

Decoupling: Characteristics and Impacts

Presentation to
The Energy Resources and the Environment Committee

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The Regulatory Assistance Project

China ♦ European Union ♦ United States

Website: <http://www.raonline.org>



Regulatory Assistance Project

- Nonprofit organization founded in 1992 by experienced energy regulators
- RAP's primary mission is to advise utility regulators and other public officials on regulatory and competitive utility policies to improve the overall economic and environmental performance of the electric and natural gas sectors
- Funded by U.S. DOE & EPA, the Energy Foundation, ClimateWorks and other foundations



Revenue Decoupling: The Basic Concept

- Basic Revenue-Profit Decoupling has two primary components:
 1. Determine a “target revenue” to be collected in a given period
 - In the simplest form of revenue decoupling (sometimes called “revenue cap” regulation), Target Revenues are always equal to Test Year Revenue Requirements
 - Other approaches have formulas to adjust Target Revenue over time
 2. Set a price which will collect that target revenue
 - This is the same as the last step in a traditional rate case –
i.e. $Price = Target\ Revenues \div Sales$



The Decoupling Transformation: Traditional Regulation

$$\text{Revenue} = \text{Price} * \text{Units Sold}$$

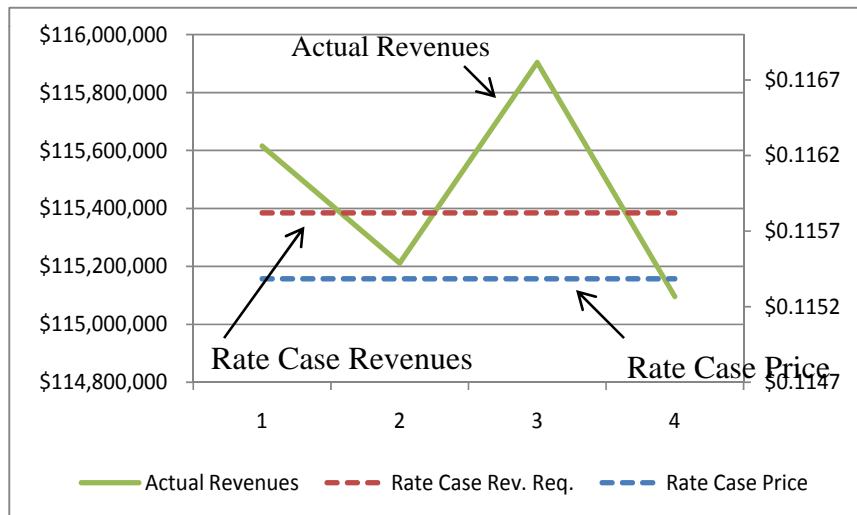


The Decoupling Transformation: Decoupling

$$\text{Price} = \frac{\text{Revenue}}{\text{Units Sold}}$$

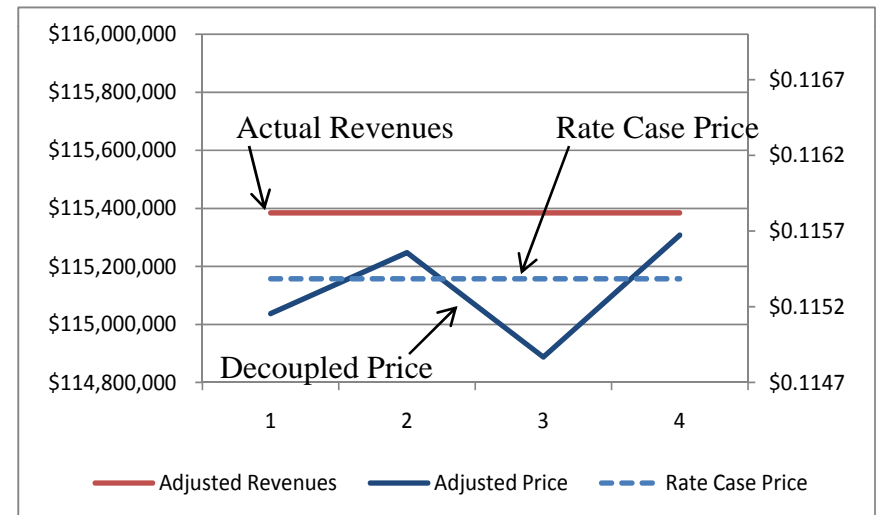
The Essential Characteristic of Decoupling

