



# The Price is Right: The Minimum Incentive Level Commercial Customers Need to Participate in Demand Response

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2015 IEPEC Conference — Long Beach, California

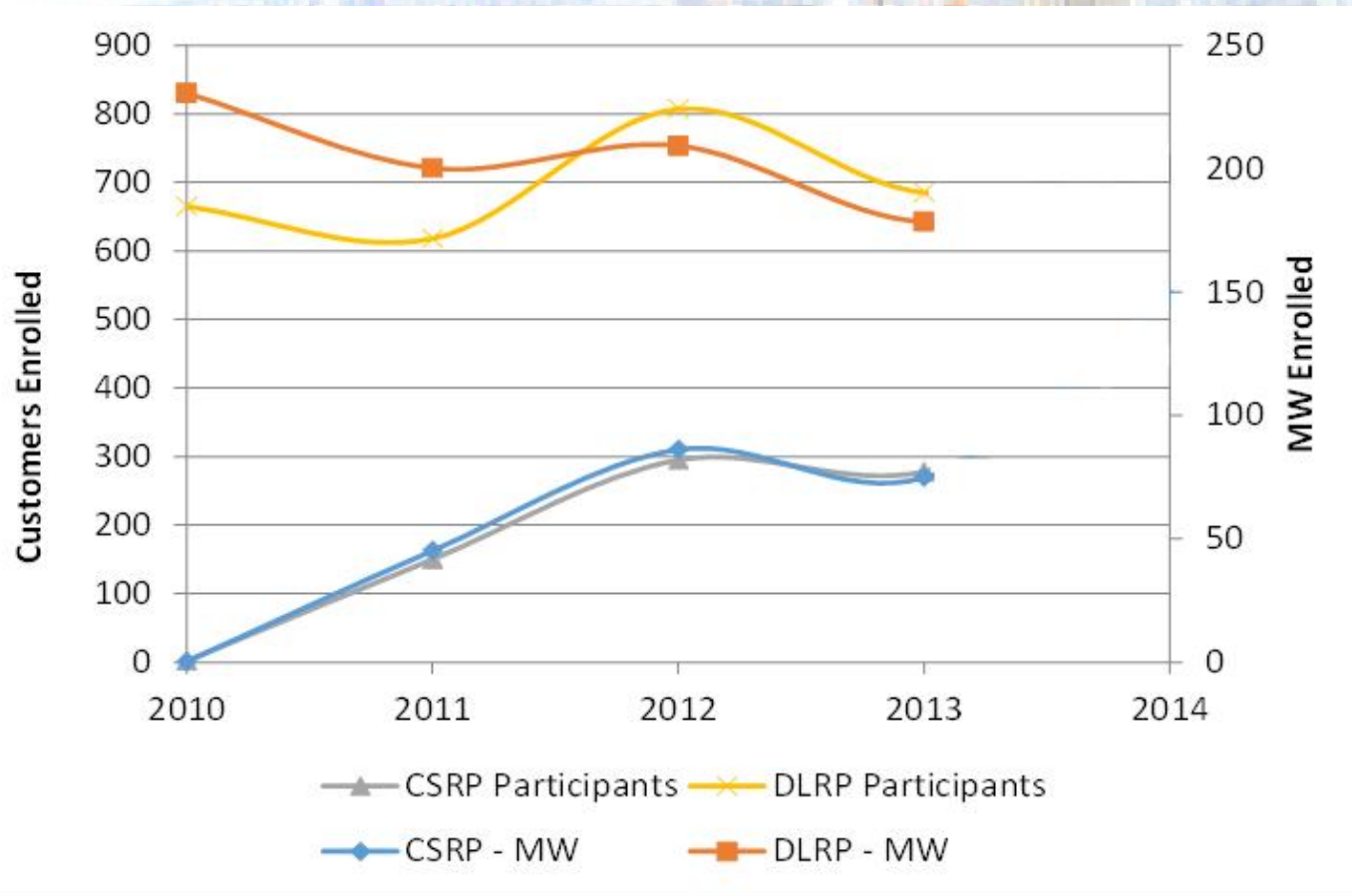


## ■ Commercial System Relief Program

- Peak shaving program
- Events lasting 4 hours with 21 hour notification

## ■ Distribution Load Relief Program

- Contingency program
- Events lasting at least 4 hours with 2 hour notification



- In 2013, ConEdison requested programmatic changes to animate the market for DR
- New York PSC approved changes but required additional research be conducted, including a Willingness-to-Accept (WTA) study





