

RESIDENTIAL DEMAND CHARGES

July 24-25, 2017

**Courtyard by Marriott Charleston Historic District Hotel
Charleston, SC**

POST-CONFERENCE WORKSHOP

**The Other Side of Residential
Revenue Recovery: The
Avoided Cost Controversy**

TUESDAY, JULY 25, 2017



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the workshop

OVERVIEW

Today, most American households pay for electric service via a two-part electric rate. There are some variations on this two-part model — including energy rates that vary based on time of day or total monthly consumption. But, the basic structure of residential rates hasn't changed much over a long period of time. In the past few years to address the changing dynamics of the electric utility industry, an increasing number of utilities have proposed departures to this model, a prominent one of which is the implementation of demand charges for residential customers. Demand charges bill customers based on the maximum level of energy usage at one time during the billing cycle.

The interest among utilities to consider demand charge rate structures as an alternative to imposing fixed residential charges has been stimulated by a couple of drivers:

1. They help utilities protect revenue, by providing utilities with a way to make sure that customers pay their fair share for the burden they place on the electric grid
2. They respond to a new reality where distributed solar, smart meters and efficiency measures extend more control over energy use to their customers

This conference will bring together thought-leaders among utilities, industry experts and solution providers who will take a deep dive into the issues, pain points and resolutions around residential demand charges. It will also provide important baseline information for utility staff to develop their own approach to evaluating whether this rate design option makes sense in their regulatory framework and service territory. Attendees will take away valuable knowledge about this innovative rate design option for their company and have the opportunity for quality networking with industry peers.

LEARNING OUTCOMES

- Summarize the industry experience with residential demand charges
- Discuss the rate design challenges of accommodating distributed energy
- Discuss issues that utilities can expect to encounter with residential demand charges
- Explain how three-part rates will encourage better use of grid capacity
- Evaluate the impact of electric vehicles and distributed energy resources on residential rate design
- Explore the relationship between demand rates and net energy metering (NEM)
- Examine the impact that imposing a residential demand charge has on various stakeholders
- Interpret and share details where utilities have successfully engaged consumers
- Discuss the potential unintended consequences of demand charges
- Evaluate different utilities' offering of a demand rate to their residential customer base

WHO SHOULD ATTEND

Professionals working in the following areas will benefit from attending this event:

- Rate design, product development and customer strategy
- Pricing and load research
- Cost of service
- Financial analysis
- Utility "customer-facing" executives
- Regulators and staff
- Legal counsel
- Regulatory affairs
- Ratepayer advocacy



“Excellent discussions and points of view that definitely open your eyes to the different demand rate structures and philosophies.”

