

A Meta Analysis of Time-Varying Rates

THE ARCTURUS DATABASE

PRESENTED BY
Ahmad Faruqui
Cecile Bourbonnais

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THE **Brattle** GROUP

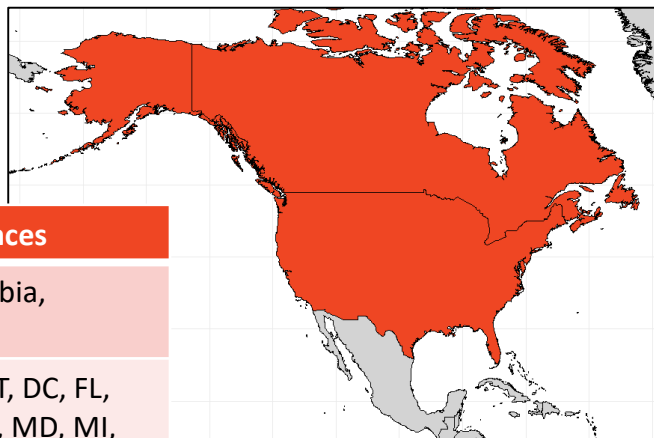


The Arcturus database includes information from pricing pilots and deployments from around the globe

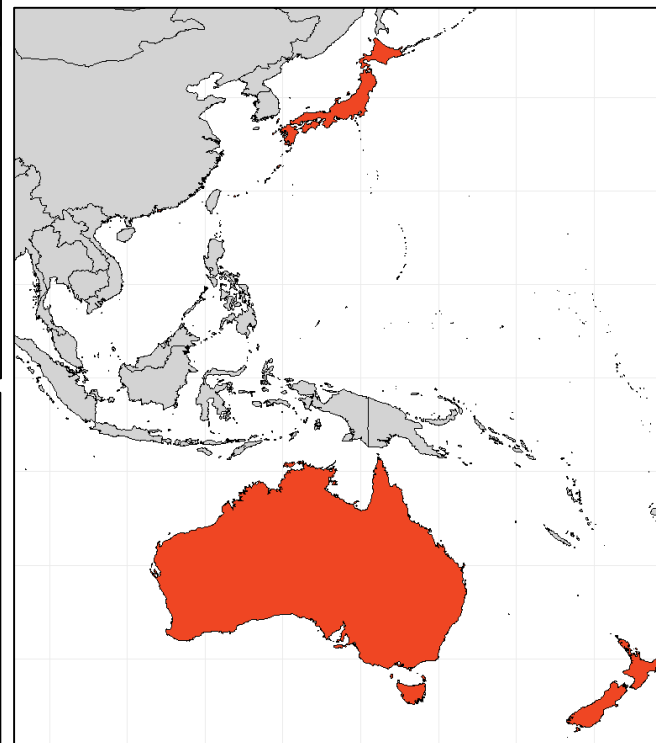
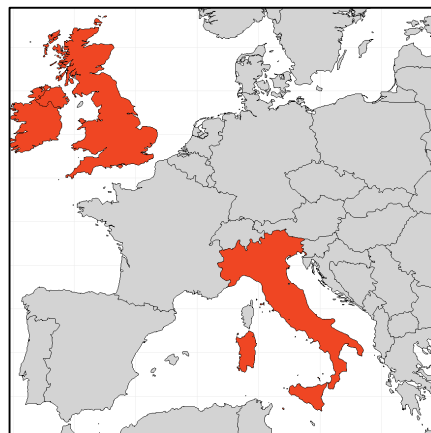
Arcturus houses data from 60+ residential pricing pilots

- The data span nearly 350 time-varying pricing treatments including simple time-of-use (TOU) rates, critical-peak pricing rates (CPP), variable-peak pricing rates (VPP) and peak-time rebates (PTR)
- 57 utilities across nine countries and four continents
- Additional details
 - Duration of peak period
 - Number of participating customers
 - Opt-in / opt-out enrollment
 - Season
 - Duration

