



Synapse
Energy Economics, Inc.

Smart Non-Residential Rate Design Designing for the Future

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Melissa Whited

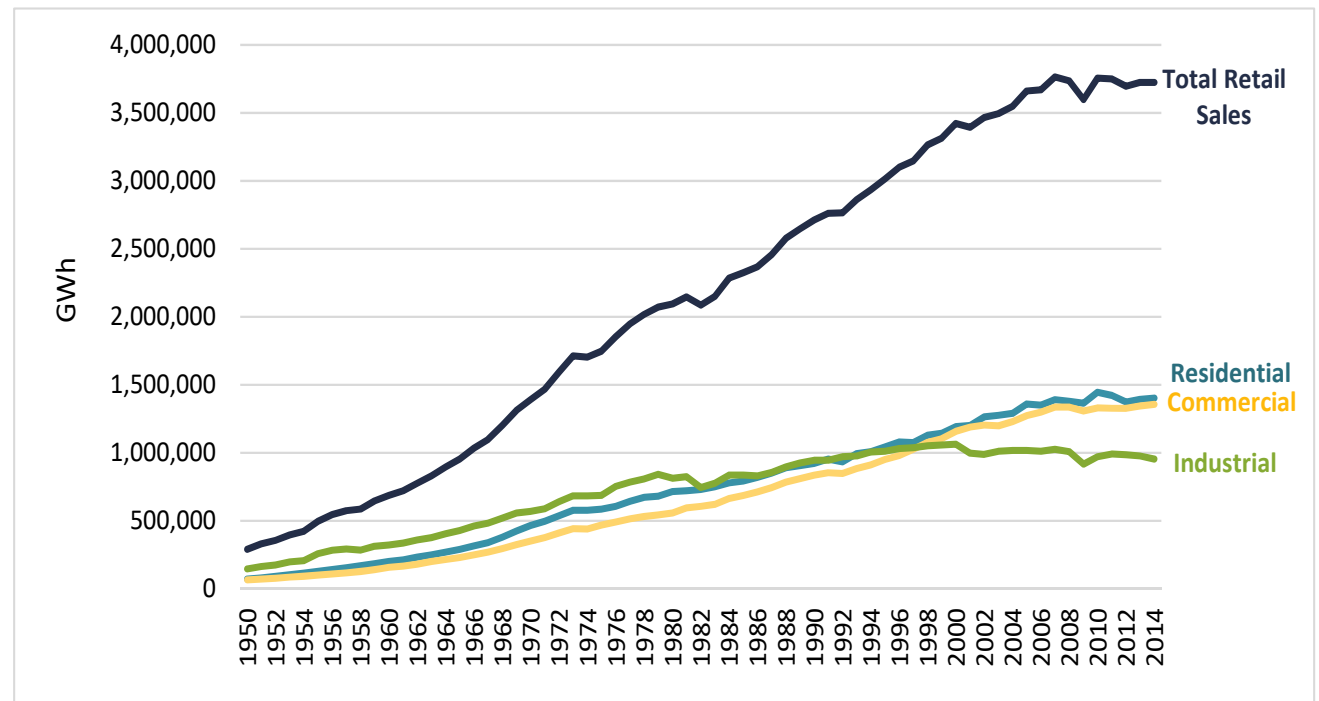
Synapse Energy Economics

Challenges

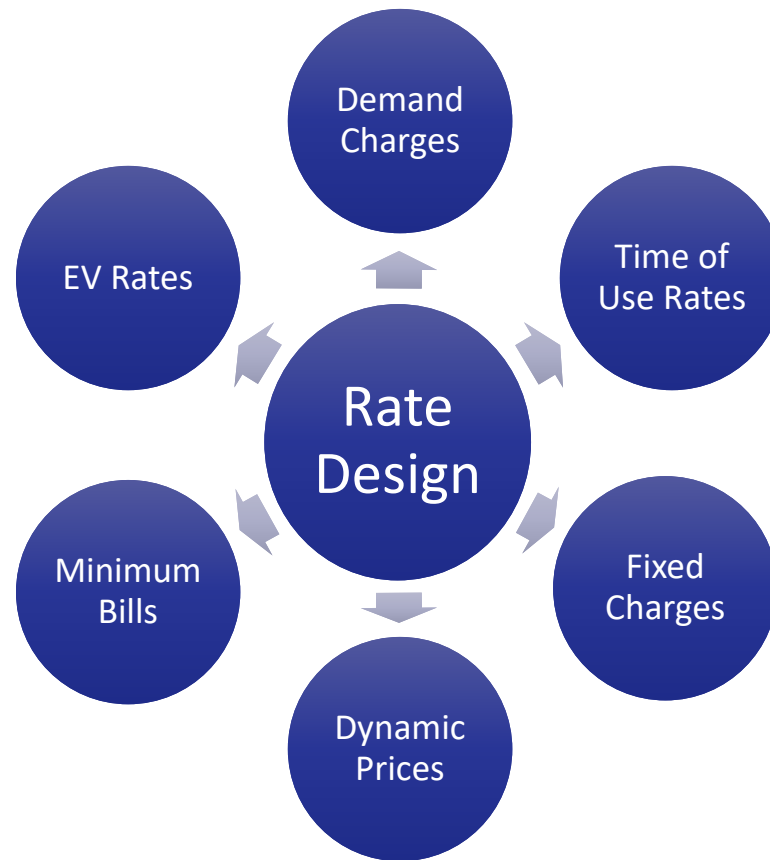
- Environmental goals
- Declining sales
- Integration of distributed generation
- Integration of EVs