## What is a WTA study?

- Survey-based methodology used in economics to estimate the market value of environmental amenities
- Determines the compensation required in exchange for the loss of an environmental amenity
- In the context of DR, determines the compensation required in exchange for participation in a DR program





## Study Objectives

- Elicit minimum incentive commercial and multifamily customers require to participate in DR
- Assess the degree to which program attributes influence WTA



An aerial photograph of a dense urban skyline, likely New York City, featuring numerous skyscrapers and buildings. A large white rectangular text box is superimposed on the left side of the image, containing the text for the DR Program Description and Incentive Selection sections. The number '6' is visible at the bottom center of the image.

## DR Program Description

Consider that the DR program will involve a maximum of 5 events per summer, with each event lasting *[DURATION]* hours. Customers will be given *[NOTIFICATION]* hours of notification in advance of the event. *[There is a penalty for not reducing energy during events which may reduce your incentive payment.]*

## Incentive Selection

Assuming you are willing to pledge *[KILOWATTS]* kilowatts, please select the minimum monthly incentive (\$ per kilowatt per month) that you anticipate you would need to participate in the program.

Consider that the DR program will involve a maximum of 5 events per summer, with each event lasting *[DURATION]* hours. Customers will be given *[NOTIFICATION]* hours of notification in advance of the event. *[There is a penalty for not reducing energy during events which may reduce your incentive payment.]*

	Participant	Non-Participant
DR Program 1	Current Program	Randomly assigned
DR Program 2	Change in <b>event duration</b> relative to DR Program 1	
DR Program 3	Change in <b>notification period</b> relative to DR Program 1	



An aerial photograph of a dense urban skyline, likely New York City, with numerous skyscrapers and buildings. A white rectangular text box is positioned in the upper left quadrant of the image.

Assuming you are willing to pledge *[KILOWATTS]*,...

- Participants

- ☐ Current pledge amount at a specific facility
- ☐ Equipment and processes available

- Non-Participants

- ☐ Historical participation in DR
- ☐ Based on minimum or average kW pledged within same business segment
- ☐ If unable or unwilling to pledge, not asked WTA questions



..., please select the minimum monthly incentive (\$ per kilowatt per month) that you anticipate you would need to participate in the program.

\$3	This would mean that by the end of summer your monthly incentives would total between \$X and \$Y, depending on the number of events called.
\$5	
\$10	
\$15	
\$20	
\$25	
\$30	
\$50	
More than \$50	



	Commercial	Multi-family	Total
Participant	33	N/A	<b>33</b>
Non-Participant	37	45	<b>82</b>
Total	70	45	<b>115</b>



WTA for a DR program with a non-performance penalty for varying notification periods and event durations based on average building size.