**Traditional Regulation:
Constant Price =
Fluctuating Revenues**



$$\text{Revenues} - \text{Price} * \text{Sales}$$

**Decoupling:
Precise Revenue Recovery =
Fluctuating Prices**



$$\text{Price} - \text{Target Revenues} \div \text{Sales}$$



Case Study: Rate Designs Analyzed

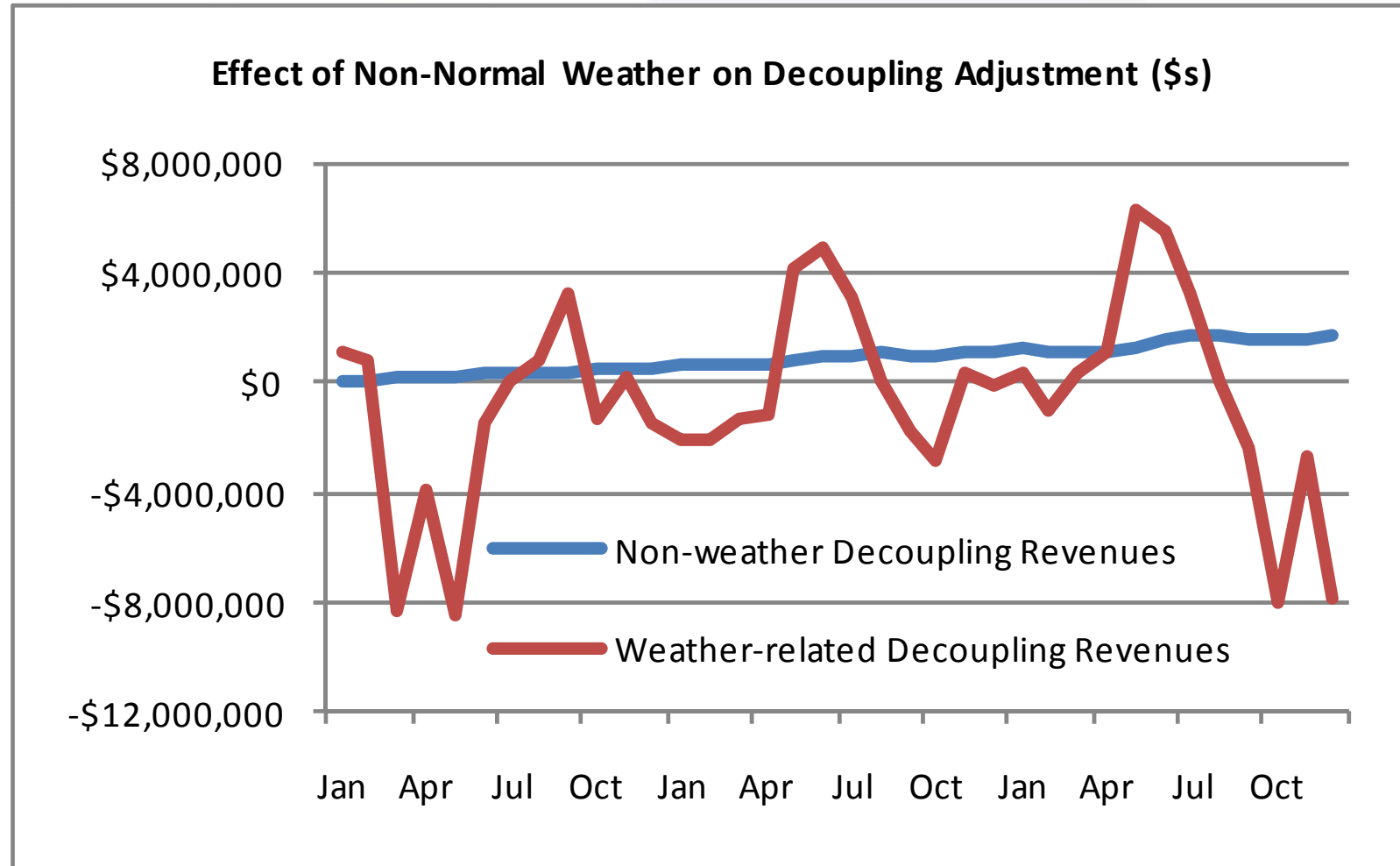
Non-Seasonal Inclining Block Rate Design				
Price Type	Total Revenue	Total Billing Determinants	Rate	
Customer Charge	\$ 19,484,784	4,871,196	\$ 4.00	
Block 1 (First 200 kWh)	\$ 47,640,783	898,696,181	\$ 0.0530110	
Block 2 (Next 500 kWh)	\$ 109,014,161	1,395,256,018	\$ 0.0781320	
Block 3 (Greater than 700 kWh)	\$ 63,067,176	709,610,240	\$ 0.0888758	
Demand	\$ -	-	\$ -	
Non-Seasonal Flat Rate				
Price Type	Total Revenue	Total Billing Determinants	Rate	Average Usage Per Customer
Customer Charge	\$ 19,484,784	4,871,196	\$ 4.00	
Energy Charge	\$ 219,722,120	3,003,562,439	\$ 0.0731538	617
Demand	\$ -	\$ -	\$ -	
Non-Seasonal Flat Rate				
Price Type	Total Revenue	Total Billing Determinants	Rate	
Customer Charge	\$ 239,206,904	4,871,196	\$ 49.11	
Energy Charge	\$ -	3,008,433,635	\$ -	
Demand	\$ -	\$ -	\$ -	