Senior Market Analyst, ATCO

AGENDA

MONDAY, JULY 24, 2017

- 8:00 – 8:30 am** **Registration and Continental Breakfast**
- 8:30 – 8:45 am** **Introductions and Overview**
- 8:45 – 9:00 am** **Welcome Address from South Carolina Electric & Gas (SCE&G)**
On behalf of SCE&G, a company that provides electric and/or natural gas service to homes and businesses across South Carolina, VP of Customer Relations/Renewables Danny Kassis will welcome his power industry colleagues to **“the #1 city to visit in the world”** (Travel + Leisure 2016).
Danny Kassis, VP Customer Relations/Renewables, South Carolina Electric & Gas
- 9:00 – 9:45 am** **Keynote Address: The Future of Rate Design for Residential Customers**
In this keynote address, renowned energy economist Ahmad Faruqi will share his front line experiences and discuss the reasons why many utilities are opting to make three-part rates the standard offering for all residential customers. The presentation will examine how moving to three-part rates can encourage better use of grid capacity, minimize cross-subsidies between customers, and foster adoption of advanced technologies.
Ahmad Faruqi, Principal, the Brattle Group
- 9:45 – 10:30 am** **Residential Demand Charge Proposals across the U.S.**
Residential demand charges - especially for net metering customers - are receiving more and more attention from utilities and regulators. This session will discuss where residential demand charges have been proposed recently, the different designs being considered, and the outcomes of these proposals.
Autumn Proudlove, Senior Policy Analyst, NC Clean Energy Technology Center
- 10:30 – 10:45 am** **Morning Break**
- 10:45 – 11:30 am** **Accommodating Distributed Energy: Rate Design Challenges and Options**
Early efforts to spur the development of distributed energy resources through generous net metering tariffs and targeted resource programs strongly supported rapid development of distributed energy resources. Yet as programs have grown, so have the challenges associated with the distributional effects of these early rate designs. This session will discuss the nature of these rate design challenges as well as options being offered and explored to continue the successes through fair and appropriate rate design mechanisms.
Paul Hibbard, Vice President, Analysis Group (Former Chair, Massachusetts Dept. Public Utilities)
- 11:30 am – 12:15 pm** **The Impact of EV's and DER's on Residential Tariff Structures**
In recent years, utility and regulator interest in demand charges for residential customers has steadily increased. The recent accelerated adoption of electric vehicles and distributed solar is accelerating this discussion and raising questions around PV and electric vehicle specific residential tariff structures. Reasons behind this interest typically center on the potential for a demand charge rate to prove more effective than existing rates at achieving specific objectives, such as peak load management or improved cost recovery. As policymakers consider exploration and implementation of these rates they are compelled to ask: are residential demand charges the right tool for achieving policy goals in a given situation? Rocky Mountain Institute (RMI) has examined residential demand charges, and EV specific rate design, through this lens to evaluate what is shown by the industry's experience to date. In this session, Garrett Fitzgerald of RMI will present key findings from that research and discuss considerations for future efforts on residential demand charges with a focus on Electric Vehicle and other DERs.
Garrett Fitzgerald, Senior Associate – Electricity Practice, Rocky Mountain Institute

AGENDA

MONDAY, JULY 24, 2017 (CONTIUED)

12:15 – 1:15 pm

Group Luncheon

1:15 – 2:00 pm

The Empowered Consumer

Now several years after the American Recovery and Reinvestment Act provided grant funding for the smart grid, many benefits of these investments are being realized by consumers. What cool things has the smart grid enabled? Are residential consumers interested in demand response, time varying rate plans and smart thermostats – what erodes support vs. increases support? The Empowered Consumer examines how investments in grid modernization and smart grid technologies are empowering consumers to break the mold of passive consumption and become dynamic users, and looking ahead, this research also sheds light on consumer interest in “the next big things” in smart grid technologies. SGCC President Patty Durand will share research findings with the audience, sharing details on areas where utilities and their partners have successfully engaged consumers as well as what’s at hand in terms of new consumer technology.

Patty Durand, President & CEO, Smart Grid Consumer Collaborative (SGCC)

Utility Viewpoints

2:00 – 2:45 pm

Residential Demand Rates – It’s Time

In the changing utility world dealing with various net metering laws and 21st Century uncertain consumption patterns, one of the prominent solutions that keeps rising to the top is the implementation of residential demand rates. Never before has it been so important to align residential demand rates with generation power demand costs to ensure each customer is paying their fair share. In this presentation Richard Fowler, CEO of Howard Electric Cooperative, will answer 13 intriguing questions that deserve exploring before introducing residential demand rates at your utility.

Richard Fowler, Manager/CEO, Howard Electric Cooperative

2:45 – 3:15 pm

Networking Break

3:15 – 4:00 pm

Ratemaking Challenges and Solutions with Renewable Energy

Retail electricity rates are designed to achieve various goals, chief among them the recovery of a utility’s allowed revenues. The specific rate design, whether it contains rates that vary by time of day or with the quantity consumed, can lead to both intended and unintended consequences. For example, rate designs that increase the incentive to install solar power or to increase energy efficiency may endanger utility fixed cost recovery and lead to customer cross-subsidies. This session will discuss innovative rate designs including residential demand charges [proposed/ implemented] by Alabama Power that attempt to resolve some of the problems associated with more traditional rates. Examples will include rates already in place, as well as rates that have yet to be implemented but show some promise for future research.

