Shifting Energy Use Trends Due to COVID-19
Field Research

Our Approach

• 1,000 homes
• Real-time, unique data
• Expanding into CA & NY: 100 homes in each state

Data Collection and Access

• The world’s largest residential energy research database.
• Innovative data privacy & security processes
• All available to academic and corporate researchers

Testing & Verification Lab

• Affordable concept and prototype testing center for smart residential energy solutions
• Allows for rapid product and market verification testings
• Texas’s first grid-connected V2G testing center
High resolution, disaggregated data

One-Minute, Circuit Level Data

- Other
- Master bedroom
- General Lights
- Dishwasher
- Wi-Fi router
- Bathroom 1
- Microwave, toaster, coffee machine
- Kitchen lights
- Living Room
- Refrigerator
- Bedroom 2
- Washer
- Living Room
- Garage
- HVAC compressor
- Bathroom 2
- Dryer
Average Daily Demand (Minus EVs)

Sample: 108-144 homes, varies by month

March - July 2020

March - July 2017-2019

Sample: 108-144 homes, varies by month
Sheltering in Place - A New Duck Curve

Sample: 138 homes
- 79 with solar
- 34 without solar

Midnight 6am Noon 6pm Midnight

PECAN STREET

July 2017 2019
July 2020

Sample: 138 homes
EV Charging – 5 Day Rolling Average

Sample: 35–44 homes, varies by month

Average March - July 2017-2019
Average March - July 2020

Sample: 35-44 homes, varies by month
NY Test Bed Daily Car Charging: Spot the Pandemic

Days Since October 1, 2019

Daily kWh Car Charging
Daily Average Load – Accessories, Lighting and Appliances
(Excludes HVAC and EV Charging)

Sample: 108-144 homes, varies by month
HVAC - Average Daily Demand, March - July

PECAN STREET

- March - July 2020
- Average March - July 2017-2019

Sample: 108-135 homes, varies by month

KWh

March 1 April 1 May 1 June 1 July 1 August 1
HVAC Demand Per Cooling Degree Day (CDD)

Sample: 108-135 homes, varies by month

<table>
<thead>
<tr>
<th>Month</th>
<th>Average 2017-2019</th>
<th>2020</th>
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<tbody>
<tr>
<td>March 2017-2019</td>
<td>0.33</td>
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<td>March 1-14, 2020</td>
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<td>March 15-22, 2020</td>
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<td>March 23-31, 2020</td>
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<td>Average April 2017-2019</td>
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<td>Average May 2017-2019</td>
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<td>May 2020</td>
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<tr>
<td>Average June 2017-2019</td>
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<tr>
<td>June 2020</td>
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<tr>
<td>Average July 2017-2019</td>
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<tr>
<td>July 2020</td>
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