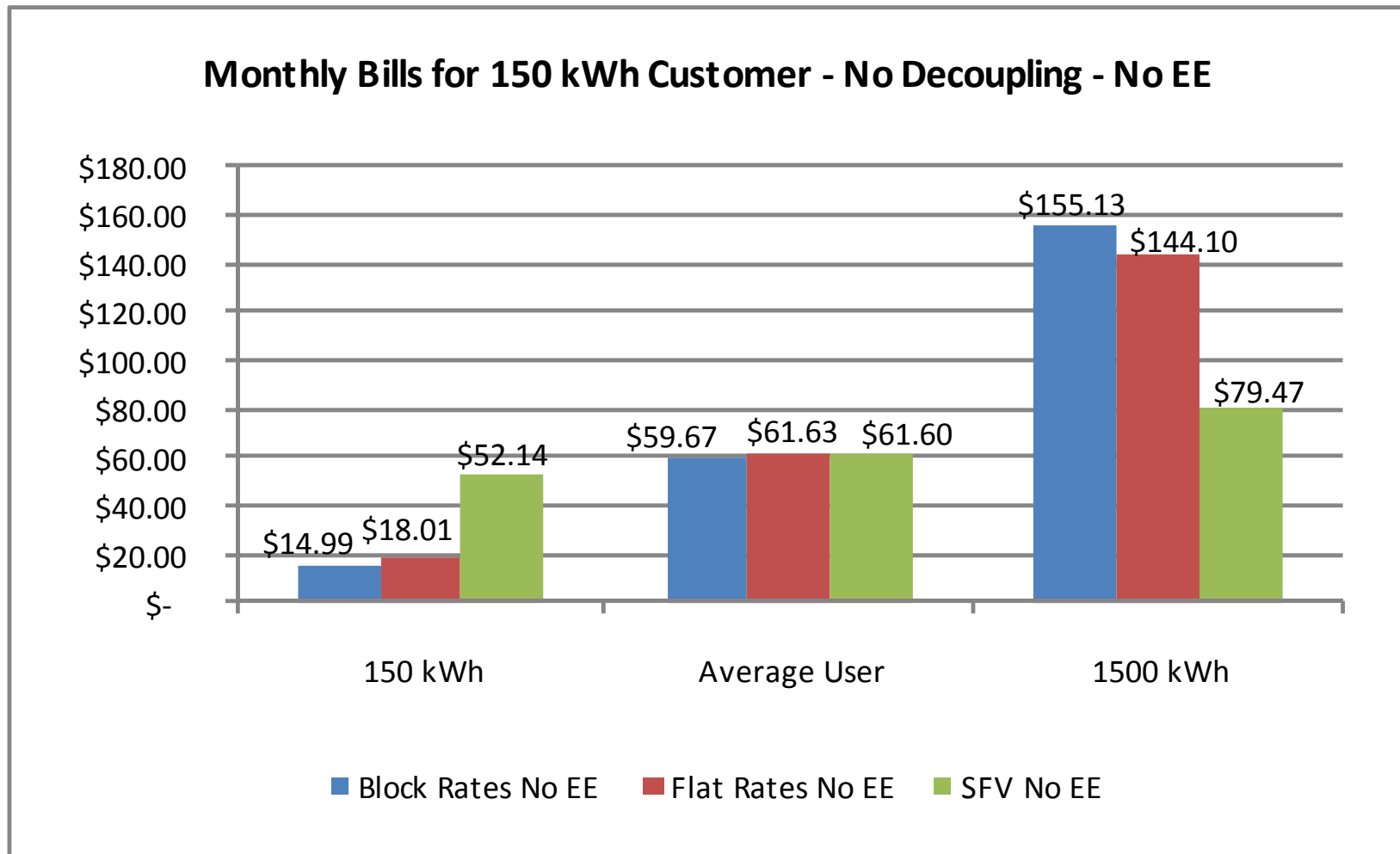
Scenario:
Aggressive EE
Offsetting All Energy Growth