Data from nine countries, two provinces, and 23 states are in Arcturus



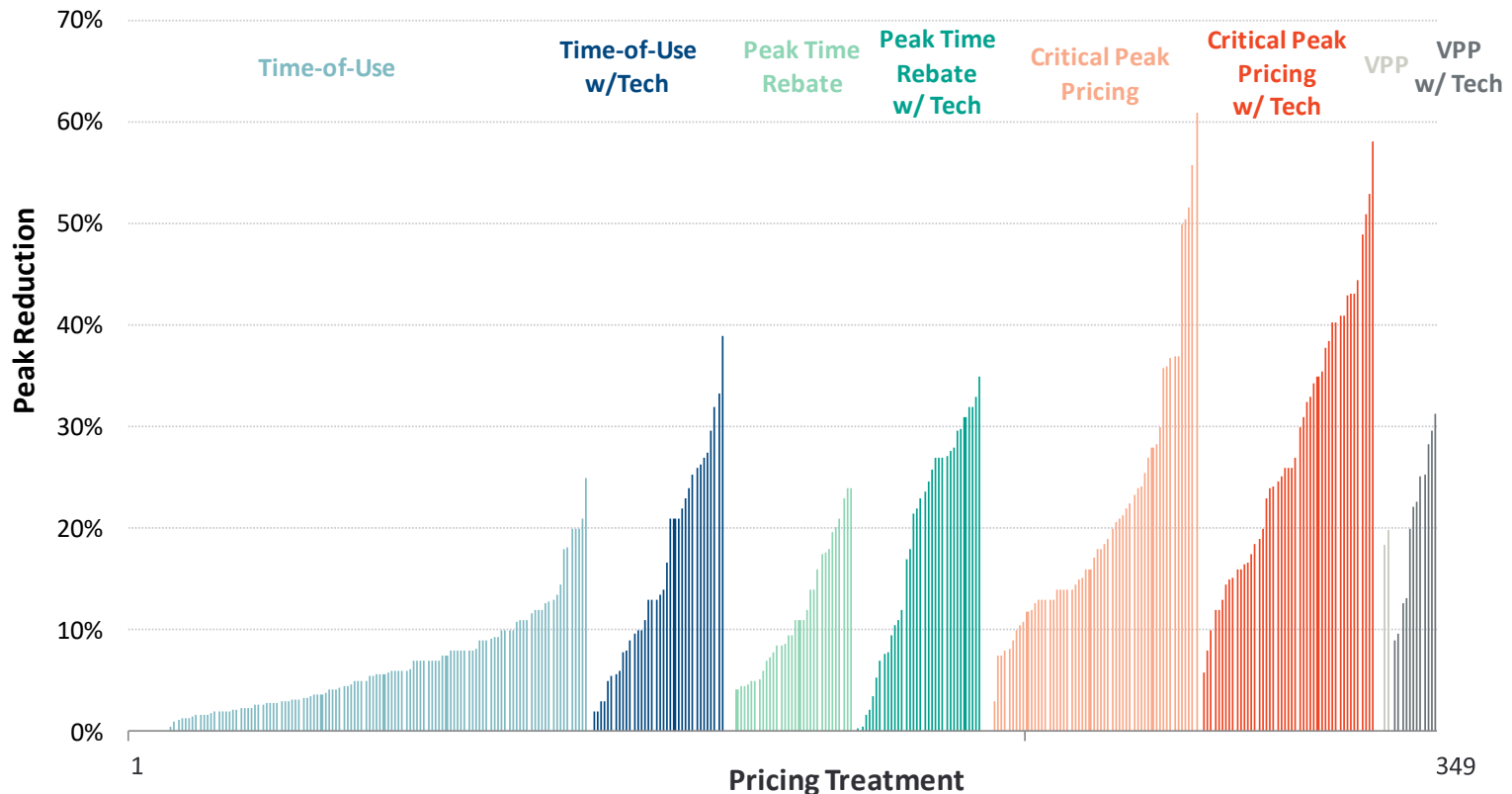
Country	States/Provinces
Canada	British Columbia, Ontario
United States	AZ, CA, CO, CT, DC, FL, ID, IL, KS, MA, MD, MI, MO, ND, NJ, NM, NV, OH, OK, OR, PA, VT, WA



