



Consumers Energy/NRDC Collaboration on a Pilot Project to Defer Investment in a Michigan Substation

**ACEEE Efficiency as a Resource Conference
Little Rock, Arkansas**

September 21, 2015



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Presentation Overview

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2. Pilot Project Development
3. Next Steps



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Introduction



Energy Futures Group Consulting

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Areas of Expertise

- Policy Development
- Program Design
- Evaluation
- Cost-Effectiveness

Range of Clients

- Government Agencies
- Advocates
- Regulators
- Utilities

Have worked for clients in ~30 states/provinces plus Europe & China.

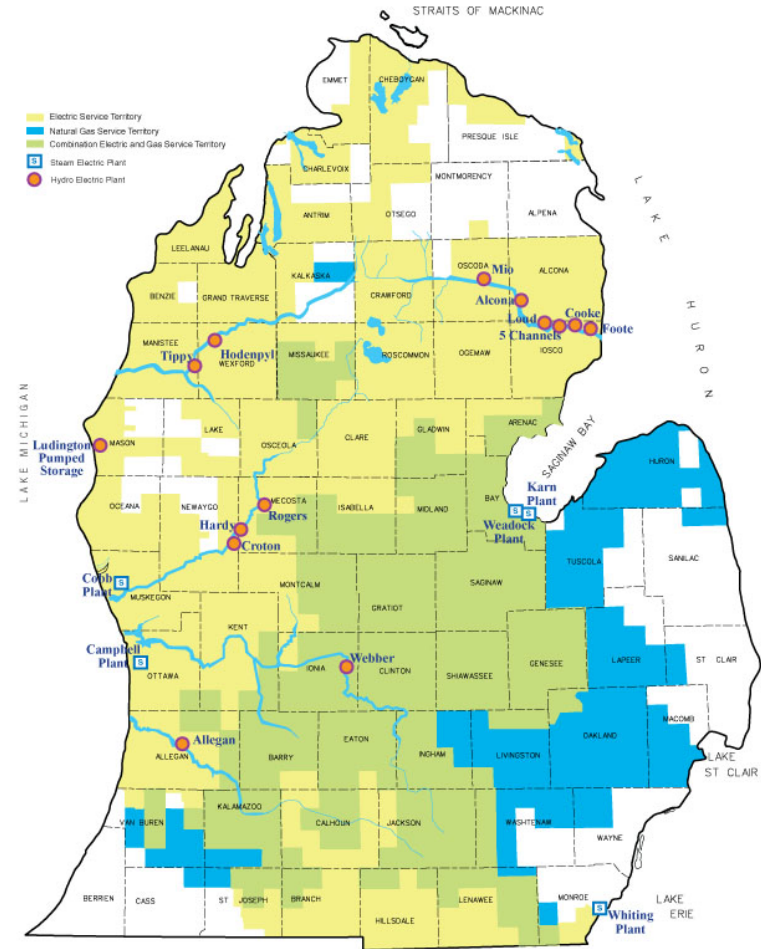
The Natural Resource Defense Council (NRDC) is our client in this project.



Consumers Energy

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- Michigan IOU
 - ▣ 1.8 million electric customers
 - ▣ 1.7 million gas customers
- EE programs since 2009
- Substantial annual savings
 - ▣ ~1.2% of 2014 electric sales
 - ▣ ~0.9% of 2014 gas sales



Context for Pilot Project

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- MI law requires 1% electric savings annually
- Utility 4-year plans, with 2-year updates
- Monthly statewide collaborative meetings/discussions
 - ▣ Programs issues
 - ▣ Evaluation issues
- Evolving relationships btw utilities & stakeholders
 - ▣ Initially, most utility filings were contested
 - ▣ More utility-stakeholder collaboration recently



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Pilot Project Development



Timeline to Date

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- Fall 2014: Initial NRDC-Consumers discussions
- Dec. 2014: Signed MOU
- Dec. 2014: kick-off meeting, lay out planning process
- Feb. 2015: selection of pilot project
- Mar. – May 2015: data analysis
- June 2015: preliminary geo-targeting EE prog design
- Aug. 2015: pilot in Consumers' 2016-17 EE Plan filing



NRDC-Consumers MOU

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- Commitment to work together to:
 - ▣ investigate opportunities to use EE as lower-cost alternative to distribution system investment
 - ▣ develop pilot project to test the concept
 - ▣ seek MI Public Service Commission approval of pilot
- Assigned senior staff and consultants to project
- Expectation of at least monthly check-in meetings, with collaborative work on specific tasks between meetings



