

# Distribution Reliability Charge

## Transitioning to Sustainable Rate Design

November 9, 2016



### Tensions in the Status Quo Due to Electricity Rate Design

Electricity bills for residential customers in many states often combine a low fixed monthly charge with flat rates for electricity consumed and delivered charged on a per-kilowatt hour basis. Traditionally, this structure has worked for utilities by providing a simple mechanism to recover enough revenue to build, maintain, and operate the grid. This rate structure also promotes investments in energy efficiency and protects low-income customers. More recently, retail rate net metering and credit rollover has become a simple and popular method for compensating customers with clean distributed generation.

This existing rate design for residential customers has many positive features, but is a blunt and inefficient instrument in many respects. Changes in electricity rate design can help address a number of different issues, but rate design reforms may be necessary to address two issues in particular: (1) inadequate incentives for customers to help manage the cost of infrastructure driven by local and regional peak electricity demand and (2) potential under-recovery of distribution system costs from customers with distributed generation who typically still use the grid for deliveries at many times during the month.<sup>1</sup> The latter challenge, which requires utility-by-utility analysis, will likely grow over time as more and more consumers invest in low-cost, clean distributed generation.

### Transitioning to Sustainable Rate Design

Acadia Center's [UtilityVision](#) outlines comprehensive long-term rate reforms to align the way consumers pay for delivered power and how consumers get credited for power and services that they provide to the grid. These reforms would improve incentives for energy efficiency and distributed generation, preserve equitable access to clean energy, maintain protection of low-income ratepayers, and reflect equitable recovery of costs for use of the distribution grid. However, implementation of these long-term reforms will require advanced metering, energy management technology that is affordable for small customers, and significant customer education efforts.

In the shorter term, simpler steps can be taken but they must be consistent with three principles:

- Monthly customer charges should be no higher than the cost of keeping a customer connected to the grid and related customer service;
- Other components of electricity rates can be reformed to align customer incentives with cost drivers and the value customers can provide to the electric system; and
- Ratepayers must be able to understand significant reforms and have a basis on which to respond and manage bills.

These short-term steps should include opt-in time-of-use rates to provide customers with better incentives to minimize new large scale infrastructure and Acadia Center's Next Generation Solar Framework recommends that net metering credit value for distributed generation should be based on the benefits these resources provide to the grid and the costs incurred. As another interim step on a path to sustainable rate structures, Acadia Center proposes the Distribution Reliability Charge to improve the recovery of distribution system costs from customers with distributed generation as an alternative to higher customer charges, and minimum bills.

---

<sup>1</sup> Concerns about cross-subsidies to DG customers must take into account the full range of costs and benefits.

## Distribution Reliability Charge

The Distribution Reliability Charge (DRC) is a revenue-neutral charge for all customers that reflects a customer's size and use of the distribution system. The DRC would account for distribution system costs that are not avoided by distributed energy resources, in a manner that applies to all customers and does not discriminate against customers with distributed generation. All changes should be accompanied by the appropriate regulatory-grade analysis, with processes for stakeholder review and feedback.

- The DRC uses existing metering and a newly defined billing determinant:
  - The billing determinant is a rolling average of net kWh consumption over the prior 12 months.
  - The floor for monthly kWh consumption is zero. Distributed generation customers cannot factor negative net consumption into the 12-month average.
- The DRC would not be included in the value of net metering credits.
- Impacts on all customers should be gradual and economically justified changes to energy supply rates and credits can offset any negative impacts to compensation to DG customers.

Customers without distributed generation would experience very little change under the DRC. However, a more significant change would occur for customers with distributed generation. The following chart shows how the input for each month for the DRC would be calculated for a customer with average consumption and a solar array that is sized to load.

Month	Consumption (kWh)	Generation (kWh)	Net Consumption (kWh)	Net Consumption Applying Floor at Zero (kWh)
April	505.28	712.09	-206.81	0
May	514.33	805.56	-291.23	0
June	601.04	789.65	-188.61	0
July	803.55	839.19	-35.64	0
August	747.28	760.49	-13.21	0
September	583.46	643.70	-60.23	0
October	519.23	564.12	-44.89	0
November	563.68	395.82	167.86	167.86
December	668.36	354.09	314.27	314.27
January	720.99	424.27	296.71	296.71
February	642.43	525.23	117.20	117.20
March	630.35	685.77	-55.42	0

The 12-month rolling average for the new billing determinant in the right hand column would be 75 kWh per month for this particular customer. If the distribution reliability charge was initially set at 1 cent, this would result in a new fee of 75 cents per month and net metering credit value would be reduced by about 1 cent per kWh.

## Frequently Asked Questions

### What are the policy goals of the Distribution Reliability Charges?

Innovations in electricity rates must satisfy principles for good rate design and be consistent with a range of policy goals. The Distribution Reliability Charge:

- Sets up sensible, gradual transitions for all customers to equitably pay for unavoidable distribution system costs.
- Provides improved revenue stability for the utility.
- Preserves energy efficiency incentives for all customers.
- Adjusts distribution portion of net metering credit value while still allowing consumers with DG to manage their bills.
- Is understandable to all customers and allows for bill management.
- Addresses cross-subsidy concerns with respect to distribution costs between DG and non-DG customers.
- Avoids shifting burden from high use customers to low use customers.
- Preserves right to privacy behind the meter.

### How does the Distribution Reliability Charge affect other rates?

The Distribution Reliability Charge is designed to be revenue neutral and would replace a portion of the ordinary per-kWh distribution charge or other rate components.

### What is the impact of the Distribution Reliability Charge on an average residential customer?

The impact on residential customers without distributed generation would be minimal. A portion of the bill would be calculated based on a rolling 12-month average of consumption instead of monthly consumption but, as a revenue neutral proposal, this new charge would be offset by a decrease in other rate components.

### How is the Distribution Reliability Charge different from higher customer charges?

Higher customer charges are an increase in the mandatory monthly payment for a customer to be connected to the grid. Raising customer charges shifts the burden of electricity rates from high usage customers to low usage customers, hurts the incentives for energy efficiency, and reduces customer control of energy bills. The Distribution Reliability Charge does not shift burdens to low usage customers and preserves energy efficiency incentives and customer control.

### How is the Distribution Reliability Charge different from a minimum bill?

Minimum bills prevent a customer from reducing their electricity bill below a set level in a given month, regardless of whether the cause is energy efficiency, distributed generation, or vacation. Such a structure does not reflect the costs imposed on the system by that particular customer in a way that can be managed. Similarly, if a minimum bill increases over time, low-usage customers will be disproportionately affected. The Distribution Reliability Charge does not risk burdening low usage customers and preserves customer control.

### For more information:

Mark LeBel, Staff Attorney, [mlebel@acadiacenter.org](mailto:mlebel@acadiacenter.org), 617.742.0054 ext.104

Abigail Anthony, Director, Grid Modernization Initiative, [aanthony@acadiacenter.org](mailto:aanthony@acadiacenter.org), 401-276-0600