

Utility Bill Affordability: Definition, Data and Uses

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Where do we start?

Understanding Home Energy Burdens

$$\text{Home energy burden} = \frac{\text{Home energy bill}}{\text{Household income}}$$

- Total shelter burdens affordable at 30% of income.
- Utility costs should be no more than 20% of shelter costs.
- Utility costs affordable at 6% of income

$$(20\% \times 30\% = 6\%).$$

Allocations of burdens

- Home energy and water/sewer:
 - Need for tiered burdens (each dollar of income more important as incomes decrease)
 - Energy: 4% / 5% / 6%
 - Water: 2.0% / 2.5% / 3.0%
- Allocate between uses:
 - Energy: 50%/50% or 60%/40%
 - Water/sewer: 50% / 50% (unusual for me until now)

Affordability “cautions”

- Don't treat as more precise than it really is.
 - Untrue: 6% affordable but 6.5% is not.
 - True: Affordability is a range, not a point.
- Assistance becomes a means to an end, not an end unto itself.
 - People do not get benefits just because they're poor. If affordable without, get no assistance.
 - People do not get equal benefits; they get sufficient benefits.

Affordability concepts:

Measuring “affordability” (see, PECO paper):

- BREADTH of unaffordability: How many?
- DEPTH of unaffordability: How much?
- TOTAL un affordability: aggregate impacts.

Measuring “affordability” (see, Georgia REACH)

- Home Energy Insecurity Scale

Measuring “affordability” (see, PSCO Evaluation)

- Sustainability of payments

Breadth and Depth of Unaffordability (PECO Energy Tiered Rates)

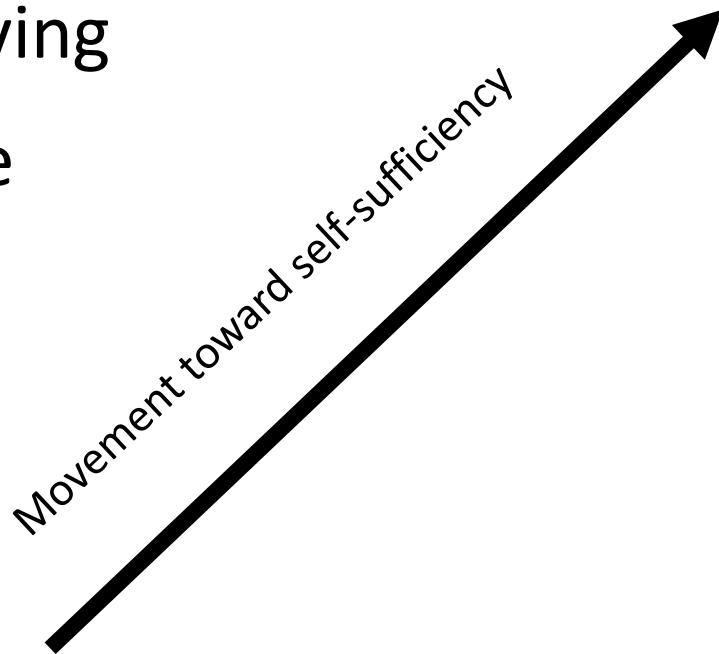
Depth of Unaffordability: Status Quo and FCO by Tier and Heating/Non-heating Status

Tier	Non-Heating				Heating			
	Percent Unaffordable		Mean \$s Above Affordable		Percent Unaffordable		Mean \$s Above Affordable	
	Status Quo	FCO	Status Quo	FCO	Status Quo	FCO	Status Quo	FCO
B	85%	99%	\$383	\$215	83%	98%	\$594	\$384
C	52%	88%	\$483	\$117	43%	75%	\$757	\$184
D	36%	43%	\$472	\$75	23%	21%	\$595	\$107
D1	27%	27%	\$443	\$64	17%	9%	\$660	\$125
E	19%	5%	\$489	\$76	11%	2%	\$722	\$96
E1	16%	3%	\$492	\$80	4%	1%	\$921	\$193
Total	35%	39%	\$447	\$124	25%	26%	\$652	\$253

SOURCE: Appendix C, PECO Options Report.