Scenario Inputs	
Customer Growth Rate	3.00%
Percent of Growth Offset by Demand-side Reduction	
Block 1	100.00%
Block 2	100.00%
Block 3	100.00%

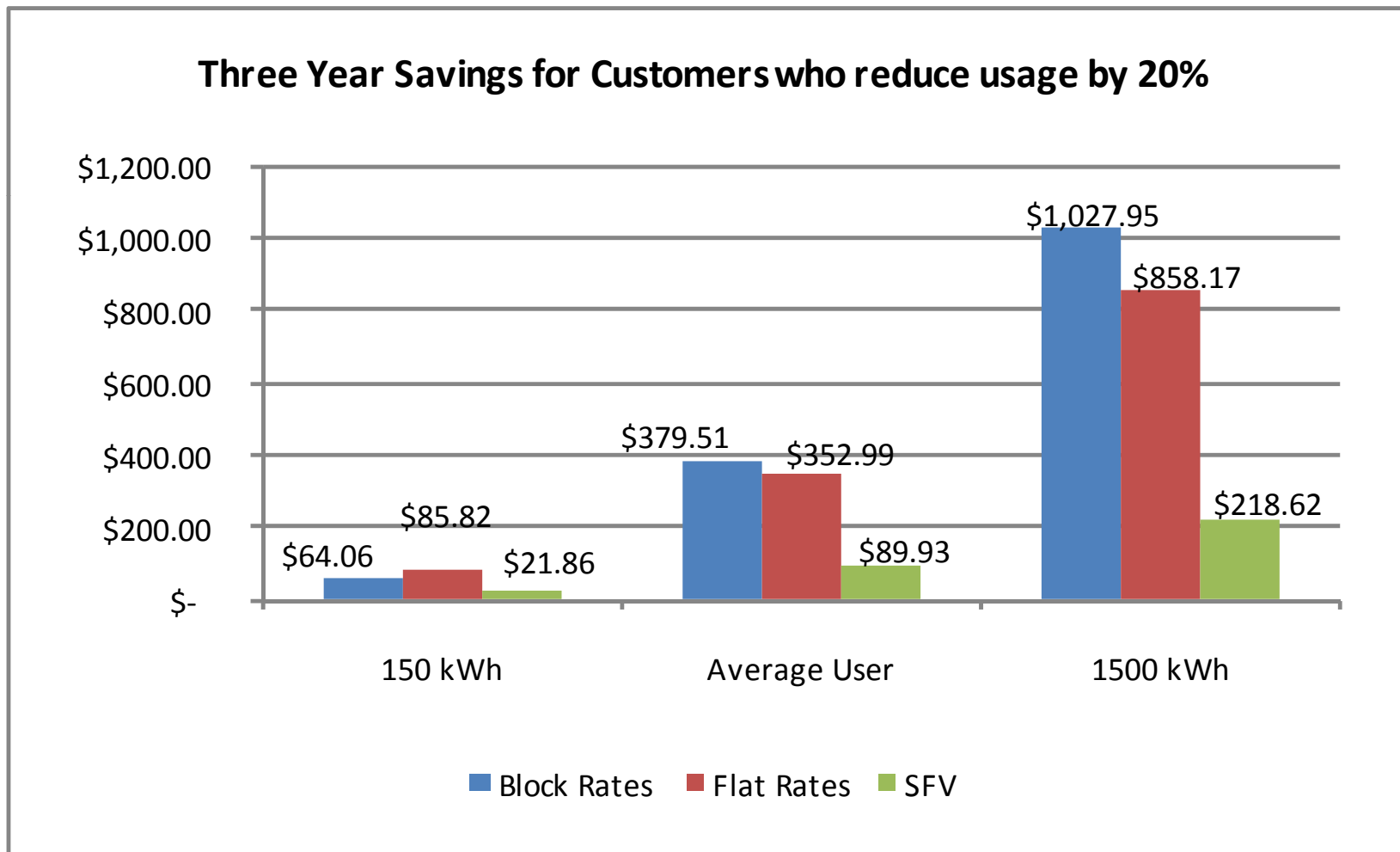
Revenues Lost to Demand-side Reductions



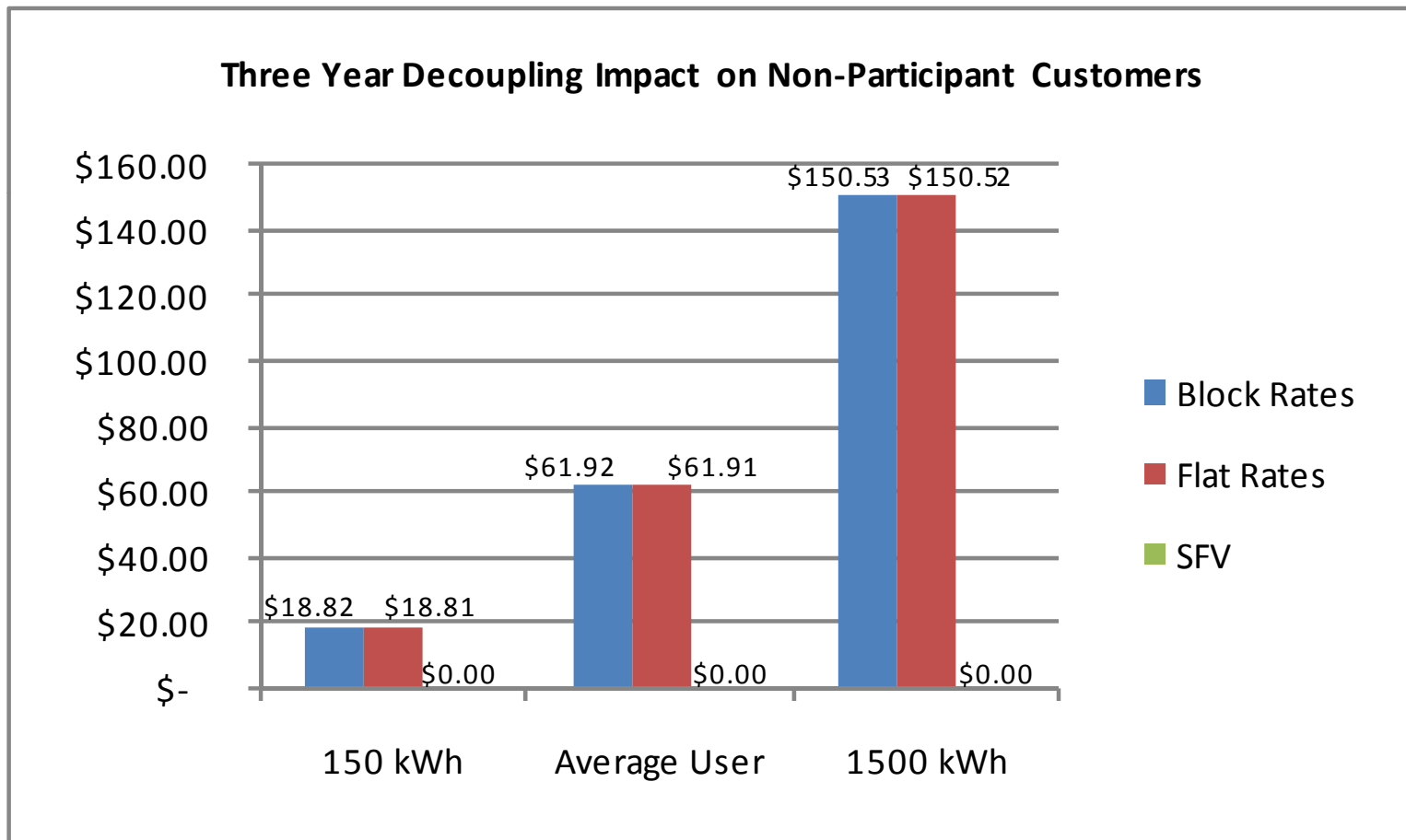
Bills for Different Users With Different Rate Designs



