to reduce program delivery cost and increase common area savings.**

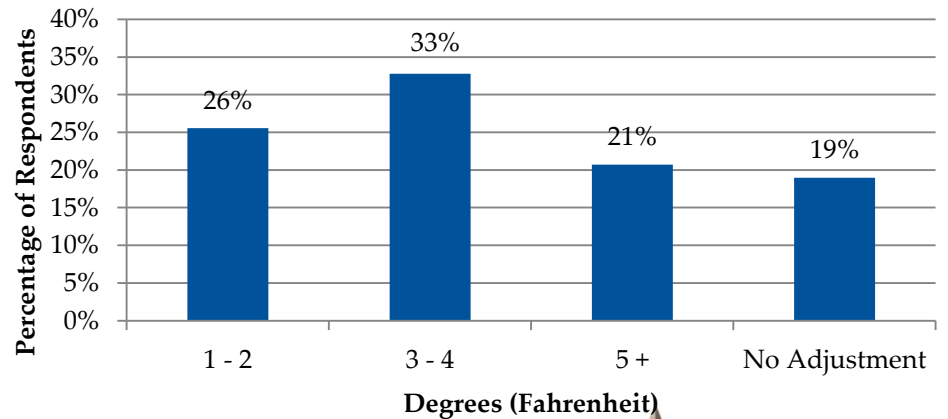
- **Consider piloting residential direct install measure self-installation for commercial participants with sufficient internal capacity.**
- **Consider alternate incentive structures to target commercial area MCF savings, such as implementing a “bonus” incentive for combined common area lighting and central plant upgrades or a “tiered incentive structure” with savings tiers with higher per unit incentives associated with more savings per project.**
- **Expand outreach and educational opportunities to commercial participants, including participant and Trade Ally referral bonuses, training and marketing activities with property management trade associations.**
- **The IC should develop a brief survey to collect and track commercial participant satisfaction and feedback monthly.**
- **Review participant records from past years and follow up with participants that have either not participated in the program since their first participation or acquired new properties since participating, emphasize new program features.**

**DTE should consider the possibility of claiming savings for thermostat adjustments made due to the program, as 80% of participants reported adjusting their thermostats as a result of the program.**

**Degrees Students Plan to Turn Down Thermostats in Winter**



**Degrees Students Plan to Turn Up Thermostats in Summer**





## The HEC Program offers opportunities for improved efficiency, channeling and higher IRAF and NTGR.

- **To reduce cancellation rates:**
  - Offer incentives (e.g. raffle tickets) to customers who keep their original appointments
  - Streamline online scheduling interface (already implemented)
  - Promote HEC as a one time only, limited time opportunity
- **Investigate the potential for enhancing program IRAF** by retraining installers on proper applications for specialty bulbs, particularly 3-way and dimmable CFLs, and instituting a ban on “leave-behinds” and replacing old CFLs with new ones.
- **Enhance channeling**, by:
  - Training HEC auditors to discuss the other DTE programs during their home visit,
  - Providing SEEL with leave-behind promotional material including coupons or vouchers,
  - Including descriptions of programs and their incentives in the Action Plans
  - In follow-up phone calls coach the customer on how to take advantage of other DTE Energy EO Programs

## **The team's process evaluation identified a number of areas where DTE could consider making process tweaks to enhance program results.**

- **Gas savings are too concentrated in a few trade allies and DTE should strive to expand the pool of gas-focused trade allies participating through the program.**
- **The availability of the trade ally bonuses should be better promoted in advance as well as be more creative in nature, and their actual impact should then be studied in PY5.**
- **Most participants are comfortable with the application process, but DTE can simplify applications for multi-site participants to enable use of the same form across all their sites.**
- **Take better advantage of DTE's Account Managers to promote DTE's energy efficiency programs.**
- **Trade allies particularly valued the sales training component of DTE program training. DTE should consider enhancing this training element to further grow TA sales skills.**
- **DTE should consider opportunities to better align their C&I program with Consumers Energy's.**
- **The Express RFP appears to be satisfying a hard to reach market segment, but could benefit from reducing the amount of paperwork.**

## The IC should implement the following recommendations for the C&I Prescriptive Program relating to the accuracy of reported savings.

- **System type information should be collected** on the standard prescriptive sub-program application.
- **Actual conditioned square footage data** should be used to systematically calculate thermostat savings.
- The IC should **develop a building type mapping** to be consistently applied to measures when an MEMD building type option is not available.

KEMA Building Type	EOPT Building Type	1st Option for MEMD Building Type	2nd Option for MEMD Building Type <sup>a</sup>	3rd Option for MEMD Building Type <sup>b</sup>
Assembly	Assembly	Assembly	Closest building type	Building type with most conservative values (kWh or MCF)
Big Box Retail	Big Box Retail	Big Box Retail	Closest building type	Building type with most conservative values (kWh or MCF)
College/University	Primary School	Primary School	Closest building type	Building type with most conservative values (kWh or MCF)

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