Selection of Pilot Project

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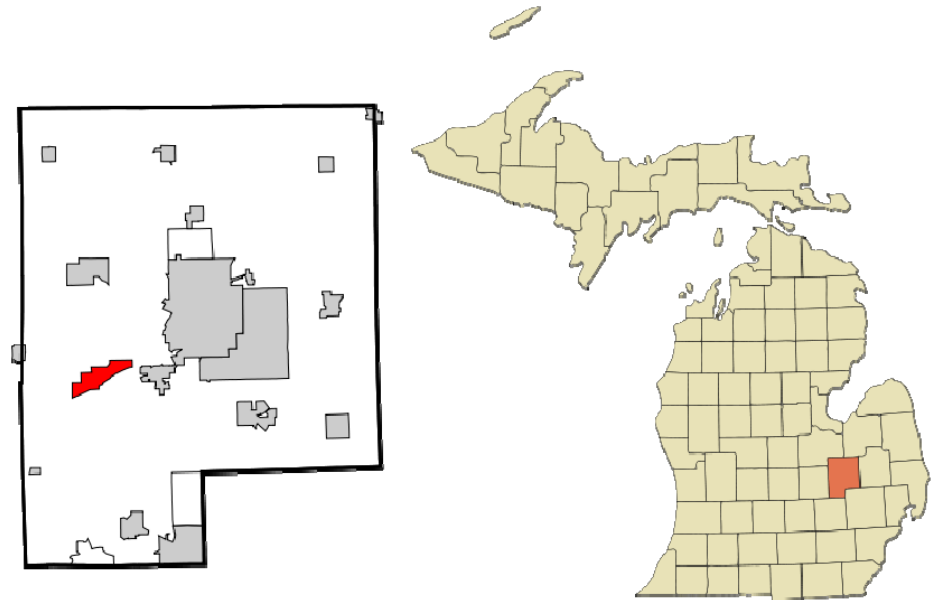
- Criteria for consideration:
 - ▣ Distribution system upgrade driven by load growth
 - ▣ Deferrable cost at least \$1 million
 - ▣ Need at least two to three years out
- 4 initial candidates – all substation upgrade deferrals
- Selected Swartz Creek Substation
 - ▣ Need was three years out
 - ▣ \$1.1 million deferrable cost
 - ▣ Area where Consumers supplies both gas & electric
 - ▣ Smart meter roll-out in 2015