21 Hr Notification  
2 Hr Event Duration

21N, 2D

\$9.18



Non-Participants

\$7.24



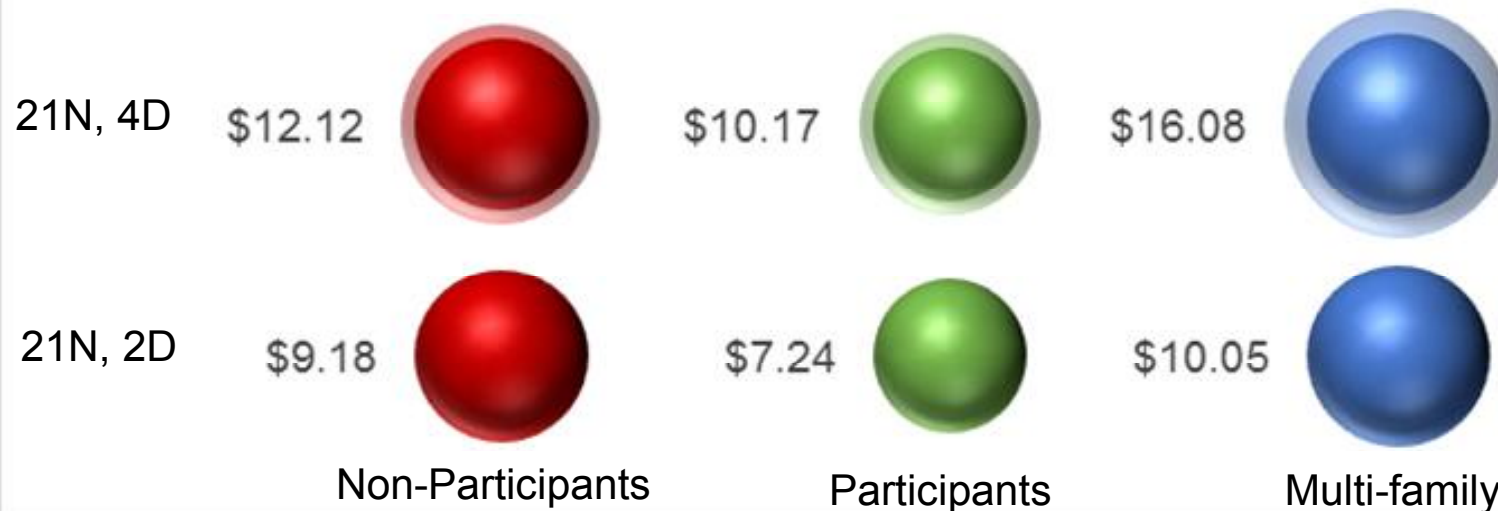
Participants

\$10.05



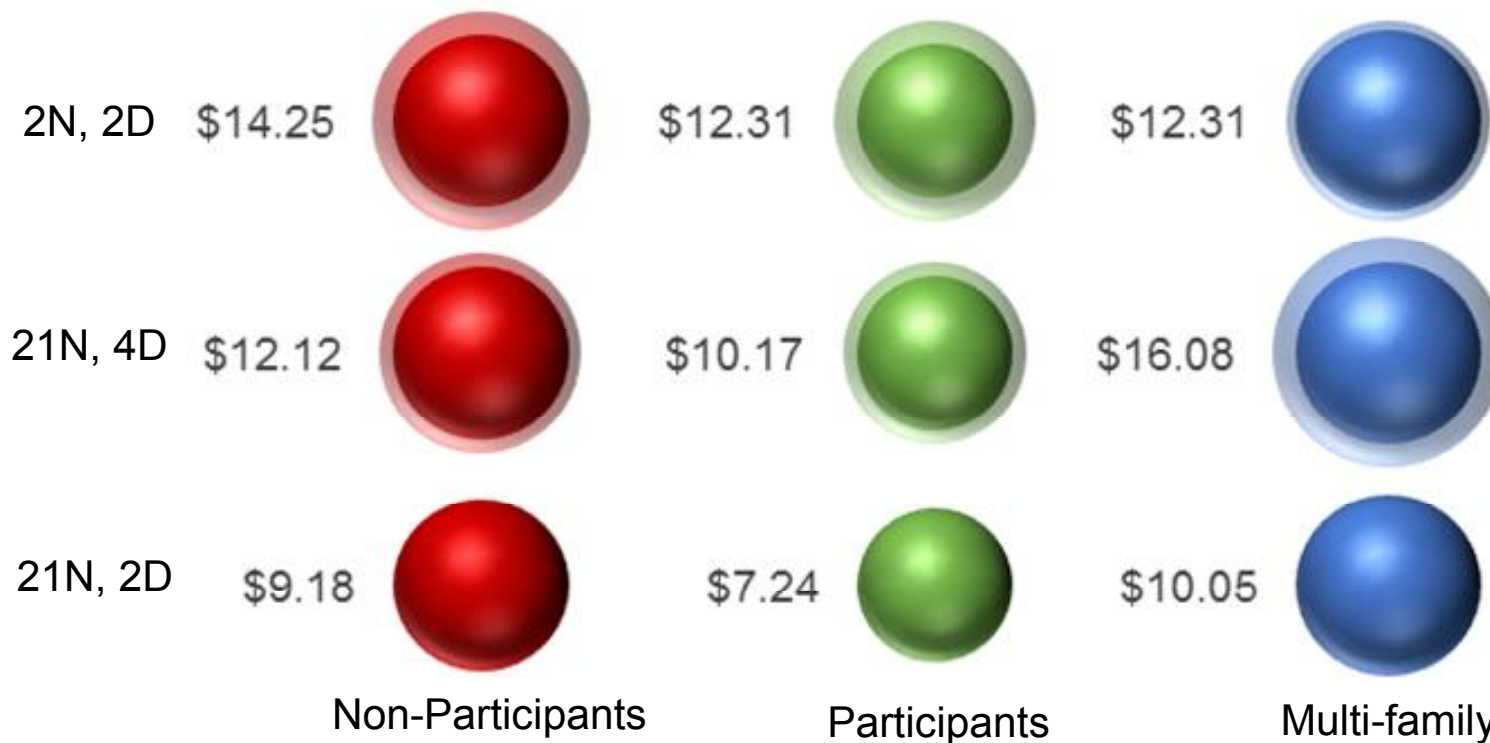
Multi-family

An increase in incentives was required for a DR program with a longer event duration, particularly for Multi-family.