Utility bill affordability (Georgia REACH): Home Energy Insecurity Scale

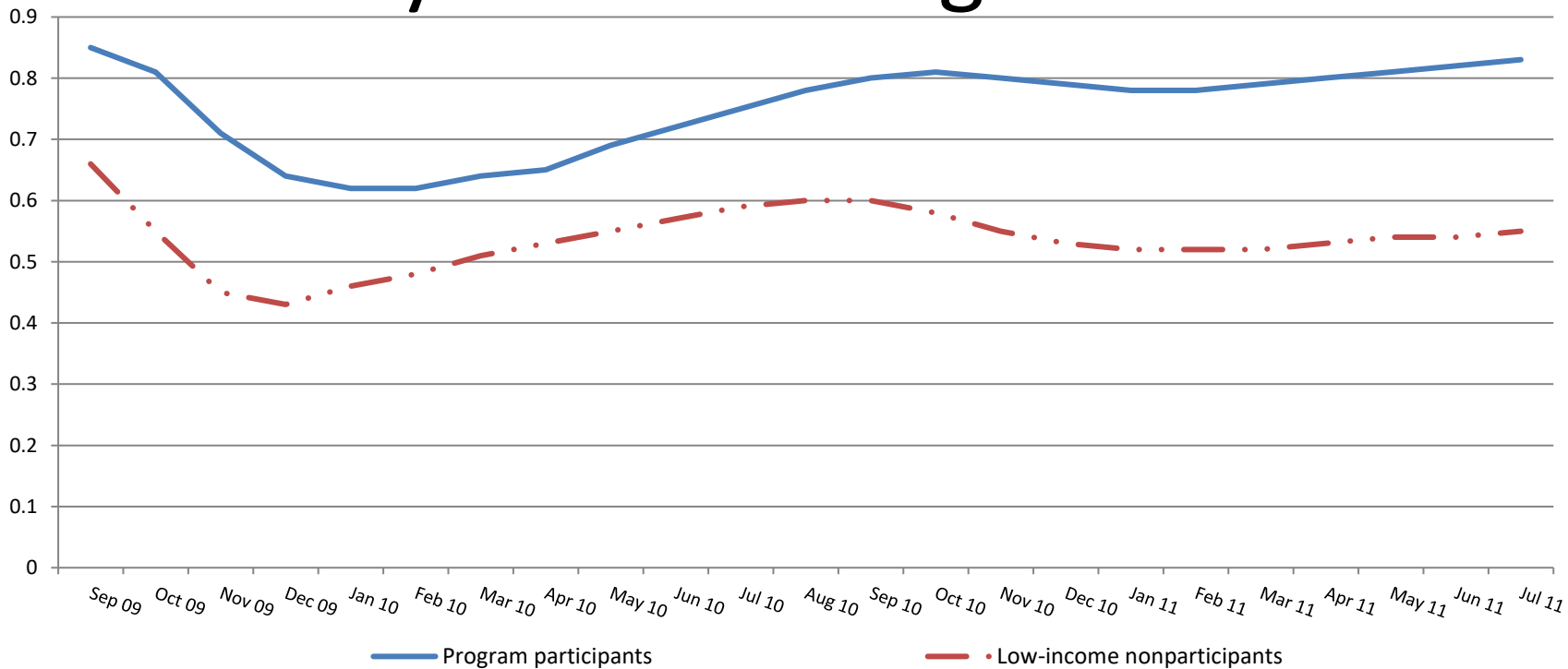
- Thriving
- Capable
- Stable
- Vulnerable
- In Crisis



Impact of Utility Bill affordability (New Jersey)