Eddie Easterling, Regulatory Pricing Services Manager, Alabama Power Company

4:00 – 4:45 pm

Equitable Rates?

“How do you fairly provide a reliable, economic, centralized power system, run by a financially healthy utility serving a shrinking kilowatt-hour per customer base?” Paul Mauldin - SmartEnergy Portal.net. This session will focus on defining the issues faced by utilities; how these issues will ultimately be paid by customers; and, explore the issues surrounding an equitable rate structure.

Jim Windsor, Assistant Director, Columbia Utilities

AGENDA

TUESDAY, JULY 25, 2017

7:45 – 8:15 am **Continental Breakfast**

Utility Viewpoints Continued

8:15 – 9:00 am

APS Rate Settlement

There have been many years of fierce policy debates about rate design between Arizona Public Service (APS) and solar advocates. For over 30 years, Residential time-of-use (TOU) demand rates have been an effective tool in encouraging APS customers to reduce their peak demand during the on-peak period. In the recent rate case before the Arizona Commission, APS had requested to implement mandatory demand rates for all residential and small commercial customers. The settlement plan moves all customers toward more advanced rates by: 1) eliminating inclining block structures; 2) phasing out basic rates for larger residential customers; and 3) requiring all new distributed solar customers to subscribe to a demand-based rate or an energy based TOU rate with a grid access charge. In addition, distributed solar energy exported to the grid will be compensated at a Resource Comparison Proxy price without net metering. The settlement also proposes a residential technology pilot rate. In this session, Leland Snook with APS will provide an overview and update on the settlement.

Leland R. Snook, Director Rates & Rate Strategy, Arizona Public Service (APS)

9:00 – 9:45 am

A Growing Trend amongst Utility Cooperatives

Electric cooperatives are increasingly implementing innovative rate strategies to integrate new technologies, provide flexibility to consumers, and more accurately and equitably recover costs in the way they are incurred. Demand charges for residential consumers are a growing trend amongst cooperatives. This session will discuss why electric cooperatives are moving towards demand charges in certain areas, and describe the different design strategies.

Jan Ahlen, Senior Regulatory Affairs Specialist, National Rural Electric Cooperative Association

9:45 – 10:00 am

Morning Break

10:00 – 10:45 am

Residential Demand Charges vs. Time of Use

This presentation will discuss the effectiveness of time-varying energy rates and residential demand charges in meeting public policy goals, including energy efficiency incentives and utility cost recovery concerns. For example, the costs that might be recovered through traditional flat or blocked energy charges can be recovered through the addition of a demand charge, via enhanced time-varying energy rates with a higher kWh charges during the peak demand period, or by combining a time-varying energy charges with a demand charge. This presentation will discuss the pros and cons of using time-varying rates and demand charges and will highlight best practices for implementing these alternative rates.

Michael T. O'Sheasy, Vice President, Christensen Associates Energy Consulting

10:45 – 12:00 pm

Residential Demand Charges Panel Discussion

This group of industry experts will bring to bear their years of experience to weigh the opportunities and constraints associated with pursuing the concept of a residential demand charge. Why should utilities pursue residential demand charges or choose not to go in that direction?

Moderator: Ahmad Faruqui, Principal, the Brattle Group

Panelists:

Paul Hibbard, Vice President, Analysis Group (Former Chair, Massachusetts Dept. Public Utilities)

Leland R. Snook, Director Rates & Rate Strategy, Arizona Public Service (APS)

Peter Stein, Attorney, Southern Environmental Law Center

Patty Durand, President & CEO, Smart Grid Consumer Collaborative (SGCC)