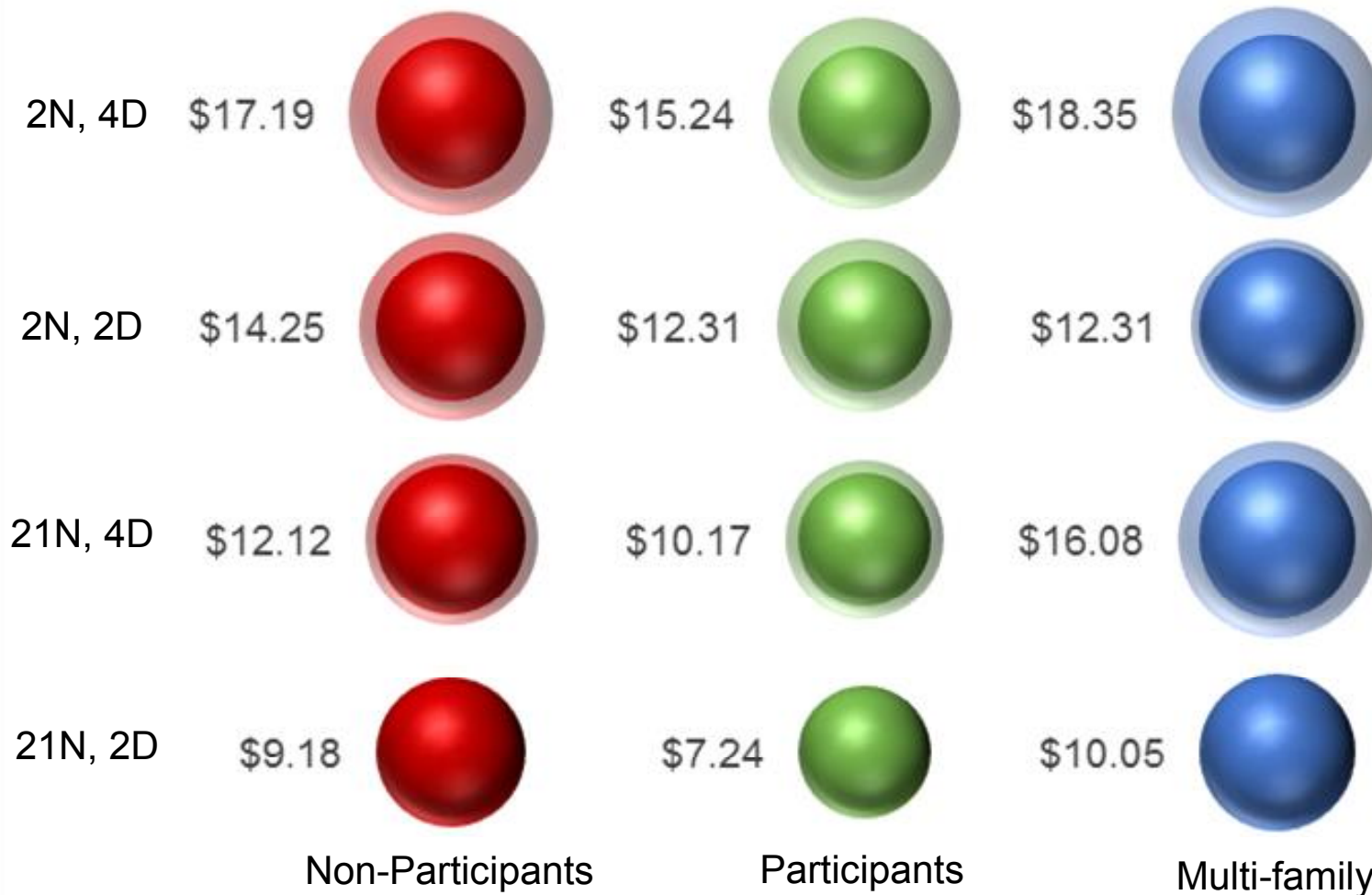




An increase in incentives was required for a DR program with a shorter notification period, particularly for Commercial.



The largest incentives were required for a DR program with both a shorter notification period and a longer event duration.







Thank You

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