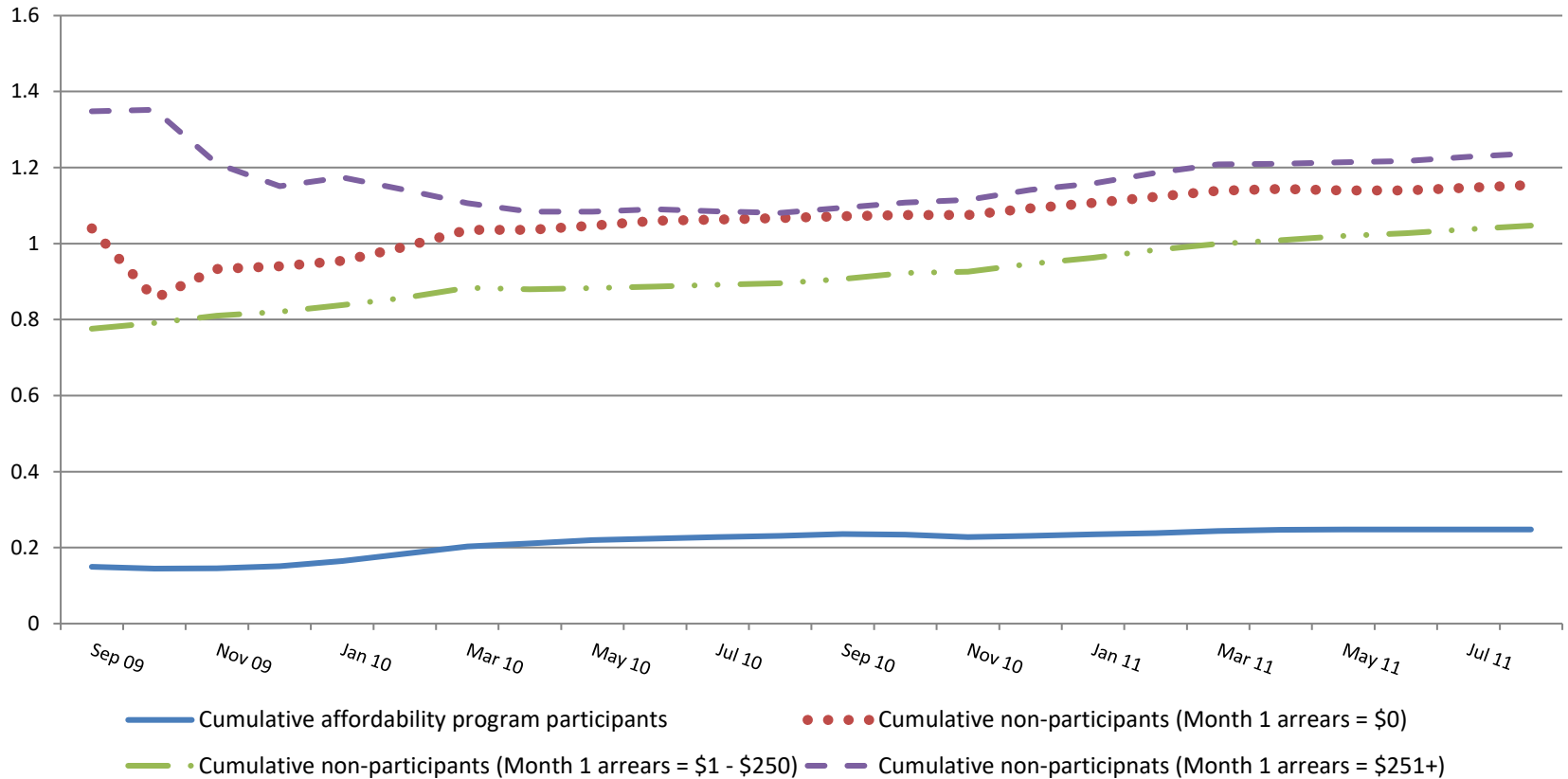
Distribution of Bill Payment Coverage Ratio by Net Energy Burden (New Jersey Universal Service Fund (USF))				
Net Energy Burden	Bill Payment Coverage Ratio			
	<50%	50% - <90%	90% - <100%	100% or more
Less than 2%	0.0%	2.7%	5.3%	92.0%
2% - 3%	0.0%	6.0%	11.5%	82.5%
3% - 4%	0.0%	10.0%	13.2%	76.9%
4% - 6%	0.0%	11.6%	16.6%	71.6%
6% - 8%	0.4%	16.6%	17.4%	65.5%
Over 8%	1.0%	25.6%	16.1%	57.4%

