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The Smart Control Product

- **Consumers' load curtails load during energy price spikes above a set value by automatically adjusting thermostat set points via SMT API**

- **LMP Market Price product with load control**
  - $x/MWh in RT curtails load
  - y degrees on thermostat
  - Resets to preset temperature after three five minute intervals $x/MWh

- **The Smart Control product affords customers the following benefits:**
  - The opportunity to take advantage of RT LM prices while reducing risk of RT LM price spikes
    - Real time prices regularly prove to be less expensive than hedged power; however RT LMP exposes the customer to unwanted price spikes
    - The Smart Control product allows the customer to take advantage of the lower spot market prices while mitigating the risk of price spikes
  - Customers can learn from their own consumption habits and associated energy costs; may impact usage patterns from TOU learned behavior

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Inhibitors to broad adoption

- **Cost: HAN enabled thermostats can be expensive; current costs outweigh the margin on any reasonably price 12 month product**
- **Customer education:**
  - The savings proposition may be difficult for customers to grasp/quantify
  - Customers may be reluctant to use indexed products
  - Customers may be reluctant to allow their REP to control their comfort level
- **Current infrastructure limitations:**
  - REPs are limited on the number of messages allowed to be sent per day
    - Current network limit of 12 prices per day, six point-to-point load control events per day
    - In an ideal world, customers would set their own parameters and receive every LMP change
    - In the current environment, REPs will need to use remote load control to realize savings
  - Timeliness of messaging:
    - In the current environment, current Load Zone LMP 15 minute prices are already in effect before REPs are notified; ideally notification would be at least 90 seconds prior the interval starting
    - It takes ~ 90 seconds from the time a load control event is issued to when it actually takes effect at the meter

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Experiences To Date

- **Executing as designed**:
  - Customers receive signals and load is curtailed as designed
  - Used as designed, it will save money
  - People override thermostat
- **Installation:**
  - Not a 'one size fits all' approach
  - Some homes have special features require 'special handling' installation
- **Different products may work even better – custom plans**

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- Overall Benefits
  - ERCOT: If adopted broadly, the reliability of the grid could increase in supply constrained scenarios
  - Customers: Customers enjoy RT LMP prices with mitigated protection from price spikes
  - REPs: Retailers lower their exposure to fixed price products