Jim Windsor, Assistant Director, Columbia Utilities

Rick Gilliam, Program Director, DG Regulatory Policy, Vote Solar

12:00 pm

Conference Adjourns

POST-CONFERENCE WORKSHOP

The Other Side of Residential Revenue Recovery: The Avoided Cost Controversy

TUESDAY, JULY 25, 2017

12:30 – 1:00 pm **Workshop Registration**

1:00 – 4:30 pm **Workshop Timing**

OVERVIEW

One side of the challenge that distributed energy generation (DEG) poses for utilities is recovery of distribution fixed costs. Residential demand charges offer an approach to that challenge. The other side of the DEG challenge is determining how to compensate the DEG facility for the energy that it generates. Under net energy metering, the utility implicitly pays the full retail rate for this energy, at least down to zero net consumption. What should the utility pay for DEG? "Avoided cost" is the usual reply. However, estimates of avoided cost range from a low defined by wholesale energy prices alone to a high that encompasses a broad range of possible cost impacts. This workshop will brief attendees on DEG pricing alternatives and then focus on the schools of thought that produce these highly disparate estimates of what a DEG provider should be paid.

LEARNING OUTCOMES

- Discuss the incentives aspects of alternative DEG pricing approaches
- Explain avoided cost and its components
- Evaluate the interpretations of these components
- Discuss why avoided cost practitioners are far apart in their views



"This was one of the most engaging conferences I've attended in a while. From the diverse opinions and fact based results, lessons learned and real experiences, and audience participation and collaboration, I received a lot of take backs to my organization."

Director Financial Planning, Fayetteville Public Works Commission



"I benefited from the diverse group of presenters and audience that produced thoughtful discussions."

Specialist, Pricing IV, Tennessee Valley Authority

WORKSHOP AGENDA

- I. The DEG pricing debate's two issues: fixed cost recovery and DEG pricing
- II. Fixed cost recovery alternatives
- III. DEG pricing and avoided cost
- IV. Costs that DEG might avoid
- V. Differing interpretations of avoided cost and resulting pricing schemes
 - a. The Value of Resources approach
 - b. The "tangible impacts" approach
- VI. Pitfalls in renewables contracting/pricing
- VII. Summary

WORKSHOP INSTRUCTOR



Bruce Chapman
Christensen Associates

Bruce R. Chapman is a Vice President at Christensen Associates Energy Consulting. He specializes in the design and pricing of retail electricity pricing products that improve the efficiency of pricing relative to traditional rates, and in costing methods that underpin these prices. He has managed and participated in projects that have developed such innovative products as critical-peak pricing, real-time pricing, and fixed billing. He has also reviewed and recommended modifications to distributed generation and standby rate designs. Mr. Chapman regularly presents costing and pricing principles to industry stakeholders.



"A great conference to learn the latest regarding rate design the issues surrounding it."

Pricing Analyst II, Tucson Electric Power



INSTRUCTIONAL METHODS

Case Studies, Panel Discussions and PowerPoint presentations will be used in the program.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for a minimum of four hours to be eligible for any continuing education credit.

IACET CREDITS



EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

EUCI is authorized by IACET to offer 0.9 CEUs for this conference and 0.4 CEUs for the workshop

EVENT LOCATION

A room block has been reserved at the Courtyard by Marriott Charleston Historic District Hotel, 125 Calhoun Street, Charleston, SC 29420, for the nights of July 23-25, 2017. Room rates are \$169 USD, plus applicable tax. Call **843-805-7900** for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is June 23, 2017 but as there are a limited number of rooms available at this rate, the room block may close sooner. ***Please make your reservations early.***

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this conference may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.

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PLEASE REGISTER

- RESIDENTIAL DEMAND CHARGES CONFERENCE AND WORKSHOP:** JULY 24-25, 2017: US \$1795
Early bird on or before July 7, 2017: US \$1595
- RESIDENTIAL DEMAND CHARGES CONFERENCE ONLY**
JULY 24-25, 2017: US \$1395
Early bird on or before July 7, 2017: US \$1195
- POST CONFERENCE WORKSHOP ONLY**
JULY 25, 2017: US \$595
Early bird on or before July 7, 2017: US \$495
- I'M SORRY I CANNOT ATTEND, BUT PLEASE EMAIL ME A LINK TO THE CONFERENCE PROCEEDINGS FOR US \$395**



How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

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OR Enclosed is a check for \$ _____ to cover _____ registrations.

Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before June 23, 2017 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at (201) 871-0474.