Image: Glennia, Flickr

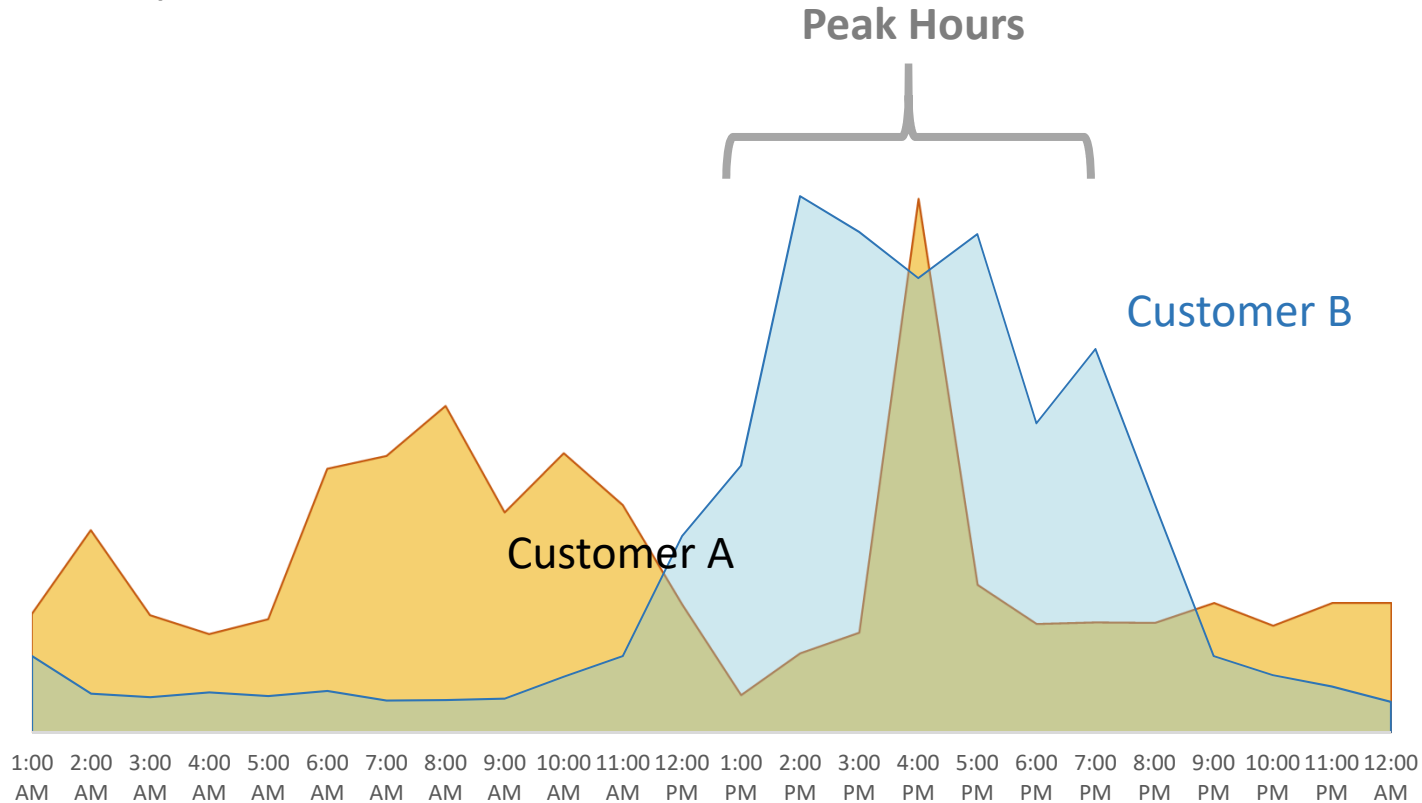


Options



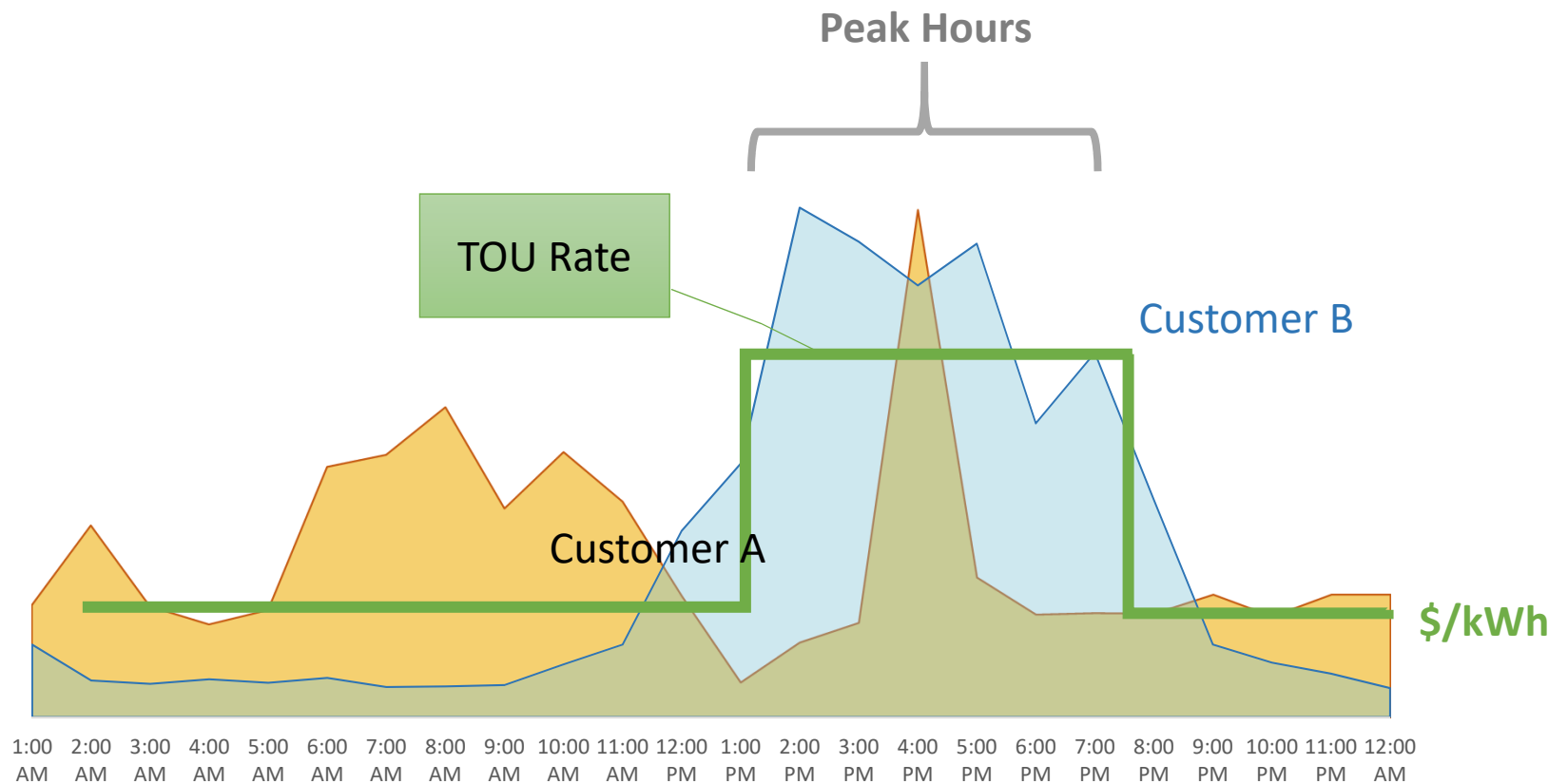
Demand Charges

- Customer A and Customer B pay the same bill under a demand charge
- Even with demand charges that apply only during peak hours, the signal is only concentrated in one hour.