Sustainable payments: Payment coverage ratios



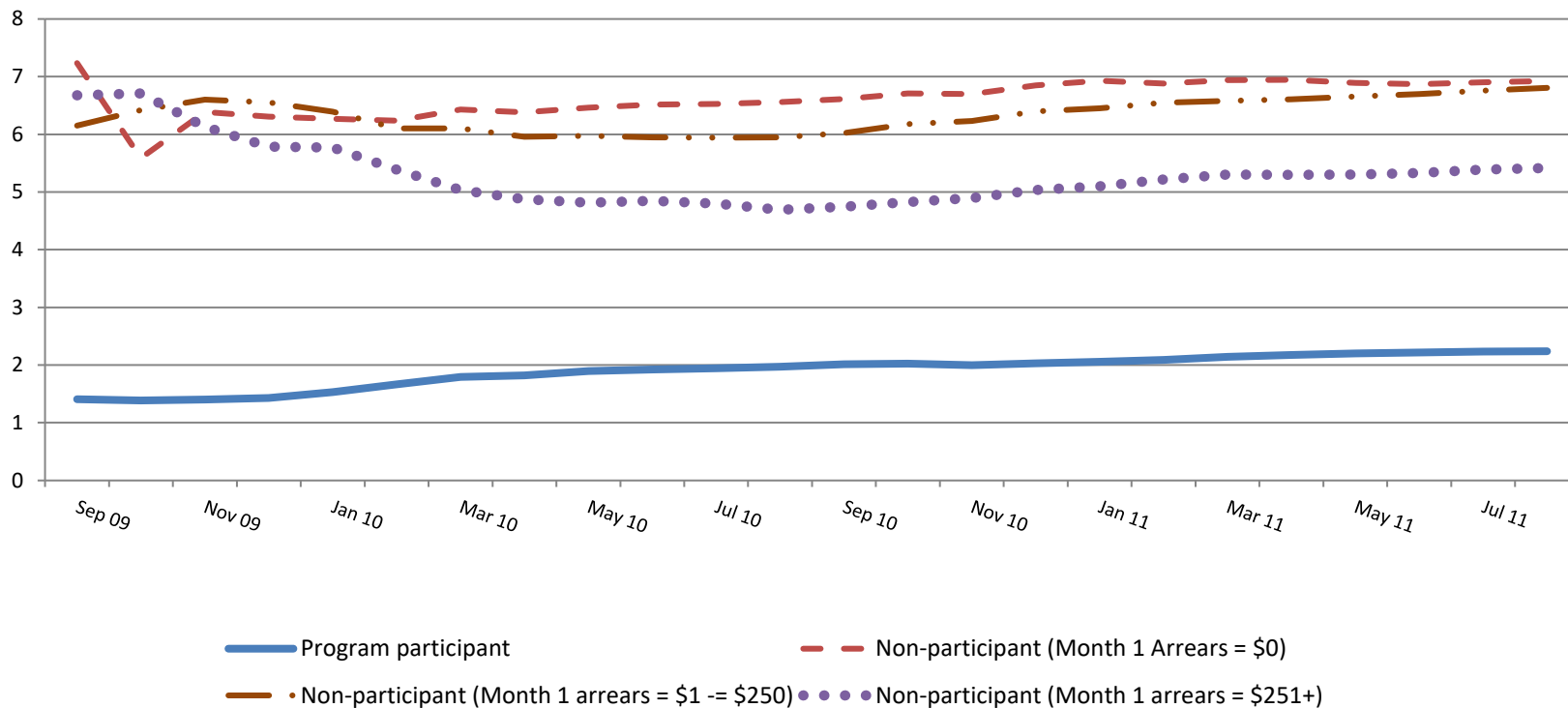
Cumulative Customer Payment Coverage Ratio for PSCO Low-Income Participants Compared to Low-Income Non-Participants