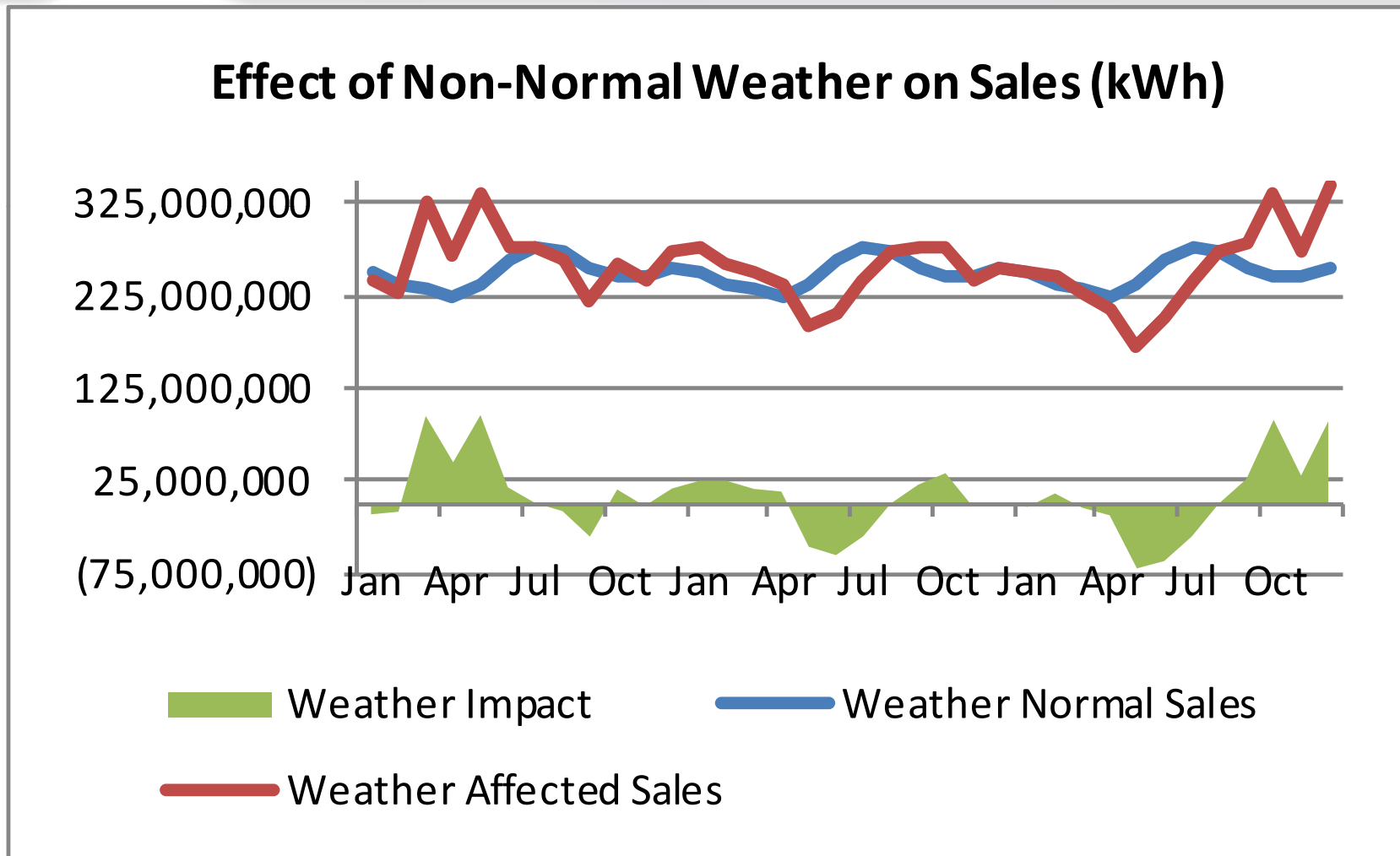
Savings for Customers Who Reduce Usage by 20%