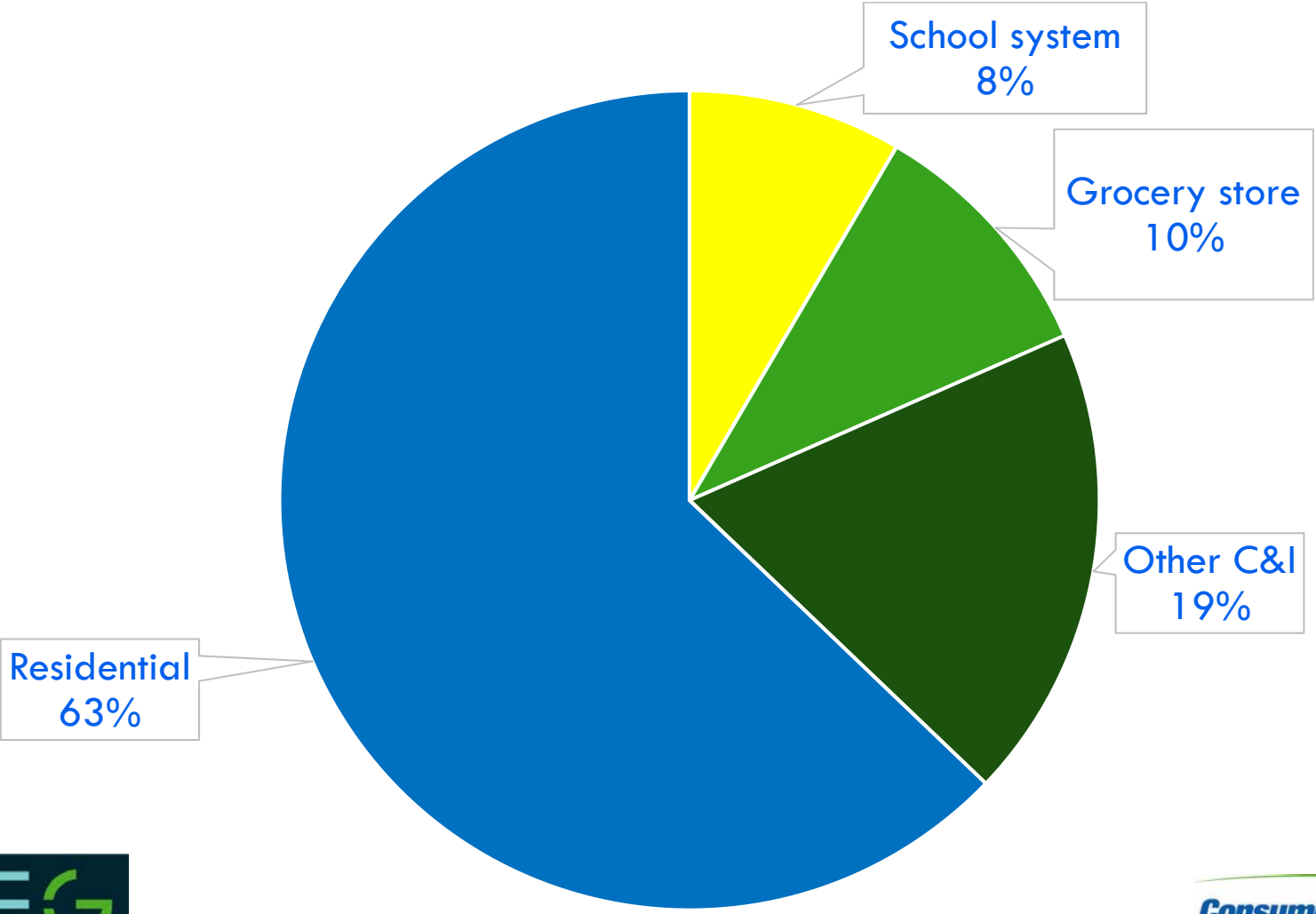
Community of Swartz Creek

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- Genesee County
 - ~4500 Residential Accounts
 - ▣ 63% of total kWh
 - ▣ ~6200 avg kWh/year
 - ▣ ~5% of customers use >15,000 kWh/year
 - ~300 C&I Accounts
 - ▣ 37% of total kWh
 - ▣ ~50,000 avg kWh/year
 - ▣ 4.1 million max kWh/year



Swartz Creek kWh Sales Breakdown



Residential Customer Characterization

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- Key electricity using features:
 - ▣ 84% central A/C; one-third are >15 years old
 - ▣ High saturation of 2nd frig/freezer
- Demographics:
 - ▣ Slightly below average income, education levels
 - ▣ More “middle aged”

Data from Consumers' 2014 Appliance Saturation Survey



C&I Customer Characterization

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Market Segment	Lighting	Cooling	Ventilation	Refrigeration	Space Heating	Office Equip	Water Heating	Misc	Total kWh
Retail	817,163	291,844	175,106	136,194	155,650	38,913	97,281	233,475	1,945,626
(NC)	1,713,494	611,962	367,177	285,582	326,380	81,595	203,987	489,570	4,079,748
Education	661,115	447,852	469,178	106,631	85,305	191,937	63,979	106,631	2,132,629
(NC)	459,048	310,968	325,776	74,040	59,232	133,272	44,424	74,040	1,480,800
Office	652,263	234,146	150,522	83,623	83,623	250,870	16,725	200,696	1,672,469
Health	556,192	185,397	211,883	39,728	39,728	66,213	13,243	211,883	1,324,266
Restaurant	148,541	101,634	85,998	250,175	39,090	15,636	39,090	101,634	781,797
Grocery	52,144	14,221	7,110	130,359	7,110	7,110	2,370	16,591	237,016
Warehouse	83,687	9,299	12,398	21,697	1,550	4,649	1,550	20,147	154,976
Other	500,638	265,964	375,479	140,805	62,580	31,290	15,645	172,094	1,564,495
Grand Total	3,471,743	1,550,356	1,487,675	909,212	474,637	606,618	249,882	1,063,151	9,813,274
(NC)	2,172,542	922,930	692,953	359,622	385,612	214,867	248,411	563,610	5,560,548

- No industrial load
- Two largest customers – school system, new grocery store – are ~50% of kWh
- Recent new construction is ~35% of total kWh
- Lighting, cooling, ventilation are ~70% of kWh (for both new and older buildings)



Historic EE Program Participation

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- 316 frigs/freezers recycled – substantial
- 32 central A/C rebates – very limited participation
- ~50% C&I customers have participated in programs
 - ▣ ...but almost all just CFL/LED screw-ins thru DI program
 - ▣ ...very few light fixtures, almost no non-lighting



Preliminary Program Strategy

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- Residential Efficiency:
 - ▣ Increase Rebates & Marketing for Selected Measures
 - ▣ Residential central A/C, room A/C, appliance recycling
 - ▣ Targeting marketing of home audits, direct install
- C&I Efficiency:
 - ▣ Direct outreach/marketing to promote existing rebates
 - ▣ Targeting marketing of Direct Install, increased emphasis on comprehensiveness (beyond lighting)
 - ▣ Revisiting DI for customers with major non-lighting opps?
- Target marketing of DR, TOU rates, peak pricing



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Next Steps



Next Steps Summary

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- Get Commission approval
 - Refine analysis
 - Finalize program design details
 - Deploy strategy
 - Evaluation – in real time, and at the end
 - ▣ What worked, what didn't
 - ▣ Cost-effectiveness
 - Develop longer-term strategy for geo-targeting
- Set goals by program*

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Q&A

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