Sustainable payments: DNP Notices per 1,000 Payments



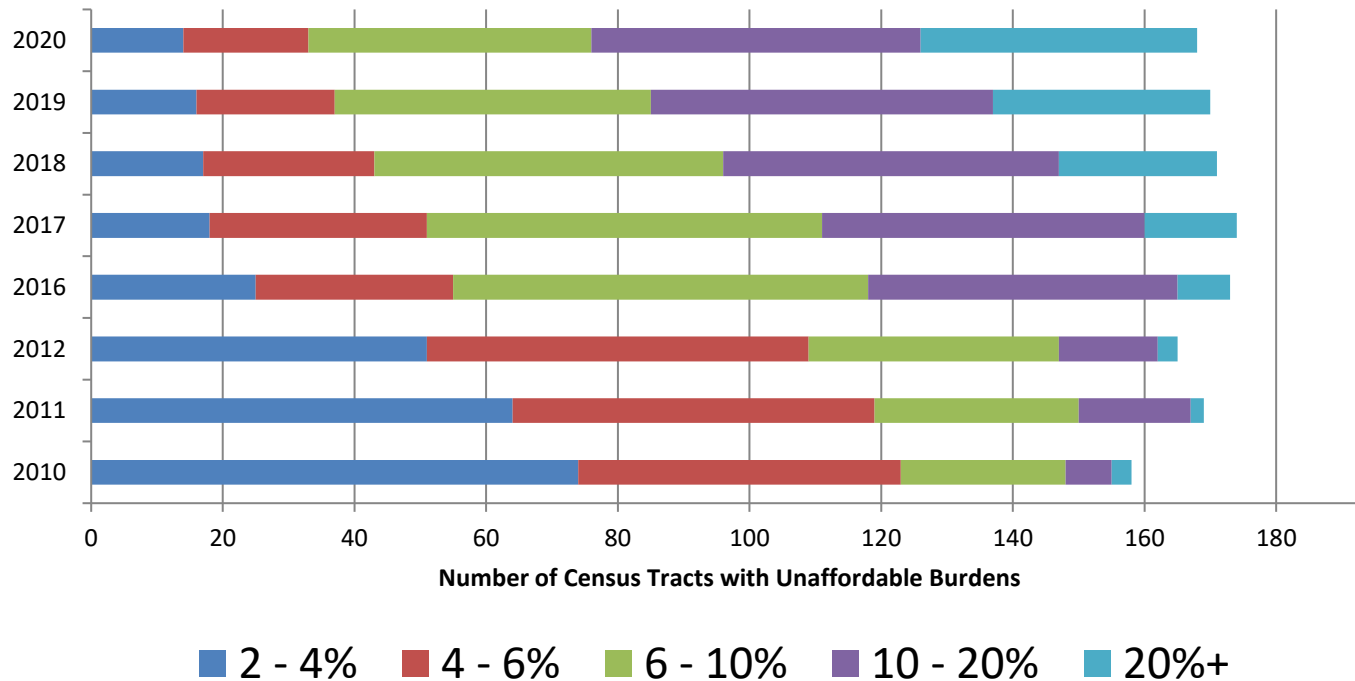
Cumulative Disconnect Notices per 1,000 Customer Payments for Affordability Participants Compared with Non-Participants by Level of Month 1 Non-Participant Arrears.