Modifications to demand charges

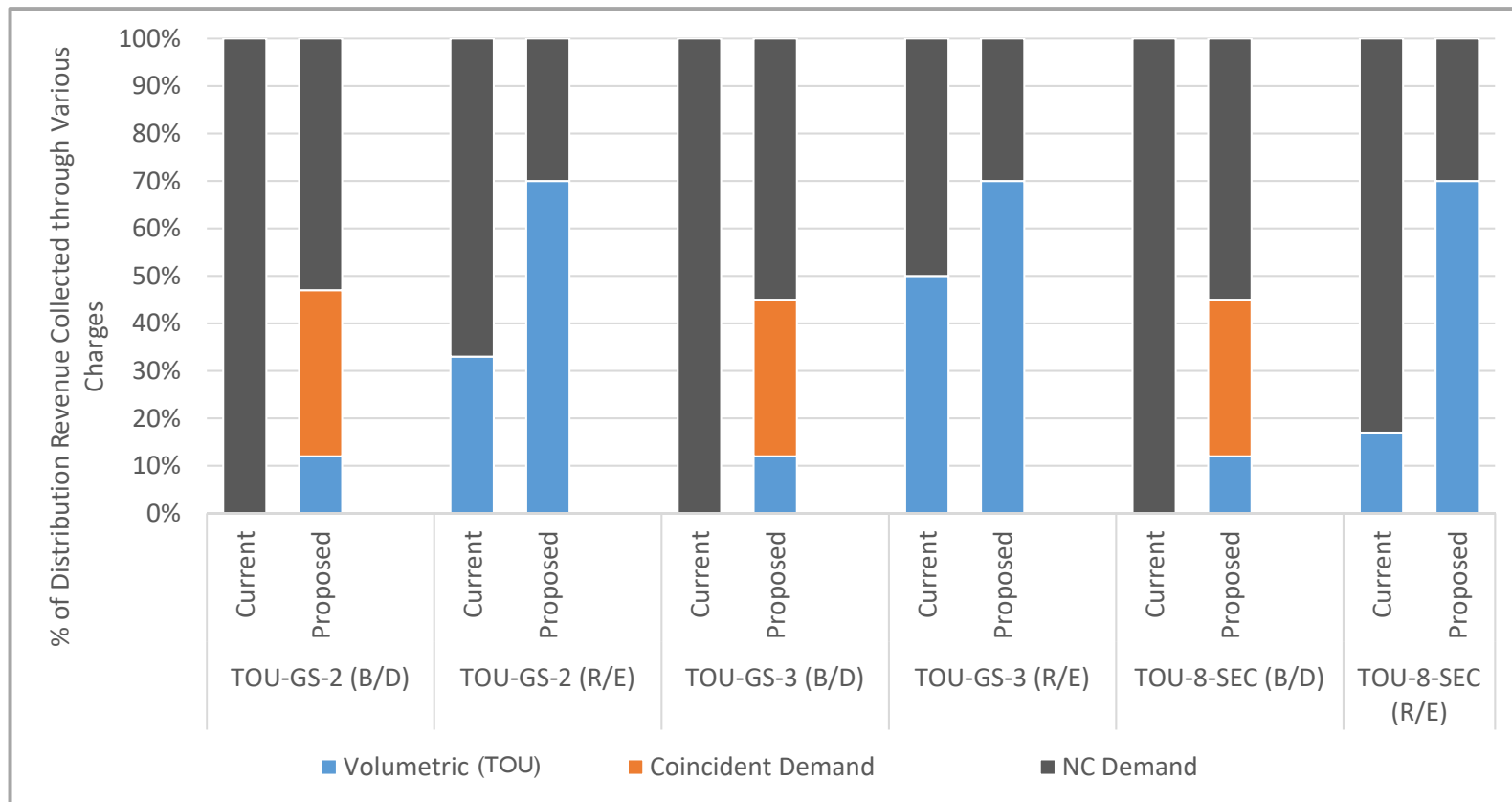
- TOU rates can provide a more accurate reflection of cost- causation