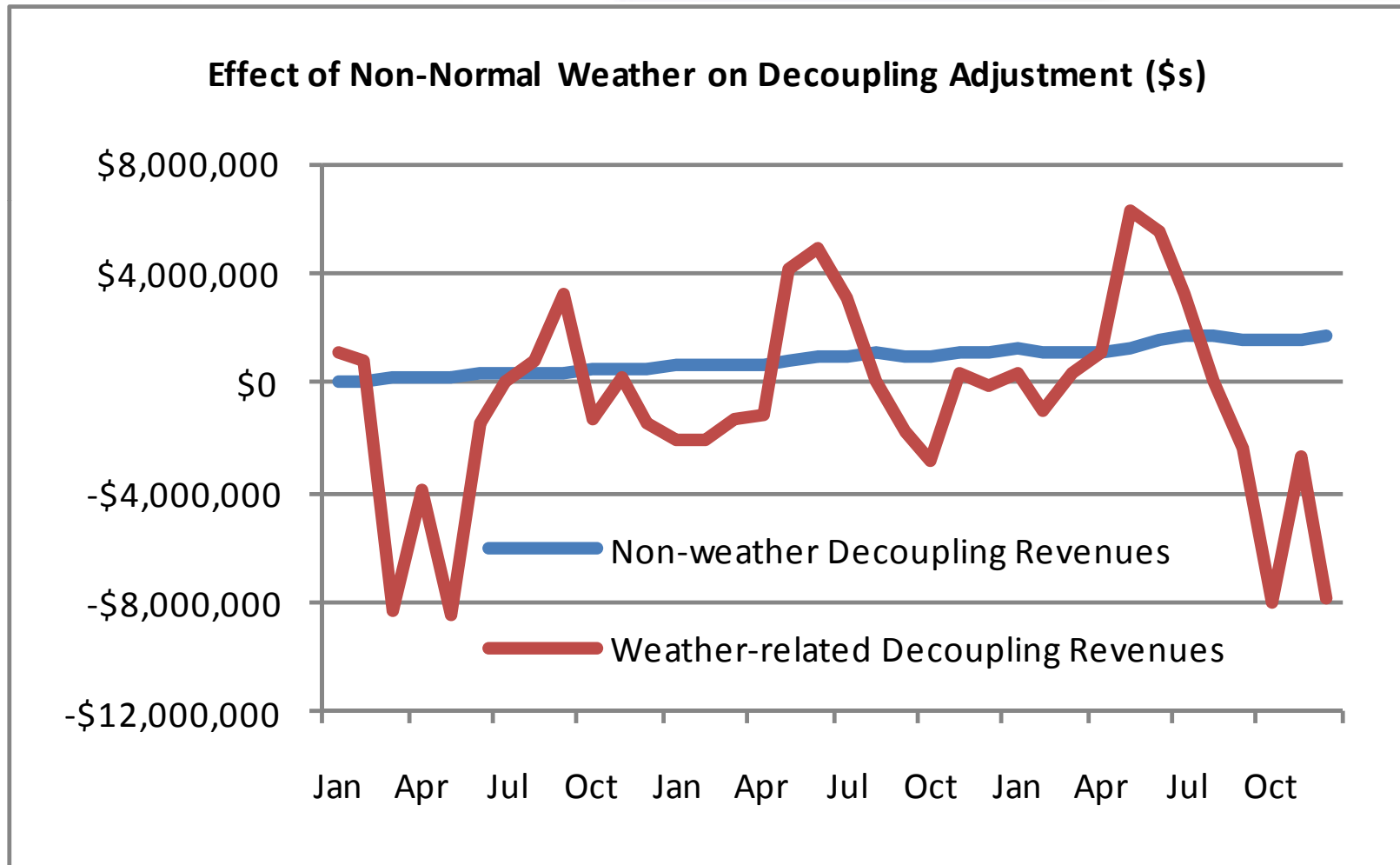
Three Year Impact on Customers Who Do Not Reduce Usage



Weather : A Volatile Sales Variable...



...and Revenue Variable





Thanks for you Attention

- Questions?
- Contact: wshirley@raponline.org
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