Sustainable payments: DNP Notices per \$1,000 Payments

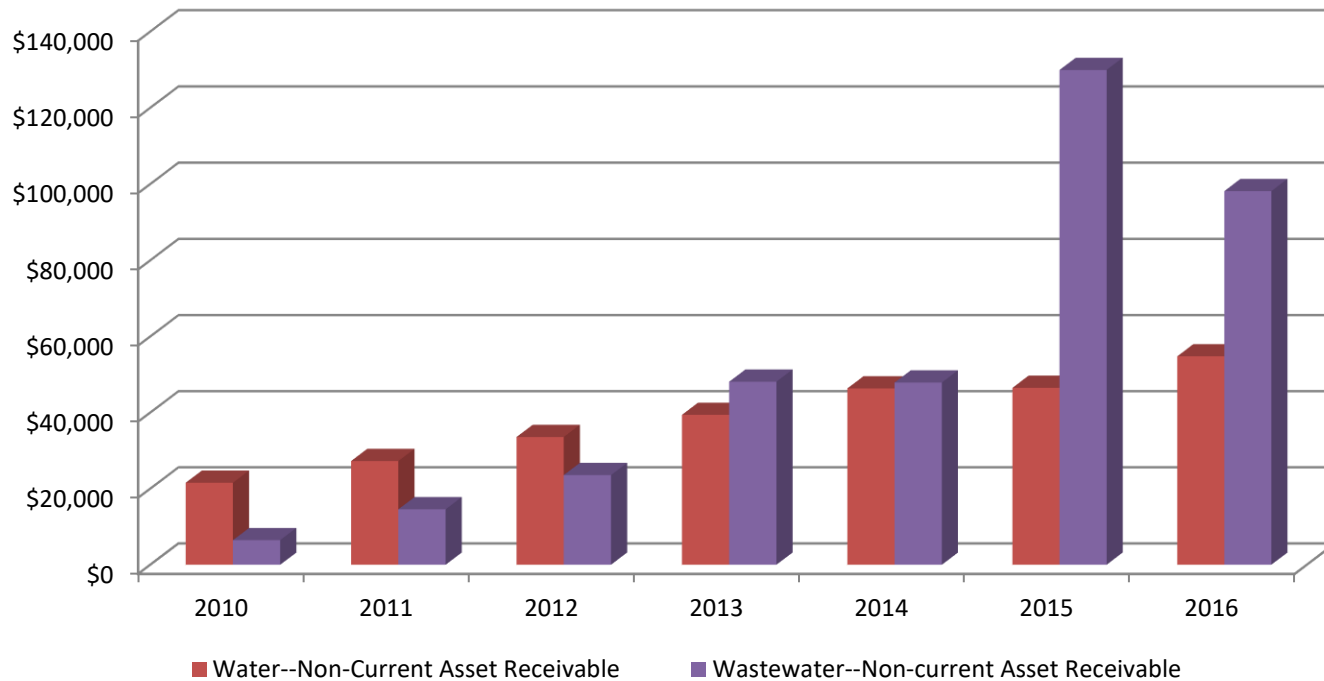


Cumulative Disconnect Notices for Nonpayment per \$1,000 in Customer Payments for Affordability Participants Compared to Non-participants by Level of Non-participant Month 1 Arrears.