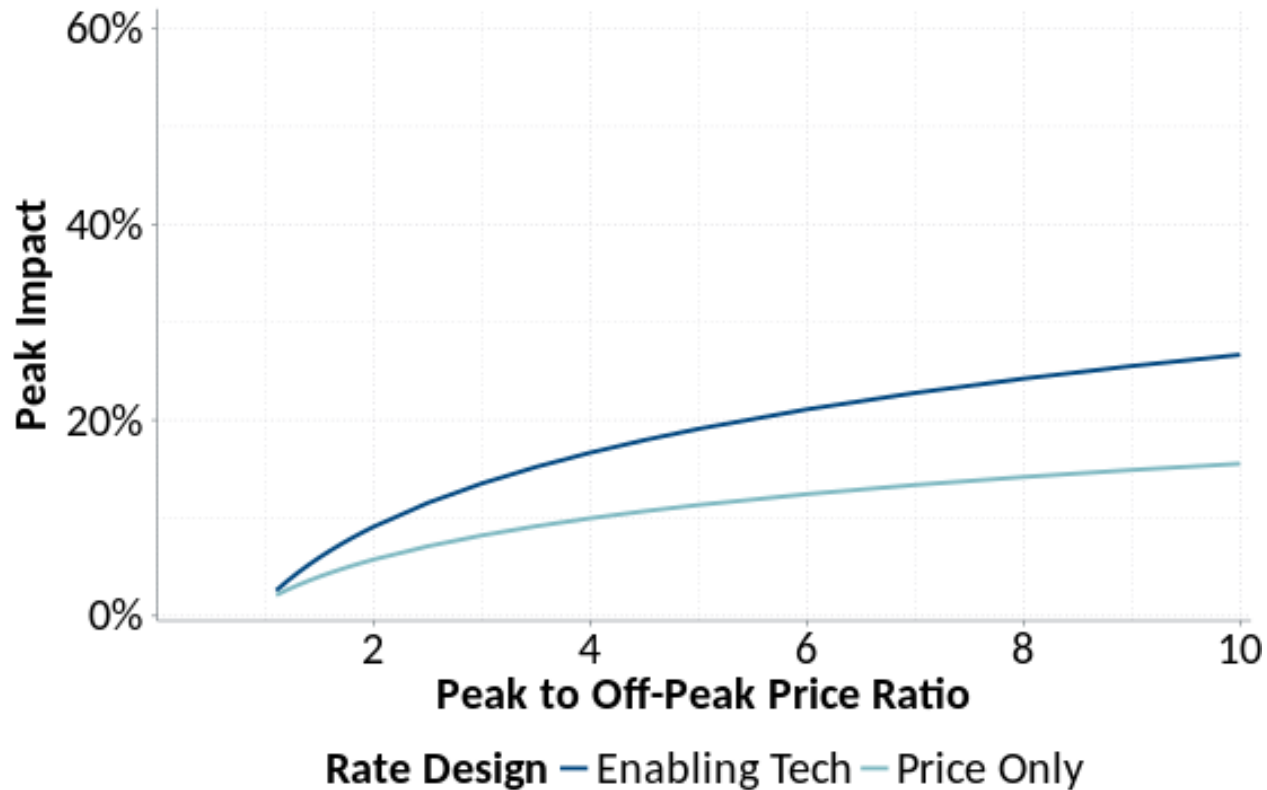
Notes: For confidentiality, one Asian utility is not included in the above map.

Arcturus provides compelling evidence that customers respond to price changes

Pilots feature a combination of rate designs (TOU, CPP, PTR, and VPP), with different peak to off-peak price ratios



A meta analysis quantifies the relationship between demand response and price ratios, with and without enabling technology



References

Faruqui, Ahmad, Sanem Sergici, and Cody Warner. “Arcturus 2.0: A meta-analysis of time-varying rates for electricity.” *The Electricity Journal* 30(10) (December 2017): 64-72.

Faruqui, Ahmad and Cecile Bourbonnais. “The Transformative Power of Time-Varying Rates.” *Energy Central*. March 8, 2019, accessed at <https://www.energycentral.com/c/em/transformative-power-time-varying-rates>.