Differentiating distribution costs

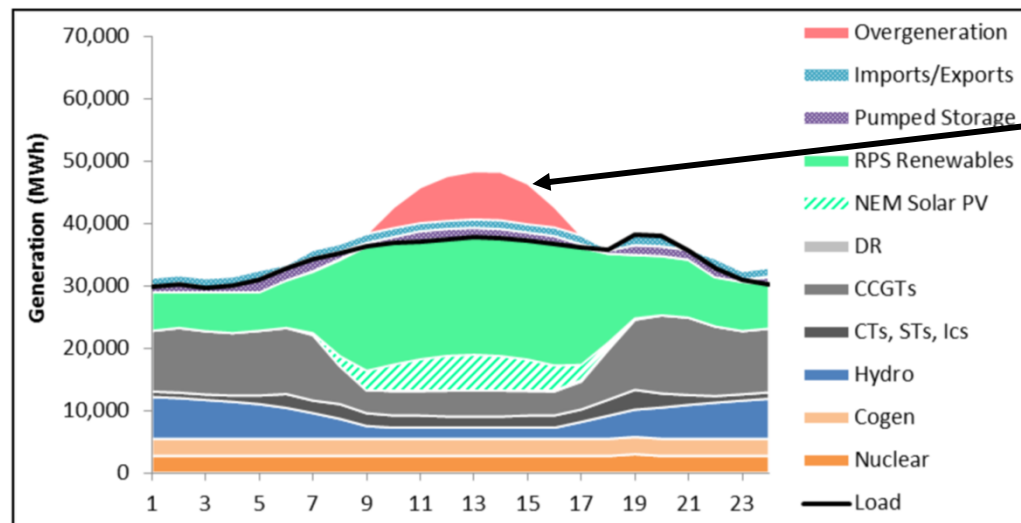
- “...non-coincident demand charges do not reflect cost causation for primary distribution, transmission, or generation capacity costs”
- “...non-coincident demand charges also promote inefficient use of energy” and do not promote socially beneficial energy usage

- CPUC D.18-08-013



Demand Charges & EVs

- Workplace Charging During Daytime



EVs could help offset solar overgeneration

Figure 5. Example of an analysis of the impact of high VG on net load shape and resulting overgeneration

Source: E3 2014

- But most C&I customers have a demand charge
 - = Strong disincentive to charge multiple vehicles

EV Rate Innovation

Many utilities offer C&I EV TOU rates, which enable workplaces to avoid crippling demand charges

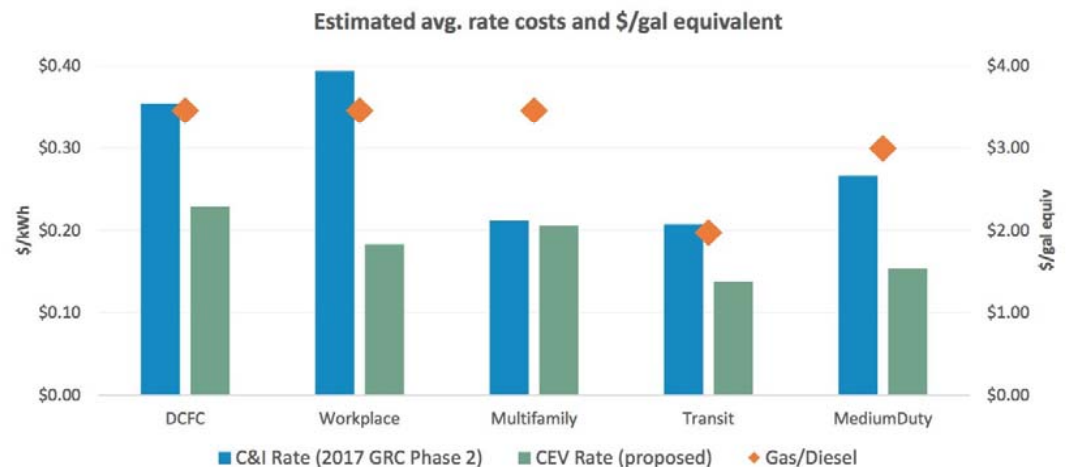
PG&E's proposed subscription alternative



Estimated bill savings for sample site types

For modeled customer sites, new EV rates can enable significant savings compared to existing commercial rate plans

Actual bill impacts will vary for each customer depending on charging usage patterns



Rate and billing estimates are preliminary and only reflect the sample site modeled. Actual costs will vary based on approved rate values, as well as individual site energy usage.

Contact

Melissa Whited
Synapse Energy Economics

617-661-3248

mwhited@synapse-energy.com

www.synapse-energy.com

About Synapse Energy Economics

- Synapse Energy Economics is a research and consulting firm specializing in energy, economic, and environmental topics. Since its inception in 1996, Synapse has grown to become a leader in providing rigorous analysis of the electric power sector for public interest and governmental clients.
- Staff of 30+ experts
- Located in Cambridge, Massachusetts