Baltimore Water: Paying (?) for Environmental Clean-up

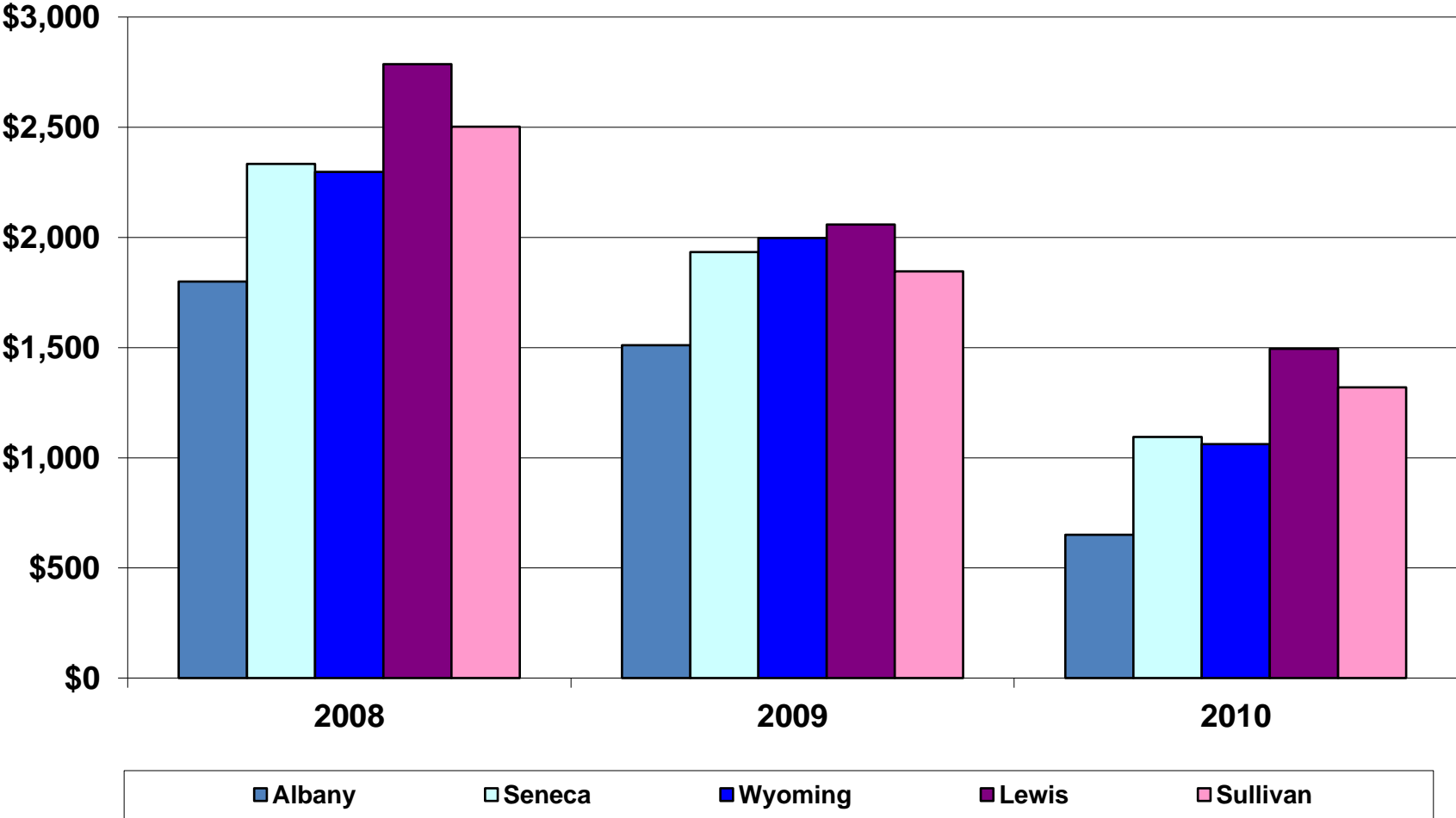


Baltimore Water: Impact of Unaffordable Bills (non-current assets [receivables] [\$000s])



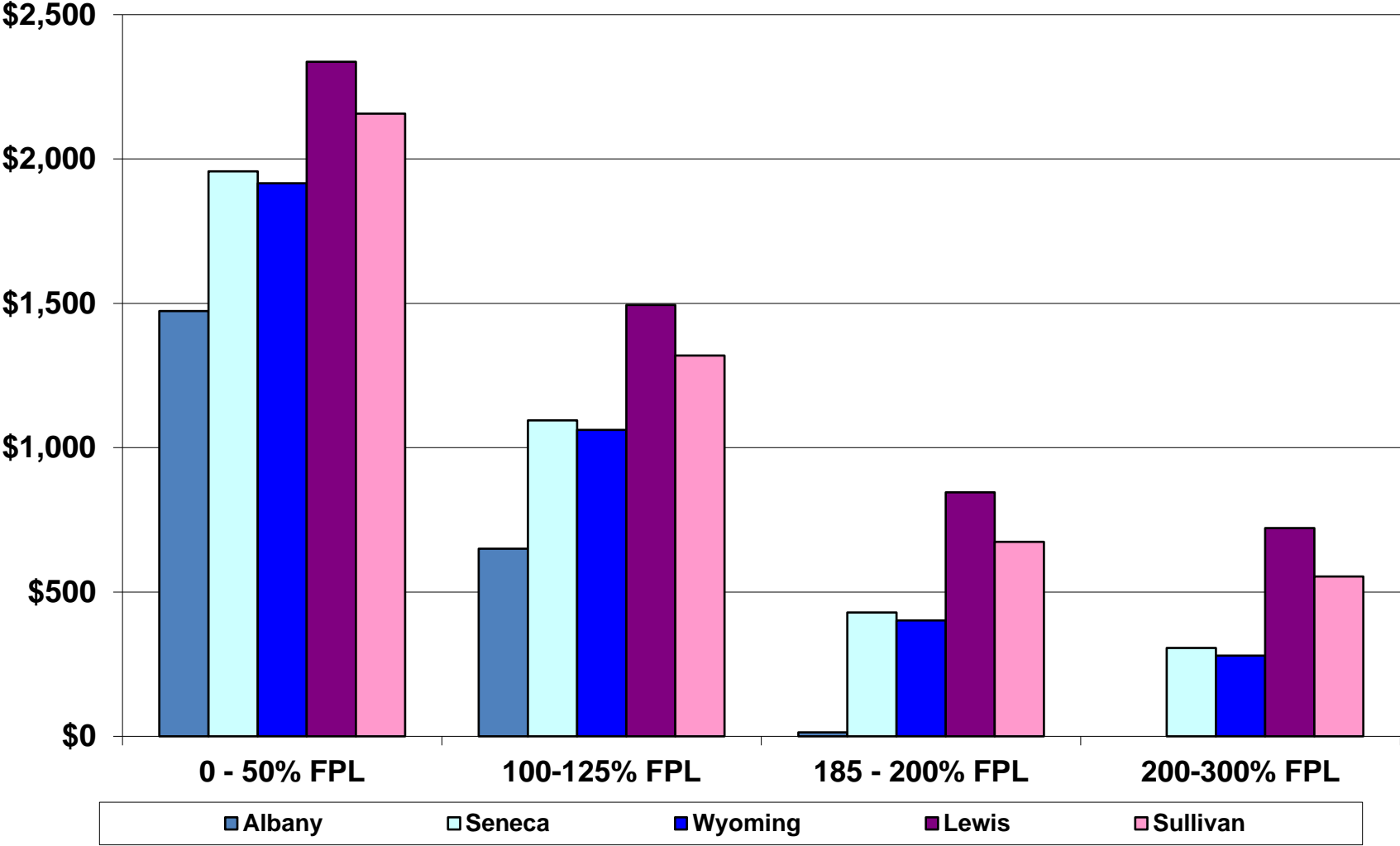
Home Energy Affordability in New York:

Per Household Gap Over Time: 100 – 125% FPL



Home Energy Affordability in New York:

Gap Differs Substantially by County (2010)



Over- and Under-Payment Benefits:
 Using City Averages (Philly)
 0 – 50% FPL (4% affordability)

	Avg HH Income	Avg HH Water Bill	Bill at 4% of Income	Dollar Discount Needed	Dollar Discount Using City	Over-(under-) payment
Total Philly	\$13,066	\$665	\$523	\$142	---	---
Far Northeast	\$15,089	\$712	\$604	\$108	\$152	\$44
Near NE-West	\$8,600	\$817	\$344	\$473	\$174	(\$299)
North	\$5,980	\$778	\$239	\$539	\$166	(\$373)
East	\$10,342	\$478	\$414	\$64	\$102	\$38
Northwest	\$16,840	\$643	\$674	(\$31)	\$137	\$168
Central	\$8,889	\$837	\$356	\$481	\$179	(\$302)
West	\$11,052	\$658	\$442	\$216	\$141	(\$75)
Center City	\$17,465	\$655	\$699	(\$44)	\$140	\$184
Southwest	\$17,015	\$568	\$681	(\$113)	\$121	\$234
Southeast	\$18,176	\$737	\$727	\$10	\$157	\$147

Using Affordability to Assess Impacts of Usage Reduction (Manitoba Hydro)

Low-Income Customers By Bill Range (Electric Heating and Gas Heating) (Manitoba Hydro)						
	Electric Heating			Gas Heating		
	Number	Avg. Bill	25% Reduction	Number	Avg. Bill	25% Reduction
<\$250	219	\$222	\$167	4,515	\$230	\$173
\$251 - \$500	2,137	\$414	\$311	8,084	\$328	\$246
\$501-\$750	2,960	\$606	\$455	2,707	\$599	\$449
\$751 - \$1,000	2,623	\$868	\$651	1,814	\$903	\$677
\$1,001 - \$1,250	3,955	\$1,127	\$845	3,117	\$1,156	\$867
\$1,251 - \$1,500	4,770	\$1,375	\$1,031	7,152	\$1,374	\$1,031
\$1,501 - \$1,750	4,446	\$1,625	\$1,219	11,696	\$1,627	\$1,220
\$1,751 - \$2,000	3,315	\$1,849	\$1,387	10,370	\$1,872	\$1,404
\$2,001 - \$2,250	2,244	\$2,129	\$1,597	5,937	\$2,105	\$1,579
\$2,251 - \$2,500	1,121	\$2,399	\$1,799	3,794	\$2,351	\$1,763
\$2,501 - \$2,750	622	\$2,624	\$1,968	2,061	\$2,613	\$1,960
\$2,751 - \$3,000	583	\$2,819	\$2,114	705	\$2,840	\$2,130
\$3,001 - \$3,250	554	\$3,111	\$2,333	460	\$3,118	\$2,339
\$3,251 - \$3,500	187	\$3,415	\$2,561	362	\$3,381	\$2,536
\$3,501 or more	375	\$4,668	\$3,501	311	\$3,786	\$2,840

For more information, contact:

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